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Strategies to Strengthen the Implementation of HIV and AIDS Monitoring and Evaluation Framework in Limpopo Province, South Africa

by

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17 May 2021

DECLARATION

I, **Ndivhuho Mangale**, hereby declare that this thesis titled "**Strategies to Strengthen the Implementation of HIV and AIDS Monitoring and Evaluation Framework in Limpopo Province, South Africa**" submitted for the degree **Doctor of Philosophy in Public Health (PhD-PH)** at the **University of Venda** has not been previously submitted for a degree at this or any other university, and that it is my own work in design and in execution, and that all reference materials contained herein had been duly acknowledged.

Ndivhuho Mangale **Student Signature**	:	 ……
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DEDICATION

I dedicate this work to my wife, **Nakiseni Themeli-Mangale**, and to my children, **Mukhethwa**, **Pfunzo** and **Ndamulelo Mangale**. Also, to my parents, **Angelina** and **Mmbengeni Mangale**, my two sisters, **Livhuwani** and **Azwinyandi**, my brother, **Rudzani**, for their understanding and prayers all throughout my studies.

In loving memory of my late my late grandmother, **Nyawasedza Mangale**, and late cousin, **Khuliso Michael Tshigoba**, my friend **Shumani Robert Ralebona**, and My spiritual Mentor **Senior Prophet T.B Joshua** whose energy and love for life inspire me even today.

Romans 8:28: *And we know that in all things God works for the good to those who love him, who have been called according to his purpose.*

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ABSTRACT

Background: Despite the success of recorded strategies developed in the fight against HIV and AIDS, the literature shows that HIV and AIDS continue to be a major global public health issue and targets are still not met because the prevalence of HIV and AIDS remain high. The shift in the South African National Strategic Plan for HIV and AIDS to 90-90-90 has also increased demand for upscale results to achieve defined goals and objectives.

Purpose: The aim of this study was to develop strategies to strengthen the implementation of HIV and AIDS Monitoring and Evaluation framework for Limpopo Province.

Objectives: Conduct needs assessment to evaluate relevance and design of current monitoring and evaluation of HIV and AIDS programme interventions in Limpopo province; to assess the relevance of capacity building strategies and interventions towards strengthening HIV and AIDS M&E System; to determine the challenges facing the Provincial HIV and AIDS Multi-sector stakeholders when implementing Monitoring and Evaluation of HIV and AIDS programme; develop intervention strategies to strengthen the implementation of HIV and AIDS M&E framework and describe the perceived practical applicability of the developed intervention strategies through validation process with stakeholders.

Methodology: The study was explanatory sequential mixed methods conducted in two phases, namely phase 1-A, phase 1-B and phase 2, by first implying quantitative study and followed by qualitative research approach. Phase 1-A results were first analysed to guide development Phase 1-B Qualitative interview questions in order to explore in more detail using interview guide during data collection. Whereby in Phase 1-A the researcher first conducted a situational analysis of monitoring and evaluation interventions focusing on HIV and AIDS programmes in Limpopo Province. In phase 1-A quantitative a self-administered questionnaire

was used to collect data with a sample size of 350 participants of the total population. In phase 1-B purposive sampling technique was used to sample 30 participants for interviews. Integration and comparative analysis of data was done to merge and compare results in tables and discussions. In phase 2 the researcher used the Strength, Weakness, Opportunities and Threat analysis and through Build, Overcome, Explore and Minimise to develop strategies and also used logic model and Theory of Change approach to link and structure intervention strategies developed.

Results: Findings in this study revealed that 85.7% of the respondents indicated that indicators are linked to 90-90-90 HIV and AIDS strategic plan. In this study 83.4% of the respondents indicated that all HIV and AIDS data collection and reporting tools linked to the national reporting system indicators. The findings reveal that 84.6% of the respondents indicated that set targets are linked to 90-90-90 Provincial HIV and AIDS strategic plan. In this study 77.7% of respondents indicated that HIV Programme have existing data management guidelines. In this study 79.4% of respondents indicated that data is properly stored, filed, up to date and readily available. Findings from this study reveal that 72% of the respondents indicated that HIV Programme have up to date electronic Monitoring and Evaluation databases. In this study 72% of the respondents indicated there are procedures and mechanisms in place including data reviews and validation meeting. Qualitative results of this study revealed that HIV M&E systems are established within the Department of Health. The study reveals that Limpopo Province Department of Health have functional electronic databases; however, Limpopo AIDS Council and Department of Social Development do not have standard electronic monitoring and evaluation reporting database systems to report as they are using excel. Challenges affecting poor performance HIV and AIDS programme indicators include high loss to follow-up rate, lack of understanding of programme indicators, poor same day initiation and linkage to care due to traditional beliefs & poor referral systems. Challenges related to human resources include lack of monitoring and evaluation capacity building and poor M&E skills transfer as

there is no feedback after monitoring and evaluation related trainings.

Conclusions: Intervention strategies were developed followed by action plans. The researcher recommends that those strategies developed should be implemented to strengthen the implementation of HIV and AIDS monitoring and evaluation framework and to address gaps identified in this study. Rapid Implementation of developed strategies can fast track the improvement of HIV and AIDS monitoring and evaluation systems. The developed strategies can help in improving achievement of 90 90 90 targets and further strengthen monitoring and evaluation framework for HIV and AIDS in Limpopo Province. If the strategies can yield positive results in improving HIV and AIDS outcomes and impact, therefore the implementation should be expanded to other Provinces.

Keywords: Evaluation, HIV & AIDS, Monitoring, Monitoring and Evaluation Framework

ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
APP	Annual Performance Plan
ART	Antiretroviral treatment
DHIS	District Health Information System
DHS	District Health System
DoH	Department of Health
DSD	Department of Social Development
GAMET	Global AIDS Monitoring and Evaluation Team
GWMES	Government-Wide Monitoring and Evaluation System
HCS	Health Care System
HCT	HIV Counselling and Testing
HIV	Human Immunodeficiency Virus
M & E	Monitoring and Evaluation
MDGs	Millennium Development Goals
NACOSA	National AIDS Coordinating Committee of South Africa
NDoH	National Department of Health
NDP	National Development Plan
NIDS	National Indicator Data Set
OVC	Orphans and Vulnerable Children
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary Health Care
PLHIV	People Living with HIV
PMTCT	Prevention of Mother-To-Child Transmission
SANAC	South African National AIDS Council
ToC	Theory of Change
UNGASS	United Nations General Assembly Special Session on HIV and AIDS
UNAIDS	United Nations Programme on HIV and AIDS
USAID	U.S. Agency for International Development
WHO	World Health Organisation
CCMDD	Central Chronic Medicine Dispensing and Distribution

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CHAPTER 1

OVERVIEW OF THE STUDY

1.1 Introduction

The purpose of the HIV & AIDS Monitoring and Evaluation (M&E) system is to direct the selection, study, use and dissemination of information that enables improvement in HIV and AIDS response to be monitored and informed decision-making to be enhanced (Karani, Bichanga & Kamau, 2014). Mtshali (2015) and the World Bank (2004) suggested that the M&E system thus offers better means for government leaders, development management, and civil society to benefit from practice, enhance service delivery, prepare, assign money, and demonstrate outcomes as part of transparency for the results to key stakeholders. Therefore, this chapter describes the introduction of the study which includes the background, problem statement and justification, research questions, purpose and objectives of the study.

1.2 Background to the Study

Globally, HIV statistics indicated that there were 38.0 million people who were living with HIV by the end of 2019 of which 36.2 million were adults and 1.8 million were children. The statistics showed that about 25.4 million people accessing antiretroviral therapy (ART) in June 2019 and 1.7 million people became newly infected with HIV, with about 690 000 people who died from AIDS-related illnesses by the end of 2019. Also, statistics reveal that since the beginning of the epidemic, 75.7 million people

have been infected with HIV. Since the onset of the epidemic, approximately 32.7 million people have died from AIDS-related diseases, with about 7.1 million people living with HIV unaware of their condition (UNAIDS, 2020). Globally, progress has been significant towards 90-90-90 though targets were not reached, but there is still more work to do as about 81% of all people living with HIV knew their HIV status, among people who knew their status, 82% were accessing treatment and among people accessing treatment, 88% were virally suppressed. Statistics revealed that of all people living with HIV, 81% knew their status, 67% were accessing treatment and 59% of all people living with HIV virally suppressed in 2019 (UNAIDS, 2020). Regionally, in 2019, there were 20.7 million people living with HIV in Eastern and Southern Africa which also accounts for 50% of the global total of new HIV infections in other countries accounted. In 2019, there was about 730 000 new HIV infections, with about 74 000 new HIV infections among children in Eastern and Southern Africa. Still in Eastern and Southern Africa about 300 000 people died of AIDS-related illnesses in 2019. In Eastern and Southern Africa about 15.0 million people were accessing ART, with 72% of all people living with HIV in the region in 2019 with 73% being adult and 58% being children (UNAIDS, 2020).

In Asia and the Pacific, there were 5.8 million people living with HIV in 2019. About 3.5 million people had access to ART, with about 300 thousand new infections and 160 thousand deaths in Asia and the Pacific in 2019. In Western and Central Africa, there were 4.9 million people living with HIV in 2019. There were about 240 000 new HIV infections in Western and Central Africa. In western and central Africa, 140 000 people died of AIDS-related illnesses in 2019. In Western and Central Africa about 2.9

million people were accessing ART, with about 60% Percentage of adults aged 15+ and 65% children living with HIV accessing ART (UNAIDS, 2020). In the Middle East and North Africa in 2019, there were 240 000 people living with HIV. In 2019, there were about 20 000 new HIV infections in the region with about 92 000 people accessing treatment in 2019. In the Middle East and North Africa, 8 000 people died of AIDS-related illnesses in 2019. In Eastern and Southern Africa there were 38% of adults aged 15+ living with HIV accessing ART and percentage of children aged 0–14 living with HIV accessing ART were 42%, making it about 38% of people living with HIV and accessing ART (UNAIDS, 2020).

In East and Southern Africa in 2019, there were 20.7 million people living with HIV of which 6.7% adult prevalence aged 15–49 years. In 2019, there were 730 000 new HIV infections in the region with about 73% people accessing treatment in 2019. In the Middle East and North Africa, 300 000 people died of AIDS-related illnesses in 2019. In Eastern and Southern Africa there were 58% of children aged 0–14 living with HIV accessing ART (UNAIDS, 2020). A study conducted in Rwanda by Nsanzimana, Prabhu, McDermott, Karita, Forrest, Drobac, Fisher, Mills and Binagwaho., (2015) stressed that for all Rwandans, deep commitment to an organized and evidence-based approach to the HIV epidemic has facilitated major improvements in health outcomes. South Africa accounted for more than a quarter 240 000 of the region's new infections in 2018. Seven other countries accounted for over 50% of new infections can be seen by country as follow; Mozambique 150 000, Tanzania 72 000, Uganda 53 000, Zambia 48 000, Kenya 46 000, Malawi 38 000, and Zimbabwe 38 000.

Overall, new infections in the region have declined by 28% since 2010. More than 310 000 people died of AIDS-related illnesses in the region in 2018, although the number of deaths has fallen by 44% since 2010. Despite the continuing severity of the epidemic, huge strides have been made towards meeting the UNAIDS 90-90-90 targets. In 2018, 85% of people living with HIV knew their status, 79% were on treatment equivalent to 67% of all people living with HIV in the region and 87% of those on treatment had achieved viral suppression equivalent to 58% of all people living with HIV in the region (UNAIDS, 2019). The total of people living with HIV (PLWHIV) is estimated at 7,8 million in 2020. For adults aged 15-49 years, about 18,7% of the population is HIV-positive. Table 1 reflect that the estimated overall HIV, prevalence rate is 13,0% among the South African population. Table 1.1 reflects that provincially HIV prevalence was highest in Gert Sibande district in Mpumalanga (22.9%), followed closely by the Uthukela (22.4%) and Uthungulu districts (20.4%) in KwaZulu-Natal. Greater Sekhukhune district in Limpopo Province had (7.5%) which is the lowest prevalence (Statistics South Africa, 2020 and Human Sciences Research Council 2019).

Table 1.1: HIV prevalence per province among people of all ages, South Africa.

Province	Prevalence
Kwazulu-Natal	18.1%
Mpumalanga	17.3%
Free State	17.0%
Eastern Cape	15.3%
North West	14.5%
Gauteng	12.5%
Limpopo	10.9%
Western Cape	8.9%
Northern Cape	8.3%
South Africa	13.0%

Provincial HIV prevalence (Human Sciences Research Council, 2019)

Research conducted by Gumede and Sibiya (2018) showed that most of the respondents demonstrated knowledge of HIV, while other respondents by having learned about it. Peltzer (2018) found out that some HIV risk habits in condom usage have reduced in frequency. However, separate sexual risk patterns have also continued, pushing for the enhancement and incorporation of HIV prevention. A study conducted by Johnson, Chiu, Myer, Davies, Dorrington, Bekker, Boulle and Meyer-Rath (2016) also revealed that in other Southern African countries, the levels of ART coverage are close to those in South Africa, but the levels of virological suppression are largely unknown, as most other countries in the region have traditionally not controlled viral load, as the lack of surveillance of viral load is likely to be linked with worse virological suppression. The findings of the model-based study clearly endorse the implementation, in accordance with WHO recommendations, of viral load tracking in those countries that have not yet adopted this in line with WHO guidelines.

In order to resolve this HIV and AIDS gap, the HIV health sector cascade system was implemented to track and assess the HIV response of any nation. The system measures patients and communities' utilization of various resources across types of illness, time and place, and seeks to connect information from a number of different outlets, including vital statistics, person-centred patient monitoring and case surveillance. When people are monitored through multiple services, their data may be related to the creation of longitudinal medical records. Information obtained at the defined person level can also provide information to decision makers, physicians, PLHIV and other stakeholders to track and assess health care at the hospital, sub-national and national levels. The creation of the National Medical Records Database

(NHIDs) would significantly promote the development of individual longitudinal patient records across health systems and the utilization of undisclosed personal health information to continually track, assess and enhance services. Not only should the emphasis be on technological problems, but continuous proof of enhancing service delivery through this data should be given (Beck et al., 2018).

The strategy, adopted by UNAIDS in 2015, provides 90-90-90 HIV and AIDS targets, such that 90% of all people living with HIV should recognize their HIV status, 90% of all people with diagnosed HIV infection will receive ART, and 90% of all people receiving ART should have viral suppression (UNAIDS, 2016). Levi, Raymond, Pozniak (2016) extensively examined national cascades of HIV treatment from 69 countries, finding that none of the countries achieved the goals of 90-90-90. The study showed that 90% of all HIV-positive individuals diagnosed with the condition target varied from 87% in the Netherlands to 11% in Yemen with 81% of all HIV-positive persons on ART provided treatment coverage, ranging from 71% in Switzerland to 3% in Afghanistan. The 3rd 90 target progress which was focusing on viral suppression was between 68 percent in Switzerland and 7 percent in China for 73 percent of all virally suppressed HIV-positive individuals. The success of the HIV care cascade is influenced by multiple factors among the 69 countries surveyed and improved methods for measuring and evaluating cascades, structured reporting techniques, better tracking and timely reporting are required. There is a rising need for high-quality data in many HIV-affected countries to classify the areas and communities with the largest number of HIV-affected people or the greatest risk of HIV transmission. Countries need to develop their ability to capture, interpret data, perform analyses and

promote data usage in order to monitor success against the 90-90-90 aim strategy (MEASURE Evaluation, 2017). Kelly, Frankfurter, Lurton, Conteh, Empson, Daboh, Kargbo, Giordano, Mukherjee and Barrie, (2018) found that community-based ART services have facilitated retention of treatment and ART adherence and have also shown good clinical effects.

A mixture of clinic-based and community-based interventions that promote universal access to care would be important to meet the 90-90-90 objectives and targets (Piot, 2015; UNAIDS, 2014, UNAIDS, 2015a). Measuring development towards 90-90-90 goals in Botswana relies on costly and irregular population-based surveys (Gaolathe, Wirth & Holme, 2016). Barnhart, 2016; Wroe, Dunbar and Kalanga, (2018) sated that working through the 90-90-90 goals needs both national engagement and in-service delivery through innovation. There is a need for a more realistic, program-oriented approach to local monitoring, considering the awareness that reaching 90-90-90 would entail a strengthened health sector approach involving local municipalities and civil society stakeholders. A study conducted by Wroe, Dunbar and Kalanga, (2018) on a comparative study of survival and success towards 90-90-90 in rural Malawi suggests policies to incorporate HIV programme into primary healthcare through public sector funding and broad community footprints, while implementing interventions to meet the needs of basic health services and the social determinants of health, while governments aim to achieve the 90-90-90 goals and universal health coverage.

Guidelines for tracking the distribution of HIV care at the person level have been issued by the World Health Organization. In order to produce up-to-date data that will

characterize care quality gaps that need programmatic adjustment, these recommendations encourage the use of automated case reporting, patient tracking and vital statistics programs. The guidelines further suggest that these various information structures be related by using identifiers. The recommendations prescribe that individual HIV data be tracked by case reporting, patient tracking and vital statistical programs (World Health Organisation, 2017). Son, Abdul-Quader, and Suthar, (2018) indicated that as part of universal health care, the introduction of HIV medication into social health insurance modified the data regularly generated in patient tracking systems. The lessons of Vietnam's HIV and AIDS response are that case monitoring mechanisms alert a national agency administering epidemic surveillance when the country has been diagnosed with a new case of illness.

In 2017 South Africa National Council on AIDS developed the National Strategic Plan for HIV, TB and STIs for 2017 to 2022 which embraces global targets from UNAIDS adopted in 2015 (SANAC, 2017). South Africa has made immense efforts since then to expand the number of people screened for HIV, but the introduction has not yielded the desired outcomes (Perez, Cox, Ellman, Moore, Patten, Shroufi, & Ibeto, 2016). Bain, Nkoke and Noubiap (2017) stated that early positioning and achievement of viral load suppression in patients with combined ART (cART) decreases mortality and HIV infection and increases the quality of life. Having more than 90 percent of HIV individuals to recognize their status will help meet the 90-90-90 targets. To address HIV and AIDS challenges since 2004 a National Strategic Plan (NSP) for HIV & AIDS and STI was developed subsequently every 6 years followed by monitoring and evaluation frameworks through South African National governments, civil society, and

development partners. Monitoring and Evaluation Frameworks have been developed to measure progress towards the achievement of interrelated goals. However, monitoring and evaluation strategies to strengthen HIV and AIDS programme need to be developed.

The 5th South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, (SABSSM V1) published in 2019 revealed that in South Africa HIV prevalence among adults aged 15 to 49 years was at 20.6% among the people living with HIV, with Limpopo Province remaining the third lowest province estimated at 17.2% this is before Gauteng at 17.6% and after Northern Cape at 13.9%, Western Cape at 12.6% with Mpumalanga (MP) at 22.8% and KwaZulu-Natal (KZN) had the highest HIV prevalence levels for all ages at 27.0% (Human Sciences Research Council, 2019). Amid of progress made towards achieving some targets there are still challenges faced as most targets are not met in South African. However, important steps need to be taken to strengthen and align monitoring and evaluation strategies to track performance results at each stage of the HIV continuum of care and tracing 90-90-90 strategic indicator performance within Limpopo Province which lead the researcher to investigate more in this field (Statistics South Africa, 2020 & Human Sciences Research Council, 2019).

Human Sciences Research Council (HSRC), (2017) SABSSM V1 survey reveal performance towards the 90-90-90 strategy showing that 85% of PLHIV aged 15 to 64 years know their HIV status; of which 88.9% of those HIV-positive were females and 70.6% of those HIV-positive who know their HIV status were on ART and 87.5% of them are virally suppressed with 87.5% of HIV-positive were on ART are virally

suppressed. The survey further reveals there were approximately 7.9 million people of all ages 0+ years living with HIV (PLHIV) in South Africa in 2019. In South Africa proportion of people with HIV on ART were 62.3% 4.4 million with Limpopo Province being at 61.7%, which is 296 000 estimated number of people on ART. Sekhukhune in Limpopo Province had 59.6% proportion of people with HIV on ART which is 47 047 estimated on ART this is also the second lowest District with number of people on ART amongst the selected Districts, Sekhukhune viral load suppression was at 54.3%, the highest being eThekwini (KwaZulu-Natal) 450 238 with 72.3% of a proportion of people with HIV on ART. Still in Sekhukhune, Limpopo Province the first 90 on coverage was 88.6%, their 2nd 90 on ART coverage was 67.6% and their virally suppression was on 3rd 90 was 80.6% (Statistics South Africa, 2020 & Human Sciences Research Council, 2019).

The overall HIV prevalence among antenatal women age group for both first and follow-up visit attendees was at 23.4% which increased by 3.1% between 2013 and 2017. Prevalence between 2015 and 2017 increased in 4 of the 5 districts in Limpopo. The highest increase was in Waterberg district where 35.8% prevalence increased by 10.0% to 35.8% in Waterberg district between 2015 and 2017. The only district in Limpopo Province that showed a declining prevalence trend was Vhembe 14%, where prevalence declined by 2.8%. The prevalence in the Vhembe district is the fifth lowest prevalence at 14.0%. Mopani District was at 23.1% which was increased from 24.5% while Capricorn was at 22.5% and Sekhukhune was at 23.1% Despite all strategies developed towards addressing HIV and AIDS challenges HIV prevalence in Limpopo Province remained the third lowest province estimated at 10.9% in HIV prevalence by

province, among people of all ages, South Africa, 2017. Limpopo Province was performing at 6.1% among viral load suppression among all people living with HIV by province, in South Africa, in 2017 while the highest being Eastern Cape at 68.0% and the lowest being Northern Cape at 52.8%. There was improved performance in the period under review for the HIV 90-90-90 strategy. However, the pillars of the HIV cascade are still below the target of 90% except for PLHIV on ART reflecting 94% achievement. Reports reflected that 76% of people living with HIV, who know their status, with 94% of those living with HIV are on ART, 78% were viral load done, and of those done viral load about 82% were viral supressed. Challenges identified were lack of unique identifiers in the province validity of reported data was affected (Human Sciences Research Council, 2019).

The Limpopo provincial implementation plan 2017–2022 progress report for FY17/18 progress report shows that about 0.83% PCR positivity rate around ten weeks against a target of 1.2% thus showing a decline of 0.37% from the previous financial year 2016/17. The 18 months HIV test positivity rate remained the same at 0.9% in 2017/18 as in 2016/17. HIV MTCT declined due to multiple intervention techniques adopted in the province, including the achievement of the 90-90-90 objectives, including the intensified PCR monitoring system, during the period under review in FY2017/2018. The new infections for children <15 years, estimates show a decline from 1238 A decrease from 4657 in 2016/17 to 4114 in 2017/18 was observed in Males between 15-49 years, while a reduction from 10127 in 2016/17 to 9091 in 2017/18 was estimated for females in 2016/17 to 1060 in 2017/18 (Limpopo Provincial AIDS Council, 2017; Limpopo Provincial Department of Health, 2018).

In 2017 Limpopo Province reported a challenge with retention of children into HIV and AIDS care and support in certain districts such as Mopani and Vhembe as the performance was stable in Financial Year (FY) 2014/2015 with 69.6% and 69.5% in FY 2015/2016. Children retention in care of Mopani decreased from 72.2% in FY 2013/2014 to 70.4% in FY 2014/2015. Vhembe district decreased from 70.6% to 68.1% in FY 2014/2015, while Waterberg decreased from 70% in FY 2013/2014 to 64.1%. However, an increase in Capricorn District improved from 65.7% in FY 2013/2014 to 72.9% in FY 2014/2015 and Sekhukhune which improved from 68.3% in FY 2013/2014 to 69.8% in FY 2014/2015. Mopani decreased from 72.2% in FY2013/2014 to 70.4% in FY 2014/2015. As compared to 2013/2014, the districts increased the performance of adult retention of care in 2014/2015. In 2013/2014, the province rose by 3.6 percent to 66.0 percent to 62.4 percent (Limpopo Provincial AIDS Council, 2017).

1.3 Problem Statement

Despite the progress made provincially towards 90-90-90 HIV and AIDS targets, HIV and AIDS targets remain unmet in Limpopo Province. Limpopo Province progress reports show that only 76% of adults know their status and compared to 70% children under 15 years living with HIV (DOH Annual Report, 2017; LPCA report, 2017). Only 79% had their viral load completed and with 82% of those who are virally suppressed rate at 12 months (DOH Annual Report, 2017; LPCA report, 2017). The researcher observed that performance against targets inconsistently change over a period of time (DOH Annual Report, 2017; LPCA report, 2017). It is still not assured why targets are not met; however, measures need to be taken to investigate reasons for not meeting

such targets. The change towards 90-90-90 HIV and AIDS National strategic plan 2017–2022 also increase the need to identify new M&E strategies to upscale performance towards set goals and targets. In order to meet these demands, multi sectors need good strategies in place in order to strengthen HIV and AIDS programme.

1.4 Rationale of the Study

While considerable information is available on of HIV and AIDS globally, there are limited research studies conducted in South Africa focusing on M&E systems for HIV and AIDS. In addition, there is limited guidance on strategies developed to guide M&E of HIV and AIDS programme response. Therefore, there is a need to develop intervention strategies to strengthen implementation of HIV and AIDS M&E framework. According to Mouton (2010) in South Africa, there are limited tools available for M&E reporting. Cwayi (2011) agreed while stating that the M&E body of literature dealing with the situation in South Africa does not have sufficient content relevant to M&E.

1.5 Significance of the Study

The Limpopo HIV and AIDS Multi Sectors at the Provincial, District, and Local Sub-District levels will be able to measure, improve, and direct HIV & AIDS programme performance interventions using the developed strategies to further strengthen the available M&E. The findings of the research will benefit Multi-sectors stakeholders such as Office of the Premier (OtP), the Department of Health, Department of Public Works, Department of Education, SALGA, HEAIDS and Civil Society forums implementing HIV and AIDS programmes to can identify M&E gaps within their

Departments to better realise and align strategies, goals and objectives. Developed M&E strategies will enhance to monitor and evaluate the efficiency and effectiveness of HIV and AIDS programmes implementation. Developed strategies will enable programme implementers to see if they are making progress towards achieving targets by measuring their programme performance input, output outcomes and impact indicators and objectives. The study will assist both the policy makers and the policy implementers within Limpopo Province to introduce measures that will reinforce existing policies. Professionals can then use the information acquired to improve services to their patients, and this will help the community of Limpopo Province at large through service delivery improvement.

1.6 Purpose of the Study

The study is to develop strategies to strengthen the implementation of HIV and AIDS monitoring and evaluation framework in Limpopo Province.

1.7 Objectives of the Study

The study was conducted in two phases of which phase one was done through conducting assessment to describe current monitoring and evaluation interventions for HIV and AIDS programme and phase two was focusing on developing strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo province. The objectives of the study were arranged in phases as follows;

- **PHASE 1: Conduct Needs Assessment**
  - To evaluate relevance and design of current monitoring and evaluation of HIV and AIDS programme interventions in Limpopo province.

- To assess the relevance of capacity building strategies and interventions towards strengthening HIV and AIDS M&E System.

- To determine the challenges facing Multi sector stakeholders when implementing M&E of HIV and AIDS programme.

❖ **PHASE 2: Development of Intervention Strategies**

- Develop intervention strategies to strengthen the implementation of HIV and AIDS M&E framework.

- Describe the perceived practical applicability of the developed intervention strategies through validation process with various stakeholders.

1.8 Major Research Questions

The following questions were used to guide the study:

- How relevant are current M&E intervention towards strengthening HIV and AIDS programmes?

- What is the relevance of capacity building status on towards strengthening HIV and AIDS M&E Systems?

- To what extent does the M&E interventions comply with available M&E policies and strategies for HIV and AIDS programme in Limpopo province?

- What are the major challenges faced when implementing monitoring and evaluation systems for HIV and AIDS?

1.9 Theoretical Framework

The study was guided by prescriptive approach, Logic Model, Theory of Change (ToC) Approach and results-based management model. In this study strategies are developed as guided by prescriptive approach. According to Hashim (2016) the prescriptive approach emphasizes the explicit, planned and logical thought process. According to Hashim (2016) the process of the prescriptive approach involves eight related components which include establishing the mission of an organisation; conducting the environmental scanning, identifying the organisation's internal strength and weakness, formulating alternative strategies, choosing a strategy, implementing a strategy and evaluating and controlling the strategy. ToC approach has been used to design development programs since the 1990s, and it is based on Carol Weiss' Theory Based Evaluation practice. TBE approaches, according to Mayne (2012), include creating a ToC for the experiment that explains how the program intervention is supposed to work as well as the assumptions that drive theory (President Treasury Board Canada Secretariat, 2012). Logic Model identified and structure goal, input, activities, output, outcome and impact indicators from each developed BOEM strategy. The Logic Model and ToC were used to structure and show link on how Limpopo Multi sector stakeholders are expected to achieve the desired results to reach 90-90-90 targets. A Logic Model is to make sure that M&E is oriented and that managerial decisions are guided by knowledge extracted from the framework. The Logic Model facilitates the measurement of the inputs, processes, outputs, outcomes and impacts of the interlinked M&E system for HIV and AIDS programme (Presidency, 2007 and John Snow Incorporated (JSI), 2012). According to Bakewell and Garbutt, (2005) Logic Model approach focuses on the preparation processes, the review of

issues, the creation of objectives and indicators and the detection of risks and predictions by means of the ToC, which are integrated into the overall program strategy. The researcher used the conceptual method for designing and implementing the M&E framework for the HIV and AIDS program in this study in order to recognize findings and alternative causes of best practices or weaknesses (Presidency, 2007 and John Snow Incorporated (JSI), 2012).

De Silva, Breuer, Lee, Asher, Chowdhary, Lund and Patel (2014) emphases that ToC is actually built upon logic models. According to Kusek and Rist, (2004) the ten-step model presented can help governments and organizations create, develop, and sustain results-based M&E systems. The presented ten-step model will assist governments and organisations in the implementation, development and management of M&E programs based on performance. This model can also be used for strategies, initiatives, and projects. Weiss, 1995; Dhillon & Vaca, (2018) It emphasized that a ToC is the hypothesis of an entity of the improvements that will arise when it uses its strategies and procedures to accomplish its task. The ToC, then, becomes a map, providing routes for outcomes that lead to the company's mission. Inputs and operations are causally related to a sequence of expected, measurable effects (Rogers, 2008). ToC let the government define the hypotheses behind the theory and monitor the organization's anticipated intermediate performance as it executes the agenda to accomplish its long-term (Weiss, 1995; Dhillon & Vaca, 2018). A ToC strategy will help to set out a roadmap for the HIV & AIDS program in this analysis on the indicators that they will plan to accomplish. This is done in order to identify indicators that can be used in a consistent and useful manner to assess success and monitor the progress of the HIV and AIDS programmes (Connell &

Kubisch, 1998). Therefore, the ToC was developed in order to regularly update an M & E strategy for HIV and AIDS response, this includes the success of the program defined, data needs, structured indicators, processes and resources for data collection, as well as tasks and obligations for enforcing a functioning HIV M&E framework (UNAIDS, 2010). In this study a ToC is required to design and structure M&E strategies for HIV and AIDS programme interventions.

A clear ToC is typically the basis of a Theory-based evaluation (INTRAC, 2017). In general, Blamey and Mackenzie (2007) showed that Logic models are often used by program managers to describe the expected results of decisions. ToC approach has been used for planning and development programs since the 1990s, and it is based on Carol Weiss' Theory Based Evaluation procedure. According to Mayne (2012), TBE methods include designing a ToC for the experiment that outlines as to how program intervention can be expected to proceed functioning and the assumptions that drive theory (President Treasury Board Canada Secretariat, 2012). ToC can be implemented in three stages which are design, implementation and evaluation stage. **Design stage** obtaining a ToC will help corporate management in gaining a deeper understanding of the action and its effect on performance. A ToC improves the design at this stage by maintaining internal coherence and connecting strategies and behavior to predicted outcomes (Dhillon and Vaca, 2018). While at **implementation or monitoring stage**: When the intervention is implemented and surveillance starts, a ToC will enable stakeholders interested in the intervention to consider the short-term, intermediate, and long-term consequences expected to be triggered by the organisation's interventions and behaviour. There is good intention that employees who appreciate the connection between the monitoring function they play and the

predicted operational outcomes are thought to provide more reliable and timely information (Dhillon and Vaca, 2018). **Evaluation stage** entails that the evaluator gains fundamental knowledge and understanding of the theoretical basis of the organization's policy, processes, and activities from start of well-formulated ToC (Dhillon and Vaca, 2018). A ToC's Specific Causal Links, Mechanisms, and Assumptions add context, allowing for a better understanding of what is required, and what should be avoided, for a ToC to have an effect. A good ToC should also systematically contain the elements on Impact, Outcomes, Outputs, Strategies and Generic Causal Links: Specific Causal Links, Mechanisms, and Assumptions (Dhillon and Vaca, 2018).

The results-based M&E systems was used to classify and guide development of M&E strategies for HIV and AIDS programme. The results based was used to set goals and to assess whether there is improvement towards the HIV and AIDS outcomes (Fukuda-Parr, Lopes, and Malik, 2002). Results monitoring systems help address questions such as: What are the organization's objectives? Are they being attained? How will success be proven? M&E frameworks focused on performance shift from a focus on inputs and outputs to a greater focus on outcome results and impacts. Results-based M&E systems is justifiable based on their ability to show the intervention success or weakness on the outcomes and impacts of the HIV and AIDS programme (Zhou & Zvoushe, 2013).

1.10 Definitions of Concepts

1.10.1 Strategy

Strategy is defined as Long-term direction and reach of an entity: which supports the

organization by configuring capital in an evolving environment, addressing the demands of markets and meeting strategic priorities (Johnson & Scholes, 2002). In this study a strategy is a guide to strengthen the implementation of HIV and AIDS M&E framework.

1.10.2 Strengthening

Strengthening is identifying and introduce improvements in strategy and procedure in the health sector of a nation so that the country can better adapt to the problems of its health and health system (Islam, 2007). In this study strengthening the process to equip, modify and improve HIV and AIDS M&E systems.

1.10.3 Implementation

According to Johnson and Scholes (1999) “strategy implementation is concerned with the translation of strategy into organisational action through organisational structure and design, resource planning, and the management of strategic change”. In this study implementation refers to process on ensuring that developed strategy is adopted and used for evidence-based decision-making.

1.10.4 Monitoring and Evaluation (M&E) Framework

The M&E framework is a narrative document articulating the approach taken to create and operate a M&E system in the department in an ongoing basis, to generate credible and more precise data used to enhance service quality and governance (Limpopo Department of Public Works, 2011). In this study monitoring and evaluation framework policy guide, plan or policy aligned to HIV and AIDS Strategic plan of the Department providing a way of assessing the progress towards achieving goals and objectives, indicator targets as set in the HIV and AIDS strategic plan.

1.10.5 Monitoring

Monitoring involves data collection, review, monitoring and reporting data on inputs, activities, outputs, outcomes and impacts and external factors, so it supports effective management (The Presidency Republic of South Africa, 2007). In this study monitoring refers to the capacity or ability to assess HIV and AIDS performance to measure achievements towards meeting programme goals, objectives and targets using input, process, and output and outcome impact indicators.

1.10.6 Evaluation

Evaluation is a time-bound and episodic exercise that aims to offer accurate and useful knowledge to address clear questions and help personnel, administrators and government leaders in decision-making (The Presidency Republic of South Africa, 2007). In this study evaluation refers to the capacity of the Department of Health to conduct evaluation periodically, and use results of evidence-based decision-making at all stages of HIV and AIDS strategic plan.

1.10.7 HIV and AIDS

HIV and AIDS is an acquired immunodeficiency syndrome, that is, a syndrome of diseases caused by the human immunodeficiency virus (HIV) (Waymack & Sundareshan, 2019). In this study, HIV and AIDS refers to monitoring and evaluating the implementation of HIV and AIDS programme, strategies, goals, objectives and targets by the Department Health as aligned to NSP for HIV and AIDS.

1.11 Literature Review

The literature review was prepared after the collection of data and analysis using the available research articles and books to gather information already known about M&E

of HIV and AIDS programme. This chapter explores the theoretical and conceptual framework literature relevant to monitoring and evaluation of HIV and AIDS programme in other countries globally, regionally and in South Africa. It also reveals the views of the authors and researches about M&E of HIV and AIDS programme. In this study the researcher used relevant to HIV and AIDS statists focusing on HIV and AIDS Global updates both at regional overview of HIV AND AIDS in East AND Southern Africa, overview of HIV AND AIDS in South Africa also zooming into status of HIV in Limpopo province. The researcher use literature linking to available strategies such as national strategic plan on HIV, STIS AND TB and other global 90-90-90 HIV AND AIDS strategies. The researcher also cited relevant legislative framework guiding M&E in South Africa. In this study the researcher also described background of M&E of HIV AND AIDS in South Africa. The researcher also described a global and local perspective on development of M&E systems focusing on HIV AND AIDS programme this was linked to first objective of the study. In this study the researcher also described the experiences and the Implementation of M&E frameworks at global and South Africa including citing studies conducted in Limpopo Province. Linking to study objectives the researcher also described challenges facing M&E systems for HIV and AIDS programme in South Africa. In this study literature also described M&E capacity building for HIV AND AIDS programme. In this study the researcher also described approaches, strategies and theoretical framework for strengthening M&E systems.

1.12 Research Methodology

The study was explanatory sequential mixed methods conducted in two phases, namely phase 1-A, phase 1-B and phase 2, this was done by first conduction Phase

1-A of collecting quantitative data and analyse and the results to guides on the data collection questions for the next qualitative data collection phase 1-B and then interpret both results. Phase 1-A focused on conduct situational analysis of M&E interventions of HIV and AIDS programmes in Limpopo Province. In this study phase 1-A quantitative data was collected using a self-administered questionnaire a sample size of 350 participants was then analysed to explore in more detail in phase 1-B in order to develop phase 1-B interview guide. In phase 1-B purposive sampling technique was used to sample 30 participants for interviews. Integration and comparative analysis of data was done to merge and comparing results in tables and discussions. In phase 2 the researcher used the SWOT analysis through BOEM to develop strategies and used Logic Model and Theory of Change (ToC) approach to link and structure intervention strategies developed.

1.13 Arrangement of Study Chapters

The study is comprised eight chapters as set out in Table 1.2:

Table 1.2: Outline of the study

Chapter 1	**Overview of the Study** This chapter presents an outline of what this thesis covers. This chapter focuses on the introduction and background of the study. It covers the background of the study, major research questions, aims and objectives of the study and importance of the study, research methodology, delimitation of the study, definitions of concepts and division of the study.
Chapter 2	**Literature Review** This chapter covers the review of literature which includes: review available research articles and books to gather information already known about M&E of HIV and AIDS programme worldwide, in South Africa and Limpopo Province. This chapter explores the theoretical framework relevant literature to M&E of HIV and AIDS programme in other countries globally, regionally and in South Africa. It also revealed the views of the authors and researches about M&E of HIV and AIDS programme.

/Continued

Table 1.3: Outline of the dissertation (*continued*)

Chapter 3	**Research Methodology** This chapter present and describes the sequential exploratory mixed method designs employed in this study, which comprises both quantitative and qualitative research approach. It also describes the study population, sampling procedures and the sample size. The chapter also describes the data collection tool and methods used for data analysis.
Chapter 4	**Quantitative Results and Discussion** This chapter presents and discuss the results of Phase 1-A of quantitative approach pertaining to the relevance and design of assessment of HIV and AIDS monitoring and evaluation system. The chapter provide information on the relevance to the implementation of HIV M&E systems in Limpopo Province.
Chapter 5	**Qualitative Results and Discussion** This Chapter focus on results and discussion of Phase 1-B of qualitative findings while the previous chapter concentrated on quantitative study findings and discussions of phase 1-A used in this study. In this chapter data is interpreted and discussed using literature to support the study findings.
Chapter 6	**Integration of Phase 1-A Quantitative and Phase 1-B Qualitative Study Findings** In this chapter, the researcher integrates and describe findings from phase 1-A Quantitative and phase 1-B of Qualitative study finding from both studies. This section discusses the findings from both the quantitative and qualitative phases of the research study.
Chapter 7	**Development and Validation of the Developed Strategies** This chapter focused on the development and validation of the developed strategies of strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo Province. In this chapter a situational analysis was employed to further analyse the collected data. In this phase a Logic Model and ToC was explored to link and structure strategies developed through BOEM in order strengthen HIV and AIDS programme interventions.
Chapter 8	**Recommendations, Conclusions and Limitations of the Study** This chapter provides the limitations, conclusions and recommendations for further research.

1.14 Summary

Chapter 1 described the overview of the study focusing on the introduction and background of the study. In this chapter the researcher described background

information on HIV and AIDS programme based on available statistics and previous studies. This chapter has set the background and study rationale as well as stated the aims and objectives of the study, definition of the terms and the layout of the chapters. The next chapter will present the literature review.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This section reviews the existing literature of the research topic. The researcher outlines the views of other authors and researchers about the issue. Linked perceptions of the HIV and AIDS program's M&E structures are also covered in this chapter using the multiple viewpoints of scholars. The chapter covers the historical literature and challenges of M&E of HIV and AIDS in Southern Africa. The theoretical framework of the study is based on M&E literature that has been outlined. A literature review identifies the body of literature which is relevant to the research topic, literature review means locating and summarising the studies about the topic (Creswell, 2018).

2.2 Literature Review Methodology

The comprehensive literature review was used to search for peer reviewed and scholarly articles journals and reports produced by government departments and developmental partners providing support to HIV and AIDS services. In this study the literature was used in consistent with the strategies to be developed and aligned with objectives of the study (Creswell, 2018). The literature review was done using the comprehensive literature search following the seven steps as discussed by Williams (2018) and the key words were used in the search of the words related to the study in question.

Stratton (2016) stated that a comprehensive literature review uses literature review methods that are specific and thorough to avoid outcome bias. It can be seen a systematic, scientifically designed review of a defined literature base that employs the rigor of original research in an effort to limit outcome bias. The term "comprehensive literature review" (CLR) refers to the process of refining, incorporating and extracting quantitative findings from quantitative analysis studies and qualitative findings using a form of qualitative research, as well as recognizing all facets or themes of policies, guidelines, papers, and journals (Onwuegbuzie & Frels, 2016; Murudi-Manganye, Makhado & Sehularo, 2020).

2.2.1 Purpose

The purpose of this comprehensive literature review was to identify and evaluate current available guidelines, policies, guidelines and articles studies and reports to understand the current status on the implementation of HIV and AIDS Monitoring and evaluation. The literature will further outline challenges, weakness and strength in order to further strengthen the implementation in South Africa. The findings of the discovered literature will inform professionals and policy implementers and researchers about area that need focus when conducting programme design and implementation (Onwuegbuzie & Frels, 2016; Murudi-Manganye, Makhado and Sehularo, 2020).

2.2.2 The Exploratory Phase

2.2.2.1 Step1: Exploring Beliefs and Topics

In this study the researcher used research questions in order to select a topic and gain more knowledge about the topic. The researcher used key words such as: “HIV and

AIDS monitoring and evaluation" "M&E systems for HIV and AIDS" and "monitoring 90 90 90 targets" "HIV and AIDS strategies" monitoring and evaluation strategies" "Monitoring and Evaluation frameworks and Plans".

2.2.2.2 Step 2: Initiating the Search

The researcher reviewed abstracts and relevant titles was done by reviewers including study promoter in full text through discussions and dialogue in order to identify reports and articles which were relevant for this study. In order to search for relevant literature from PUBMED, Google Scholar, Science Direct and Cochran library. The researcher used websites that are peer reviewed targeting both qualitative and quantitative research articles and reports obtained from sources such as BMC Public Health, PUBMED, AfrEA, SAJHIVMED, BPMJ, ProQuest, Google Scholar, Science Direct, SAGE Publishing and Cochran library. However, due to the scarcity of published literature of monitoring and evaluation of HIV and AIDS the researcher used most literature from published UNAIDS and country reports. The initial search yielded to a total of 1066 documents obtained from Electronic Database search, which were then assessed for their relevance of the study. In addition to searched papers about 780 Articles and 12 reports excluded as they were duplicates, irrelevant to the study and some were from uncredible source. The articles and abstracts of 274 papers, 15 reports, and 8 policies were analysed after they were screened for duplicates. This sampling process resulted in the inclusion of 137 articles and 15 reports, 8, policies 16 produced manuals, and 21 academic papers such as dissertations.

2.2.2.3 Step 3: Storing and Organizing Information

The researcher conducted literature search and shored literature into organized

folders such as Policy framework folder, published journal articles, guidelines, dissertations and thesis and reports.

2.2.2.4 Step 4: Selecting and Deselection Information

The researcher used key words such as: “HIV and AIDS monitoring and evaluation” “M&E systems for HIV and AIDS” and “monitoring 90 90 90 targets” “HIV and AIDS strategies” monitoring and evaluation strategies” “Monitoring and Evaluation frameworks and Plans”. In this study the researcher considered studies and reports that presented monitoring and evaluation of HIV and AIDS. The review of literature focused on studies, journals and reports that were published globally in English up to December 2020. All literature from articles and journals available on internet written in English and published in full text articles, Journals, textbooks, World Health Organization reports, UNAIDS reports in African countries including South Africa reports from National, Province and District level between year 2003 to 2020 were included in the study.

2.2.2.5 Step 5: Expanding the Search Using MODES

The study used the MODES (Media, Observation, Documents, Experts, and Secondary) data search criteria to find the most important information on HIV and AIDS monitoring and evaluation in South Africa. This approach yielded seven policy frameworks and three strategic strategies, all of which were incorporated into the research (Onwuegbuzie & Frels, 2016; Murudi-Manganye, Makhado and Sehularo, 2020).

2.2.2.6 Step 6: Interpretive Phase: Analyzing and Synthesizing Information

In this study all selected articles, policy frameworks and reports which were included were organized as per study objectives in themes. The researcher used parallel synthesis of both quantitative and qualitative studies, to analyze policies, and guidelines. The researcher used the following questions to analyze and synthesize information, 1. In what ways have the researchers and policymakers addressed the monitoring and evaluation of HIV and AIDS in South African setting and What are other challenges and strengths that can be used to strengthen the implementation of monitoring and evaluation of HIV and AIDS in South Africa? In this study the researcher used CLR methodology wherein conceptual and theoretical literature was summarized in order to provide a comprehensive understanding of HIV and AIDS programme M&E (Onwuegbuzie & Frels, 2016). Content analysis was done through searching and familiarization of relevant literature, coding relevant searched literature, generating themes, reviewing themes, defining, naming themes and writing up. The researcher first outlined themes and sub-themes to ensure they are aligned with the objective of the study. In this study the literature review of published findings and theories was done during analysis and interpretation of data in order to confirm the research findings in the context of what is already known about M&E of HIV and AIDS programme (Grove, 2013; Braun & Clarke, 2006; Grant & Booth, 2009; Maguire & Delahunt, 2017).

2.2.3 Communication Phase

The third and final phase requires the researcher to present the Comprehensive Literature Review to an audience to convey the information, analysis, and the

conclusions and implications (Onwuegbuzie & Frels, 2015, 2016).

2.2.3.1 Step 7: Presenting Literature Using Comprehensive Literature Review

In this final stage of the literature review the ideas from original authors from articles, reports, and policy frameworks were communicated in a funnel chronological formed approach, starting with global, continental, regional, country, and provincial level focusing on M&E of HIV and AIDS HIV while applying the most relevant references and discussions. In this manner using 137 documents that have met the inclusion criteria. The researcher included literature from developing countries in Africa and Sub-Saharan countries this include Republic of Moldova, Nigeria, Tanzania, Uganda, Zambia Kenya, Malawi and Zimbabwe. The researcher excluded all studies that were not focusing on monitoring and evaluation of HIV and AIDS. The researcher excluded journals and reports which were not from credible source (Onwuegbuzie & Frels, 2015, 2016).

2.3 Global HIV and AIDS Updates

Worldwide, HIV continues to be a big public health issue. In 2018, about 37.9 million people, including 1.7 million children, lived with HIV, with a global HIV prevalence of 0.8 percent among adults (UNAIDS, 2019). UNAIDS (2019) reported that about 21 percent of the world population have been confirmed to be unaware that they have the virus, with about 74.9 million people who were affected with HIV since the start of the HIV epidemic and 32 million people have died of AIDS-related illnesses. In 2018, 770,000 people died of AIDS-related illnesses. Since its peak of 1.7 million in 2004 and 1.4 million in 2010, this figure has decreased by over 55 percent. The vast majority

of people living with HIV are in low- and middle- income countries, with 68 percent living in sub-Saharan Africa. Among this group, 20.6 million people are living in East and Southern Africa which saw 800 000 new HIV infections globally in 2018. In 2016, there were roughly 1.8 million new HIV infections - a decline from 2.1 million new infections in 2015 (UNAIDS, 2019). There were about 1.7 million new HIV infections in 2018, which is an insignificant increase from 1.8 million in 2017. Although new HIV infections in children worldwide have also decreased, this is a 41 percent decrease from 280 000 in 2010 to 160 000 in 2018, as studies suggest that this is much less improvement than thought and that far more needs to be done to increase understanding of HIV and HIV testing among teenagers and young adults. Young women are increasingly at risk, with an anticipated 6,200 new infections among females aged 15-24 per week. Despite the challenges, new global policies have contributed to a substantial increase in recent years with a raise of number of people seeking HIV treatment, especially in resource-poor countries and about 62 percent of the people who were diagnosed with HIV had access to care in 2018 of which 53 percent of those people were virally suppressed (UNAIDS, 2019).

2.4 Global 90-90-90 HIV and AIDS Strategy

The Joint United Nations Programme on HIV and AIDS (UNAIDS) has initiated an ambitious prevention target to help end the AIDS outbreak by 2020, where 90 per cent of all people infected with HIV will know their HIV status; 90 per cent of all people diagnosed with HIV will receive continuous ART by 2020; and 90 per cent of all people receiving HIV therapy by 2020 (UNAIDS, 2014). In 2015, the South African government implemented the 90-90-90.0 UNAIDS plan. The National Department of

Health has asked the provincial and district health departments to create policies and development plans for the 90-90-90 policy. The 90-90-90 plan was adopted with the aid of the donor group in the third quarter of 2015-2020. The 90-90-90 plan was adopted with the aid of the donor group in the third quarter of 2015-2020. Again, the South African government required an efficient and reliable M&E of the 90-90-90 plan from 2015 to 2020 with supportive agencies to ensure that informed decision-making takes place (SANAC and South Africa Department of Health, 2017). While progress has been made against the 90-90-90 preventive and care goals of UNAIDS, this continues to slow year-on-year declines and, at existing rates, the targets will not be reached by the 2020 deadline. Almost four out of five persons living with HIV which is 79 percent, knew their HIV status condition in 2018. Among people who knew their status, four out of five (78%) were accessing treatment and four out of five (86 percent) were virally suppressed among individuals accessing HIV treatment (UNAIDS, 2019).

2.5 Global Implementation of M&E Systems for HIV and AIDS

According to Lopez-Acevedo, et al., (2010) the development and deployment of National Results-Based Management (RBM) M&E Programs, based on lessons learned in Africa, Asia and Latin America, will improve M&E capabilities. Strengthening M&E capacities is more reliable and successful if a mid-term preparation strategy addresses the internal evaluation requirements for the piloting of public programmes and the realistic measurement of public success and outcomes. A number of components should be included in this strategy, such as more decentralized, efficient and diverse training; complementary technological assistance; support for information systems; awareness-raising discussions; policy discussions

and professional exchange platforms; structural support for global, sustainable M&E units; development of external appraisal capacities and transparency cultures.

Botswana 2013 Global AIDS response report stated that, there is no unified HIV database within the National AIDS Coordination Agency. On separate departmental excel spreadsheets, strategic HIV information is processed and there is no uniform system in place for data exchange or integration. All health-related information used by NACA shall be supplied by the Ministry of Health and, as required, directly from the regional level and from development partners and research organizations. As required for foreign monitoring systems and surveys, data from civil society is also collected on excel spreadsheets. These problems are now apparent in the extreme shortcomings of district M&E efforts and the increasing failure in ART therapy at the clinical level (Botswana National AIDS Coordinating Agency, 2013).

For use by development partners or research partners, there are no formal HIV data collection schemes, control mechanisms or M&E protocols in place in Botswana. Unilateral organisations operate their own files with little to no data sharing of information to key HIV government departments or inside themselves. There is no central database or knowledge archive for the maintenance of HIV, nor is there a national genetics database for the collection of HIV information (Botswana National AIDS Coordinating Agency, 2013). While HIV-specific information is not currently given, the District Health Information System (DHIS) for aggregated general health district level information was also launched. Issues related to insufficient HIV M&E programs at national and district level have been one of the major problems facing the HIV response in Botswana. There is a need for quality preparation, mentoring and

monitoring for the execution of the proposed M&E operations due to high employee turnover (Botswana National AIDS Coordinating Agency, 2013).

In Australia, due to the lack of evaluation preparation, deficiencies concerning the M&E programs include some reported inconsistent evaluation consistency. Civil servants were often instinctively inclined to resist evaluations that they regarded with grave concern (Zhou & Zvoushe, 2013). An analysis undertaken in Uganda in 2007 identified many issues with the M&E scheme, such as the results and outputs of sector ministries, measurable indicators, baselines and targets. Again, within ministries, there were no uniformity of evaluation criteria. The key lesson from Ugandan is that if there are flaws in the structure, application or structural and resource problems, the system is more likely to struggle to carry out anticipated success requirements, which would be an entirely challenged system (Zhou & Zvoushe, 2013). Another strand of weaknesses was in design limitations, where data processing, monitoring systems, indicator construction was very substandard and inefficient. In its effort to establish a well-functioning M&E system, capital limitations often contribute to the problems the nation faces (Zvoushe & Zhou 2013).

Sri Lanka's experience highlights the benefits of the development of M&E frameworks and the limitations of the implementation section. The method is practical in terms of architecture, and it has less loopholes. This optimistic image is sadly partly explained by execution problems where lapses in supervision are widespread. There is a lack of efficient use of the method to accomplish, as intended, program priorities and development performance. The country's comprehensive, interconnected national web-based e-project monitoring system records the progress and results of all major

construction initiatives and programs being implemented. The framework offers online and real-time access to progress results for decision makers and senior officials. The system offers early warning and helps address challenges with problem services and initiatives behind the budget (Sivagnanasothy, 2007).

There is a close connection between a national M&E system for HIV and AIDS and M&E systems for particular programmatic areas such as PMTCT, HIV Treatment, Care, testing and support of OVC in Nigeria. A national M&E system offers a national overview to allow national decision-making and monitor progress, while the program-level M&E system feeds into the countrywide M&E system, but gathers more complete data for use by way of HIV programme implementers. Therefore, a program-level M&E framework will gather more data on more indicators than the needs of the national M&E system. However, the details needed for the measurement of national measures for the project should be obtained as a minimum prerequisite (National Agency for the Control of AIDS, 2011a).

National and foreign priorities are related to the M&E structures and frameworks in Nigeria. Collaborating with other industries, NACA ensures that M&E schemes are increasingly compatible with each other and that government and other partners collect and exchange the best datasets. The establishment of an effective M&E structure plays a central role in setting out the roles and responsibilities of the NACA framework for M&E at different levels; knowledge flows; criteria for the implementation of systems; and the approach to capacity building for effective M&E of the national response to HIV and AIDS. Indicators and objectives used to track and assess the National Strategic Process were also included in the Strategy (National Agency for the

Control of AIDS (NACA), 2011a).

An assessment conducted by MEASURE evaluation (2014) in Nigeria identified the following six most significant changes through self-assessment workshop using an adapted version of the 12 components M&E Systems strengthening tool which indicated that indicators are harmonised to improve reporting processes. That data quality improved because of training efforts and the harmonisation process and data is analysed and used by states. That surveys and surveillance are used in developing an M&E plan and for international reporting. The assessment reveal that information systems evolved from paper-based stand-alone formats to an integrated electronic system. Same assessment revealed that evaluation and research are overseen by functional ethics committees. In Nigeria between 2008 and 2009, completeness of output-level, routine monitoring data produced by the national HIV M&E system was poor, according to key informants. Data completeness improved after harmonisation, with about 85% of sites reporting, compared to the number of expected sites reporting, according to key informants. Because of attrition of trained personnel and hardware and software infrastructure challenges, completeness of expected data has reached roughly 60%, with about 90% of states actively reporting. M&E monthly and quarterly meetings provide a platform to capture and validate health data with partners before entry into DHIS 2.0 (MEASURE evaluation, 2014).

The Government-Wide M&E Structure (GWMES) Policy Mechanism in South Africa sets out the administrative roles and responsibilities of accounting officers, program & line administrators, service suppliers and designated M&E units in South Africa, while the National Health Act sets out the roles and responsibilities of M&E and information

systems at the country-wide, regional and district levels (Presidency, 2007 & John Snow Incorporated (JSI), 2012). The M&E system was also developed in South Africa and accepted by SANAC in November 2007. The system led the 2007-2011 NSP through M&E through the structured frameworks at various levels in the state and non-government sectors (SANAC, 2011). With the complete introduction of the OVC registry and the improvement of the OVC M&E system, higher quality data is expected to be usable within the Department of Social Development as a sector Department. With the complete introduction of the OVC registry and the improvement of the OVC M&E system, higher quality data is expected to be usable (National Department of Health and SANAC, 2010).

2.6 Global Perspective on M&E Systems for HIV and AIDS

Keita, Okidegbe, Cooke and Marchant (2009) carried out research on the growth of rural development M&E and found that the majority of performance indicators produced for rural development intervention measurement depend on performance and are primarily linked to inputs and outputs. USAID & John Snow Inc, Evidence-Based Health Management (EBHM) Manual (2012) noted that indicators are often categorized to assess input, process, performance, result and effect measures in terms of a logical health care system context component. Literature suggests that only if they are rigorously tracked and analysed using mechanisms that offer accurate measures of improvement and success across all system dimensions, such as inputs, processes, outputs, outcomes and impacts, will health care programs be improved (WHO, 2007a). Relevant literature suggests that each measurement should be explicitly connected to the purpose of the program or initiative which should be

calculated. Indicators can be autonomous, which means that they are non-directional. Rather than increasing the number of clients receiving counselling, an indicator should calculate the number of clients receiving counselling. Choosing indicators is one of the most important phases in developing an M&E system (Heywood & Rohde undated, Frankel & Gage, 2007, HST & HISP, 2005).

2.7 Regional Overview of HIV and AIDS in East and Southern Africa

HIV and AIDS prove to be long-term obstacles for progress in Africa. The areas which are most seriously affected by HIV worldwide are East Africa and Southern Africa, home to the highest number of people infected with HIV. Africa is home to more than 6.2% of the global population, but more than half of the world's approximately 19.4 million individuals, 54% of people infected with HIV. There were 800,000 new HIV infections in 2016, just under half of the total worldwide. In 2018, South Africa alone accounted for more than a fifth of the region's 240,000 new infections. More than 50 percent of new infections were accounted for in seven other countries: Mozambique with 150 000, Tanzania with 72 000, Uganda with 53 000, Zambia with 48 000, Kenya with 46 000, Malawi with 38 000 and Zimbabwe with 38 000. In 2018, about 310 000 people in the region died of AIDS-related diseases, while the number of deaths has decreased by 44 percent since 2010 (UNAIDS, 2019).

Despite the continued severity of the epidemic, enormous progress has been made in meeting the UNAIDS 90-90-90 targets. Seven other countries accounted for more than 50 percent of new infections. Amongst the people living with HIV in 2018, about 85% have their known status, with those on treatment at 79% equivalent to 67% of all people living with HIV in the region and 87% had viral suppression which is equivalent

to 58% of those living with HIV in the region (UNAIDS, 2019). For the three main areas of focus in the HIV treatment cascade, three nations, Botswana, Eswatini and Namibia, have now achieved coverage of 90 percent and above, and Rwanda is near, however, progress is still poor in other countries. Less than 25 percent of those living with HIV know their own status in Madagascar, Mauritius and South Sudan and with eight other countries in the region who still do not register viral suppression results. Around 2010 and 2018, new HIV infections in young children aged 0-14 years declined from 1.1 million to 84,000. Over the same period, new infections among adults decreased from 930,000 to 710,000, although there is substantial variance between nations. In the Comoros, Rwanda, South Africa and Uganda, strong declines have been seen. But the yearly number of new infections has risen in Angola, Madagascar and South Sudan (UNAIDS, 2019).

In 2018, of the region's 19.6 million people living with HIV, 12 million were women and 7.6 million were men. In 2018, Lesotho recorded a 23.6 percent prevalence of HIV among the general population, one of the highest in the world. The last study reported in 2014 reveals that the prevalence of 72% was higher among sex workers and 33% among men who have sex with men is much higher (UNAIDS, 2019). Although main demographics are overwhelmingly impacted by HIV in the area, there is a shortage of data on these communities. This makes it impossible to target programs that meet crucial population needs, or map the effectiveness of those programmes. To increase the quality-of-care patients get, data collection and tracking of people living with HIV is crucial, which eventually makes people stick to medication. Other countries in the region, though do not have such programs in place because of a lack of technical

capabilities and organization of human resources. This makes it difficult to track patients through prevention and recovery programs and leads to inaccuracies in reported outcomes (UNAIDS, 2016).

2.8 Overview of HIV and AIDS in South Africa

Global AIDS Response Report (2019) reports that data from several rounds of HSRC surveys indicate that over the last decade, the total HIV prevalence in South Africa has not decreased since the prevalence has, increased over the period. The average national HIV incidence rate for people of all ages living in South Africa in 2017 was 14.0 percent, higher than the 12.2 percent estimate for 2012. In South Africa in 2018 the HIV prevalence of people living with HIV among adults aged 15–49 years was 20.4%. The projection for 2017 corresponds to around 7.9 million people infected with HIV. Compared to the 2012 census figures, this reflects a rise of about 1.6 million additional individuals living with HIV, except children younger than 2 years, with a prevalence rate of 14.6 percent, which is greater than the 12.6 percent recorded for the same demographic in 2012 HIV prevalence ranged from 8.3 percent in the Northern Cape to 18.1 percent in KwaZulu-Natal with respect to regional outcomes. The lowest being Northern Cape at 8.3%, the second last being Western Cape at 8.9% and Limpopo Province being the third last at 10.9% (Human Sciences Research Council, 2019).

South Africa's National Strategy for HIV, TB and STIs 2017-2022 offers a multi-sector collaboration approach and mechanism for South Africa to combat HIV, TB and STIs as public health and social problems. Both partners and stakeholders are working closely to establish and implement the NSP. This NSP identifies the priorities, goals

and activities that represent the vision and mission of South Africa for the period April 2017-March 2022, outlining how social, health and other structures can be improved to allow progress. The plan is used by all stakeholders to direct their development plans. The HIV policy focuses on reducing new HIV infections by more than 60%, from around 270 000 in 2016 to below 100 000 by 2022, and ensuring that 90% of people diagnosed with HIV are on ART and that 90% achieve HIV viral suppression (SANAC and South Africa Department of Health, 2017). A comprehensive M&E action plan has been implemented in South Africa, consistent with transparency for the outcomes of the country's response to HIV, TB and STIs. Indicators to assess improvement against each goal and sub-objective would be calculated using baselines extracted from proof or evidence. NSP prioritizes measures to ensure complementarity of monitoring and evaluation, surveillance and surveys, and research operations. The NSP seeks to enhance and encourage the NSP M&E system's multi-sectoral ownership and transparency and seeks to strengthen the capacity to efficiently produce and use data to track NSP results. The HIV programme Plan aims at performing unbiased progress assessments and creating the annual performance scorecard (SANAC & South Africa Department of Health, 2017).

2.9 Background of M&E of HIV and AIDS in South Africa

In South Africa, processes to enhance data collection are being placed in place to ensure data quality, validity and accuracy. When the data collection system matures and expands, information on metrics is given incrementally. For a period of time following the implementation of the programme, the long-term effect and effects must be measured. The M&E framework of HIV and AIDS uses indicators already

developed and agreed upon by WHO and UNAIDS. In order to ensure continuous M&E of the plan's goals and objectives, South Africa adopts a logical approach to input, process, performance, result and effect indicators. It is a joint obligation to succeed in operationalizing the M&E framework. Although the introduction of the framework will progressively be applied, priority was given to the collection of baseline details, the readiness evaluation of the then M&E structures (South Africa National Department of Health UNGASS Country Report, 2008). Since 2007, the National Strategic Plan for HIV & AIDS and STI has established a roadmap for continuing M&E of the goals, objectives and strategies of the HIV and AIDS initiative, with the involvement of SANAC markets, partners, and populations. While having a national Strategic Plan and M&E framework, South Africa needs a cost-effective M&E workplan that specifically defines data collection and usage practices, partners, expenditures and timeframes for reporting and controlling the national response. Furthermore, the absence of a coordinated M&E capacity building strategy has led to difficulties in adopting standardized implementation according to prioritized needs (South Africa National Department of Health UNGASS Country Report, 2010). In routine constant monitoring, data quality audits remain a missed opportunity and data collected by programs and organizations is still not routinely used for program enhancement; a 'M&E culture' is still being developed. Although SANAC has an M&E unit provision, it has been understaffed for the last two years and does not have M&E capacity. M&E is known in the country as an effective management method and there is a general interest in developing this sector. There is considerable potential for taking the M&E agenda forward. The M&E Unit is now employed by SANAC and capability exists in other industries (South Africa National Department of Health UNGASS

Country Report, 2010). Since 1994, the path of public service reform has resulted in the implementation of the GWM&E system, which is another reform of government sector and seeks to integrate those changes (Presidency, 2007). The method is aimed at incorporating and articulating all the elements into a common system across the government, informed by a reliable strategic context (Presidency, 2007). Tania & Ronette, (2010) note that the involvement of the South African government in the implementation and development of a M&E system. There was consensus that the system should involve such critical aspects as early warning data validation, data processing, interpretation and dissemination (Tania & Ronette, 2010). Different measures to respond to the HIV and AIDS epidemic have been initiated by the South Africa National of Department of Health, in order to increase all efforts to prevent, treat and help HIV and AIDS clients, including the provision of antiretroviral treatment. In order to monitor progress in the implementation of HIV and AIDS, in November 2003, the South African Cabinet approved the operational plan for Systematic HIV and AIDS Diagnosis, Management and Treatment (CCMT). The M&E system was then developed and revised to track the plan's execution (National Department of Health, 2003; Simelela & Venter, 2014).

Through a consultative process with different stakeholders, the M&E framework outlined the input, process, output, result and effect indicators. In order to prepare and coordinate HIV and AIDS programs effectively and to track and assess the execution of national and local plans, care providers and administrators at all levels of the health system need information. The provision of high quality, timely and accurate data is a critical aspect of M&E (National Department of Health, 2003).

The founding of M&E in South Africa greatly influenced the championing of democracy in 1994. The modernisation and change of the state and government was brought about by democracy. The government lacked substantial M&E before 1994, as it is known. Issues of openness and responsibility and citizen interest in government results were largely absent. M&E in South Africa was not only about performance improvement, but also a critical strategy and tool for strengthening democracy (Lopez-Acevedo, Gladys, Rivera, Katia, Lima, Lycia; Hwang, & Helena, 2010). In 2004, governments, civil society and development partners decided that a government deserves one national HIV strategic strategy, one national HIV coordinating body and one national HIV M&E framework to respond comprehensively and effectively to the HIV epidemic (UNAIDS, 2009a). It is difficult to develop one national HIV M&E structure because the system has to work across various industries. It needs an agreed view of what constitutes a functioning M&E framework and an execution plan which can rely on sufficient human and financial capital (UNAIDS, 2009a).

In 2004, in order to track and assess the CCMT plan, the Department of Health established an M&E system for the CCMT Plan for South Africa. A systematic M&E system was developed by the Department of Health, which assessed progress in meeting two interrelated targets of the comprehensive HIV and AIDS programme. The goal of the rigorous M&E framework was also to track the resources spent, the activities carried out, the services provided and the results achieved and the long-term impact achieved. In order to ensure quality, relevant and correct data, mechanisms to enhance data collection and flow mechanisms have been placed in place. In South Africa the data collection processes have been activated and new systems are being

established to adapt to the plan's data requirements in order to ensure data confidentiality. The M&E structure was also designed to assess progress towards achieving the objectives of the developed plan (National Department of Health, 2003). In 2006, SANAC launched HIV & AIDS and STI NSP for South Africa from 2007 to 2011, the strategic plan highlighted the multi-sectoral response of the country to the HIV and AIDS epidemic, which then concentrated on four main areas: prevention; treatment, care and support; human and legal rights; and surveillance and monitoring (National Department of Health, 2006). Following the NPS in November 2007 a M&E framework of the NSP for HIV & AIDS and STI, 2007-2011 was developed with the participation of SANAC sectors, Multi sector stakeholders and communities. The M&E framework proposed a series of guiding principles, outlined M&E levels, identified the central, extended set of indicators and also outlined the organizational frameworks and support agencies for the execution of M&E plans and highlighted the capability criteria for an efficient M&E framework (National Department of Health, 2006 and South Africa UNGASS Country Report, 2008).

The South African Government-Wide M&E Framework, which is the South African Government's overall M&E structure, was also established in 2007, which seeks to include an interconnected framework of M&E principles, policies and guidelines for all government services. In addition to the review of service delivery effects and impacts and their related outcomes, processes and inputs, it is aimed at promoting a consistent sequence of management activities (Presidency, 2007). The 2012 - 2016 NSP on HIV, STIs and TB was established in 2011, defining the role of the M&E unit in the Secretariat of the SANAC and its responsibility for coordinating the national M&E

multi-sectoral response process. The coordination structures would not be directly accountable for the implementation of M&E, since this is the responsibility of the implementing institutions. The framework additionally lighted how information on selected indicators for the programme will flow from lower to higher level and through feedback back to the lowest level (National Department of Health, 2011).

In 2016 SANAC developed South Africa's NSP for HIV, TB and STIs for 2017 to 2022 which embraces global targets including 90-90-90 for HIV and for TB, and 70-70 for STIs stating that 90% of all people living with HIV know their HIV status, 90% of all people with diagnosed HIV will be sustained on ART and 90% of all people receiving on ART will have viral suppression. Functional and coordinated national M&E system able to monitor NSP progress across all sectors and levels using standardised and define core indicators. Key targets include 90% of NSP core indicators are reported on through the multi-sectoral M&E system; countrywide and district information warehouses to capture, affirm, examine, and present programme monitoring records from all levels and sectors (National Department of Health and SANAC, 2016). The NSP for 2017 to 2022 introduces important innovations to strengthen M&E coordination structures, facilitate timely reporting from all sectors, promote shared accountability and support data driven decision-making. NSP stated that the improved M&E framework aims to capacitate professionals on data collection and analysis at sub-national levels to ensure improved understanding, responsiveness and resource allocation regarding priority locations and populations. The M&E framework developed details the key metrics, their definitions, data sources, data collection tools, data flow processes, monitoring timelines and duties and obligations of all Multi sector

stakeholders to ensure shared responsibility for the M&E of the NSP (National Department of Health, 2016 and SANAC, 2016).

2.10 South Africa National Strategic Plan for HIV and AIDS

The 2017-2022 NSP focuses on the following goals and objectives which include accelerating the prevention and reduction of new HIV and TB infections and STIs; reducing morbidity and mortality by ensuring services for HIV, TB and STI; encouraging care and adherence for everyone. Achieving the 90-90-90 targets for HIV and TB by 2020 would entail much more, including supplying 90 percent of individuals with antiretroviral HIV diagnosis therapy and ensuring that 90 percent achieve HIV viral suppression and achieving a 90 percent success rate for drug-sensitive and 75 percent for multi-drug resistant TB therapy. It would take even more to meet all critical and vulnerable communities with customized and targeted interventions; to reach all key and vulnerable populations with tailored and targeted interventions; to resolve and connect social and systemic drivers of HIV, TB and STIs with the NDP; to base values and approaches on the response to HIV, TB and STIs. NSP seeks to promote governance, accountability and mutual responsibility for a sustainable response to HIV, TB and STIs; mobilizing capital to promote and ensure a sustainable response to the objectives of the NSP; improving strategic intelligence to accelerate momentum towards the achievement of the objectives of the NSP (SANAC and South Africa Department of Health, 2017).

2.11 South Africa Legislative Framework Guiding M&E

The M&E system in South Africa is guided and assisted by legislative processes, as follows:

2.11.1 Constitution of the Republic of South Africa, 1996

The Constitution affirms the fundamental values and principles guiding government institutions which, according to Section 195 of the Act of the Constitution of the Republic of South Africa, no: 108 of 1996, as amended, shall be complied with by all government agencies. Accordingly, powers and duties have been delegated under Schedule 4 and Section 44 of the Constitution to establish institutions that will monitor and evaluate and enforce national policies and accountability for programmes. It is the right of the South Africans to receive quality services rendered. The M&E system will act as an instrument to add to the quality of services offered by provincial and NGO agencies.

2.11.2 Public Finance Management Act (PFMA), 1999

The PFMA guarantees the reliable, productive and economic usage of limited government capital. It emphasizes the importance of getting away from an input-driven budgeting method to a results-oriented system based on production. In terms of budgeting and financial management, the emphasis is on providing value-for-money for each rand expended by each agency within the country. The PFMA supports resource management stability by ensuring that transparency for resource quality and effectiveness does not remain the sole preserve of treasury or finance, but is passed on to line managers who are responsible for their direct mandate. PFMA controls performance improvement accountability.

2.11.3 Government-Wide M&E System Policy Framework (GWM&E), 2007

The Government-Wide M&E (GWM&E) policy structure mechanism was designed to

offer easy access to accurate information to decision-makers in all government agencies and departments that would lead to the management of their own systems by showing which of their procedures and policies performed well and which had to be altered or strengthened. The biggest task for government is to become more successful in-service delivery, according to the GWM&E framework. The GWM&E structure describes three important data fields, namely program output information, social, economic and demographic statistics and evaluations.

2.11.4 Framework for Managing Programme Performance Information, 2007

The structure notes that the success of the organization should be assessed to see how it achieves its goals and objectives. It encourages accountability and openness by offering timely, open and reliable performance data to the parliament, provincial legislatures, local Councils and the public. It also specifies responsibilities and duties for the management of knowledge on program performance. The System for Managing Program Performance Information was created by the National Treasury to direct the management of information on program performance. It states that to gather, collate, validate and store data., government institutions should build M&E systems. The goal of the Program Performance Information Management System is to facilitate routine audits of non-financial performance information of government agencies (National Treasury, 2007).

2.11.5 Strategic Plans and Annual Performance Plans Framework, 2010

The structure for strategic plans and annual performance plans illustrates the value of result-based management. It promotes the implementation of the M&E System Policy

Mechanism for the Government, which allows agencies to concentrate on result-based M&E (National Treasury, 2010).

2.11.6 National Evaluation Policy Framework, 2011

The National Evaluation Policy Framework (NEPF) provides the basis for a government-wide minimum assessment scheme. The primary aim is to improve the efficiency and influence of the government by reflecting on what works and what does not work and by revising its initiatives and policies accordingly. It aims to ensure that assessment evidence is used in the planning, budgeting and on-going management of projects. It offers common language and minimum criteria and facilitates the use of appraisal results in order to enhance performance. It targets the public sector, non-public sector evaluators, and training organizations who need to ensure that people have the skills and competencies they need (The Presidency, 2011).

2.11.7 District Health Management Information System (DHMIS) Policy, 2011

The subject of the DHMIS strategy focuses on seven key priority areas, namely: coordination and leadership of health information; indicators, data security, data processing, data management, information products; data distribution, usage of data and tools for health information system. The DHMIS strategy provides District Information Officers (DIOs) and M&E Officials at the district level with a well-coordinated function to promote training processes (Department of Health, 2011). According to Stancefield (2005), knowledge gathering and usage decisions would assess the quality and efficacy of the system in defining health issues, identifying goals, identifying effective interventions and allocating resources to maximize health

outcomes. While multiple metrics could be used to assess the success of a project, there is a cost to data gathering in terms of material and human capital, and so the number of indicators should be held to a minimum. When the time and commitment involved in gathering vast quantities of data becomes extremely daunting and too much evidence can interrupt vital messages, the accuracy of the information can be affected (John Snow Inc, 2012).

In line with the Republic of Moldova country wide Coordination Council for HIV and AIDS & TB (2008), the national M&E system is authorities-based and developed and agreed upon by involving all Multi sector stakeholders to support M&E. A National M&E plan was established by Zambia that certainly articulates all national HIV response M&E activities. The plan is used to assess progress towards the achievement of the results set out in the 2011-2015 NASF, based on established indicators at different levels (Zambia National HIV, AIDS, STI & TB Council Country Report, 2014). The Zimbabwe National M&E strategy for HIV and AIDS is related to the Zimbabwe Countrywide Strategic Plan (ZNASP), other essential policies and initiatives that are already being implemented. The structure with a list of metrics and deadlines and goals also represents the strategy. The plan also shows the definition of the numerator and denominator indicators and the explanation of each indicator. The plan also guides in evaluation plans to be conducted (Zimbabwe HIV and AIDS National Strategic Plan, 2011).

The National M&E Plan of Zimbabwe was established using the UNAIDS 12 Component Structure for the creation of a functional National M&E System, it includes individuals, organizations, capabilities and organizational culture central to the

enhancement and sustaining M&E system performance. The middle ring focuses on the processes by which knowledge is gathered, checked and analysed. Through a national research and M&E Advisory Group that meets regularly and involves all stakeholders, the country has succeeded in developing and sustaining M&E partnerships. The M&E mandate is specified in the ZNASP and the national M&E plan was established by a number of stakeholders involved. The goals of the national M&E plan are specifically related to the focus areas of the HIV National Strategic Plan to ensure the collection of appropriate data to assess progress in the country's HIV response. The national M&E strategy and, in particular, the national metrics comply with global and national technical standards and best practices agreed upon (Zimbabwe National AIDS Council, 2010).

In order to track the National Strategic Plan, Zimbabwe reviewed the National M&E plan. Through the DHIS method, the nation improved data quality, assessment culture, harmonized reporting system, conducted drug resistance testing, ANC survey, and introduced the electronic patient monitoring system. As a mechanism to ensure reliable service provision, the nation has introduced quality enhancement tracking. The country has embraced community-based models for patient supervision, advocacy for commitment to medication, and home-based care. M&E tools were developed to track the efficiency of the service for health care staff, although some use electronic systems, some implementers manually archive their data (Global AIDS Response Country Progress Report, Zimbabwe 2014). Establish data sharing systems from numerous HIV and AIDS-related datasets and provide program managers with web access to full disease monitoring and service coverage

information. Just as important as data processing is the delivery of data in the proper way, at the right time and to the right people. The nation of Zimbabwe has adopted quality enhancement monitoring as a tool to ensure efficient service provision. The country has embraced community-based models for patient supervision, advocacy for commitment to medication, and home-based care. M&E tools were developed to track the efficiency of the service for health care staff (Zimbabwe HIV and AIDS National Strategic Plan, 2011).

According to the M&E System Assessment Report (2008), since 2004, the M&E system in Moldova has been an immature system in the making. It also promotes the construction of a systematic national M&E system within the Government of the Republic of Moldova. Following the implementation of the Washington Convention guidance, the Ministry of Health of Moldova has established a national M&E system model for the National Program for the Prevention and Control of HIV and AIDS and STIs, along with its collaborators, the Global Fund, the World Bank and UNAIDS. According to Cercone (2003), the Moldova M&E framework gathers information in order to support the efforts and effects of the measures taken by the authorities of Moldova to tackle the disease. M&E shall provide the needful facts to direct the practises, coordination and execution of the response to HIV; assess the efficacy of the response to HIV; and discover areas for programme development. In addition, M&E information is required to ensure transparency for those who are infected or affected by HIV and AIDS and to those who provide financial support for HIV response (UNAIDS, 2008). The adoption and enhancement of a single national M&E framework is an example of good practice (Republic of Moldova's UNGASS report, 2007). By

creating the M&E Unit within the framework of a public structure responsible for health information, providing of capacity building, success was registered in data collection and standardisation. Data quality is one result following the efforts made by national and international organisations (Republic of Moldova's UNGASS report, 2007).

According to Lopez-Acevedo, Gladys, Rivera, Katia, Lima, Lycia, Hwang, and Helena (2010) Chile's M&E consists of instruments that, by various methods or methodologies, evaluate efficiency and performance. This use of various methods is founded on experience; a particular tool or technique has proven to be inadequate to achieve the knowledge needed and to clarify the functioning and effects of certain public activities. The Chilean M&E comprises performance-indicator instruments and evaluations. The indicators are instruments of calculation that use formulas, which may contain the variables. According to Lopez-Acevedo et al., (2010), The goal of M&E in the Canadian framework is to provide data on performance that can benefit a range of system demands and consumers at multiple levels. M&E will be able to function as instructional instruments at an organizational, departmental level to help in program improvements and sound management activities. As main resources to promote transparency and results-based management, the Canadian M&E framework has invested extensively in both evaluation and performance tracking. According to According to Lopez-Acevedo, et al., (2010), the wider dissemination of M&E findings remains an issue in many countries, including Sri Lanka. M&E organizations and planning institutions tend to work in isolation and do not have an efficient formalized input mechanism for incorporating lessons into new project planning and design. The very aim of M&E is defeated by these institutional differences. Strong ties between

M&E and policy development, reforms, planning, budgeting, and resource allocation functions must therefore be identified. The need to develop a strong feedback mechanism has been established by the Sri Lankan government. The weakest link in the project cycle is feedback. This issue is now being addressed. This was emphasised by Zhou and Zvoushe (2013), who claimed that bottlenecks, delays, problems and constraints in the execution of projects and any additional needs of the executing entity are defined by the framework. Monitoring and assessment organizations and planning units, nevertheless, they tend to function in isolation and do not have an appropriate formalized feedback mechanism to integrate lessons into the preparation and design of new projects.

2.12 Status of HIV and AIDS in Limpopo Province

Via sentinel surveillance info, the prevalence of HIV in South Africa has been consistently tracked. This report includes pregnant women between the ages of 15-49 who are receiving antenatal treatment in public health facilities. The ANC sentinel surveillance data from 2013 places the national prevalence figure at 29.7%. The HIV Prevalence increased from 0.8% in 1990 to 20.3% in 2013 as compared to National prevalence of 0.5% in 1990 to 29.7% in 2013. District HIV prevalence indicates that the prevalence of HIV ranges significantly with the highest prevalence of 27.3 percent reported by the district of Waterberg (Limpopo Department of Health, 2018). Capricorn district and Waterberg District have recorded a significant decline of 4.2% from 25.3% in 2011 to 21.1% in 2013 and 3% from 30.3% in 2011 to 27.3% in 2013 respectively. Vhembe district recorded the lowest prevalence of 15% in 2013. The HIV prevalence amongst females in the 30- to 34-year age range, which was the highest in previous

years, reported a drastic decrease of 17.3% from 33.5% in 2011 to 16.2% in 2013. The age groups 15-19 and 25-29 have both shown a significant increase of 11.2% from 7.4% in 2011 to 18.6% in 2013 and from 17.5% in 2011 to 28.7% in 2013 respectively (Limpopo Department of Health, 2018).

2.13 Capacity and Interventions to Strengthen HIV and AIDS M&E Systems

According to Liebler and Ferri (2004) capacity building aims to increase the capacity of an entity to function in terms of its mission, meaning, resources, and viability. Capacity building can involve new skills or improvements to the structures, frameworks, policies, culture and/or training methods and decision-making processes of an institution in human behaviour or changes. Capacity building includes, but is not limited to:

- **Human Resource Development:** Development of human resources though empowering people with the knowledge, talents, access to information, skills, and training to work effectively; and
- **Organisational Development:** this has to do with improving and streamlining management structures; processes; and procedures, not just within organisations, but both within and within organizations and government departments (Liebler & Ferri, 2004).

According to the World Bank and Schiavo-Campo (2005), Capacity building for M&E is an integrated advancement of expertise, capital and technology and an internal transition in an enterprise towards an M&E environment. The World Bank argues that

capacity building and M&E in general are much more than just preparation, and that four major directions require complementary changes. There are four M&E capacity building foundations that are as follows:

- **Pillar 1: Institutional Capacity:** a switch from less effective to more efficient guidelines and incentives for transparency.
- **Pillar 2: Organisational Capacity:** the transition and adaptation to the new rules and benefits of the organizational architecture of M&E government agencies.
- **Pillar 3: Information Technology and Communication Systems Capacity:** For better and more timely information on performance, use systems and ICT.
- **Pillar 4: Human Capacity:** via M&E coaching, but geared toward the abilities relevant to the precise institutional and organizational context, and could for that reason genuinely be used and improved once they have been imparted (World Bank & Schiavo-Campo, 2005).

UNAIDS (2008) noted the creation of data collection, verification and review has been the key goal of HIV and AIDS M&E capability intervention programmes. This emphasis has been technical, focusing specifically on tracking, surveillance and analysis of the HIV and AIDS programme and HIV assessment and analysis (UNAIDS, 2008). However, areas such as the technological skills that facilitate the operation of the M&E process field are also of vital significance as they decide the outcome of the whole

process (UNAIDS, 2008). The data analysis, review and management actually occur in an organisational context that can also impact the process positively or adversely. Therefore, when evaluating capacity building in HIV M&E, technological capacity should be considered (UNAIDS, 2008).

Professional development will therefore be a pillar for NGOs overseeing HIV and AIDS in the Limpopo Department of Social Development if this is handled properly. Therefore, without consulting external experts, the Agency, NPOs and NGOs working on HIV and AIDS would be in a position to plan, operate and enforce efficient and effective M&E programs, save on scarce resources (UNAIDS 2008). According to the UNAIDS Guidelines (2009a), Encouraging the use of the Standardized Tool Human capacity is vital for the successful and productive management of the HIV and AIDS M&E framework. Program workers should be educated in the administration of M&E programs for HIV and AIDS programmes. This can be done by preparation and continuous mentoring on M&E practices and qualified staff should be able to promote activities listed in the annual M&E work plan for HIV and AIDS at all stages of the M&E framework (UNAIDS, 2009a).

The M&E capacity of NGOs delivering HIV and AIDS programmes needs to be established. Resource building is a proof-driven process to strengthen the capacity of individuals, organisations and institutions to execute core tasks sustainably and to continue to expand and develop over time (PEPFAR, 2012). The PEPFAR Capacity Building Framework (2012), as discussed below, reflects an integrated and enhanced set of capacity-building activities that address individual staff, organizational and framework levels of capacity to cope with HIV and AIDS:

- In conjunction with unique, specified competencies, individual capacity-building practices increase the performance of employees. In the organizations and processes in which people operate, this needs to be discussed and applies not only to clinical health practitioners, but also to all personnel needed to prepare, execute, track and assess HIV and AIDS programs (PEPFAR, 2012) and

- Organizational capacity-building efforts improve the ability of organisations to fund, plan, conduct, adopt and evaluate projects, both instantly and over the long term, by enhancing internal organizational frameworks, institutional mechanisms and procedures, quality delivery systems, services, performance monitoring, strategy, governance, allocation of resources and overall capacity-building (PEPFAR, 2012).

In order to provide accurate and credible information and awareness about M&E by training organizations and institutions such as universities, capacity building in M&E must be adequate and continuous (Matsiliza, 2019). The main problem facing South Africa is to improve the ability of service providers and government workers to be able to carry out further evaluations of higher efficiency beyond and within the DPME. The need for multiple reviews, uniform capability overcoming programs and an annual or rolling multi-year evaluation schedule (Goldman, 2015). The task of data and M&E workers is to help management with evidence-based decision-making to improve health care programs in order to optimize population health status (Presidency, 2007). This supporting position should not substitute managers' duty to assess the effectiveness of their health programmes on the local areas in which they are named.

Information management skills, including data processing skills, data analysis and data quality assurance, are essential for maintaining efficient and participative M&E. Organizations must hire expertise, educate current personnel and promote the transition of skills from educators and consultants (Presidency, 2007).

A study conducted by Atika, (2016) on Kenya National AIDS Council revealed there are M&E units at various levels among the organisations. In the same study findings further revealed that M&E units generate data that feeds into the National AIDS Council on HIV M&E system and they have their M&E mandate role defined. Findings by Atika, (2016) and Welime (2019) in Kenya and Nigeria identified the existence of M&E units as key strengths to M&E systems in terms of effective leadership and commitment to ensure M&E system work for the AIDS Council HIV M&E system. An assessment results from a study conducted by Atika (2016), indicated there are M&E units at various levels among the organisations where data was collected from. Same study findings revealed that personnel supporting the M&E system are inadequate at different levels. Assessment conducted in Nigeria by Ogungbemi, Oyediran, Mullen, LaFond, Azeez, Boone, Mharadze, Kanagat and Atobatele (2012) revealed that the issues existed with the availability and efficiency of workers on use of data. The same study reported that numerous facility-level data collection and reporting tools have resulted in vertical reporting structures, which increase the reporting burden at lower levels, especially for service providers. A study conducted in KwaZulu Natal, South Africa by Kariuki and Reddy (2017) study found that, apart from the metro, M&E capability is generally low. It was disclosed in the same study that municipalities were inadequately resourced with trained human M&E workers, stifling their ability to

provide quality M&E services. A study conducted by Mpofu, Semo, Grignon, Lebelonyane, Ludick, Matshediso, Sento and Ledikwe (2014) in Botswana revealed similar findings in there was improved health worker capacity to monitor and evaluate programmes within the districts and there was improvement in data quality and reporting. In the same study after training there was increase in using health data for surveillance, operational research and planning purposes. Mpofu et al., (2014) it was further revealed that majority of respondents received training on M&E. It was further disclosed in the same study that the development of committed labour force at district level contributed significantly to Botswana's health information systems by helping to create capacity for M&E and enhancing data efficiency, data management usage. Mpofu, et al., (2014) further emphasised that training of health care workers may likely make employee feel they are being empowered and more likely to increase their ability to stay longer within their work environment. Granich, Gupta, Hall, Aberle-Grasse, Hader and Mermin (2017) indicated that M&E system had weaknesses which include; inadequate personnel with requisite skills form a crucial part of M&E system.

A study conducted in Kenya by Mbondo, Scherer, Aluoch, Sundsmo and Mwaura (2013) revealed major gaps, such as the absence of M&E standards, concurrent reporting processes, the absence of sub-national feedback, and the absence of data usage, overall data processing and sub-national capability. In the same report, it was stressed that there is an immediate need to create a standardized program for training and national guidance for M&E. Mbondo et al., (2013) further recommended that to ensure success further, capacity building for sub-national levels should be conducted and feedback channels to sub-national staff should be established and maintained.

A study conducted by Nicol, Dudley and Bradshaw (2016) revealed similar results as they indicated that training was not properly provided for clinical workers participated in the data collection processes. In support of this findings a study by Ledikwe, Grignon, Lebelonyane, Ludick, Matshediso, Sento, Sharma and Semo (2014) in Botswana found that key M&E and information management strategies were defined at the government level; however, the human resources available for these activities were limited and most positions were donor-funded, fixed-term appointments. Kawonga et al., (2012) also highlighted that incorporating HIV M&E programs and processes into the M&E role of the health system would mobilize early HIV funding to boost DHIS capacity to deliver quality and timely HIV metrics that would support the M&E functions of both the program and the healthcare system.

An assessment conducted by USAID and Measure Evaluation (2014) identified that in Nigeria indicators and targets are harmonised to improve reporting processes. Presidency (2014) also highlighted that incorporating HIV M&E programs and processes into the M&E role of the health system would mobilize early HIV funds to boost DHIS capacity to generate quality and accurate HIV indicators that would support the M&E functions of both the program and the health system. A study conducted by Ledikwe et al., (2014) in Botswana showed that roles in M&E and data processing were usually not explicitly assigned, and the facility level also lacked ownership of M&E-related activities. A study conducted by Ogungbemi, Oyediran, Mullen, LaFond, Azeez, Boone, Mharadze, Kanagat and Atobatele (2012), which It has been announced that HIV M&E collaborations are being developed and sustained. A study conducted by Magagula (2019) finds that the Free State Provincial

Government lacks the tradition of M&E. In the same research, inadequate coordination and the absence of buy-in to successfully enforce M&E and to use M&E results in decision-making processes were further revealed. An arrangement on who will execute and fund each activity should be expressed in the cost-covered national M&E work schedule. The cost-covered that the national M&E framework is not in the NAC M&E framework; rather, it is just a joint work plan integrating the HIV M&E activities of all stakeholders. It helps all stakeholders to prepare and work together in a harmonized manner, which is why it must be established by all main stakeholders with feedback and consensus. In order to direct M&E implementation linked to the national HIV M&E framework, M&E work plans may also be established at sub-national and service delivery levels. The annual M&E work scheduling period can be closely aligned to the total HIV financial planning timeline in order to guarantee that support will be secured for the operation of the programme (UNAIDS, 2009a).

According to Ogungbemi, et al., (2012) the M&E framework should cover all levels of HIV activities, with indicators and measurements and resources relevant to their operations and compatible with national reporting definitions. Study conducted by Ogungbemi, et al., (2012) showed that only the national HIV M&E strategy met with international requirements and is consistent with the National Strategic Framework (NSF); however, it was developed prior to the implementation of other sector plans and thus there are weak linkages. As a new-generation strategy to track and assess NSF is being created, there is space to strengthen the national M&E plan. According to Gotsadze, (2017) in Moldova the programme monitoring indicators' operational definitions meet international standards. The government has developed and

approved national guides and standard forms such as the National Epidemiological Surveillance Standard, the HIV case reporting forms, treatment case management forms, VCT reporting forms, instructions for statistics reports produced by the Ministry of Health for HIV. The national standards and instructions available reflect data collection mechanisms from public service providers. A separate set of standards and instructions are developed by Programme Managers. All source documents are available at the service provision level for audit in both, public and NGO sectors. The routine health data collection system in Moldova is developed according to Gotsadze (2017) and includes: HIV case identification, regional, age and sex representation data, HIV patient monitoring, enrolment in care, partial means of transmission.

There is a National Epidemiological Surveillance Standard developed according to international guidelines strictly followed by all actors. The surveillance analysis of the 2nd generation is done every 3 years with activity and prevalence data collection for different groups. To promote data use, territorial governments, including government agencies implementing programmes, have to be directly involved in research design, data collection and analysis, which are ideally carried out by a responsible government institution.

A study conducted by Ledikwe, Grignon, Lebelonyane, Ludick, Matshediso, Sento, Sharma and Semo (2014) found that due to the unreliability of the electronic systems, that increase the workload of health care workers as they have to use paper-based tools. Ledikwe et al., (2014) indicated that due to lack of electronic based systems health professional did not eliminate the need for paper-based forms, but chose to use both electronic and paper based parallel due to unreliable internet services,

insufficient Information Technology support, and lacking computer skills among health care workers. Same study by Ledikwe et al., (2014) revealed there were reports on data being lost from the electronic systems due to malfunctioning and backlogs of data not being entered for long time. This might affect achievement of target as not all data is being reported on electronic systems. In support of this findings a study conducted by Ledikwe et al., (2014) revealed that they may not eradicate the need for paper-based forms in Botswana, but exist simultaneously because of unreliable internet services, inadequate IT support, and lack of computer skills among health care staff.

A study conducted by Ogungbemi, et al., (2012) which It reveals that several databases are available to gather, capture and validate the data required for the HIV M&E system in Nigeria. HIV and AIDS programme are funded and powered by donors this leading lack integration on their reporting systems, especially when there are two or more donors who each have their own data reporting system. According to Gotsadze (2017). The Republic of Moldova lacks a single legislative instrument for the gathering, storage, analysis, sharing and utilization of health information.

According to Karani, Bichanga, and Kamau (2014) In order to enable decision-makers, policy makers and program managers to advise the preparation of the national HIV response, M&E should promote accurate collection and quality assured data. In the Republic of Moldova's processes for data quality assurance are underdeveloped and ineffective (Gotsadze, 2017). Data from various sources can vary, with such differences impacting preparation to produce better programs (Gotsadze, 2017). Data errors may start at the service providers' entry level, both due to technological inconsistency, errors in analysis and lack of capability, and may impact further

collation and aggregation. Data quality and controls mechanisms are also applied (Gotsadze, 2017). Data quality audits are not systematically carried out by public institutions and feedback mechanisms along with monitoring implementation of recommendations are lacking. Oversight and data validation field visits were mostly reported by NGOs. There is a shortage of national standards and instruments for supportive M&E monitoring (Gotsadze, 2017). According to Gotsadze (2017) the Republic of Moldova Despite substantial changes in government standards for the production and execution of outcome-based programmes, there is a poor degree of transparency for results in operation. In the health sector in particular, submissions to supervisory bodies reflect lists of inputs and operations, offering no detail on successes and outcomes.

According to Atika (2016), in Kenya there is a catalogue of research and evaluation studies that had been conducted and also transformed into a research hub and which is accessible online by all partners and that the organisation is working with ethics and review committee to can share all studies that have been approved and are ongoing in the system. A study conducted by Ledikwe., (2014) revealed that in Botswana nationally, any advice is given for data auditing and analysis of source records. For these audits, though, there is no regular timetable. According to Ogungbemi et al., (2012) numerous HIV-related evaluation and study reports in Nigeria have shown that NACA has lately made attempts to organize HIV study and evaluation studies, but little ground has been covered. In conducting joint analyses of the national reaction, Nigeria has performed reasonably well. According to Gotsadze (2017) the Republic of Moldova the coordination and execution of evaluation studies is the responsibility of

the M&E TWG; however, the preparation of evaluation and research typically relies on the availability of financial coverage and the agenda of the support organization and, less so, on national research priorities. Operational research is underdeveloped in Moldova and the priority research topics have been prioritised based on input from key HIV and research stakeholders.

According to Gotsadze (2017) dissemination is the release of information obtained from routine statistics, surveillance, research and studies to users using different channels. The Republic of Moldova research studies and M&E results are presented and discussed to NCC and M&E TWG. Sometimes, round table meetings, sessions and workshops are organised. Reports and presentations of different research and evaluations are placed on selected websites by responsible or funding agencies. Planning dissemination strategy for research/data is not a regular practice. Target audience and key messages are not defined for effective communication. Data use and dissemination is omitted in the M&E plan for 2012-2015. For strategic planning, there is proof of M&E knowledge. Data from second-generation surveillance research papers was used for strategy formulation, in particular to improve monitoring and prevention efforts and programs for HIV and AIDS. However, data should be used in a more systematic manner to guide policy development and sharpen the focus of programme implementation.

However, Gotsadze (2017) recommends that in order to direct policy formulation and sharpen the emphasis of program execution, data should be used in a more comprehensive way. Gotsadze (2017) recommended that in Moldova there should be calls for strategic planning of the M&E, where roles and responsibilities of various

organisations/institutions in both territories have to be defined. Effective M&E system will require redistribution of tasks between organisations/institutions for data processing, internal and external data quality auditing, data validation and reporting as one small unit cannot be tasked with all these functions. Each company should identify its particular authority and responsibility for M&E and the protocols for joint organizational decision-making. The human resource capacity building should be done at all three levels thus System level, Organization level and Individual level.

The Government of the Republic of Moldova is urged to set up an effective HIV M&E sub-committee as part of the Joint HIV and AIDS M&E TWG to resolve the defined vulnerabilities, and to specifically define the TOR for both the sub-committee and the TWG (Gotsadze, 2017). Gotsadze (2017) recommended that the TWG shall develop multiannual TWG Action Plan, indicating interventions, estimated costs, implementation periods, entities responsible, and implementing partners. To ensure prompt execution of the suggested measures, M&E preparation should be planned immediately after assessment. In order to ensure that appropriate data are gathered in order to assess success in the country's HIV response, the goals of the national multi-sector HIV M&E programme should be specifically related to the NAP. As the country M&E strategy forms the framework for introducing a functioning national HIV M&E framework, it should outline how the 12 elements of the M&E system should be implemented. Develop an HIV, AIDS & STI M&E advocacy and engagement plan that outlines events and offers tools to promote national investment and evidence-based decision-making in the M&E framework. Gotsadze (2017) study further suggested the creation, for the wider health sector, of national standards and instruments for data

quality assurance and tools for supporting supervision. As the national M&E plan forms the basis for the implementation of a functional national M&E system for HIV, it should describe how to implement all 12 components of the M&E system. Develop an HIV and AIDS, STI M&E advocacy and engagement plan that outlines events and offers tools to promote national investment and evidence-based assistance for decision-making in the M&E framework. Gotsadze (2017) further recommended that staff need to be prepared for DQA through technical assistance and also by providing proper supervision on data audit and audit results to be shared with responsible employees and the data auditing team. Organize daily meetings with external auditors of records and internal personnel in charge of data quality. Gotsadze (2017) recommended as part of the national agenda-setting process, national forums with organizations and individuals should be coordinated to agree on priority assessment and analysis including organizational research. Establish the protocols for carrying out the national appraisal and study initiative. Maintain a national appraisal and study studies inventory that is regularly updated. Establish a forum to exchange appraisal and study results, including the formulation and understanding of the findings' programmatic impacts. Establish and enforce, with clear decision-making procedures and regulators, guidance on data protection and data release. Create a calendar of decisions to define important times in the year where crucial decisions are taken and input is required (Gotsadze, 2017). Gotsadze, (2017) recommend about establishing and executing a marketing policy and schedule targeted to diverse markets for M&E goods. A need was identified to analyse challenges to the use of data and establish a roadmap for the development of data use in decision-making, preparation and execution of policies.

A readiness assessment studies which were conducted in countries such as Uganda, Zimbabwe, Ghana, Bangladesh, Romania and Egypt to implement results-based M&E systems have found there are common factors across countries have been established, including the need for high-level leadership to push M&E reform; inadequate M&E capability, including human resources and technical skills; inadequate M&E preparation, inadequate M&E processes, lack of M&E structure in some countries and poor use of quality data. The readiness evaluation studies also showed inadequate infrastructure, fractured M&E processes, lack of an M&E ethos, lack of ownership and political will, which had an effect on the M&E system based on performance. The study conducted by Dumela (2013) in South Africa Limpopo Province on results-based M&E systems has identified many variables that mitigate the efficient application of the M&E method based on performance. These included sub-optimal governance and accountability; institutional deficiencies with high turnover rates and undefined duties and responsibilities; lack of knowledge and M&E processes for collaborative management; limited technology and resources; and issues with the growth of M&E community, capability and expertise. Same study revealed that the LDOH is not ready to implement a results-based M&E system (Kusek & Rist, 2004; Boadu, Eresia-Eke,2019; Dumela, 2013; Hauge, 2001; Ndonga, Hauge, 2003; Kannae, 2000; Koranteng, 2000; Saide & White, 2007 & The World Bank, 2000).

2.14 Challenges Facing HIV and AIDS M&E Systems in South Africa

A study conducted by Mapfumo (2016) in Kwazulu Natal revealed that in the uMngeni Local Municipality, NGOs handling HIV/AIDS face a variety of problems, including a

lack of statistical expertise, a shortage of trained M&E personnel, a lack of information for M&E, a scarcity of M&E systems within organizations, insufficient funding, and a lack of involvement by staff members. Mapfumo (2016) further stated that there is a lack of adequate M&E resources, as well as low stakeholder participation and data consistency. Same study also found that NGOs running HIV/AIDS programs were not using best practices when it came to managing M&E systems for their programs (Mapfumo, 2016). In support of this study an assessment conducted by Atika, (2013) in Moldova revealed that national M&E system had similar challenges such as insufficient human resources, missing database of trainers in M&E and lack of capacity building plan. Another assessment conducted in Moldova by Gotsadze (2017) revealed that M&E capacity building events rely excessively on existing technical support and funding that reduces sustainability. The study further revealed that the country lacks national M&E curriculum and M&E related trainings are not well integrated into undergraduate and postgraduate education programmes. This is similar to findings in this study as results revealed there was no M&E capacity building, mentoring or supervision support received at least once in the past 6 months.

A variety of surveys and diagnostics have been carried out by the Presidency (2014) in South Africa to understand how M&E practitioners in the national and regional governments in South Africa understand and use M&E, and the key results are outlined in this section. The study showed that among the 54 percent of agencies studied, there was typically a lack of a good M&E culture in administration, with M&E viewed as a police and control mechanism by about 39 percent rather than a performance management function (Presidency, 2014). The idea that supervision is

an operation carried out by observers monitoring the work of others is commonly held, and there is little understanding of the value of managers monitoring and reviewing their own work themselves. Although external supervision has an important role to play in maintaining compliance, internal monitoring has an equally significant, if not more important, role to play in guiding performance improvement. Internal evaluation requires supervisors setting performance goals for their programs or work activities, assessing performance against the targets, analysing the causes for bad performance and making performance enhancement improvements to their programs or working environment. The dominant philosophy in practice is of doing things for compliance rather than one focused on training and development (Presidency, 2014).

In a study conducted by DPME in South Africa indicates that 54 percent of more than half of respondents described that challenges are not viewed as learning and growth opportunities as a major obstacle. About 81% of departments do not prepare or review any of their major programmes. Evaluation is now only sporadically implemented in government and does not inform strategy, policy-making and budgeting properly. Owing to a lack of awareness of the importance of M&E within political and institutional leadership, M&E also has no impact in departments. M&E is often not championed by senior management and M&E is often weakly associated with policy goals, planning and budgeting (Presidency, 2014). According to Gotsadze, (2017) in Moddova, there is restricted use of the data generated by the M&E framework on the public domain site in policy creation, in particular by organizations other than those in the health sector. Performing the M&E framework is reported though NCC and TWG meetings, and national strategic planning processes and thematic workshops, but not

adequately addressed in the M&E framework. In some NCC member institutions, there are individuals who actively promote and support M&E, while others, such as the FBO and the private sector, require more capacity development and efforts should be spent to increase their engagement in national M&E processes. The commitment of decision-makers and managers for M&E within some organisations is declaratory, while data is requested for reporting, there is little engagement for allocating human and financial resources for developing capability and empowering workers. An assessment conducted by Measure evaluation, (2011); Atika (2013) and Sikuku (2016) revealed that in Moldova there were available national guides, steps, procedures and standard forms available to guide data management. An assessment conducted by Ledikwe et al., (2014) It found that district and facility level employees reported getting only minimal input, with most negative criticism relating to the timely delivery of data or data errors. Study findings conducted by Atika, (2013) which revealed there is evidence of data demand and use, which is enhanced through conferences where various stakeholders including researchers, policy makers and county officials meet and during this forum they can share findings with plans for implementation. an assessment conducted by Ledikwe et al., (2014) indicated that in Botswana their best practice was the utilisation of supportive supervision visits as a less resource intensive method of providing feedback.

Furthermore, the same study indicates that one of the key challenges to the successful use of M&E for decision-making, learning, and transparency in 61 percent of departments is that departments rely more on tracking operations and results rather than effects and impacts, which suggest their influence on the broader community

(Presidency, 2014). Moreover, metrics are often not reliable and of low consistency. Weak data quality and IT processes promoting M&E function and insufficient capability growth for M&E are other issues found by departments (Presidency, 2014). The same research indicates that 27 percent of some M&E workers cited as a concern the lack of a shared governing structure to harmonize M&E principles and activities through the public sector. Approximately 60 percent of M&E workers state they have sufficient M&E implementation expertise, but need help through a national M&E policy system for them to get their divisions to use M&E more effectively (Presidency, 2014).

A study conducted in Kenya by Mbondo, Scherer, Aluoch, Sundsmo and Mwaura (2013) revealed major gaps, such as a lack of M&E guidance, parallel reporting systems, sub-national level input, and sub-national level data usage and general information management and use ability. A study conducted by Ledikwe et al., (2014) study has also demonstrated that there are no specifically defined methods for solving data quality issues, such as data completeness or double counting, and data completeness has been highlighted as a concern. According to Atika, (2016) data management should assess procedures for processing, storing and managing M&E data. Data dissemination utilising M&E reports should determine methods by which data will be collected, analysed and reported. Before implementing new data management techniques, data management should learn about existing data collection systems and quality. Systematic data collection, collation, processing, analysis and interpretation should form part of HIV and AIDS programme goals and objectives. Data managers should understand programme goals and objectives. Data managers should identify user needs and perspectives regarding data management

and utilise this to enhance data management qualities in HIV-AIDS management programme, with specific relevance to HIV-AIDS M&E activities.

According to the study conducted by Ogunmefun, Madale, Matse, Jassat, Mampe, Tlamama and Masuku (2011) the materials such as M&E instruments such as tally sheets and patient registers should be properly provided. There are no feedback mechanisms in place to give feedback on the implementation. There is still a need to build capacity to community-based organisations on new tools developed by NDoH. The NDoH and DSD is still facing challenges on implementing systems to monitor and evaluate Community-Based Care interventions thus hindering the progress. There is a need to further understand progress on implementation of the current M&E systems, usage and challenges facing community-based organisations in implementing the existing M&E systems. Study literature show weakness is the deficiency in the M&E system for the Community Health Workers (CHW) programme which needs to be informed by new knowledge.

A study conducted by DSD reveals that the Community Based Services M&E System (CBS) is a lengthy, paper-based system and it is time consuming as it requires more time in order to consolidate reports from the CBO level to hinger level (Bhutta, Pariyo & Huicho, 2010). Data is also in a paper-based format at the CBO and service point level, and is forwarded to the district level to be captured on excel electronically and sent later to the provincial office. The method thus provides potential for error and does not allow for rigorous analysis of data verification and data interrogation that can lead to programmatic performance changes (Department of Social Development, 2007). This therefore requires new strategy to guide M&E system which the

researcher seeks to address. There is no evidence of research done towards developing systems and strategy to improve M&E for community-based care interventions. More evaluation and research studies have been conducted on management of community-based organisation with less focus on addressing or fixing M&E systems (Department of Social Development, 2007). Governments, funding partners and other civil society stakeholders will join as leadership allies, with special focus on networks of people living with and impacted by HIV in order to lobbying, resource management, implementation, tracking and assessment of national HIV responses (Commonwealth Secretariat, 2003 UNAIDS, 2010 & UNAIDS, 2009a).

There is increased donor funding for the programme Technical support for M&E (South Africa Department of Social Development, 2009). Although there is a lack of equipment and record keeping at HCBCs, they can supply data that can be used for the ongoing M&E of services (South Africa Department of Social Development, 2006). In Russell and Schneider's (2000) investigation of HCBC in South Africa concluded that there is a need for a large-scale technical assistance or capacity building initiative, the creation and distribution of treatment principles and guidance, and the development of an M&E framework if community-based care is to become efficient and sustainable (South Africa Department of Social Development, 2006). The Centre for AIDS Development, Research and Evaluation (CADRE) analysis showed that resource issues were widely cited and there was a general shortage of potential for basic M&E (South Africa Department of Social Development, 2006). Operational research carried out by the Horizons Program on six home-based care services in four South African provinces showed that in HCBC organizations, records keeping and

data collection processes are not as established as they should be due to the lack of funds for institutional growth and organizational structures (South Africa Department of Social Development, 2006). One principle upon which the NSP 2007-2011 is premised include that all interventions shall be subjected to M&E though a formal framework (South Africa Department of Social Development, 2010). Guidelines for a minimal package of care along with basic M&E tools should be developed and implemented (South Africa Department of Social Development, 2006). The most critical approach to addressing community obstacles to preventive initiatives is to include the community in growth, implementation and even M&E aspects (Van Wyk, et al., 2006). The development of a community-based care M&E framework is aimed at being efficient and effective (South Africa Department of Social Development, 2006). Through Department of Social Development as AIDS Council stakeholder HCBC should compile and submit reports timorously to relevant Provincial HIV and AIDS Multi-sector stakeholders including sponsors. They can conduct weekly staff meetings and monthly review meeting with stakeholders and ensure that reports are available on a weekly, monthly, quarterly and annual basis. It is important to maintain written documents detailing recruitment, job requirements, code of ethics and exit strategies for HIV and AIDS M&E for community care providers (South Africa Department of Social Development, 2006).

A study conducted by Nxumalo (2013) indicated that reporting mechanisms can either act as a constraint or an enabler to implementing these core principles. Their reporting indicators were confined to a health paradigm, requiring them to report the number of households attended to as opposed to the approach or intervention employed in each

household. The study shows that the CHWs had to report on the interventions and services provided and the outcomes achieved for each household or client attended to. Various studies that have evaluated CHW programmes consider reporting mechanisms as only a tool for M&E, which admittedly does assist to monitor the outcome and effectiveness of the interventions. However, this narrow approach only focuses on health outcome rather than other social factors with an impact on health. Study, shows that reporting mechanisms can incorporate the principles of comprehensive PHC to enable community level inter-sectoral action and, more important, to facilitate engagement and support (Ogunmefun et al., 2011).

In Botswana there is still a weak consensus on the need for indicators from civil society and further harmonisation of all HIV indicators is still needed. Global baseline and goal setting estimates for several indicators are also missing. Certain development partners continue to align their indicators quite closely with donor requirements than with national M&E specifications. There is a severe shortage of personnel at all levels and, in particular, at the level of implementation in the regions. M&E officers have duties other than M&E at the district level and this affects their job. Therefore, M&E officers lack incentive to provide or take control of their outcomes with quality data. The electronic reporting system and national database are lacking (Botswana National AIDS Coordinating Agency, 2013). Background literature highlighted challenges facing health care facility challenges, however there is not enough evidence to support M&E challenges including use of standardised data collection and capturing tools for community care workers, poor Staffing and training in relation to data management, data collection and verification, data flow and Data use and feedback. There is no

linkage between Departmental and CBO monitoring and reporting systems. Indicators for monitoring Community-Based Care Interventions implementation are not in the electronic databased system. There is still lack of patient referral monitoring tools from communities to local facilities. Such issues also affect the management of M&E structures. The above challenges can therefore be used by the Department of Social Development and NGOs managing HIV and AIDS as guides in the design of an effective and productive M&E framework. An efficient and effective M&E system and a committed team are needed to eradicate these challenges; capacity building can also address these challenges (Ogunmefun, et al., 2011).

2.15 Theoretical Frameworks and Strategies to Strengthen HIV and AIDS M&E Systems

To direct the successful role of HIV and AIDS M&E in health programs and also across all facets of the health sector, a standardized M&E system is crucial (Presidency, 2007 and John Snow Incorporated (JSI), 2012). Worldwide, many M&E frameworks, such as outcome frameworks, strategic frameworks and conceptual frameworks, are defined and implemented. In this study, the researcher used the Logic Model to structure and quantify the process of HIV and AIDS M&E to identify findings and potential causes of best practices or deficiencies. A Logic Model is to help make sure that M&E is informed and that information obtained from the framework guides management decisions. In line with the framework strategy, the conceptual form facilitates the comparison of interrelated inputs, processes, outcomes, effects and impacts of health care programs (Presidency, 2007 & John Snow Incorporated (JSI), 2012).

According to Kusek & Rist, (2004) In order to inform efficient decision-making and monitoring, timely, relevant and credible data should be widely available and accessible to executives at all levels of healthcare framework. Public access to quality, accurate, relevant and relevant information on the accomplishments and weaknesses of programs or projects arising from scientific proof M&E processes is often seen as crucial in the implementation of accountability improvement policies and the strengthening of the M&E framework (Kusek & Rist, 2004). M&E outputs, such as documents, databases, graphs, are stored to facilitate their utilization. This central piece of evidence will provide easy access to new data in a user-friendly management format (Presidency, 2007). M&E programs and health care systems must be improved by improving comprehensive health information systems at state, national and international levels. It helps to resolve health concerns and to meet public health targets such as the MDGs (WHO, 2003a). In order to reinforce knowledge and M&E systems, deficiencies in system outputs should be established and possible shortcomings in terms of inputs and processes should be addressed (JSI, 2012). The M&E and information system must be reviewed to identify and fix limitations if managers and other decision-makers do not have timely access to accurate and reliable information in a user-friendly format for making program strategic decisions and meeting international and national reporting requirements. Inadequate inputs such as facilities, qualified workers, data collection instruments and insufficient health information management procedures and M&E processes such as data collection, collection, verification, processing, review, storage, dissemination and use need to be tackled (JSI, 2010).

2.15.1 Logic Model Approach

To develop a M&E strategy for HIV and AIDS programme the researcher will follow steps starting from developing programme goals for HIV and AIDS programme, develop indicators which will measure input, process, output, outcome and impact interventions. The Logic Model defines each indicator through a summary sheet of the indicators, analyses the baseline and the goal set for the HIV and AIDS program, determines who is responsible and reports the results. Following the use of the conceptual structure method, there is criticism in M&E, as too much focus has been focused on performance and less on results and impacts (Koot & Martineau, 2005). It is therefore important for this study to put more focus on development of outcome and impact indicators to drive programme focus and measure achievement towards certain goals and objectives.

The researcher also linked logical framework using Logic Model to outline interrelationships between HIV and AIDS programme Input, process, output, outcome and Impact (Koot & Martineau, 2005). First of all, it is really important to outline from the request that an M&E structure is one aspect of an M&E strategy that explains how the whole M&E system functions for the program or organization. In developing HIV and AIDS M&E framework the researcher will utilise logical framework approach. A logical framework is a table which presents a standardised summary of the project and its logic. Logical frameworks, also known as Log-FRAMEs, are similar to results frameworks because they are programme management tools that manage by results. A Log-frame matrix is a standardised table that summarises the important aspects of a project (Koot & Martineau, 2005). According to Bakewell and Garbutt, (2005).

It is important to differentiate between the logical model and the logical framework approach. The conceptual structure is the blueprint, which encapsulates and connects the program's fundamentals. The Logical Framework Approach focuses on the planning of problem analysis procurement, the development of objectives and indicators, and the identification of risks and assumptions by means of ToC, which are incorporated into the overall program plan.

Bakewell and Garbutt, (2005) stated that the output of the Logical Framework approach and the HIV and AIDS programme plan will be summarised in a logical framework. In developing a Logical framework through Logic Model, the researcher will also show interlink between programme the intended goal of the HIV and AIDS programme and the planned objectives in order to design the desired goal. The use of a logic model is a simpler way to conceptualize a program while linking it to all steps of developing an M&E framework. Logic models will help to explain the interlinkage between each model. Figure 2.1 simplifies a structure of the Logic Model that consists of the levels describing from inputs, activities, outputs, outcomes and impacts (Figure 2.1; Brown, 2017).

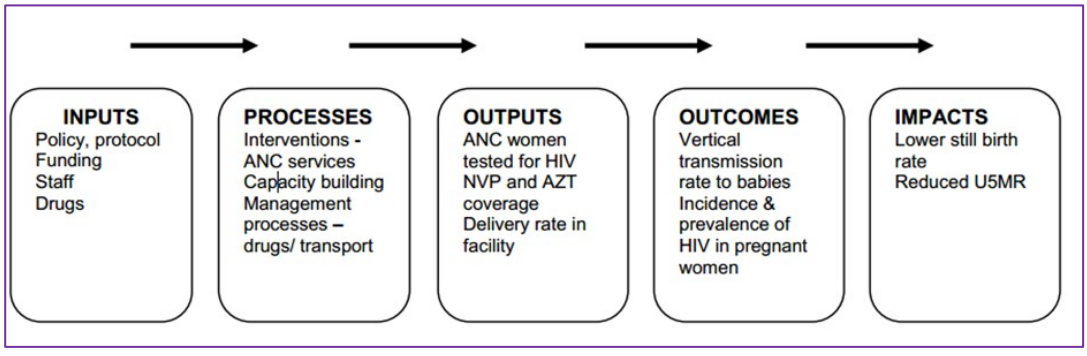


Figure 2.1: Components of the Logic Model (Adopted from the JSI Manual, 2012)

The Logic Model describes and explains the underlying relationship that flow from inputs, procedures, outputs, and effects of programs. Inputs or services influence systems or events that yield immediate effects or outputs, contributing directly to longer-term or larger inputs or outcomes (MEASURE Evaluation, 2020 and Brown, 2017). The logic model helps explain any initiative, program, or policy priorities. The "program logic" in the chain of results helps to define the predicted causal links: inputs, procedures, outputs, including coverage or "reach" through recipient classes, effects and impacts (MEASURE Evaluation, 2020). MEASURE Evaluation, (2020) described that logic models which are also called logical frameworks. The logic model is similar to a logical framework, but it is presented differently (MEASURE Evaluation, 2020). It leads to the identification of performance indicators and threats at each stage of this chain that could impede the achievement of the objectives.

The logic model is also a vehicle to involve participants in the clarification of goals priorities and the design of programme. The logic model is valuable method which can be used to guide or evaluate corrective steps, progress or action taken through execution (World Bank, 2004; Public Service Commission, 2008). In this study the M&E framework will adopt the logic model as it promotes the results-based approach. National Treasury (2007) defined the components of logic models which are as follows:

- **Inputs:** all the tools that lead to production generation and distribution;
- **Activities:** this are the methods that use number of inputs to obtain the desired outputs and finally results;

- **Outputs:** this are the final materials or goods and services manufactured for supply;
- **Outcomes:** this are the medium-term outcomes that are rational consequence of the accomplishment of specific outputs. Outcomes should specifically correspond to the strategic priorities and goals of an organization set out in its proposals;
- **Impacts:** this are the benefits of achieving particular outcomes, such as HIV incidence reduction and HIV related death reduction.

National Treasury (2007) described the logic model is described as an empirical approach to break down a programme into logical components. A logic model helps to answer questions like “Have the objectives of the programme been achieved?” and “Were the means to achieve those objectives appropriate and were they competently implemented?” In this study Logic models help to evaluate the efficiency and effectiveness of a programme. Logic models are used widely as frameworks to design monitoring systems or structure finding interventions (The Public Service Commission, 2008).

2.15.2 Results-Based Management (RBM) Approach

Fukuda-Parr, Lopes, and Malik, (2002), argue that RBM M&E programs gather data on the effectiveness or inability of implementation programmes to produce the desired goals and inform systematically on progress towards results. The RBM methodology is an instrument for the management and analysis of development in programs and initiatives. Results Management Programs help address questions like: What are the

organization's objectives? Are they being attained? How will success be proven? Results-Based M&E Systems vary from implementation-focused M&E systems because they shift to a larger focus on results and consequences beyond an emphasis on inputs and outputs (Zhou & Zvoushe, 2013).

Figure 2.2 displays a results-based (evidence-based) M&E system model as described by Kusek and Rist (2004). The figure shows the shift from production which pays more attention to the ultimate results of outcomes and impacts.

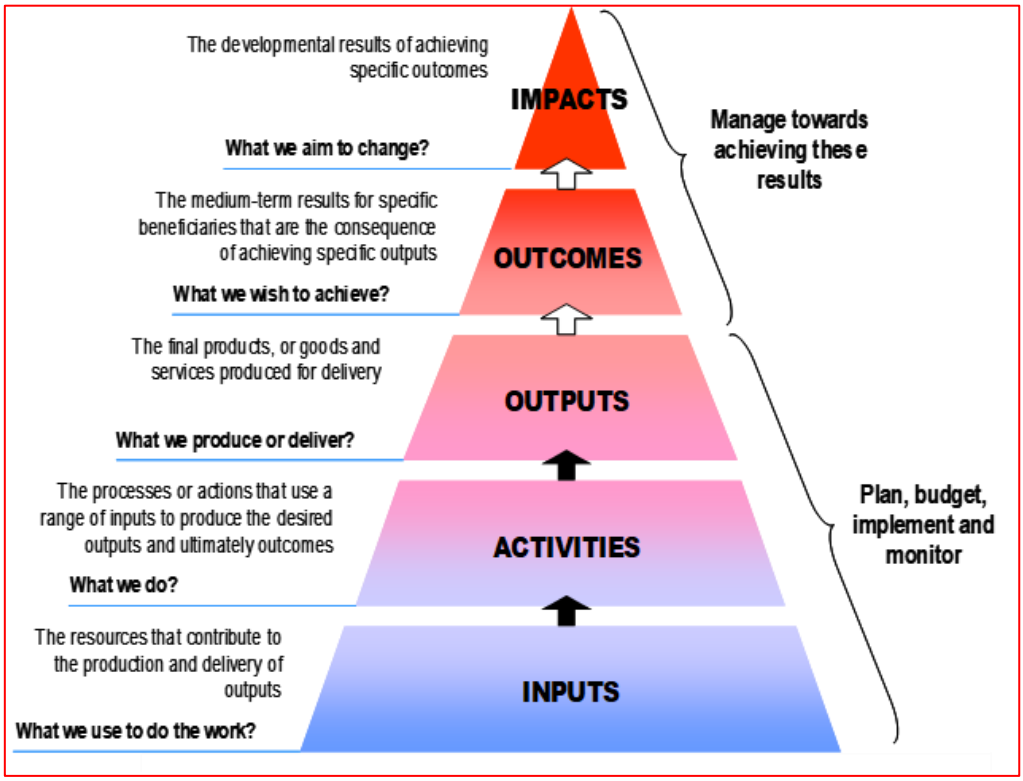


Figure 2.2: Results-based (evidence-based) M&E system model (National Treasury, 2007).

The goal is to see the importance, efficacy and effectiveness of the organization's programs and policies. The researcher will adopt this model. This figure further shows the components of a logic model which indicates the logical relationship between

inputs, outputs, outcomes and impacts. In this model the inputs, activities and outputs will be used to structure and measure the efficiency whereas the outcomes results can be used as measures to evaluate programme effectiveness (Kusek and Rist, (2004). A results-based M&E system model was also defined by Kusek and Rist (2004), which also claimed that inputs are allocated and processes are implemented to achieve the expected outcomes, including the output and outcome targets set. An important element of the results-based M&E framework is the construction of a ToC for HIV and AIDS programme. The ToC tells the story of HIV and AIDS programme in a very simplistic way and indicate how the interventions lead to the outcomes and the impacts. The ToC will represent how AIDS Councils and the participating stakeholders are expected to achieve the desired results. It depicts a systematic and cumulative analysis of the links between outputs, outcomes and impacts of the interventions in HIV and AIDS programme and shows the links in a chain of reasoning of what causes what. Ten steps to develop, construct and maintain a results-based M&E system approach are shown in Figure 2.3:

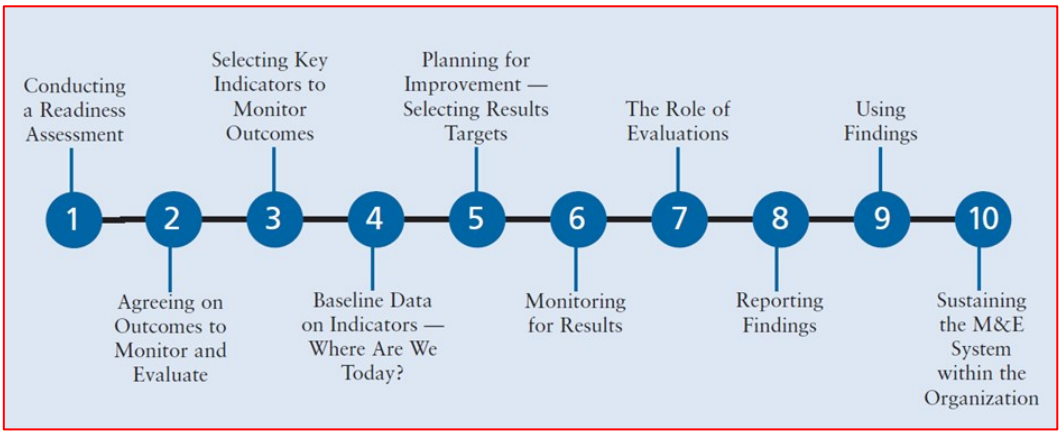


Figure 2.3: Ten steps to plan, build and sustain a results-based M&E framework

According to Kusek and Rist, (2004) There are ten-step models presented here, according to Kusek and Rist (2004), that can help governments and organizations build, develop, and maintain results-based M&E structures. These steps are not linear process as it visually appears, when applying this step, the expert or professionals are allowed to inevitably move back and forth along the steps, or they may work on several steps simultaneously. The model has following unique steps:

- **Step 1: Conducting a Readiness Assessment**

This frequently overlooked or omitted part of evaluation which is a diagnostic method that decides whether governments are actually prepared and ready to step ahead in the design, usage and maintenance of M&E systems (Kusek & Rist, 2004).

- **Step 2: Choosing Outcomes to Monitor and Evaluate**

Whether or not they can undertake M&E, all governments must set targets. The results will suggest which path to take. The construction of the M&E structure is basically a deductive method in which inputs, actions, outputs and results are all extracted from the establishment of longer-term strategic objectives (Kusek & Rist, 2004).

- **Step 3: Selecting Key Indicators to Monitor Outcomes**

Only after deciding on and setting common targets can this be set. As in the case of performance, when choosing indicators, the needs of multiple stakeholders should be considered. Indicators are quantitative or qualitative indicators or variables that provide a straightforward and precise means of measuring the achievement of goals. For the purpose of measuring HIV and AIDS programme, therefore Indicators should be established for all levels of the results-based M&E framework, as stressed in the

model, indicating that indicators would be required to continuously track progress on inputs, activities, outputs, outcomes, and impacts (Kusek & Rist, 2004).

❖ **Step 4: Baseline Data on Indicators: Where Are We Today?**

Outcomes and indicators are used to derive baselines. Basically, qualitative or quantitative data that provides proof at the beginning or right before the assessment duration is a production baseline. It is a starting point for monitoring potential success (Kusek & Rist, 2004).

❖ **Step 5: Planning for Improvement - Selecting Results Targets**

Targets are the intermediate measures on the path to a longer-term result. Again, a method of deductive reasoning is involved, in which the goals are focused on performance, indicators and baselines. A consultative, political, participatory process with key stakeholders should also include selecting goals. Over a given time frame, each indicator is expected to have only one target. Target setting is regarded as the final step in building the output M&E framework (Kusek & Rist, 2004).

❖ **Step 6: Monitoring for Results**

This involves both strategy tracking of implementations and monitoring of outcomes. Key concepts for developing a results framework include the recognition of performance information that needs at the level of the policy and program including; the need for horizontal and vertical movement of performance information in the organization; the identification of the demand for performance information at each level; and the identification of obligations at each level (Kusek & Rist, 2004).

❖ **Step 7: Using Evaluation Information to Support a Results-Based M&E System.**

The terms M&E are both complementary, and in this framework, both are required. Assessment data may be used for a number of purposes: making decisions on allocation of resources; rethinking the cause and effect of problems; recognizing identified threats; encouraging decision-making in the evaluation of alternative strategies; promoting reform of the public sector, etc. Assessment data may also be applicable at all levels of a strategy, program or planning phase cycle (Kusek & Rist, 2004).

❖ **Step 8: Reporting Findings**

Continuous data and observations on results can help to develop strategies, programmes, and initiatives. When analyzing and reporting information, the more data analyses there are, the patterns, paths, and results can be certain. Data should be compared with earlier baseline data and the output data should be recorded to compare findings and tracking performance improvement. Furthermore, to assess and compare with expected results, one must be able to compare and differentiate present and past conditions using results of data collected (Kusek & Rist, 2004).

❖ **Step 9: Using Findings**

The decision-making process would be better guided by findings. Performance results have a broad variety of applications. Another important concept is that better results can also happen only if performance information is requested. Further use of information can also help to generate knowledge and learning within every institution (Kusek & Rist, 2004). Another main component of the use of results is to build a

credible information management framework. To disseminate and share information with key stakeholders, a strong communication strategy is essential. Knowledge sharing with stakeholders tends to bring trust to government and can help build trust with all stakeholders (Kusek & Rist, 2004).

❖ **Step 10: Sustaining the M&E System**

Kusek & Rist, (2004) suggested some critical components of sustaining M&E system and in order to do to doing so there is a need create demand, role clarification and assigning responsibilities, provide batter incentives, trustworthy and maintaining credible information, maintaining high level of accountability, and capacity building (Kusek & Rist, 2004).

2.15.3 Building a Functional M&E System for HIV and AIDS Programme

According to UNAIDS (2009a) there 12 elements are not twelve tests or steps of execution (Figure 2.4). They are not meant to be applied sequentially, but they should all be current and running to an appropriate standard for the successful operation of the national HIV M&E scheme. It is also essential to draw on current frameworks and capacity and to resolve human resource capacity challenges and institutional relationships to enable the collection of data of high quality. Most significantly, it is important not to lose focus on the true purpose of M&E and to use data for evidence decision-making.

❖ **Component 1: Organisational Structures Functions HIV M&E Systems**

In order to establish a proper M&E system, a network of national, sub-national and service delivery organizations responsible for HIV M&E needs to be developed and

maintained. Ideally, one agency, such as the National AIDS Coordinating Authority (NAC) or its equivalent, should organize the system.

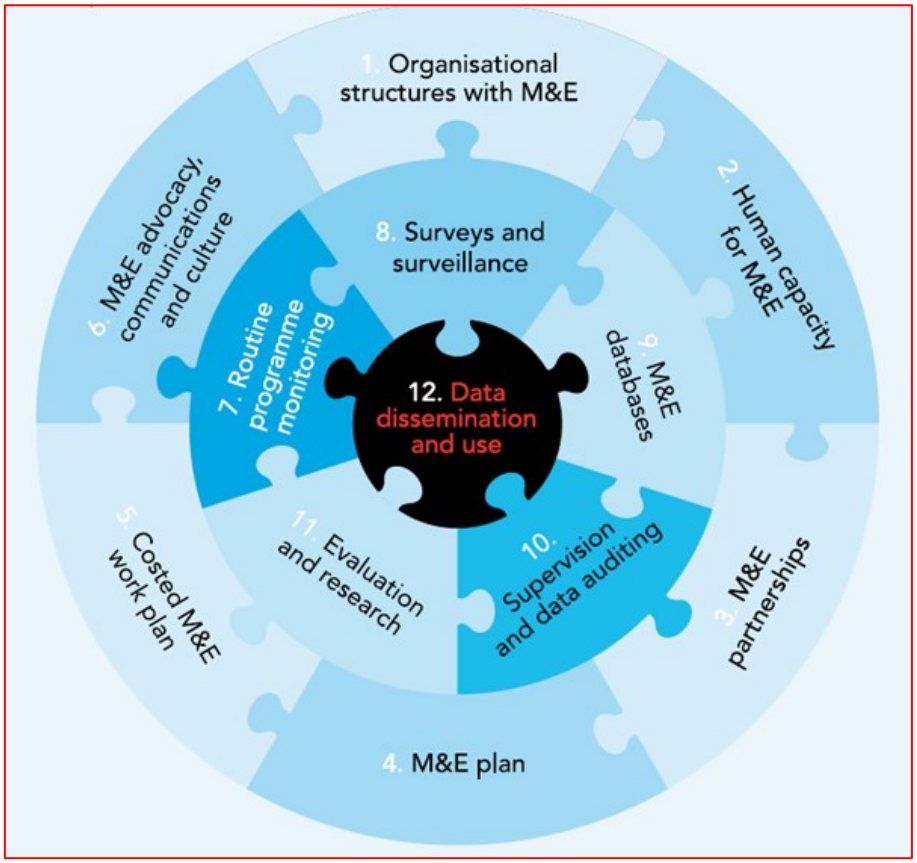


Figure 2.4: Coordinating structure for a functioning HIV M&E System (UNAIDS, 2009a)

Various Departments should have a dedicated M&E unit with the mandate and authority to organize and request data from all stakeholders for M&E activities; it should also have ample freedom to report on M&E data openly. Deliberate efforts should be made to incorporate HIV into current frameworks at the Provincial and District level for the preparation and coordination of health and development programmes. Apart from human capital, financial resources and critical facilities, equipment and supplies are also required (UNAIDS, 2009a).

❖ **Component 2: Human Capacity Development and Training for HIV M&E**

Government Departments must ensure that all tasks set out in the annual cost-effective M&E framework for HIV are carried out by properly trained personnel at all levels of the M&E units (UNAIDS, 2009a). Human capacity building should concentrate on all levels; include realistic success goals; have a strategy for capacity building with well specified outputs; and have ways of tracking progress.

A broad range of activities should be conducted in order to build human capacity this should include variety of method of facilitation including structured training, in-service training, mentorship, coaching and internships, are required for M&E human capacity building. In addition to focusing on the technological aspects of M&E, M&E capacity building should cover governance, financial planning, capacity building, mentoring, supervision, advocacy and communication skills (UNAIDS, 2009a).

❖ **Component 3: Partnerships to Plan, Coordinate and Manage the HIV M&E System**

Create and sustain relationships between national and international stakeholders engaged in the national HIV M&E framework planning and management. It is important that all stakeholders monitoring and evaluating HIV programme should work together in order to achieve common goals.

Many countries have succeeded in establishing and maintaining M&E partnerships through a national M&E Technical Working Group that meets annually and includes all stakeholders, including all organizations responsible for M&E activities defined in the paid national HIV M&E work plan (Baingana & Kasheeka et al., 2006).

❖ Component 4: Multi-Sectoral HIV M&E Plan

Develop and periodically update a national M&E strategy, including defined data needs, national uniform metrics, protocols and instruments for data collection, and tasks and obligations for implementing a functioning national M&E framework for HIV (UNAIDS, 2009a). Each government department should develop HIV policy and other related policy frameworks, in order to achieve the M&E mandate. The M&E framework should be implemented and frequently updated by involving provincial and district governments and civil society sectors, including a wide variety of key stakeholders. The goals of the l M&E strategy or framework should be specifically connected with the HIV national strategic plan and it should outline how the all 12 elements of the M&E system were incorporated (UNAIDS, 2009a). The M&E plan should outline a 3-5-year transition strategy, suggest projections of resource needs and outline a resource mobilization strategy. The M&E framework indicators, should be aligned to global and national technical standardised indicators and performance (UNAIDS, 2009a). The M&E plan should also outline how each indicator will collect and disclose HIV data in order to contribute to the unified national HIV M&E framework. The M&E framework should be reviewed and revised on a regular basis (UNAIDS, 2009a).

❖ Component 5: Annual Costed National HIV M&E Work Plan

The M&E framework should be a costed work plan, including the relevant and cost-effective HIV M&E initiatives of all partners and the sources of funding identified. An annual cost-effective M&E framework needs to be developed to be operationalized and it must outline the priority M&E tasks for the year with specified implementation obligations, costs for each task, defined support and a specific production execution timetable. The framework will help the government and the M&E TWG to ensure the

deployment of financial and human capital and to track progress in achieving HIV programme goals and targets (UNAIDS, 2009a).

❖ **Component 6: Advocacy, Communication and Culture for HIV M&E**

This is to ensure awareness and dedication among lawmakers, program administrators, program personnel, and other stakeholders to HIV M&E and the HIV M&E framework. There is a need to create a supportive M&E culture, and reduce any negative stereotypes of M&E. There is a need to develop a communication and advocacy strategy for M&E can help to achieve these objectives. One way to gain political support is to identify a Master trainer or M&E champion, who can promote M&E culture among professionals. The HIV M&E engagement and advocacy policy should be part of the national HIV communication plan of the country to ensure the inclusion of M&E into all PAC functions (UNAIDS, 2009a).

❖ **Component 7: Routine HIV Programme Monitoring**

Standardised data should be obtained on a regular basis from all providers, including hospitals and community-based HIV service providers. The data needs of various stakeholders should be clearly defined and provide routine data promptly in order to guide decision-making at all levels. The M&E unit should ensure that information from facilities is collected in a timely manner in the M&E framework to enable them to be included in routine reports and other information items (UNAIDS, 2009a). Data should be collected from all organizations that provide community-based HIV programs, such as those directly funded by the government and those funded by development partners through other outlets. Sectoral databases that provide data specific to HIV initiatives, such as information on social services for orphans and disabled children,

may already exist. There is a need to identify all data sources and creating suitable inventory and it is also important to build effective links for HIV programme success in order to capture all required data (UNAIDS, 2009a).

❖ **Component 8: Surveys and Surveillance**

It is important to produce timely and high-quality standards outcomes from surveys and tracking. In order to determine the causes and the spread of the HIV epidemic in each region, both clinical and social behavioural surveillance and surveys are important. The focus for the HIV surveillance and surveys should be able to concentrate on the general population including the the populations at greatest risk (UNAIDS, 2009a).

❖ **Component 9: National and Sub-National HIV Databases**

There is a need to create and maintain HIV databases that allow stakeholders to access information for policy and decision making in order to enhance programme performance. The information system built should consist of resources such as computers, a user-friendly software database, and trained persons to use the databases to record, validate, move, interpret, and exchange data for use. Clear responsibilities and duties need to be established at the state, sub-national, and patient care levels to ensure an appropriate and timely exchange of data between the different levels (UNAIDS, 2009a). UNAIDS (2009) proposed that databases for HIV and AIDS should be established and that all stakeholders should be given access to the management and improvement of the data programme. Letebo and Shiferaw (2016) suggested that intake and follow-up forms, Pre-ART and ART registers, monthly reporting forms, and cohort reports were generic instruments adapted for the

country. Macheka (2016) suggested that there is expanded coverage in South Africa of public health facilities that have moved from Tier-1 paper-based recording to Tier-2 electronic recording for ART clients; and the introduction of HCT and pre-ART modules is in the early stages of deployment and scale-up. In the same study of Macheka (2016) it is believed that once implemented HTS, pre-ART and ART modules through Tier.net allowed facilities to track patients across the treatment cascade to effectively monitor the implementation of the 90-90-90 strategy and improve their health outcomes.

- **Component 10: Supportive Supervision and Data Auditing**

Periodic monitoring of data quality and overcoming any challenges to delivering high-quality data, i.e. accurate, credible, detailed and timely data. Supportive management applies to monitoring and directing others' production and transferring the information, behaviours, and skills required for HIV practices to be effective in M&E. It provides an opportunity to obtain stock of the activities undertaken; objectively focus on it; provide local workers with feedback; and clearly direct changes if possible (UNAIDS, 2009a).

- **Component 11: HIV Evaluation and Research**

Identify important assessment and study issues, coordinate trials to address the needs found, and increase the use of assessment and research results. Assessment and study are critical but frequently overlooked elements of a robust HIV M&E framework. The proper use of appraisal or study results ensures that HIV response preparation is based on the latest facts and directs the continuing progress of the programme. The establishment of a national framework to identify and coordinate evaluation and

research partners with assessment or study shortcomings relevant to the Strategic Plan helps ensure that assessment and research studies are related to the country's needs and yield actionable results. The evaluation and research activities are coordinated to avoid duplication of work and the results of the study are communicated and available for decision-making (UNAIDS, 2009a).

❖ **Component 12: Data Dissemination and Use of Performance Information**

There is a high need to publish and use M&E data to inform policy development and preparation and improvement of programmes. The data needed to direct policy development and program operations is the most critical justification for conducting M&E (UNAIDS, 2009a). The national M&E strategy should include a comprehensive data usage plan, which should relate data uses and data collection activities to relevant information items for various markets, as well as a schedule for distribution. The plan must include activities to promote data use, such as seminars to explore the effects of M&E data for the preparation and improvement of programmes, should also be included. A working M&E framework to also encourage the use of data at all levels, including the general public and the participants of the HIV service, gathers and presents the data (UNAIDS, 2009a).

2.15.4 Process of Developing a M&E Framework

FHI 360, (2004) developed seven steps towards developing a M&E work Plan or framework which are as follows:

❖ **Step 1: Identify Program Goals and Objectives**

The first phase includes a simple statement to be written that outlines the goals and

objectives of the nation program and often sub-objectives and explains how the program expects to accomplish them. To create a control and assessment strategy, a system conceptual framework structure can then be conveniently diagrammed. A outcomes framework with survey goals, strategies, activities, measures, collection methods and processes, regularity, and persons responsible for gathering M&E data at country level is outlined in the country appraisal matrix in the appendix. This system shows how national governments' position in tracking and coordinating HIV prevention and treatment programs complements the local-level capabilities of individual initiatives. This system further highlights the time taken to show success at multiple stages, ranging from several months for process-level milestones to workforce preparation to several years for result and impact-level targets (FHI-360, 2004).

- **Step 2: Determine M&E Questions, Indicators, and Their Feasibility**

In this phase, the most relevant assessment questions are identified by M&E experts and program managers, which should be explicitly related to the specified priorities and goals (FHI-360, 2004).

- **Step 3: Determine M&E Methodology**

The M&E methods, data collection methods and tools, analytical plan, and an overall timeline are included in this step. It is important to specifically explain how data will be obtained to address the questions of tracking and assessment. Effective M&E processes, result metrics or metrics, knowledge requirements and the means by which the data will be compiled and evaluated are determined by the planning committee. In order to gather and process data and to sustain an open data infrastructure, a strategy must be created (FHI-360, 2004).

❖ **Step 4: Resolve Implementation Issues: Who Will Conduct M&E? How Will M&E Results and Past Findings Be Used?**

Once all the data collection techniques have been established, it is important to clearly state who will be responsible for and process. Program planners must decide: How are we going to bring this strategy into practice? Who will report the data from the process and who will gather and interpret it? Who will supervise the compilation of quantitative data and who will be accountable for its analysis? The performance of the programme strongly relies on the professional abilities of program personnel to carry out evaluation and appraisal tasks. Identify current databases and other M&E programs, whether they have been carried out, are continuing or other contributors have funded them (FHI-360, 2004).

❖ **Step 5: Identify Internal and External M&E Resources and Capacity**

Identifying tools for M&E involves identifying not only M&E funds, but also trained workers who can help in preparing and carrying out M&E operations. That also involves evaluating the ability of the software to handle and connect different databases and computer systems (FHI-360, 2004).

❖ **Step 6: Develop the M&E Work Plan Matrix and Timeline**

For each program goal, the matrix presents a format for displaying the inputs, outputs, results, and impacts and their associated tasks. It summarizes the overall strategy of M&E by including a list of approaches to be used in data collection. The schedule specifies when each operation in the work plan for M&E will take place (FHI-360, 2004).

❖ **Step 7: Develop Plan to Disseminate and Use Evaluation Findings**

There is a need to plan how the effects of M&E can be used, converted into the vocabulary of program policy, disseminated to partners and decision-makers, and used for continuous program refinement. A system should be built-in to provide program and evaluation planners with input so that lessons gained can be extended to future initiatives. When no strategy was in place to disseminate the findings of M&E, this issue will always not be addressed because experts in M&E have overlooked the information or moved on. The lack of a strategy will weaken the effectiveness of existing actions and planned activities to track and analyse. Inadequate dissemination can result in duplicate M&E operations because some are not aware of the previous initiative (FHI-360, 2004).

2.15.5 Theory of Change (Toc) Approach As a Guide to Develop Strategies

Despite the growing knowledge of the ToC approach, the degree to which ToC of Theory Based Evaluation (TBE) approach has been used in the design and evaluation of interventions in public health remains little known. Many approaches in public health are highly dynamic, implemented at multiple stages with multiple overlapping elements. Some researchers say that understanding the underlying ToC of public health intervention and its associated uncertainties can enhance the assessment of complex health interventions (Breuer, Lee, De Silva & Lund, 2016b). Within the tradition of theory-driven evaluation, ToC was developed by Weiss (1995). Although ToC meanings vary, we define it as a method that explains how a program produces particular long-term results through a logical series of intermediate results (Vogel, 2012). The ToC is also generated using a backward mapping technique that begins

with the long-term result and then charts the appropriate transition mechanism and the short- and medium-term outcomes expected to accomplish this (Andersen, 2009). Additional elements of a ToC can include beneficiaries, research evidence supporting the ToC, actors in the context, sphere of influence, strategic choices and interventions, timelines and indicators. These elements are usually presented in a diagram and narrative summary (Vogel, 2012).

The ToC is normally established by seminars or workshops in consultation with stakeholders, although stakeholder engagement can differ considerably in practice (Sullivan, Stewart 2006; Breuer, Lee, De Silva & Lund, 2016b). Some ToCs are formed by seminars and meetings with a broad spectrum of stakeholders, including healthcare professionals, while others are created using program documents by evaluators and funders. Given similar roots, ToC differs from other theory-driven assessment methods (Breuer, Lee, De Silva & Lund, 2016). The use of ToC in designing a public health intervention was identified in eighteen papers reviewed by Breuer, Lee, De Silva & Lund, (2016). Most of them mentioned using the ToC as a tool for action or a strategic strategy (Breuer, Lee, De Silva & Lund, 2016). ToC is the theory of improvements that will arise in an organization as it uses its policies and practices to fulfill its task. That is the reasoning behind an intervention, in essence. The ToC is a guide that offers paths to findings contributing to the organizational goal (Dhillon & Vaca, 2018). Organizational leaders will benefit from using a ToC as the foundation for checking policies to ensure that they are technically sound and, finally, for better programmatic effect, to change strategies and operations. ToC should also guarantee that management and workers share a shared view of the corporate path

to their mission (Dhillon & Vaca, 2018). The following are the Benefits of Developing a ToC:

- **Design Stage**

At the design point, getting a ToC will help corporate management better understand the intervention and its relation to effect development. A ToC makes the design more solid during this point by checking its internal coherence and relating techniques and actions to planned performance (Dhillon & Vaca, 2018).

- **Implementation or Monitoring Stage**

A ToC will allow the stakeholders participating in the intervention to know the short-term, intermediate, and long-term effects intended to be caused by the interventions and actions of the company until the intervention is adopted and surveillance is started. When workers learn about the relations between the tracking function they play and the anticipated organizational performance, they will also provide more detailed and timely details (Dhillon & Vaca, 2018).

- **Evaluation Stage**

A simple, well-formulated ToC provides the evaluator with critical knowledge and appreciation of the theoretical basis of the strategy, methods, and activities of the organisation (Dhillon & Vaca, 2018). The Specific Causal Links, Mechanisms, and Assumptions of a ToC provide added depth allowing for a deeper understanding of what is necessary, and avoided, for a ToC to achieve its impact. A good ToC should also systematically contain the elements listed in Figure 2.5 on Impact, Outcomes, Outputs, Strategies and Generic Causal Links: Specific Causal Links, Mechanisms,

and Assumptions (Dhillon & Vaca, 2018).

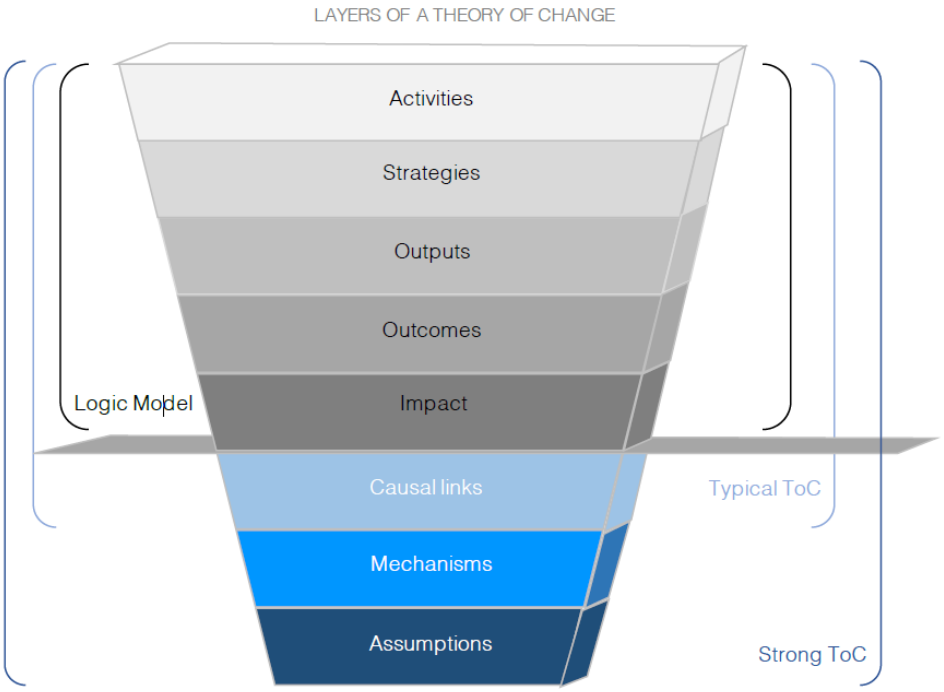


Figure 2.5: Layers of a Theory of Change (Dhillon and Vaca, 2018)

2.16 Summary

This chapter covered the literature review. In this study revealed literature relevant to HIV and AIDS statists focusing on HIV and AIDS Global updates both at regional overview of HIV AND AIDS in East AND Southern Africa, overview of HIV AND AIDS in South Africa also zooming into status of HIV in Limpopo Province. The literature search also identified several strategies used in different counties to such as national strategic plans on HIV, STIS AND TB and other global 90-90-90 HIV AND AIDS strategies. It was also noted that in this study the researcher also described background of M&E of HIV AND AIDS in South Africa. The researcher also described a global and local perspective on development of M&E Systems focusing on HIV AND

AIDS programme this was linked to first objective of the study. In this study the researcher also described the experiences and the Implementation of M&E systems at global and South Africa including citing studies conducted in Limpopo Province. Linking to study objectives the researcher also described challenges facing M&E systems for HIV and AIDS programme in South Africa. In this study literature also described M&E Capacity Building for HIV AND AIDS programmes. In this study the researcher also described approaches, strategies and theoretical framework for strengthening M&E systems.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methods and research designs selected. This section focuses on two phases of the conducted research, and discussed the population and sampling applied including the data collection instrument and the sampling procedure adopted. The plan for the data collection and the data analysis are also discussed.

3.2 Research Approach and Design

According to Creswell (2018) mixed methods research is defined as a procedure for gathering, evaluating and integrating or mixing both quantitative and qualitative data at the same stage of the research process within a single study or studies to understand a research problem more completely. In this study the researcher followed a mixed methods research approach when collecting and analysing both quantitative and qualitative data to evaluate the Implementation of HIV & AIDS M&E systems in Limpopo province. To achieve this the researcher used explanatory sequential mixed method research design whereby the researcher first conducted quantitative research, analyses the results and then identify and builds on the results to explain them in more detail with the qualitative research. Figure 3.1 presents the sequential mixed method design flow of the quantitative and qualitative phases of the study.

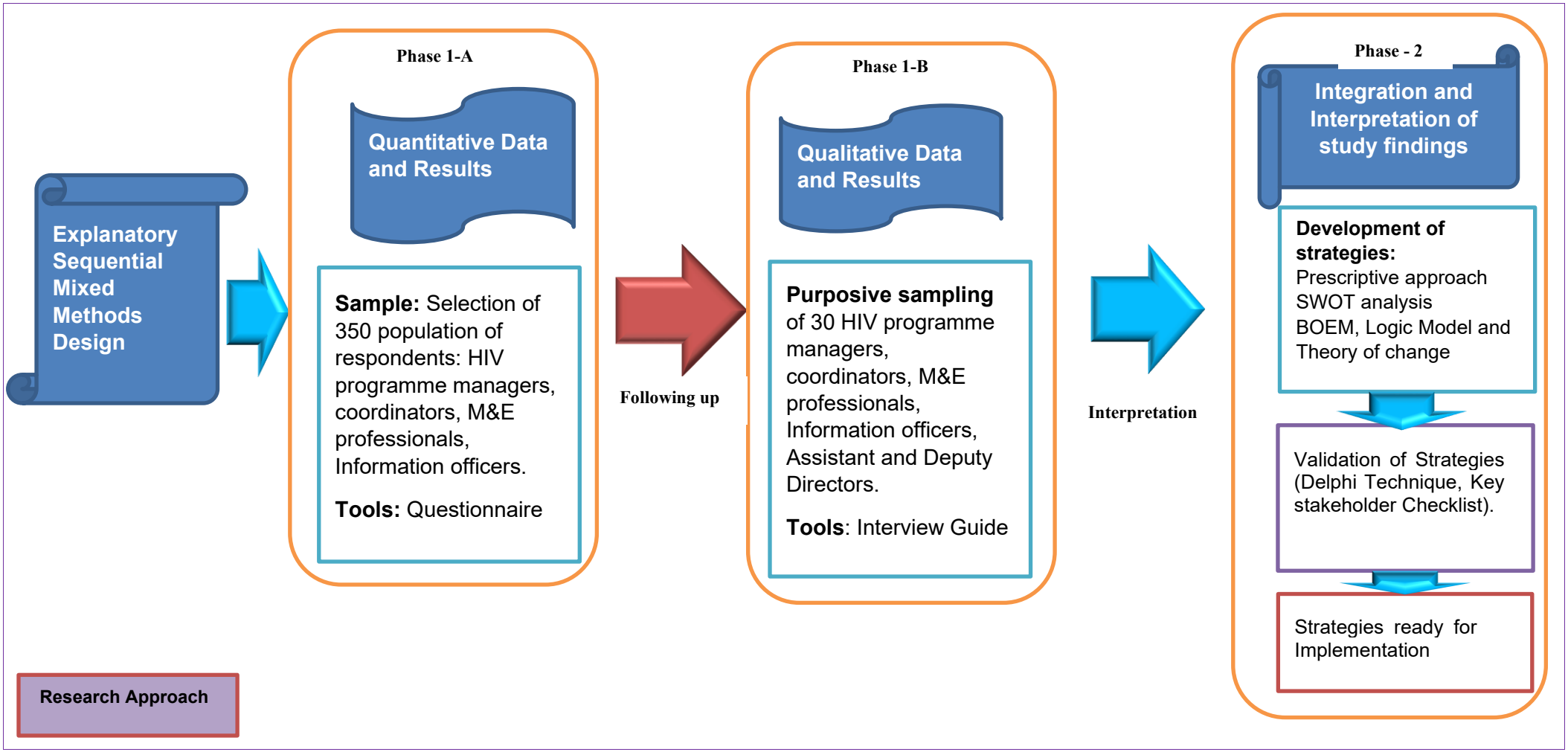


Figure 3.1: The sequential flow of the quantitative and qualitative phases of the study (Creswell, 2018)

3.2.1 Explanatory Sequential Mixed Methods Research Design

In this study the researcher used explanatory sequential mixed method research design. According to Creswell (2018) research design in quantitative, qualitative and mixed methods, analysis is an investigation that gives clear direction for procedure and processes in a research sample. The researcher utilised explanatory sequential mixed method as a design of the study with the rationale that in general, quantitative findings will outline the image of the study issue while the qualitative results simplify, clarify or expand the overall image (Creswell, 2018). In this design, a researcher collected data in two phases. An explanatory sequential mixed methods design involved the collection and analysis of qualitative data after a quantitative data collection phase to follow up with qualitative data in more depth. The reason for using an explanatory follow-up approach was to assist in explaining and elaborating on the quantitative results obtained in the first phase of the study. The purpose of a sequential mixed methods design was to make use of qualitative results to assist in interpreting the findings of a primary quantitative study. After the analysis of the quantitative data, the researcher used those results to connect to the planning of the qualitative phase, by using the quantitative results to plan a purposeful sampling strategy (Creswell, 2018).

3.3 Study Setting

The study was conducted in Limpopo province which is in the Northern part of the Republic of South Africa. It shares borders with three provinces of Gauteng, Mpumalanga and North West. It also shares borders with three counties which are Mozambique in the East, Zimbabwe in the North and Botswana in the West. Limpopo

province covers a land area of 125 754 km2 with a population of 5.9 million people (Stats SA, 2019). The population of Limpopo increased from 5.7 million in 2015 to 5.9 million in 2019. Limpopo province is the fifth most populated province in the country after Gauteng, KwaZulu-Natal, Eastern Cape, and Western Cape respectively (Stats SA, 2019). Limpopo province Department of Health has a visionary obligation committed to provide quality health care service that is accessible, comprehensive, integrated, sustainable and affordable programmes delivering its services focusing on its Districts namely Mopani, Vhembe, Waterberg, Sekhukhune and Capricorn districts (Figure 3.2; Limpopo Provincial Council on AIDS, 2019).

Figure 3.2: Limpopo Province Map Source: African special tours (2015)

In Limpopo Province there are 477 primary health care facilities and 40 hospitals based on the 2016 Mid-year population estimates published by Stats SA, the province contributes 10.2% to the 58.7 million population estimate of South Africa and the population of Limpopo province was just under 5.9 million people in 2019 (Stats SA, 2019). The burden of HIV, STI and TB poses a developmental hurdle because it places Limpopo' province`s human capital at risk of morbidity and mortality. The economically active population aged 15 -64 years of Limpopo province is 3.6 million of which 1.7 million is economically active whilst 1.9 million is not economically active in 2017. Stats SA's Quarterly Labour Force Survey in 1st Quarter of 2017 shows that Limpopo province is home to 374 000 (21.6%) unemployed people. A study by Stats SA on multiple deprivations at ward level in Limpopo province identified the most acute pockets of poverty in the province. The 2011 census showed that 31% of Limpopo households earn R76, 400.00 per year or R6,367.00 per month. Households with no income at all were reduced from 28% in 2001 to less than 14% in 2011 (LDP, 2012).

According to the District Health Barometer report (DHB) (2015/16), Limpopo Province had the least proportion of people 8.5% depending on private health care. About 91.5% of the population relies on public health care services. Limpopo Province has 448 primary health care facilities, 5 regional hospitals, 2 provincial/ Tertiary hospitals, and 25 Community Health centres. There are also 18 gateways Primary Health Care (PHC) services in selected hospitals. Stats SA report on mortality and causes of death shows that influenza and pneumonia accounts for 7.47% of all deaths in the province. Tuberculosis (6.58%) is the second highest cause of deaths whilst 2.98% of deaths are attributed to HIV causes (Limpopo Provincial Council on AIDS, 2018).

3.4 Phase 1-A: Quantitative Study

This phase approached from a quantitative perspective and structured in line with the following objectives:

- To evaluate relevance and design of current M&E of HIV and AIDS programme interventions in Limpopo Province.
- To assess the relevance of capacity building strategies and Interventions towards strengthening HIV M&E System.
- To determine the challenges facing Limpopo Multi sector stakeholders when implementing M&E of HIV and AIDS programme.

3.4.1 Study Population

An accessible population is a portion of the target population to which the researcher has reasonable access (Grove, Burns, & Gray, 2014). Creswell, Ebersohn, Eloff, Ferreira, Ivankova, Jansen, Nieuwenhuis, Pietersen & Plano Clark (2016) stated that population is a group consisting of all the sampling units relevant to the research question. According to De Vos, Strydom, Fouché and Delport (2011) population is the totality of persons, events, organisation units, case records or other sampling units with which the research problem is concerned. In this study the population consisted of professionals who were employees of the Department of Health and sector Departments participating in the Local-District, District, Provincial AIDS Council as Office of the Premier (OtP), the Department of Health, Department of Education, Department of Social Development and civil Society organisation sectors.

The target population were professional workers who were Information officers, M&E officials, Operational Managers, Sub-District Managers, Assistant Managers, HIV and AIDS coordinators, Managers, District Directors, Senior Managers from HIV and AIDS Multi sector stakeholders participating in District HIV and AIDS 10-point plan meetings and AIDS Councils M&E committees (Table 3.1).

Table 3.1: The composition of the population according to the various stakeholders

Level	Total Estimated Population
AIDS Councils & Secretariat	16
Department of Health	211
Department of Social Development	65
Department of Education	1
Department of Public Works	1
Roads and Infrastructure	1
Department of Economic Development	1
Department of Environment and Tourism (EHW)	1
Department of Sports and Recreation	1
SAPS	1
Civil Society organisations	90
SALGA & Local Municipality	11
Total	**400**

3.4.2 Sampling

According to Creswell et al., (2016), sampling is a set of population in which each unit is uniquely numbered or can be uniquely identified, this group consisting of all the sampling units relevant to the research question. In this study a total population was selected based on set of individuals that meets the sample criteria of the study since the population is small. In this study sampling took place in stages, namely; districts

and participants.

3.4.2.1 Sampling of Districts

In this study, all the five Districts and Provincial Departments were included in the sample because of their involvement in HIV and AIDS M&E in Limpopo province.

3.4.2.2 Sampling of Participants

A total population was used to include all 400 of which only 350 participants, which is 87.5% which is the required sample representation. Out of the 400 questionnaires distributed, only 350 were returned completed, which is 87.5% response rate. “A response rate of at least 50 percent is adequate for analysis and reporting. A response rate of at least 60% is good, while and a response rate of 70% is very good” (Maxfield & Babbie, 2018). Therefore, in this study response rate is over 70% which is excellent to report findings of research to assist in overcoming response bias. Here, Multi-sector stakeholders participating at sub-district, district, provincial AIDS Councils and various stakeholders were included in the study. The respondents were junior, middle and senior staff who were able offer credible insights into their perceptions of M&E of HIV and AIDS oversight.

3.4.2.3 Inclusion Criteria

To be included in the study participants had to meet the following criteria; participants who are experience in M&E of HIV and AIDS programme interventions; participants who participate in HIV and AIDS 10-point plan review meetings; and participants who are employees from sector Departments participating in the Limpopo Provincial AIDS Councils at Local, District and Provincial level as they were more likely to have good

experience, knowledge and understanding of M&E of HIV and AIDS programme and had similar understanding and characteristics which the researcher is interested to study.

3.4.3 Data Collection Method

In this study a self-administered questionnaire was given to the participant for them to complete on their own, in the presence of the researcher to address the problems which may be experienced. A self-administered questionnaire was comprised of the following sections:

- **Section A:** Demographic Information of the Respondents
- **Section B:** Assessment of HIV AND AIDS M&E System
- **Sub-Section:** Availability of HIV and AIDS Programme Indicators and Reporting Tools
- **Sub-Section:** Documentation of Collection, Collation, Verification and Use of Data
- **Sub-Section:** Data quality Systems, Verification, Analysis & Use
- **Section C:** Assess the Available Resources and Capacity Building, and Interventions Towards Strengthening HIV M&E Systems.

The self-administered questionnaire and a document review checklist were based on the FHI-360 organizing framework for M&E system assessment tool and also based on UNAIDS 12 components of a functional M&E System (UNAIDS, 2009a). The

researcher modified the tool to select questions only relevant to the study. In this study a questionnaire was developed in English only as it was administered to professionals who both understand English.

3.4.4 Validity and Reliability of the Instrument

The researcher obtained validity and reliability of collected data by ensuring that the questionnaire used had acceptable levels of reliability and validity (Neuman, 2006).

3.4.4.1 Validity

According to Creswell, Ebersohn, Eloff, ferrreira, Ivankova, Jansen, Nieuwenhuis, Pietersen, Plano, Cark (2016) the validity of an instrument refers to extent to which it measures what it supposed to measure. In this study the following types of validity were used: face validity and content validity.

3.4.4.2 Face Validity

According to Creswell et al., (2016) face validity refers to the extent to which an instrument “looks” valid and if the instrument appears to measure what it is supposed to measure. In this study the researcher checked the relevance of the instrument to check if it appears relevant to the respondents. In this study the instrument was scrutinized for face validity by the supervisors, experts in HIV and AIDS in M&E and the Higher Degree Committee (HDC) in the School of Health Sciences at the University of Venda during proposal presentations. Gaps that were identified were modified on the instrument.

3.4.4.3 Content Validity

According to Creswell, et al (2016) content validity refers to the extent to which an

instrument covers the complete content of the construct it is set out to measure. To ensure content validity of the instrument, a provisional version of the instrument was presented to supervisor, and the Higher Degree Committee (HDC), M&E experts in with experience in HIV and AIDS filed for comments and inputs before finalizing the instrument (Creswell, 2014). In addition, content validity was addressed by extensive literature search for studies similar to M&E of HIV and AIDS programme was done before developing the questionnaire. The researcher used M&E experts in the HIV and AIDS field for their comments before finalising the instrument.

3.4.4.4 Reliability of the Instrument

Reliability means the consistency or stability of the measurements means that if we same instrument is used at different times or administrated to different respondents from the same population, the findings should be the same. It also refers to the ability of a measuring instrument to produce similar results when a study is repeated (Creswell, et al 2016; Dantzker & Hunter, 2000; Neuman, 2006). To ensure internal reliability, the researcher used test-retest reliability technique, whereby a questionnaire was administered to same respondents more than two occasions by the researcher, then the score was compared with the second results. This was done to ensure internal reliability by calculating correlation coefficient using the Cronbach Alpha coefficient technique results. This was done also to cross check answering of questions provided in the 5-point Likert item from "strongly disagree" to "strongly agree" to check if they bring same results from same factor. To ensure reliability the researcher compared this study with previous studies to check reliability of information collected. In this study the researcher conducted a Cronbach`s Alpha test using a

sample of size of 40 respondents while using a 31 item questions using provided formula below:

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum_{i=1}^{K}\sigma_{Y_i}^2}{\sigma_X^2}\right)$$

The SUM item variables were 35.06 over a variance of 213.3 score. Cronbach Alpha coefficient technique results score was 0.86 for all items selected. According to Taber (2017) a good reliable score should be between 0.84 to 0.90 and above this is regarded as excellent.

3.4.5 Pre-Test

Pre-test testing helps detect potential problems in the research instrumentation to check whether the questions asked are intelligible to the targeted sample and to ensure that the measurement instruments used in the study measures the constructs of interest (Bhattacherjee, 2012). In this study pre-test was conducted to check if the questions were clear and understandable. The researcher distributed the questionnaires to the participants with similar characteristics to those included in the study, however the pre-test results were not included in the study. The Questionnaire was pre-tested with 40 respondents (10% of the study sample) who had similar characteristics with the respondents in the study in 4 selected health facilities not chosen in the study. The respondents who participated in the reliability testing of instruments were not selected to form part of the study. The respondents considered for pre-test were those who are implementing HIV and AIDS services and had an understanding of monitoring HIV and AIDS programme in Limpopo Department of

Health at facility level such as Operational Managers.

3.4.5.1 Data Collection

The researcher first obtained permission from UNIVEN's Ethics Committee to conduct the study under its name prior the commencement of the data collection phase. Data collection commenced in the in the early October 2019 and completed Late March 2020. The process of data collection commenced by first approaching Departments to seek permission to collect data using questionnaires. Certain steps were taken prior the commencement of data collection, this included the process of obtaining permission from the University of Venda and obtaining permission from respondents and conducting instrument pre-test. The researcher first arranged with respondents and ask to be notified when there are meetings in order to distribute questionnaires during meetings. The researcher was personally involved to in distribution of questionnaire. Questionnaires were distributed to respondents for theme to complete questionnaire during time most convenience to them and later collected questionnaires after making follow ups.

3.4.5.2 Recruitment of Participants

The researcher first obtained permission from UNIVEN's Ethics Committee to conduct the study under its name prior the commencement of the data collection phase. The researcher obtained permission to conducted the study from Department of Health and Office of the premier. Thereafter, the researcher conducted a meeting with the Limpopo HIV and AIDS Multi sector stakeholders to seek permission to conduct the study. Permission to collect data during the meetings was provided.

3.4.5.3 Data Collection Procedure

After obtaining consent from the respondents, questionnaires were distributed to respondents during the meetings after receiving permission from the District and sub-district managers to distribute to respondents.

3.4.5.4 Data Analysis

Creswell (2018) defines data analysis as the way of segmenting, and taking part toward bringing order, structure, putting it back together and sense out of the mass of assembled data. In this study, collected data was analyzed using statistical package for social sciences (SPSS) version 26.0. All data from the questionnaire coded using a code book through excel and then imported into SPSS version 26.0 statistical programme. To facilitate analysis, coding of data from the study was done to transform questionnaire data into meaningful categories. The researcher used codes rather than participants' names and check data by frequency to identify missing or incorrect values. The researcher was guided by the following sequence of data analysis as indicated by Creswell et al, (2016):

- **Descriptive analysis:** describe each variable's distribution and set of responses and analyze the results for skewness. Descriptive statistics easily use tables to describes numerical data in easily (Creswell et al, 2016).

- **Record data into categories** where appropriate such as years of experience into job titles ranges to enable statistically meaningful comparison of sub-groups.

- **Using simple cross-tabulations** to identify trends and examine possible associations between one variable and another.

- **The data was presented** as descriptive statistics in tables using categories, frequencies and percentage (Creswell et al, 2016).

3.5 Phase 1-B: Qualitative Study

This phase was approached from a qualitative perspective, and it was structured following the first phase. In this phase of qualitative study, the researcher wanted to explore more in-depth focusing on the questions asked in the first Phase. In the second phase of the qualitative study the researcher wanted to understand why HIV and AIDS programme is still performing poorly against set targets in some other key related indicators although the findings from the quantitative study revealed high responses indicating there are M&E systems in place.

3.5.1 Study Design

A qualitative approach using an exploratory descriptive design as focus of the study was used in this phase of the study to further explain the identified challanges facing the implementation of M&E systems for HIV and AIDS services. A qualitative approach using the exploratory and descriptive designs was choosen and it allowed the researcher an opportunity to consult participants to share their perceived challenges and intervention strategies to mitigate the factors identified in phase one. According to Creswell (2014), a qualitative approach is the investigation of a phenomenon, in an in-depth style, through collection of rich, narrated material using a flexible design. The researcher used quantiative findings to develop an interview guide to identify in-depth

challenges and interventions.

3.5.2 Study Population

The study population was comprised of Information officers, Operational Managers, Sub-District Managers, Assistant Managers, HIV and AIDS coordinators, Managers, District Directors and Senior Managers who are who were responsible for the implementation of M&E systems for HIV and AIDS in Limpopo province. The population included all adult male and females employed by various Government Departments which form part of Limpopo AIDS Councils M&E committee at sub-district, district and provincial level.

3.5.3 Sampling

Sampling is a set of procedures for selecting study elements from, or about, which data are collected (Guest, Emily & Daniel, 2015). De Vos et al., (2011) the term sample always implies the simultaneous existence of a population or universe of which the sample is the smaller section or a set of individuals selected from a population. In this study purposive sampling was used to select key informants to be included in the sample. According to Creswell (2018) purposive sampling means select participants or sites either in a form of document or virtual material means that qualitative researcher selects individuals who will best help them understand the research problem and the research questions. This sampling is used in special situations where the sampling is done with specific purpose in mind (Creswell et a, 2016). According to de Vos et al., (2011) purposive sampling is a non- probability sampling method where participants are chosen because they illustrate features that are of interest for a particular study and it uses the judgement of an expert in selecting cases.

3.5.3.1 Sample Size

The sample size in qualitative research was determined by the study, saturation of information and quality of data collected. Sample is a list of all the units in the population in which each unit is uniquely numbered or can be uniquely identified (Creswell., et al 2016; Grove, Burns & Gray, 2013). A concept of saturation was a guiding principle in determining the number of participants to be included in the study. In this study to select respondents, the researcher used purposive sampling to purposefully select participants who were Information officers, M&E Managers, HIV Coordinators and Managers based on their knowledge and experience of M&E HIV and AIDS services. Data was collected until saturation was reached after interviewing 30 participants.

3.5.3.2 Inclusion Criteria

To be included the participants had to meet the following criteria: participants who are members of the AIDS Councils; participants who are member of HIV and AIDS 10-point plan review meetings at District level; participants implementing, monitoring and evaluating HIV and AIDS programme at sub-district, district and provincial level as they were more likely to have good experience, knowledge and understanding of M&E of HIV and AIDS programme and had similar understanding and characteristics which the researcher is interested to study.

3.5.4 Data Collection Instrument

In this study phase the researcher used an interview guide to gather information. According to De Vos et al., (2011) a semi-structured interview guide is a means of better understanding how people feel or think about an issue, product or service. An

interview guide enabled the researcher to explore and explain challenges professionals and when implementing, monitoring and evaluating HIV and AIDS programme. In this study phase questions were developed based on the findings of quantitative study. The instrument was designed based of the quantitative findings from the respondents and was used to explain and explore more information.

3.5.5 Data Collection Procedure

In this study face to face interviews was used to collect data. In this study the face-to-face interview was used as a method to collect data to explore, and explain challenges and interventions on M&E of HIV and AIDS programme. Interviews were be conducted with professionals who work for Departmental sectors of AIDS Council secretariat such as Department of Health, Department of Social Development and office of the premier. Data will be collected using interviews to allow respondent to explain fore information without that restricting them and allowing participants to be free. In this study the researcher collected data after obtaining ethical clearance. The researcher received permission to conduct study and another ethical clearance letter from the Limpopo Provincial AIDS Council through Limpopo Province office of the Premier and Limpopo Department of Health. Permission to conduct to conduct the study was submitted to District Directors & Head of Departments requesting permission to conduct the study from each District. Chairpersons of AIDS Council secretariat also assisted to inform professionals about the study during provincial meeting where other stakeholders were present.

The research processes and research ethics were explained to respondents and those who were willing, had to sign a consent form. This was done to ensure that the

research was conducted in good faith. Interviews were used to make follow-ups on questions about challenges facing professionals when implementing M&E s systems for HIV and AIDS programme. During the interview participants were allowed to freely express their challenges that they were experiencing. The researcher firstly established rapport with the participant to create a non-threatening, comfortable environment free from interruptions throughout the research study. The interview was conducted using English language with the participant.

The researcher made appointment with respondents through phone call using attendance registers. On arrival to the interview the researcher established good relationship with the participants. All interviews were conducted in an office space so that privacy can be maintained. The researcher introduce himself and explain the process of data collection during the interview, and also ask for permission to use a tape recorder. The interviews were conducted during lunch time to avoid interfering with the participant's duties. Each participant was given a consent form to read, ask questions where they need clarity, and they will then sign if comfortable and Interview took about 30 to 45 minutes. All the interview was conducted using English language with the participant. The researcher encouraged the participants to discuss freely and keep on encouraging the participant to talk through, exploring, paraprasing, probing and nodding head as a sign to shoiw "I was listening", using terms such as "mm", "yes", "continue," in response to what the participant was saying. Where required the researcher asked the follow-up questions, repeated the participant's statement and redesigned the questioning throughout the interview so the participants can be able to clarify. The field notes were taken during the interview sessions. Data collection

took 3 Month, starting from early April to June 2020 because of strict lock down egulation which started in March 2020. The reseracher used work permit to travel to other District due to strict COVID-19 regulations.

3.5.6 Data Analysis

Data analysis was conducted to reduce, organize and give meaning to the data (Grove et al., 2014). After data collection, the researcher transcribed the information verbatim after listening to the recording several times. According to Creswell, Ebersohn, Eloff, ferrreira, Ivankova, Jansen, Nieuwenhuis, Pietersen, Plano, Cark (2016) content analysis has been defined as a systematic, replicable technique for compressing many words of text into fewer content categories based of explicit rules of coding. Coding is the process of reading careful through your transcribed data, line by line and dividing it into meaningful analytical units (Creswell, et al 2016). After analysis the researcher was able to develop the main theme, theme and sub-themes. In this study the process of coding responses was done to establish cluster quotations and family themes in order to convert primary data into information readable by users. The following general steps of qualitative data analysis were adopted from Creswell (2018) and Creswell et al., (2016) were followed during analysis:

- **Step 1: Organise and Prepare for Data Analysis**

This process was achieved through reading transcriptions that were made from the data collected. This included writing down ideas to make sense of the whole interview.

- **Describing Sample and Participants:** This process was applied by describing number of participants, categorising relevant background data

such as age, work experience and educational qualification.

- **Organising Data:** The researcher transcribed and organised data every time after field visit in order to avoid being overwhelmed by the sheer amount of data. This involves the process whereby researcher cutting and shorting data. The researcher assigned each participant with identification number and marked all data on that participant with a number in order to identify and organise responses.

- **Transcribing Data:** The researcher transcribed data from audio recordings, this was done after data collection, the researcher transcribed the information verbatim after listening to the recording several times. The researcher observed the participants and interpreted their non-verbal responses such as facial expression and body gestures to transcribe then during analysis.

- **Getting to Know Data:** The researcher had a chance to read and reread through transcription text that were made from collected data in order to write down ideas and to get insights gained through the whole interview.

❖ **Step 2: Reading All Data**

This step provided sense of the data and a chance to focus on its general significance. The researcher read all data asking question such as: what general ideas are participants saying? While looking at notes in margin of transcripts and field notes.

❖ **Step 3: Start Coding All the Data**

The researcher started to assign a code to anything that is meaningful a topic listed.

The codes were written next to transcription. The segments of text that related to the coding were then underlined (Creswell et al., 2016). The researcher then used selective coding where by enumeration was helpful in clarifying words that the researcher will use in the report such as “majority”, “some” and few by counting number of times a word appears in the document.

- **Step 4: Generating a Description or Establishing Themes and Sub-Themes**

From coded data and related texts, the researcher created themes and sub-themes and reduced the total list by grouping themes that related to each other to establish context for the themes and sub-themes.

- **Step 5: Interpreting Data to Make Sense of Data**

In order to make sense in interpreting of analysed data the researcher reached for emerging pattens, associations, concepts and explanations. The researcher read again and examined the transcriptions again in order to analyse them. This time the researcher asked himself questions about the transcriptions of the interview, based on the codes which existed from the frequency of the concepts (Creswell et al., 2016).

3.6 Measures to Ensure Trustworthiness and Credibility

Trustworthiness of qualitative designs is the degree to which the interpretations and concepts have mutual meaning between the participants and the researcher (Creswell et al.,2016). In this study trustworthiness was applied in order to ensure reliability of data collection procedures and instrument to avoid bias in the interpretation of the findings. The researcher applied the four criteria identified by Creswell et al., (2016) to ensure credibility, transferability, dependability and confirmability.

3.6.1 Credibility

According to Creswell et al., (2016) credibility reference is made to extend to which the research findings are believable and trustworthy. The researcher triangulated data by using several sources of data collection to get perspectives from participants for example interviews and taking field notes. The researcher established rapport with professionals before data collection. A voice recorder was used to record data during interaction with the participants. Peer review was used to expose the study findings with fellow students, experts and competent colleagues to get constructive criticism.

3.6.2 Transferability

Applicability refers to the extent to which findings can be generalized and applied to different settings and have meanings to others in similar situation (Creswell, et al., 2016). In this study the researcher drawn conclusions to ensure there is comprehensive description of design, methodology and findings to ensure that it supported by data. The researcher collected sufficient detailed descriptions of data in context. Transferability was assured by including a complete description of the research methods and the analysis interpretation in the research study.

3.6.3 Dependability

Nowell, Norris, White and Moules (2017) identified the strategy of dependability which can ensure consistency. They are described as dependability as the extent to which the findings of the study can be replicated. Consistency refers to data stability over time and over conditions refers to the ability of two independent researchers to get similar results under different conditions. In this study dependability was achieved through describing the research methods, discussing research findings with the

supervisor research team and use of independent statistician. Tape recorder was used to record all the interviews to increase reliability. Pre-test study was done to develop interview guide but information gathered was not be used for analysis in this study.

3.6.4 Confirmability

Creswell et al., (2016) describe confirmability as neutrality or the extent to which the findings of the study are shaped by the participants and not by researcher bias, motivation, or interest. Strategies to increase confirmability include triangulation and in a context, reduction the effect or research bias. Conformability in this study was ensured by proper documentation of the procedure for checking and rechecking of data and also explaining and justifying what they were intend to do and make presentations on the reasons for undertaking decisions.

3.7 Ethical Considerations

The following institutional protocols were followed to obtain the ethical clearance and approval of the study:

3.7.1 Permission to Conduct the Study

The study proposal was presented to the Department of Public Health, Higher Degree Committee (HDC) of the School of Health Sciences at the University of Venda and recommended for ethical approval from the University Senex and Ethics Committee. Ethical clearance (SHS/19/PH/20/1109) for this study was obtained from the Research Ethics Committee of the University of Venda. A written permission and ethical clearance to conduct the study was obtained from the Department of Health and

Limpopo Office of the Premier (LPREC/01/2020: PG). Permission was also requested to conduct the study from each District interview participants per sector Department. All the respondents understood and were fluent in speaking English. Those who agreed to participate in the study after reading the information latter, were given a consent to sign (see Annexure K).

3.7.2 Informed Consent

Creswell (2018) indicated that the participants should be informed about the topic and purpose of the purpose and the manner in which confidentiality and privacy will be ensured. In this study the researcher gave a written informed concert form after informing them about all aspects of data collection. The participants were not forced to sign concert form. The researcher also requested permission to record during interview. The researcher respected the rights of the respondents who felt they wanted to withdraw from the study when they felt unwillingly to continue with the study. In this study no one was forced to participate in the study. An information letter (Appendix J) with the full explanation of what the researcher used to seek informed consent (Appendix K) from each participant. Participants were well informed of their right to withdraw from the study at any time, if they wished to do so. The research conducted in such a manner that participants were not harmed.

3.7.3 Respect for the Privacy of Participants

The researcher promised the respondents that their privacy would be respected through use of office space to conduct interviews. The researcher ensured that participation depended on the free will of the participants.

3.7.4 Anonymity and Confidentiality

The researcher also guaranteed confidentiality and anonymity of the participants. Access to the completed questionnaires is restricted to the researcher and supervisor and research assistants only. The research sheets and documents were password protected. The respondents were informed that they had the right not to reveal their names and residential addresses and codes instead of names were used to avoid invalid and bias information. In addition, the researcher was honest with regards to the disclosure of the study findings and in the data analysis. In this study names of participants did not form part of the study findings as they were kept confidential. The researcher made sure that the findings should not be linked to respondents' names, instead codes were used to identify the respondents, for example participant number one.

3.8 Data Integration and Interpretation

The integration process will be done using the steps suggested by Creswell, (2018); McCrudden and McTigue (2018). First, the researcher interpreted the results that will help to answer the study's major qualitative research questions and objectives. The researcher grouped responses through comparative tables including both quantitative and qualitative in one table while aligning to the objectives of the study themes (McCrudden and McTigue, 2018). Creswell (2018) stated that the first approach is called a side-by-side comparison whereby the researcher will first report the quantitative statistical results and then discuss the qualitative findings in themes making comparison within discussion, presenting first one set of findings then the other.

Second, this was followed by the discussions of the study findings aimed at answering the guiding research questions in the quantitative phase of the study as per study objectives. This process allows for the findings from the second phase to further clarify and explain the results from the first phase. The step involved discussing the study results by grouping the findings to the corresponding quantitative and qualitative research sub-questions relating to each of the explored factors in order to building strategies (McCrudden and McTigue, 2018). The last and third step involved augmenting the discussions by citing related literature, reflecting both quantitative and qualitative published studies focusing on developing strategies to strengthen HIV and AIDS M&E frameworks (McCrudden and McTigue, 2018). Creswell (2018) a final procedure involves merging the two forms of data in table which is called a joint display of data.

3.9 Phase 2: Development and Validation of Developed Strategies

Validation is a technique done to determine the credibility of empirical knowledge in relation to a scientific model of a discipline (Creswell & Poth, 2017). The developed intervention strategies were presented to stakeholders for their inputs, comments, criticism and acceptence. This was done to buy-in ownership to ensure the implementation of the intervention strategies by various stakeholders. Validation was done to check whether the developed intervention strategies were acceptable, applicable and correct the gaps identified by stakeholders. In this study the researcher first conducted a situational analysis following a prescriptive approach as a guide for strategy development. This chapter deals with developing M&E strategies that can strengthen the implementation of HIV and AIDS programme in Limpopo. In this study

the prescriptive approach was utilised to develop a strategy to address problems identified.

According to Hashim (2016) the prescriptive approach emphasizes the explicit, planned and logical thought process. The prescriptive approach proposes the one "best" way to develop and implement organisational strategies for many organisations. According to the process of the prescriptive approach involves eight related components which includes; establishing the mission of an organisation; conduction the environmental scanning; identify the organisation's internal strength and weakness; formulating alternative strategies; choosing a strategy; implementing a strategy and evaluating and controlling the strategy. Strategic management consists of the analysis, decisions, and actions an organization undertakes to create and sustain competitive advantages. It begins with vision, where vision is a picture of the future (Gürel & Tat, 2017).

- The researcher then used prescriptive approach, SWOT analysis and logic Model approach to guide the development of M&E strategies for HIV and AIDS programme.

- The researcher developed strategies and presented them to participants to adopt developed strategies, and validate strategies. A SWOT analysis was used as process to identify and analyse strengths, weaknesses, opportunities and threats.

- External factors such as Political, Economic, Sociocultural, Technological and Environmental and legal (PeSTEL).

- And discussed under internal factors using Personnel, Finance, Infrastructure, Leadership, Management and Systems (PFiLMS), that would be helpful or harmful in implementing M&E intervention strategies for HIV and AIDS programme.

- A SWOT analysis was used as process to identify and analyse strengths, weaknesses, opportunities and threats that would be helpful or harmful in implementing M&E intervention strategies for HIV and AIDS programme.

- A SWOT analysis was used as process to identify and analyse strengths, weaknesses, opportunities and threats.

- The Logic Model through Theory of Change was further used to further link and structure strategies focusing on identified goals, outcome, output, activities and input.

3.9.1 Purpose of Validation of the Developed Intervention Strategies

To assess the practical applicability of the developed strategies meant to strengthen the implementation of HIV and AIDS M&E framework in Limpopo Province, South Africa.

3.9.2 Methodology Used in the Validation of the Developed Strategies

In this study Delphi Technique, a Step-by-Step Guide was used to guide validation (Haughey, 2010). The Delphi Technique is a method used to estimate the likelihood and outcome of future events. In this study the researcher used purposive sampling technique of non-probability sampling method to select respondents who knows about monitoring and evaluation of HIV and AIDS programme (Brink et al, 2014). The

researcher used his judgment to select 15 participants who possesed most characteristics, attributes and to representing different categories in order to validate the developed intervention strategies to strengthen M&E frameowrk for HIV and AIDS programme. Population included partcipants who work under Departmental sectors that partcipate in Limpopo AIDS Council ranging from Department of Health, Department of Health, Department of Social Development and Limpopo AIDS Councils from various levels.

3.9.3 Inclusion Criteria

Experts and respondents involved in the implementation of M&E of HIV and AIDS programme in Limpopo province were purposefully selected. The strategies were validated by various experts who are in the field of HIV and AIDS M&E including members of the AIDS Council in Limpopo province.

3.9.4 Preparation for Data Collection

The researcher used available scheduled meetings where he requested to be included in the agenda of the meeting to present strategies during Monthly and Quarterly review senssions such as District nerve centre and M&E AIDS Council commettee members. The reseacher requested partcipants to choose a date and time, which will be convenient for them without interfering with their schedules. A summary of the developed strategy and checklist were personally delivered to all participants for them to rate and comment. All ethical considerations were adhered to during collection. Process of strategy development followed Focus Group Discussion (FGD) technique with members of the AIDS Council in Limpopo province at various forum levels through meetings. The following question werel be asked “describe how appropriate and

practicall implementable the developed strategies are?" in relation to M&E of HIV and AIDS programme.

3.9.5 Data Collection

The strategy validation tool in validation tool was developed to guide partcipants. A qualitative approach using an exploratory descriptive design was used in this phase to validate perceived intervention strategies developed in relation to M&E of HIV and AIDS programme. Qualitative design allowed the researcher to consult with stakeholders to and validate their perceived intervention strategies to address factors identified during data collection. Experts who are in the field of HIV and AIDS M&E were consulted to assess if the developed strategy were appropriate and practical to impliment.

3.9.6 Data Analysis

Data was analysed using thematic content analysis. After analysing, data the researcher developed tables with themes and sub-themes focusing on various factors identified using SWOT analysis and BOEM strategies developed to describe the practical applicability of the developed intervention strategies.

3.10 Summary

This chapter addressed the methods used. Sequential explanatory mixed-methods by employing both quantitate and qualitative research in Phase 1-A and B to conduct a situational assessment of which in quantitative data was collected using a self-administered questionnaire then analysed to explore it in more detail in phase 1-B. In phase 1-A, a sample size of 350 participants was selected for the quantitative phase.

Quantitative data was analysed using the Statistical Package for Social Sciences (SPSS) version 26.0. The findings in phase 1-A were used to develop a qualitative exploratory design to explore data further in phase 1-B. In phase 1-B purposive sampling technique was used to sample 30 participants for interviews. Qualitative research was done in phase 1-B using thematic content analysis was used. Integration and comparative analysis of data was done and the results were presented with tables and discussions. In phase 2 the researcher used the SWOT analysis through BOEM to develop strategies and used logic Model and Theory of Change (ToC) approach to link and structure intervention strategies towards achieving HIV and AIDS 90 90 90 targets.

CHAPTER 4

QUANTITATIVE RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents and discuss the results of Phase 1-A of the quantitative approach pertaining to the relevance and design of assessment of HIV and AIDS M&E system. In this study the researcher displayed results and discussion based on the UNAIDS 12 components of the HIV M&E system, which define the organizing framework for a functional National HIV M&E System (UNAIDS, 2009a). In this phase, the 12 components were used to assess the information on implementing HIV M&E system, using a questionnaire administered among respondents in Limpopo. In this phase of the quantitative study, the results were analysed using descriptive statistics in SPSS Version 26.0 whereby data were presented in table format indicating frequencies and percentages. The study was conducted to develop strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo. The objectives of the study were to:

- **Phase 1-A: Quantitative Approach**
  - Evaluate the M&E interventions of HIV and AIDS program in Limpopo Province.
  - Assess the capacity building strategies and interventions towards strengthening HIV M&E System in Limpopo Province.

- Determine the challenges facing professionals when implementing HIV and AIDS M&E systems in Limpopo Province.

- **Phase 2-B: Develop Intervention Strategies**
  - Develop intervention strategies to strengthen the implementation of HIV and AIDS M&E framework.
  - Describe and validate the perceived strategies focusing on the practical applicability of the developed intervention strategies.

4.2 Overview of Field Work Activities in the Quantitative Approach

In this quantitative research component, data was collected through questionnaires distributed to different professionals who work with HIV and AIDS such as HIV and AIDS coordinators, HIV and AIDS Information officers, M&E professionals who are members of Provincial, District and Local AIDS Councils. The questionnaires contained closed ended items. Questionnaires were self-administered in written in English since all participants were professionals who understand English. Questionnaires were given to professionals working with HIV and AIDS programme. Most questionnaires were returned after a week as respondents were given up to one week to complete a questionnaire. Follow-up were done telephonically with respondents after a week to check if questionnaire were completed and to give respondents enough time as some had a busy schedule.

4.3 Presentation of the Quantitative Results

Data was entered into SPSS version 26.0 computer software and then used for analysis. Descriptive statistics, specifically frequencies and percentages, were used

to summarise data collected. Frequencies were used for categorical variables and mean and standard deviation for continuous variables. Questionnaires were printed and distributed to all 400 sampled professionals who work with HIV and AIDS such as HIV and AIDS coordinators, HIV and AIDS Information officers, M&E professionals at Provincial, District, Local level. Out of the 400 questionnaires distributed, only 350 were returned completed, which is a 87.5%-response rate. “A response rate of at least 50 percent is adequate for analysis and reporting. A response rate of at least 60% is good, while and a response rate of 70% is very good” (Maxfield & Babbie, 2018). Therefore, in this study response rate is over 70% which is excellent to report findings of research to assist in overcoming response bias. Response alternatives mainly included “Yes or No” “strongly agree”, “agree”, “disagree”, “strongly agree” and “not sure”. For data analysis and interpretation, response alternatives were grouped as positive and negative responses. This chapter analyse the study under the following;

- Socio-demographic information;
- Assessment of HIV/ AIDS M&E system;
- Available resources and capacity on M&E; and
- M&E challenges.

4.3.1 Socio-Demographic Characteristics of Participants

Section A of the questionnaire required information from the respondents pertaining to their years of experience and their job titles, qualifications and years of experience. Table 4.1 presents the demographic characteristics of the respondents.

Table 4.1: Socio-demographic characteristics of participants

Socio-Demographic Characteristics		
Distribution of respondents by gender		
Gender	**Frequency**	**Percentage (%)**
Male	77	22
Female	269	77
Not specified	4	1
Total	N=350	100
Respondents' Educational Qualification		
Highest educational qualification	**Frequency**	**Percentage (%)**
No formal Education	0	0
ABET certificate	3	0.9
Grade 12	30	8.6
Advance management programme	1	0.3
Tertiary certificate	19	5.4
Diploma	136	38.9
Degree	77	22.0
Honours or professional degree	64	18.3
Master's degree	20	5.7
Total	N=350	100.0
Work Experience		
Experience	**Frequency**	**Percentage (%)**
Less than 1 year	13	4
2- 5years	50	14
5-9 years	85	24
10 years and above	198	57
Not specified	4	1
Total	N=350	100
Job Title of Respondents		
Position	**Frequency**	**Percentage (%)**
Officer/ professional	214	61
Coordinator	13	4
Assistant director/ operations manager	36	10
Deputy Director	7	2
Director	6	2
Chief director	0	0
Head of department	0	0
Other (please specify)	74	21
Total	**N=350**	**100**

The study reveals that 269 (77%) of the respondents who participated in the study were females while 77 (22%) were males with only 4 (1%) who preferred not to be specified. 136 (39%) respondents had a Diploma and followed by 77 (22%) with a degree. The results revealed that 198 (57%) of the respondents had 10 years and above working experience. The results reveal that 214 (61%) of respondents indicated they were officers or professionals this include personnel acting as HIV and AIDS coordinators, local area managers at sub-district and information officers.

Table 4.2 reveals data in cross tabulation of respondents between two questions to find: How long was the respondents have been working within the organisation against their years of experience since they have been assigned with any M&E responsibilities for the HIV and AIDS programmes. This study revealed that 130 (37%) of the respondents had 10 years and above work experience and are assigned with M&E responsibilities, followed by 40 (11%) of the respondents with 5 to 9 years working experience.

Table 4.2: Years of experience (M&E responsibilities)

Years of Experience					
		M&E responsibilities N= 350			
		Yes		**No**	
		Frequency	**%**	**Frequency**	**%**
Years of experience within the organisation	**Less than 1 year**	8	2	9	3
	2-5 years	37	11	13	4
	5-9 years	40	11	45	13
	10 years and above	130	37	68	19
Total		**215**	**61**	**135**	**39**

4.3.2 Current M&E Interventions of HIV and AIDS Programme

The study evaluated the M&E interventions of HIV and AIDS program in Limpopo Province as per administered questionnaire. Table 4.3 reveals that 202 (58%) of the respondents are assigned with M&E responsibilities for HIV and AIDS programme whilst 135 (39%) felt they were not assigned with any responsibilities. The results reveal that majority 300 (85.7%) of the respondents indicated that indicators are linked to 90-90-90 HIV and AIDS strategic plan. About 290 (86%) of the respondents indicated that all HIV and AIDS data collection and reporting tools are linked to the national reporting system indicators. Majority 288 (83.4%) of the respondents indicated that the set targets are linked to 90-90-90 Provincial HIV and AIDS strategic plan. The results further revealed that 270 (77.7%) of the respondents indicated that HIV Programme have existing data management guidelines, whilst 276 (79.4%) respondents indicated that data is properly stored, filed, up to date and readily available. In this study about 250 (72%) respondents indicated that HIV Programme have up to date electronic M&E databases.

The results in this study revealed that 251 (72%) respondents indicated there are procedures or mechanisms in place, including data reviews and validation meetings. Only 207 (59%) respondents agreed there is clear documentation of collection, aggregation and manipulation information steps. 216 (62%) of the respondents indicated there are steps and procedures in place to limit calculation errors, including automation this include checking double-counting and detecting missing data. 225 (64%) respondents reported that reports are submitted on time and signed off to the next level adhering to deadlines. 212 (61%) respondents indicated that they received

feedback on quality of reports submitted to the next level. The results further revealed that 181 (52%) respondents indicated there is evidence that supervisory visits have been made in the last 12 months. Majority 268 (77%) of the participants revealed that data is being verified and signed off before submitted to the next level.

Table 4.3: Current M&E interventions of HIV and AIDS program in Limpopo Province

Item	Yes		No		Do not Know		Not Applicable	
	n	%	n	%	n	%	n	%
Respondent assigned with M&E responsibilities	202	58.3	135	39	0	0	13	4
Indicators linked to 90-90-90 HIV and AIDS strategic plan	300	85.7	12	3.4	38	10.9	0	0
HIV and AIDS data collection and reporting tools linked to the National Reporting System indicators	292	83.4	20	5.7	38	10.9	0	0
Targets linked to 90-90-90 Provincial HIV and AIDS strategic plan	296	84.6	20	5.7	34	9.7	0	0
HIV Programme have existing data management guidelines	272	77.7	21	6	53	15.1	4	1.1
Available data properly stored, filed, up to date and readily available	278	79.4	25	7.1	47	13.4	0	0
The HIV Programme have up to date electronic M&E databases	253	72.3	34	9.7	63	18	0	0
Procedures or mechanisms in place including data reviews and validation meetings for following up any missing data gaps	253	72.3	30	8.6	67	19.1	0	0
Existence of clear documentation of collection, aggregation and manipulation information steps	213	60.9	35	10	102	29.1	0	0
Steps and procedures in place to limit calculation errors, including automation	224	64	46	13.1	80	22.9	0	0
Reports are submitted on time and signed off to the next level adhering to deadlines	230	65.7	44	12.6	76	21.7	0	0
Feedback on quality of reports submitted to the next level	216	61.7	66	18.9	60	17.1	8	2.3
There is evidence that supervisory visits have been made in the last 12 months	185	52.9	79	22.6	77	22	9	2.6
Data is verified and signed off before submitted to the next level	271	77.4	31	8.9	48	13.7	0	0

4.3.3 Available Resources and Capacity on M&E

Table 4.4 reflects the results of assessments done under capacity building strategies and interventions towards strengthening M&E systems for HIV and AIDS programme. The study reveals that 204 (58.3%) of the respondents agreed there are dedicated personnel for monitoring, evaluation and reporting with clearly assigned responsibilities. The results further revealed that 93 (27%) respondents did not agree, whilst 53 (15.1%) respondents indicated that they do not know if there are assigned dedicated personnel for monitoring, evaluation and reporting with clearly assigned responsibilities.

Table 4.4 reveals that about 188 (53%) respondents felt they received any M&E training on how to utilize HIV and AIDS data collection forms and registers. The results further revealed that only 116 (33.1%) of the respondents indicated that they have been trained on Monitoring, Evaluation and Reporting at least once in the last two years, with 222 (63.4%) of the respondents who disagreed that they have been trained at least once in the last two years.

The results revealed that only 88 (25.1%) respondents felt they received M&E capacity building, mentoring and supervision support at least once in the past 6 months of which 236 (67.4%) of respondents disagreed with the statement. The results further reveal that only few 121 (34.6%) respondents indicated there a specific M&E improvement work plan with clear indicators, activities, timelines and responsibilities linked to the most recent Departmental HIV and AIDS Plan. Majority of the respondents 259 (74.0%) indicated there is an electronic database system to capture performance information for the Department.

Table 4.4: Capacity building strategies and interventions towards strengthening HIV M&E system

	Yes		No		Do Not Know	
	n	%	n	%	n	%
There dedicated personnel for monitoring, evaluation and reporting with clearly assigned responsibilities	204	58.3	93	26.6	53	15.1
Received any M&E training on how to utilize the HIV and AIDS data collection forms and registers	188	53.7	144	41.1	18	5.1
Have been trained on Monitoring, Evaluation and Reporting at least once in the last two years	116	33.1	222	63.4	12	3.4
Received any M&E capacity building, mentoring and supervision support at least once in the past 6 months?	88	25.1	236	67.4	26	7.4
There is specific M&E improvement work plan with clear indicators, activities, timelines and responsibilities linked to the most recent Departmental HIV and AIDS Plan	121	34.6	145	41.4	84	24.0
There is electronic database system to capture performance information for the Department	259	74.0	52	14.9	39	11.1

4.4 Functionality of AIDS Councils M&E Systems

Table 4.5 summarises findings from self-assessments and document review tool conducted with 7 respondents who are members of the Provincial and District AIDS Council M&E committees focusing on assessing relevance and availability of M&E systems using UNAIDS (2009b), 12 components of HIV and AIDS M&E systems. The assessment was conducted using a scale measuring 1= Yes, Completely, 2 = Yes, Mostly, 3= Partly and 4 = No, Not. The researcher summarised responses per each component from assessment tool. Findings from assessment in (table 4.5) confirm with Mostly agree that there are organisational structures that helps Limpopo AIDS Councils to achieve its mandates. Findings in this study reveals that the M&E Technical Working Group (TWG) meets regularly on a quarterly basis with clear

meeting agenda. M&E TWG annual action planning practiced. Minutes of meetings revealed that there is limited political and administrative support on AIDS Council activities by Departmental sectors. M&E TWG TOR available with guiding roles and responsibilities of the TWG. Reports show that out of 5 Districts, Sekhukhune is the only District without functional Civil Society sectors. Findings reveal mostly relevant in area of Partnership that there are M&E personnel appointed at provincial level. Quarterly report shows that members of the AIDS Council Secretariat have not been trained on formal HIV M&E trainings. Minutes further reveals that M&E TWG well represented and ensures wide participation of key public and NGO stakeholders. There are formal mechanisms to ensure follow-up on the TWG decisions. With regard to a costed M&E Plan the response is No, not at all as the plan is not costed, costing has been started. Lack of budget allocation to M&E.

Table 4.5: AIDS Council assessment and document review findings as per 12 UNAIDS components

Component	Relevance of Limpopo Province HIV M&E systems	Aids council document review assessment
Organizational Structures	Yes, Mostly	Minutes reveal that M&E TWG meets regularly on a quarterly basis with clear meeting agenda. M&E TWG annual action planning practiced. Minutes of meetings revealed that there is limited political and administrative support on AIDS Council activities by Departmental sectors. M&E TWG TOR available with guiding roles and responsibilities of the TWG. Reports show that out of 5 Districts, Sekhukhune is the only District without functional Civil Society sectors.
Human Resources	Partly	There are M&E personnel appointed at provincial level. Quarterly report shows that members of the AIDS Council Secretariat have not been trained on formal HIV M&E trainings. That only Provincial AIDS secretariat officials were trained on information management trainings such as web-DHIS and tier.net. Lack of Local and regional institutions that offer trainings on M&E to Technical group. The provincial M&E provides the in-service training to the districts and municipalities.

Partnership	Yes, Mostly	Minutes reveals that M&E TWG well represented and ensures wide participation of key public and NGO stakeholders. There are formal mechanisms to ensure follow-up on the TWG decisions. The LPAC Secretariat and the respective District AIDS Council Secretariat keep the records.
HIV multi-sectoral M&E Plan	Yes, Completely	LPAC Secretariat has developed the M & E plan within the PIP. The M & E Plan is available and matrix details how data will be collected, indicators and their targets and the code book for definitions and calculation methods of indicators. Specific M&E TWG ToR has been developed.
Costed M&E Plan	No, Not at all	The plan is not costed, costing has been started. Lack of budget allocation to M&E.
Communication & Advocacy	Yes, Completely	Communication channels well established between reporting partners or stakeholders. There are available of people who support and advocate for M&E. Performance of the M&E is communicated and reported frequently, but not all stakeholders are reporting. There is a political buy-in by sectors at all levels and all stakeholders are reporting. Minutes reveal that civil Society and other stakeholders plan and execute however not all stockholders participate such as SASSA and DoE.
Routine HIV Program Monitoring	Yes, Completely	There are available guidelines document the procedures for recording, collecting, collating, monitoring and reporting HIV programme data. There are forms and tools for routine monitoring of programmes. The LPAC use excel tools to make it easier to report and for record keeping and analysis.
Surveys and Surveillance	Partly	There is LPAC AIDS Councils functionality assessment conducted. There are no surveys conducted, the Secretariat relies on other department and stakeholders for Population-based surveys, as NGO's and research institutions like HSRC.
Availability of Databases	Partly	There are available functional databases for electronically capturing and storing data on a wide range of health services not only limited to HIV within Department of Health. There are no electronic databases to for reporting within AIDS Council. Electronic databases are not integrated and not linked to track same patients. There is no sufficient IT equipment to manage the databases.
Supportive Supervision and DQA	Partly	Supportive supervision results have not been recorded when feedback is provided to supervisees. There are available tools for supportive supervision on M&E. Data audit are not conducted as per stipulated timeframes as stipulated in the national and provincial auditing protocols.
HIV Evaluation and Research	Partly	There is an updated research and evaluation framework agenda for sector Departments. LPAC does not have capacity to conduct research, relies on other agencies. Research and evaluation findings are not regularly disseminated and discussed. LPAC has developed a database and it is updated regularly on

		researches and surveys conducted by other stakeholders across the province related to HIV and AIDS. There are ethical approvals and procedures in place
Data Dissemination and Use	Mostly	The AIDS Council is conduct regular AIDS Council meetings and M & E meeting and Civil Society meetings across the province and in districts. There are data SOPs guidelines and DHMIS policy to support the analysis, presentation and use of data at facility level. Stakeholders do not have full access to data for public domain. Information is not regularly shared to a wide variety of stakeholders other than data providers.

4.5 Discussion of Quantitative Results

In this section of the study quantitative results from Phase 1-A are interpreted and discussed.

4.5.1 Demographic Profile of the Respondents

This study revealed that majority 77% of the respondents who participated in the study were females, while 22% were males. This revealed that the health profession is dominated by females particularly in Limpopo. This is support of the Limpopo Department of Health Annual report for Financial Year (FY) 2018/19 of vote 7, which revealed that the Limpopo Department of Health have more female' employees under the category of those who are professionally qualified and experienced specialists, and mid-management. Shannon, Minckas, Tan, Haghparast-Bidgoli, Batura and Mannell (2019) stated that the health workforce is feminising, particularly in lower and upper-middle income countries. The results revealed that 39% of respondents had a Diploma and with 22% of the respondents having a degree. This reveals that further interventions need to be done to ensure that professionals are provided with further training and skills to further capacitate professionals in the HIV and AIDS field. In support of this findings a study conducted by Makhado and Davhana-Maselesele

(2016) in South Africa revealed that 59% of all nurses had not received specific training in HIV and AIDS. The results revealed that 61% of the respondents were professional officers who carried experience in HIV and AIDS field while assigned M&E responsibilities. This study results revealed that respondents had knowledge and experience in HIV and AIDS programme M&E. This study revealed that 57% of respondents had 10 years working experience and above in the HIV and AIDS programme. This reflects that respondents have adequate experience of working with HIV and AIDS programmes. Therefore, experienced professionals should be able to effectively monitor and evaluate HIV and AIDS programme interventions based on their experience.

4.5.2 HIV and AIDS Programme M&E Interventions

This study results further revealed that 85.7% of the respondents indicated that indicators are linked to 90-90-90 HIV and AIDS strategic plan. It means there are standardised indicators aligned with National strategic plan for HIV and AIDS. The availability of indicators linked to 90-90-90 HIV and AIDS strategy will further strengthen M&E of HIV and AIDS programme interventions including clear data collection procedures and tools linked to National M&E reporting systems. To monitor progress, it is group indicators used to trace achievement of HIV and AIDS programme achievements against 90-90-90 target using standard data dashboards and cascades indicators. To strengthen HIV and AIDS interventions, align indicators with National Indicator dataset to simplify reporting and flow of information from lower to higher level. Malaza, Smith, Mdaka, Haynes and Shezi (2016) stated that each stakeholder should be held accountable by the local and global community in achieving the agreed HIV

and AIDS indicators and stated 90-90-90 HIV and AIDS strategy targets, therefore by holding each stakeholder accountable this should give opportunity to align indicators towards achieving targets. In support of the results, an assessment conducted by Malaza et al., (2016) in South Africa further highlighted that programme areas all have specific tracer indicators monitored individually. Then this confirm there are available indicators to monitor HIV and AIDS programme interventions with available cascades to monitor performance of the key HIV and AIDS indicators across the health programme areas; and that professionals can identify impact on the cascade.

The results further revealed that 83.4% respondents indicated that all HIV and AIDS data aggregation tools are linked to the national reporting system indicators. This confirm there are available standardised systems for data collection and reporting linked to National reporting systems. In support of this study Karani, Bichanga, and Kamau, (2014), concur that M&E should facilitate the correct collection of quality-assured data to help in decision-making at all levels. This should be done while sharing findings with policy makers and programme planners to inform planning of the national HIV response. While in the same study it was further confirmed there are available correct collection and reporting tool linked to National reporting system indicators good for decision making to address National response to HIV and AIDS. However, a study conducted in South Africa by Kawonga, Blaauw and Fonn in (2012) differ with the results in this study as it indicated that the processes for the production of HIV treatment indicators bypass the DHIS and ART indicators are not disseminated to district health managers. Kawonga et al., (2012) further highlighted that integrating HIV M&E structures and strategies into the M&E role of the healthcare system would

mobilize early HIV funding to boost the ability of DHIS to generate quality and timely HIV indicators that would support both the M&E structures of the HIV and AIDS program. This therefore, confirm that it will be difficult for Limpopo Department of Health to measure programme performance without sources of data and proper tools used to collect data. This also highlight the importance of integrating and aligning M&E data collection and reporting tools with national reporting system indicators since it lobbies for funding opportunities if systems are functional. Therefore, with available proper sources of data and proper tools used to collect data it will be help the Limpopo Department of Health to monitor and evaluate programme performance.

The results in this study revealed that 84.6% of the respondents indicated that set targets are linked to 90-90-90 Provincial HIV and AIDS strategic plan. This means that Limpopo strategies to address HIV and AIDS interventions are aligned to National Strategic plan of the Country which should make it easy to implement and align M&E interventions. Targets are essential for measuring performance of programme success. According to Malaza, Smith, Mdaka, Haynes and Shezi (2016), stated that South African government moved rapidly towards implementing the 90-90-90 HIV and AIDS target strategy in the country whereby different players at the provincial, district and facility level had played a role to reach 90-90-90 targets while also giving guidance on operationalising the National Strategic Plan for HIV, STIs and TB. This therefore confirm that in Limpopo Province there are available set targets linked to 90-90-90 Provincial HIV and AIDS strategic plan.

According to the Public Service commission (2008), in the national sphere of government each department must produce a five-year strategic plan, that is

consistent with the strategic direction of the government as articulated in the Medium-Term Strategic Framework (MTSF) and the Government Action Programme (GPA). According to Malaza, Smith, Mdaka, Haynes and Shezi (2016), stakeholders should describe specific responsibilities and duties around a new target and new priorities. Malaza et al., (2016) further emphasise that while the success of the established goals is constantly tracked, stakeholders may use the identified bad performance to refocus their efforts to meet the goals on schedule. In support of this findings an assessment conducted by USAID and Measure Evaluation (2014) identified that in Nigeria indicators and targets are harmonized to improve reporting processes. Therefore, it can be concluded that without the M&E plan linked with the target, the Limpopo Department of Health will have challenges with identifying indicators poorly performing, and those achieving and this will further affect planning.

This study revealed that 77.7% of respondents indicated that HIV programme have existing data management guidelines. This means that availability of data management guidelines at Limpopo Department of Health will serve as guidance for all stakeholders and professionals to improve data management at all level from facility level to Provincial level, this will ensure compliance to data submission guidelines. The study conducted by Nicol, et al., (2016) indicates that the primary starting point for accurate data transfer is during the process of collation and administrative ability to increase facility level data consistency and ensuring that key competencies are required for regular health information system (RHIS) specific activities. Nicol et al., (2016) suggested that in order to improve data processing, further analysis of potential causes that may impair data quality, such as monitoring,

routine health information management system procedures, preparation and leadership, is required.

This study revealed that 79.2% respondents indicated that data is properly stored, filed, up to date and readily available. It can be concluded that if data is properly stored, confidentiality is maintained since HIV and AIDS information is sensitive and need to be stored in a place where privacy will be maintained. In support of this study Khac Hai, Lawpoolsri, Jittamala, Thi Thu Huong, and Kaewkungwal (2017) suggested that all relevant stakeholders in healthcare settings should avoid breach of confidentiality or violation of privacy from the collection and use of medical data, especially those of patients with HIV and AIDS and other stigmatization-sensitive diseases. In addition, Khac Hai et al., (2017) found out that training is a significant factor in growing the degree of proper privacy and protection procedures, enhancing understanding and raising awareness among workers about transition. Therefore, it can be emphasised further there are proper storage and file management systems and procedures Limpopo Department of Health to maintain confidentiality and retrieval of files misplaced. The availability of file management system will improve the quality of data and management of HIV and AIDS clients.

In this study 72.3% of the respondents indicated that HIV programme have up to date electronic M&E databases. This means that if there are electronic databases, data collect will be of good quality instead of relying on paper-based reporting systems that might delay data submission to the next level. The availability of electronic databases may improve the reliability, validity, consistency and timeliness of data. Availability of databases also simplify reporting of M&E of HIV and AIDS programme interventions.

It is therefore concluded that availability of electronic database will improve the quality of data collected, reported and also improve data use at all levels. UNAIDS (2009) proposed that databases for HIV and AIDS should be established and that all stakeholders should be given access to data for management and improvement of the HIV programme. Letebo (2016) suggested that intake and follow-up forms, Pre-ART and ART registers, monthly reporting forms, and cohort reports were generic instruments tailored for the region. In addition, research partners promoting HIV care and treatment in the country have developed and launched a range of resources focused on modified generic tools and are planned to further improve the M&E infrastructure, including numerous paper-based tools and patient-level databases.

Macheka and NASTAD South Africa Team (2016) recorded that there is expanded coverage of health facilities in South Africa that have moved from Tier-1 paper-based recording to Tier-2 electronic recording for ART patients, and the rollout of HCT and pre-ART modules. In the same study of Macheka (2016) it is believed that implementation HTS, pre-ART and ART modules through Tier.net it will allow facilities to track ART cohort cascade in order to monitor the effectiveness in the implementation of the 90-90-90 strategy and further improve patient's health outcomes. In the same study, TIER.Net was identified as a key platform to strengthen linkages, adherence and retention in HIV care, treatment and support. Myburgh, Peters, Hurter, Grobbelaar, and Hoddinott (2019) reported that TIER.Net is used at facility level to collect and monitor patient-based HIV data and then migrated to District Health Information System (DHIS) for easy monitoring at various sub-district to national program level. In contrast to this study a study conducted by Nicol, et al.,

(2016) revealed that most reporting systems are still paper-based, requiring data to be collected and collation manually, and whereby on daily basis numerous line lists and tally sheets need to be collated, compiled and sent from facility to the higher level.

In this study it was revealed that 72.3% of participants indicated there are procedures or mechanisms in place including data reviews and validation meeting. Based on these results it can be concluded that availability of data quality mechanism will improve the quality of data reported, as data will be validated and verified before being submitted to higher level. This means data submitted will be accurate. However, to do improve and sustain the process of data reviews and validations, training should be conducted to all staff members responsible for handling HIV data. Kaposhi, Mqoqi, and Schopflocher (2015) in their study found there was overreporting on the DHIS. In the same study it was recommended that enhancing staff training should be conducted focusing on data-verification procedures while reducing the clinical and reporting burdens on staff to make accurate recordkeeping more manageable. An assessment conducted in Nigeria by Ogungbemi, Oyediran, Mullen, LaFond, Azeez, Boone, Mharadze, Kanagat, and Atobatele (2012) found there was human resource development, but problems remained with the quantity and quality of staff and data use. It the same study, it reported that numerous facility-level data collection and reporting tools have resulted in parallel reporting structures, which increase the reporting pressure for service providers. This is contrary with results in this study because in Limpopo Province the procedures and mechanisms are in place to strengthen data quality, including available standardised reporting systems, data reviews and validation meeting. This study revealed there is clear documentation of

collection, aggregation and manipulation information steps that exist. The availability of this procedure and steps provides the opportunity for Limpopo Department of Health to improve reported intervention for HIV and AIDS programme and to improve data quality before use. According to Karani, Bichanga, and Kamau (2014), M&E should facilitate correct collection and quality-assured information to educate decision-makers, law makers and program managers about national HIV response planning.

The results revealed that 64% of the respondents indicated there are steps and procedures in place to limit calculation errors, including automation which include checking, double-counting and detecting missing data. The availability of steps and procedures should be able to minimise the double counting and data quality errors reported on HIV and AIDS programme interventions. In this study 65.7% of the respondents reported that reports are submitted on time and signed off to the next level adhering to deadlines. The ability to provide data sign off improve data verification and increase accountability on data submitted to the next level. If data is being verified and signed off, it limits the opportunity of reporting incorrect interventions. Similarly, an assessment conducted by Measure Evaluation, (2011), Atika, (2013) and Sikuku (2016) cited that in Moldova there were available national guides, steps, procedures and standard forms available to guide data management. In this study 61.7% of the respondents revealed that they received some form of feedback on quality of reports submitted to the next level. To improve HIV and AIDS programme performance feedback is important and also good for evidence-based decision making and for corrective action in such a way if there are discrepancies

identified data can be corrected with evidence of feedback given for audit purpose. In contrary, a study conducted in Kenya by Mbondo, Scherer, Aluoch, Sundsmo and Mwaura (2013) revealed significant gaps such as lack of M&E guidance, multiple monitoring structures, which prevent feedback to lower-level, and also delaying data usage and data management. This is in contrast with the results which revealed that in the Limpopo Department of Health there are steps and procedures in place to limit calculation errors which include availability of reporting systems, feedback at all levels, and data use.

Respondents in this study (52.9%) indicated there is evidence that supervisory visits have been made in the last 12 months. Supervision is good for building capacity, training and mentoring HIV and AIDS programme interventions if they are being done according to guidelines. This means that if proper supervision is being conducted many gaps on HIV and AIDS interventions can be identified and addressed same time. A study conducted by Manzi, Hirschhorn, Sherr, Chirwa, Baynes, Awoonor-Williams and the African Health Initiative (AHI) & Population Health Implementation and Training (PHIT) in partnership collaborative (2017) in sub-Saharan Africa found that improvements in the quality of treatment and health services have been correlated with combined mentorship and coaching programs into Health Systems Strengthening (HSS) initiatives. In the same study it was further revealed that if post-training, positive monitoring and coaching are successful in enhance learning processes, it will also improve the morale of health providers and supervisors, and also improving clinical outcomes at the same time. The results revealed that 77.4% respondents indicated that data is being verified and signed off before submitted to the next level. This

confirm there are procedures and process in place for data verification and sign off that allow professionals to go through data before being reported to the higher level. The availability of data verification process in place will continue to address data discrepancies and provide opportunity to provide feedback at all levels. Similarly, a study conducted by Atika, (2016) on Kenya National AIDS Council revealed there are M&E units at various levels among the organizations. In the same study findings further revealed that M&E units generate data that feeds into the National AIDS Council on HIV M&E system and they have their M&E mandate role defined. This is similar in Limpopo Department of Health as there are available personnel conducting data verification and sign off before being submitted to next level as per District Health Information Management (DHMIS) policy and Standard Operating Procedures (SOP) to ensure appropriate data and information management at health facilities.

4.5.3 Capacity Building on HIV and AIDS M&E Systems

This study revealed that 58.3% of the respondents have agreed there are dedicated personnel responsible for monitoring, evaluation and reporting with clearly assigned responsibilities. The availability of dedicated personnel responsible for monitoring, evaluation and reporting of HIV and AIDS interventions is essential for closer programme monitoring as there are many indicators and sub-programmes which require key M&E personnel to closely loot at the programme with undivided attention. The results of this study revealed there are structures in place to ensure that personnel are assigned with clear responsibilities, however, these key personnel only exist at provincial level. In contrary, a study conducted in KwaZulu Natal, South Africa by Kariuki and Reddy (2017) revealed that M&E capacity is low usually besides the

metro. In the same study it was revealed that the municipalities were inadequately resourced with competent M&E human personnel, stifling their capacity to deliver quality M&E services. A study conducted in Tanzania by Maimula (2017) also in contrast, major challenges in M&E practice have been established, such as political interference, a poor M&E management team, a shortage of technical personnel.

In this study 53.7% of the respondents of this study felt they received M&E training on how to utilize the HIV and AIDS data collection forms and registers to improve data quality. This study reveals that training of key personnel is suitable and essential for data quality and reporting as health care workers will be capacitated on how to monitor HIV and AIDS programme interventions. The importance of training and any capacity activity conducted on M&E will help in improving the quality of data management and use. A study conducted by Mpofu, Semo, Grignon, Lebelonyane, Ludick, Matshediso, Sento and Ledikwe (2014) in Botswana revealed similar findings that the ability of health professionals to track and assess programs within districts has been strengthened and there was improvement in data quality and reporting. In the same study after training there was increase in using operational research, health data for surveillance, and planning purposes. Mpofu et al., (2014) it was further revealed that majority of respondents received training on M&E. In the same study it was further revealed that developing dedicated key District-level M&E workers contribute significantly to Botswana's health information systems by helping to create capacity for M&E and enhancing data consistency, maintenance and data usage. Mpofu, et al., (2014) further emphasised that training of health care workers may likely make employee feel they are being empowered and more likely to increase their ability to

stay longer within their work environment. In contrary to the findings of this study, a study conducted by Nicol et al., (2016) revealed that training for facility workers participating in the data collection procedures is not properly offered.

The results revealed that even though majority of the respondents indicated that they are being trained, however only 33.1% indicated that training was received two years ago. Training for health professionals should be continuous as there are always new developments and changes on the National Indicator datasets and relevant HIV and AIDS guidelines developed after a year or two years. Without continuous training and development, professionals will lack understanding of relevant new information on HIV and AIDS programme interventions. Further training should be provided as in-service training or mentorship focusing on HIV indicators, reporting tools, HIV testing and ART initiation guidelines. Training will further equip professionals to better monitor and evaluate HIV and AIDS programme interventions in Limpopo. Further training will not only improve the programme performance but also enhance employees to feel empowered and keep them motivated to improve programme outcomes.

An assessment conducted by Measure Evaluation (2011) in Moldova revealed there were barriers facing M&E personnel such as limited motivation and professional growth which discouraged personnel from working hard. This therefore confirm that if employees from Department of Health are not trained or capacitated, they may be demoralised to deliver quality of services. A study conducted by Magagula (2019) found that Free State Provincial government lack of M&E culture. It was further revealed in the same study there was poor coordination and the lack of buy-in to successfully execute M&E and to use the results of M&E in decision-making

processes. In contrary, a study conducted in Kenya by Mbondo, Scherer, Aluoch, Sundsmo and Mwaura (2013) revealed significant gaps such as a Lack of M&E guidance, overlapping monitoring structures, lack of sub-national input, and lack of data use and total data and capacity building at sub-national levels. In the same study, it was emphasised that an urgent need exists for developing a comprehensive training curriculum and national M&E guidelines. Mbondo et al., 2013 further recommended that capacity-building at sub-national levels should be carried out and input mechanisms should be built and retained for sub-national workers to ensure further progress.

Ledikwe, et al., (2014) suggested that a realistic approach to enhancing health informatics and improving data consistency is to adapt effective best practices from one health initiative to the data collection and monitoring processes of other services. Findings by Atika, (2016) and Welime (2019) in Kenya and Nigeria identified the that in terms of successful leadership and dedication to ensuring the work of the M&E system for the AIDS Council HIV M&E system, the presence of M&E units has been described as core strengths for M&E schemes. The results revealed that only 25.1% of respondents received M&E capacity building, mentoring or supervision support at least once in the past 6 months. These results confirm that officials are not capacitated and supervised on how to monitor and evaluate the HIV and AIDS programme, this might limit the ability of supervisors to conduct data quality audits at facility level if proper supervision is not done. Therefore, further steps need to be taken to ensure that all officials are capacitated on all monitoring, evaluation and reporting. A study conducted by Nicol, et al., (2016) revealed that similar findings revealed that the

preparation for clinical workers participating in the data collection procedures was not sufficiently supported.

Nicol, et al., (2016) suggest that the primary starting point for obtaining accurate data reporting is during the collation process. Same study further suggested that institutional capability is required to increase facility-level data quality and maintain key competencies for regular healthcare information system related activities. Nicol, et al., (2016) further explained that that It is important to investigate the potential variables that can impact data quality, such as supervision, RHIS procedures, teaching and leadership. In contrast a similar assessment conducted by Atika (2016) in Kenya revealed that that staff had undergone for training locally and internationally to build their capacity. Same study revealed that evidence of capacity building plans was further revealed by an ongoing workshop during the period of data collection with some staff from M&E division in attendance of which the workshops were built capacity of staff in supporting a new system.

In support of this this study an assessment conducted by Measure evaluation, (2011) in Moldova revealed that national M&E system had similar challenges such as insufficient human resources, missing database of trainers in M&E and lack of capacity building plan. Another evaluation conducted by Gotsadze (2017) in Moldova revealed that M&E capacity building events excessively rely on funding through external technical assistance to maintain sustainability. The study further revealed that the country lacks national M&E curriculum and M&E related trainings are not well integrated into undergraduate and postgraduate education programs. This is similar to findings in this study as results revealed there was no M&E capacity building,

mentoring or supervision support received at least once in the past 6 months. A study conducted by Maimula (2017) in Tanzania discovered similarities because it identified challenges in practicing M&E such as unqualified and untrained staff.

The results revealed that 34.6% of the respondents agreed there are specific M&E improvement work plans which exists with clear indicators, activities, timelines, and responsibilities linked to the most recent Departmental HIV and AIDS Plan. Therefore, there is a need for development specific M&E improvement plans which can reveal clear indicators or activities, timelines and responsibilities linked to the most recent Departmental HIV and AIDS plan. M&E quality improvement plans are important to trace if activities are being done as expected and to focus specific programme interventions. Quality improvement plans are important for aligning indicators with specific targets and improve accountabilities as activities are linked to professionals responsible. Rasila (2019) stated that the government will continue to spend money without progress or success in M&E systems and all government operations should be aligned with the proper M&E systems. Therefore, this means Limpopo Department of Health should develop quality improvement for HIV and AIDS programme in order monitor effectiveness and success towards meeting specific set targets.

This study revealed that 74% of the respondents agreed there are electronic database systems to capture and monitor performance information of HIV and AIDS programme within Department of Health. Therefore, the available electronic databases to capture performance information will make it easier for Limpopo Department of Health to monitor, evaluate and report on HIV and AIDS management. Electronic databases are important for capturing, collating, analysing and use of data at all levels. It can be

further emphasised that without proper database it will be difficult to retrieve, analyse and monitor HIV programme interventions at all levels. An assessment conducted by Rasila, (2019) in Limpopo Province, revealed that there is lack of alignment between the Limpopo Province Development Plan (LDP) and M&E procedures contribute, on the one hand, to an inability to meet the aims of the Limpopo Province Development Plan (LDP) and the opportunity to improve the living standards of its people. This means that information management systems are in place to scrutinise data and improve reporting. Place information management systems in place to collect and monitor quality of data collected starting from facility level up to provincial level. The availability M&E system will also assist Limpopo Department of Health to conduct data analysis through data reviews and validations. Myburgh, Peters, Hurter, Grobbelaar, Hoddinott, (2019) stated that TIER.Net is used at facility level to capture patient-level HIV information and then migrate it on DHIS to report to various levels.

4.6 Explanatory Sequential Mixed Methods Link Statement

The main purpose for this mixed method sequential explanatory study was to identify and describe M&E interventions for HIV and AIDS programme in Limpopo Province by first obtaining quantitative results from 350 respondents working with HIV and AIDS programme and then followed up 30 purposefully selected professionals to explore the results in more depth through a qualitative case study analysis. In the first Phase of this study, the researcher was focusing more on identifying if intervention and systems are available or not, while identifying variables and organisational related factors. In the second phase of qualitative study the researcher wanted to explore more in-depth focusing on the questions asked in the first Phase. In the second phase

of the qualitative study the researcher wanted to understand why HIV and AIDS programme is still performing poorly against set targets in some other key related indicators although the findings from the quantitative study revealed high responses indicating there are M&E systems in place. Therefore, the results of phase 1A and phase 1B will be linked in Chapter 6. According to Creswell, (2018) a typical procedure might involve collection of survey data in the first phase, analysing the data, and then follow up with qualitative interviews to help explain confusing, contradictory or unusual survey response.

Quantitative results guided qualitative results by first collecting and analysing quantitative data in Phase 1-A and then used Phase 1-A to develop Phase 1-B qualitative data collection interview questions as a follow-up to the quantitative results. The researcher first conducted data analysis for phase one results, then used results to identify follow up questions using results from questionnaire. Cross tabulation was used to determine participants who gave high or low response rate in order to conduct follow up interviews. In a case where there was response rate of 50% or higher the researcher developed a follow up questions to find out if there were still area that were still missing and where there was low response rate of less than 50% the researcher developed a follow up question to explore more challenges in that specific monitoring and evaluation intervention. The researcher connected the two phases by using the quantitative results to shape the qualitative research questions, sampling, data collection and further used quantitative results to purposefully select suitable participants for qualitative study (Creswell, 2018).

4.7 Summary

The first objective, on conduct situational analysis of M&E interventions of HIV and AIDS programme in Limpopo Province revealed there are M&E systems in place to measure specific HIV and AIDS programme through input, process, output, outcome and impact indicators. This study results further revealed that indicators are linked to 90-90-90 HIV and AIDS strategic plan. The availability of indicators linked to 90-90-90 HIV and AIDS strategy will further strengthen M&E of HIV and AIDS programme interventions including clear data collection procedures and tools linked to National M&E reporting systems. Limpopo Department of Health has standardised registers and tools available at districts level to collect specific programme information using available electronic information management systems such as tier.net and DHIS. There are data quality mechanism in placed to improve reporting at all levels including data reviews and validation meeting at all Departments and Districts of Limpopo province.

The second objective was to assess the capacity building strategies and interventions towards strengthening HIV M&E system in Limpopo. Study finds there are dedicated personnel responsible for monitoring, evaluation and reporting with clearly assigned responsibilities. Available dedicated personnel are responsible for monitoring, evaluation and reporting of HIV and AIDS interventions. There are structures in place to ensure that personnel are assigned with clear responsibilities, however these key M&E personnel only exist at provincial level. The study further revealed there is lack of human capacity development and support at all levels. Personnel are being trained on M&E trainings of which trainings were last received two years. This study reveals

that that the Provincial HIV and AIDS Strategic plan is in aligned with the National HIV and AIDS M&E workplan and indicators. There are available forms and tools for routine monitoring of HIV and AIDS programme and with available guideline for data collection and management. There is feedback given to supervised teams with data quality reports. In Limpopo Province data is being used for evidence-based decision making. There are standardised systems to collect, collate, analyse and report performance information. There are standardised registers and tools to collect data at facility level. There is an electronic Information Management system to capture and measure performance reporting. There are data quality mechanisms to improve reporting at all levels, this includes data reviews and validation meetings. This finding reveals there are standardised systems to collect, collate, analyse and report performance information. The study finding also reveal there is proper M&E policy framework and standard operating procedure in place to guide reporting. The study results reveal that key personnel have monitoring, evaluation & reporting knowledge and skills on handling and managing HIV and AIDS data.

CHAPTER 5

QUALITATIVE RESULTS AND DISCUSSION

5.1 Introduction

This chapter focused on the results and discussion of qualitative findings while the previous chapter concentrated on quantitative findings and discussions of phase 1-A. In this chapter data is interpreted and discussed using literature to support the findings. The main purpose for this mixed method sequential explanatory study was to first conduct assessment to describe current M&E interventions for HIV and AIDS programme, in order to developing strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo province. This was achieved by first obtaining quantitative results; followed by qualitative approach to explore those results in more depth. In the first phase of this study, the researcher focused more on evaluating the relevance and design of current M&E of HIV and AIDS programme interventions in Limpopo province, while identifying variables and organisational related factors. In this second phase of qualitative approach the researcher wanted to explore more in-depth focusing on the questions not explained in the first phase. In the qualitative study the researcher wanted a thorough understanding why HIV and AIDS programme is still performing below set targets in some other key-related indicators although the findings from the phase of the quantitative study showed high extreme responses, indicating there are M&E systems in place.

According to Creswell (2018), a typical procedure might involve collection of survey data in the first phase, analysing the data, and then follow up with qualitative interviews to help explain confusing, contradictory or unusual survey response.

5.2 Overview of Fieldwork Activities in the Qualitative Approach

More information on the process of data collection and the procedure for analysis was explained in chapter three. An overview of the qualitative approach component in this chapter, is that in-depth interviews were conducted to explain and describe M&E challenges facing professionals when implementing HIV and AIDS programme. The interview guide (Annexure O) was formulated to direct interviews based on quantitative findings. The interview guide was drawn from the quantitative results findings focusing on explaining in deeper underrating of related questions that were not answered in the quantitative component to gain the in-depth knowledge and understanding of the M&E challenges faced by officials when implementing HIV and AIDS programme. The interviews were conducted in more or less 45 minutes. The findings in this phase are intended to complement the results of the quantitative component. The findings are presented in a narrative format with direct quotations from participants were written in italics and accompanied by a literature review to embed and contextualize the results in current literature. In this study the researcher also considered professionals who participated in the quantitative component questionnaire to get in-depth information from key informants as they had a background of the study already. In this phase key informants were selected through purposive sampling to participate in the face-to-face interviews of the qualitative component as they were readily known.

The researcher transcribed each interview, on a daily basis after the interviews were conducted, and after listening to the audio recordings several times to accurately record the information provided. Just before commencing analysis, the researcher re-read the transcripts and listened to the audio recording to ensure that no vital information was lost in transit. Information wrongly captured was clarified using audio the recording by writing down important topics, while merging similar titles and codes to generate themes and sub-themes. In order to discuss the themes, the researcher used quotations from participants as presented to support the argument and also supported with literature to support findings. All transcripts were read carefully and a list of all topics were recorded with similar codes clustered together and arranged into themes and sub-themes during analysis. In this chapter, data were collected from the responses of the interview guide administered with key informants among participants in Limpopo. In this phase data were collected in English since all participants were professionals who understood English.

5.3 Demographic Characteristic of Participants

The demographic characteristics in this study included HIV and AIDS coordinators, HIV and AIDS programme managers, Information officers, M&E professionals, Operational Managers based at Local, District and Provincial level. In the qualitative research components, the researcher conducted interviews with 30 key informants (Table 5.1). In this study of 30 participants that were interviewed only 6 were males and the other participants were females. Majority of the participants had 10 years and more working experience with majority being assigned with M&E responsibilities of HIV and AIDS programme. Majority of participants had a nursing diploma as a

professional qualification, followed by those with a degree in nursing and social work degree respectively, while working as managers at sub-district and district level.

Table 5.1: Demographic profile of participants in Phase 1-B of the study

Participant Number	Position	Limpopo Province Sector Departments	Gender	Years of Experience
1	Technical Advisor Community for HIV Testing and Tracing	Civil Society sectors (Stakeholders)	Female	5-9 years
2	M&E Manager	Civil Society sectors (Stakeholders)	Male	5-9 years
3	Technical Advisor: Quality Improvement	Civil Society sectors (Stakeholders)	Male	5-9 years
4	Assistant Director M&E	Department of Social Development	Female	10 years and above
5	District Coordinator for AIDS Council	Vhembe District Municipality – Sector Department	Female	10 years and above
6	Deputy Director Strategy, M&E	Department of Social Development	Male	10 years and above
7	Director Strategy Planning, M&E	Department of Social Development	Male	10 years and above
8	Director Children and Youth services and Vulnerable children	Department of Social Development	Female	10 years and above
9	Deputy Director HIV Non-Institutional	Department of Social Development	Female	10 years and above
10	Deputy Manager HAS	Department of Health	Female	10 years and above
11	Manager HAST	Department of Health	Female	10 years and above
12	Manager HTS	Department of Health	Male	10 years and above
13	Information officer	Department of Health	Female	10 years and above
14	Deputy Director M&E	Limpopo Office of the Premier	Male	10 years and above
15	Information officer	Department of Health	Female	5-9 years
16	District HIV Coordinator	Department of Social Development	Female	10 years and above
17	Information officer	Department of Health	Female	10 years and above

18	Local Area Manager/ Operational Manager	Department of Health	Female	10 years and above
19	Information officer	Department of Health	Female	10 years and above
20	Data Capturer/ Information officer	Department of Health	Female	2 - 5 years
21	Local Area Manager/Operational Managers - PHC	Department of Health	Female	10 years and above
22	Local Area Manager/ Operational Managers - PHC	Department of Health	Female	10 years and above
23	Local Area Manager/Operational Managers - PHC	Department of Health	Female	10 years and above
24	Operational Managers/Assistant Manager PHC	Department of Health	Female	10 years and above
25	Operational Managers	Department of Health	Female	10 years and above
26	Operational Managers	Department of Health	Female	10 years and above
27	Operational Managers	Department of Health	Female	10 years and above
28	M&E Manager	Department of Health	Female	10 years and above
29	District HIV Coordinator	Department of Health	Female	10 years and above
30	Data Capturer/ Information officer	Department of Health	Female	2 – 5 years

5.4 Qualitative Data Findings

Table 5.2 summarises the themes and sub-themes developed through findings collected during qualitative study. The main theme that emerged from qualitative research findings, challenges facing professionals when implementation of HIV and AIDS M&E systems. Then the four themes from the main theme and subsequent sub-themes for each theme were then developed.

- **Theme 1:** Availability of personnel, human resources, organisational functioning and partnership in HIV M&E systems
- **Theme 2:** Availability of systems to monitor poor performance on HIV and AIDS programme indicators
- **Theme 3:** Availability of mechanisms and strategies to strengthen HIV and AIDS M&E
- **Theme 4:** Availability of databases, routine monitoring, supervision, data audits, and evaluations in HIV M&E systems

Table 5.2: Themes and sub-themes that emerged from the the qualitative data analysis

Themes	Sub-Themes	
Theme 1: Availability of personnel, Human resources, organisational functioning and partnership in HIV M&E systems	1.1	Availability of M&E units within organizational structures
	1.2	Involvement of internal and external stakeholders in M&E of HIV and AIDS programme
	1.3	Human resource capacity development and skills transfer for M&E
	1.4	Relevant trainings received on Monitoring, Evaluating and Reporting
Theme 2: Availability of systems to monitor poorly performing on HIV and AIDS programme indicators	2.1	Availability of systems to monitor poorly performing HIV AND AIDS programme indicators
	2.2	Data feedback received to address monitoring of HIV AND AIDS indicators
Theme 3: Available mechanisms and strategies to strengthen HIV and AIDS M&E	3.1	Availability of strategies and mechanisms in place to address poor performing HIV and AIDS programme indicators
	3.2	Process involved in development and implementation of HIV and AIDS M&E plans
Theme 4: Availability of databases, routine monitoring, supervision, data audits, and evaluations in HIV M&E systems	4.1	Routine monitoring, evaluation and reporting
	4.2	Challenges encountered in reporting data and performance information
	4.3	HIV database in place to ensure smooth process of data flow
	4.4	Efforts to conduct evaluation and assessment done on HIV and AID programme

5.4.1 Theme 1: Organizational Functioning in HIV M&E Systems

During data collection participants expressed their challenges they face related to people, Human resources, planning partnership and organizational functioning when implementing M&E systems for HIV and AIDS programme (Table 5.2). The theme is further discussed under the following sub-themes:

5.4.1.1 Sub-Theme 1.1: Availability of M&E Units and Organizational Structures

Findings in this study reveal that there are available M&E units at provincial level among the Departmental sectors that are members of the AIDS Council. Provincially only office of the Premier AIDS Council secretariat has dedicated M&E personnel who is more dedicated on the M&E of HIV and AIDS, as the Department of Health is still recruiting Deputy Director M&E for HIV and AIDS programme. Findings reveal that the Department of Social Development do not have enough staff for M&E since they have only two key personnel at Provincial level. This will include Director and Assistant Director to assist all six programmes including Non-institutional HIV and AIDS to monitor funded NGOs rendering HIV and AIDS. In support of this findings an assessment results from a study conducted by Atika (2016), indicated there are M&E units at various levels among the organizations where data was collected from. Same study findings revealed that personnel supporting the M&E system are inadequate at different levels. In support of this findings a study by Ledikwe, Grignon, Lebelonyane, Ludick, Matshediso, Sento, Sharma and Semo (2014) in Botswana revealed that key M&E and information management roles were established at the national level; however, the human capital required for these tasks were scarce and most posts were donor-financed, fixed-term positions. Limpopo Province AIDS Council report,

December 2019 shows that not all municipalities can implement District technical committee, some stakeholders cannot conduct AIDS Council Meetings and some municipalities do not have approved Municipal Development Plan (MDIP) in place.

❖ **This is what participant number one had to say:**

> *"The main challenge is lack of accountability they don't want to own their action plans, and there is hardly a structure for Monitoring and Evaluation unit, you don't know who to approach when dealing with monitoring and evaluation both at District and Provincial level (P001)."*

The majority of participants in this study revealed that M&E units generate data that feed into the HIV M&E system, this include tier.net and web-DHIS captured by data capturers and information officers with their M&E roles clearly defined in the standard operating procedures. Majority of participants in this study further revealed there are no people assigned to specialise with M&E of HIV and AIDS programme as a job title at district and sub-district level as such titles are available only at provincial level. Findings from this study reveals there is poor coordination in monitoring and integration of HIV and AIDS programmes. In support of this findings a study by Ledikwe et al., (2014) in Botswana revealed that there were limited human resources available for key M&E positions.

❖ **Participant number four, agreed with majority of the participants that:**

> *"The organisational structure is skeleton; you find that the structure has only two people who are responsible for monitoring and evaluation for the whole organization work with only 2 people (P004)"*

❖ **Participant number four continue to say:**

> *"The department of Health is still in the process of recruiting Deputy Director Monitoring and Evaluation for HIV and AIDS programme(P004)"*

The study findings reveal that there are provincial and District level AIDS Councils established at different municipality organizational structures. This study also shows that only few Districts managed to hold its AIDS Council and AIDS Council meetings in both quarters. Some of the District already established M&E Committee which meets monthly. In some Districts the Department of Social Development is not compliant with reporting whereas Department of Education (DoE) only provide verbal reports. This study shows that some Districts are regressing in terms of organizing the meeting of the Local AIDS Council as the Local AIDS Councils and Technical Committee still need funding for coordinating the meetings.

❖ **This is supported by participant number six who said:**

> *"There are insufficient financial and human resources for monitoring the coordination of AIDS Councils and Technical Committees at District and Local levels. There is insufficient participation of Civil Society sectors and some government Departments at District and Local levels. Sometimes you find senior officials of Government Departments at Local municipality level, delegate junior officials to AIDS Council meeting (P006)."*

The findings reveal that the M&E Committee was established in few Districts with only one meeting being held in the quarter. Findings reveals that only few Districts did not have challenges for M&E Committee, with only few requiring supports on the coordination of LACs meetings and LAC Technical Committee meetings. According Presidency (2014) in order to ensure the overlapping of M&E work is reduced and that agencies and municipalities are not flooded with reporting requirements, there should

be cooperation and communication between the M&E institutions that report to the Legislature and the M&E institutions that are part of the Executive.

Findings reveal that there is limited political and administrative support on AIDS Council activities by Departmental sectors. This study reveals that there are only few Districts which does not have M&E Committee established. In this study it was revealed that lower-level health facilities and the implementing partners have very inadequate structures and are often not even sure of their mandate for M&E. The findings revealed that there are still districts which are without functional Civil Society sectors. The findings revealed some District don't have functional Civil Society sector. Findings reveal that not all Local Municipalities have functional Civil Society sectors. There is limited support Local Municipalities receive from the Department of Health to strengthen the Technical Committees as they are not attending meetings due to budget.

- **During discussion key informant this is what participant number five had to say:**

  "There is limited support Local Municipalities receive from the Department of Health to strengthen the Technical Committees (P005)."

- **Participant number five further said:**

  "I think there is limited political and administrative support of AIDS Councils activities in some Municipalities especially in terms of prioritization of the AIDS Council activities and human resource (P005)."

- **Participant number six also said:**

  "At this moment there are only two out of all 5 Districts municipalities that have established a Monitoring and Evaluation Technical working

Committee, which are Mopani District and Capricorn District (P006).”

A functioning for HIV M&E system should have specifically defined operational systems for HIV M&E roles and responsibilities. This can be assessed by checking if the M&E unit has enough skilled M&E personnel who complete activities in the M&E work can plan as planned. Specifically, an epidemiologist, a statistician, a social scientist and a data analyst should be available for the M&E units (Atika, 2016; UNAIDS, 2009a; World Bank, 2009). An M&E system should have plans for human capacity development for multi-sector HIV M&E. This implies that the M&E system has plans in place to build capacity of its personnel to the expected standards. Another significant aspect of the M&E framework is partnerships for organizing, planning and controlling the multi-sector HIV M&E system. This should be enhanced though existence of internal and external partnership plans meant to strength the M&E system (Atika, 2016; UNAIDS, 2009a; World Bank, 2009).

5.4.1.2 Sub-Theme 1.2: Involvement of Stakeholders in M&E of HIV and AIDS Programme

The findings in this study shows that stakeholders monitor and evaluation of HIV and AIDS programme and there is relationship between stakeholders who are monitoring the HIV and AIDS programme, as they can meet with partners to discuss programme performance. However, participants indicated there is lack of ownership and not taking responsibility of planned activities. This study reveals that the M&E TWG well represented and ensures wide participation of key public and Non-Governmental (NGO) stakeholders, however there are no dedicated M&E personnel who are more focus on HIV and AIDS at District level, except under districts where there are development partners.

In Limpopo province communication channels are well established between reporting partners, however, the M&E systems for stakeholders are not in alignment with Departmental M&E systems. This study reveals that HIV programme performance is communicated and reported frequently during stakeholder meetings. In this study it was revealed there are M&E Technical Working Group (TWG) meetings being held regularly on a quarterly basis with clear meeting agenda and where minutes are taken. In Limpopo Province there is M&E TWG Terms of Reference (TOR) available with guiding roles and responsibilities of the TWG. There is a political buy-in by all sectors at all levels and all stakeholders are reporting.

The findings reveal that in Limpopo, civil Society and other stakeholders plan and execute though advocacy activities for M&E are planned, targeted and structured this include on how information will flow. There are formal mechanisms to ensure follow-up on the TWG decisions through Quarterly meetings. All documentation describe how often they should hold meetings and their role whereby the LPAC Secretariat ensures that and has all the record, at the district, the respective District AIDS Council Secretariat keep the records. In support of this findings a study conducted by Ledikwe et al., (2014) in Botswana revealed that in general, M&E and data processing roles were not explicitly assigned and there was also a loss of ownership at the facility level of M&E-related activities. It is important for the Limpopo Department of Health stakeholders to be identified to meet and review performance information and identify success and challenges faced during implementation. Responsibilities should be assigned in accordance to the HIV M&E framework for Limpopo AIDS Council, District Health Information Management policy and facility standard operating procedures for

data management. A study conducted by Ogungbemi, Oyediran, Mullen, LaFond, Azeez, Boone, Mharadze, Kanagat and Atobatele (2012), which revealed that HIV M&E collaborations are being established and sustained at the state level, however, limited progress has been achieved. This is a vital barrier, as there are lower stages of actual execution and data sources.

- **This information was also cited from participant number two during interviews who said:**

> *"There are no challenges with stakeholder as we are able to meet with them and can communicate". (P002).*

- **Participant number two continued:**

> *"Mainly people don't understand the term partners and what are their functions of partners or stakeholders are there for, hence people don't understand what they bring too much expectations adhering there is money or funding. When it goes down to the sub –district and facilities it makes it difficult." (P002).*

- **Participant number four also said:**

> *"People and partners are involved but the problem is people don't want to take ownership. They get too much dependent on their partners than them doing their job, yaa!! People don't want to take responsibilities in terms of evaluation as well. When developing strategic documents that is involvement. Yes, we are involved but I think! the problem is following through what they are advised on" (P004)*

The M&E system should have M&E plan for the organization whose development should involve stakeholders with indicators in the M&E plan derived from national strategic plan. M&E system should have a communication and advocacy strategy which should assist the organization use M&E for reflecting of planning of policies of

programs being monitored (UNAIDS, 2009a). According to Mapfumo (2016) in the management of HIV and AIDS M&E programs, the allocation of the M&E programme along with stakeholder engagement is also critical.

5.4.1.3 Sub-Theme 1.3: Availability Human Resource Capacity Development and Skills Transfer

The majority of participants indicated that there are challenges related to human resource capacity and lack of skills affect the process of conducting data review and validation meetings to analyze data quality to give feedback, lack of training and capacity building since some are trained while some are not and those who are trained do not provide feedback to others after training. This study findings reveal that human capacity assessment has been conducted within the Departmental sectors whereby human capacity development plan have been developed. The study findings reveal there are no local institutions that offer training on M&E to technical groups, however on-the-job training is being conducted to staff during supervision visits.

The majority of respondents reveal that there is a lack of monitoring, ongoing supervision for support visits to facilities in order to improve HIV and AIDS programme performance. Only provincial M&E for AIDS Council provides the in-service training to the districts and municipalities and only AIDS Council members were trained on DHIS or Tier.net, the study finds that only, only members of the AIDS Council Secretariat have been trained on M&E related trainings. Granich, Gupta, Hall, Aberle-Grasse, Hader and Mermin (2017) indicated that M&E system had weakness which include; inadequate personnel with requisite skills form a crucial part of M&E system. In contrast a study conducted by Ledikwe et al., (2014) revealed that in Botswana

Disseminating program efficiency statistics has also been documented for the ART program, monthly, to a broad list of stakeholders. In support of this study findings from an assessment study conducted by Ogungbemi, Oyediran, Mullen, LaFond, Azeez, Boone, Mharadze, Kanagat and Atobatele (2012), revealed the deficiency of this aspect can be due to the nature of the growth of human capacity in an ever-changing workplace environment and to a general lack of expertise to cope with newly harmonized M&E programs for HIV. Furthermore, the study showed that Nigeria recognizes the need to invest in HIV M&E human capital growth and strives to create a team of highly motivated M&E practitioners. A study conducted by Kariuki and Reddy (2017) in South Africa found that apart from the Metro Districts, M&E capacity is typically limited. Competent M&E staff have been inadequately resourced by the municipalities, stifling their ability to provide reliable M&E services.

An assessment conducted by Limpopo AIDS Council secretariat (2020) reveal that all the District HIV, AIDS STIs & TB (HAST) coordinators are experienced in HIV&AIDS although some may not have attended any formal HIV&AIDS course or training. The Secretariat at district level requires the formal training on M&E to carry out their M&E functions. In support to this study, assessment conducted by Semo et al., (2014) in Botswana revealed that the level of preparation and expertise of key workers in M&E and data processing differed greatly. M&E-related training was usually undertaken by seminars and short courses due to a shortage of M&E courses and training programs at Botswana's tertiary education institutions. The same study in Botswana showed that most M&E workers had obtained basic training in M&E at the national and district level, but their analytical skills were stated to be substantially poor. Semo et al., (2014)

acknowledged the same need to educate individuals at the level of facilities, especially on tools for data collection.

- **This is what participant number two said:**

> *"I think … Capacity building is the ever-changing dynamics –probability its unilateral, some of their people are not capacitated, when there is change in treatment some trained and some are not. After training there is no feedback and information just get distributed (P002)."*

- **Participant number three said:**

> *"With regard to human resource … I think we don't have enough, they are overworking people, they blinded by work overhead and they cannot focus (P003)."*

- **A participant number four said:**

> *"We are not satisfied with regard to Human resources as the skill is very minimal (P004)."*

5.4.1.4 Sub-Theme 1.4: Relevant Trainings Received on Monitoring, Evaluating and Reporting

The majority of participants in this study revealed there was no formal M&E trainings received, however there are data management trainings received this included National Indicator Data Set (NIDS), web-DHIS and tier.net systems which are information management systems trainings. M&E trainings are focusing more on senior management at provincial level than junior position which need more training since they are the primary producer for data management. This is similar to the study conducted by Obanga, (2015) which reveal that the M&E team members have not receive comprehensive initial orientation on the M&E system for particular organization such as orientation on data collection, collation, analysis, supportive,

supervision and reporting among the other things.

- **This what participant number two expressed in agreement with majority:**

  "There are no formal M&E trainings or courses, we only received training such DHIS, tier. Net, TB, Tier there no formal qualifications in place (R002)."

- **Participant number four indicated that:**

  "By this time, we have received unformal basic monitoring and evaluation workshop, MPAT, EQPRS training which were done over the past two years, however some selected senior managers are being sent to Wits for a course in monitoring and evaluation as part of leadership capacity (R004)."

- **This is what participant number six said:**

  "With regard to training matter, the provincial M & E for AIDS secretariat provides the in-service training to the districts and municipalities. With regard to AIDS Council members being trained I can say non-trained "this include reporting, DHIS or Tier.net" over the last 5 years of strategic plan. Yes, none, only members of the AIDS Council Secretariat have been trained."

According to Ogungbemi, Oyediran, Mullen, LaFond, Azeez, Boone, Mharadze, Kanagat and Atobatele (2012) the M&E system should include all levels of HIV operations, with indicators to measure and tools appropriate to their operational activities that are compatible with national reporting classifications or specification. It is also necessary to establish systems to verify reported data. Employees of all funded projects must undergo basic training in the principles and practices of M&E. In order to develop stronger buy-in for program staff, policymakers and donors need to endorse the value of M&E as both a reporting and program management practice (Ogungbemi et al., 2012).

A study conducted by Mapfumo (2016) revealed that in the uMngeni Local Municipality, NGOs handling HIV and AIDS face many obstacles, including a lack of statistical skills; a lack of trained employees; a lack of M&E knowledge; a lack of M&E programs within organizations; insufficient resources; a lack of dedication by staff members; poor participation of stakeholders; poor quality data; and a lack of M&E software.

5.4.2 Theme 2: Monitoring of Poorly Performing HIV and AIDS Programme Indicators

Table 5.2 presents the challenges facing monitoring of poorly performing HIV and AIDS programme indicators.

5.4.2.1 Sub-Theme 2.1: Availability of Systems to Monitor Poorly Performing HIV and AIDS Programme Indicators

The findings reveal that there are challenges facing monitoring of poorly performing HIV and AIDS programme indicators those indicators include High Loss to follow-up (LTFu) rate whereby clients move around clinics without attending their appointments, either due to seasonal workers in farming areas or due to faith-based beliefs. Some of the poorly performing indicators identified in this study include ART clients Loss to follow-up due to immigrants from neighboring countries who comes and go because of farming area, another is poor same day initiation because of cultural values viral that completion and poor implementation of Central Chronic Medicine Dispensing and Distribution (CCMDD) not giving correct return dates. Study findings reveal that other problem identified is when new indicators are just being introduced during the year which affect performance measuring. Findings reveals that Departments conduct data verification and validation as most of their indicators are being achieved, however the

feeling is that Department of Social Development indicators are under targeted as they are being overachieved.

Findings reveal that M&E is still regarded as strange concepts that are not well understood as people have different understanding thereof. Other challenges identified by some of the respondents in this study include poor referral, whereby clients move from one facility to another through self-transfer without notifying the other and undocumented immigrants and foreign nationals from neighboring counties who go without identify which affect poor recording and early miss appointment, loss to follow-up and defaulter rate as they are not traceable. Participants revealed that indicators are affected by challenges such as cultural issue as some clients do not communicate early when they tested positive and this affect indicators such linkage to care, HIV test positivity rate, HTS case finding, linkage to care, referral, reduction of loss to follow up and retention of People Living with HIV (PLWH) into care and support programme. Participants in this study revealed that the total indicators being reported to the AIDS Council vary from one district to another and also differ per Department other Districts having more performance indicators than other Districts. Findings reveals that other Districts are having less indicators respectively with some indicators not being achieved. Other challenges include lack of understanding of programme indicators, poor same day initiation and linkage to care due to traditional beliefs, poor referral systems.

- **This can be confirmed by participant number one who confirmed by saying:**

> *"Our challenge mainly is unconfirmed loss to follow up as patients just move around other clinics without informing their clinics and Poor implementation*

of Universal Test and Treat. I should think patients should be able to inform others when moving in order to outcome them. I don`t think for HIV its understanding … but as for TB people don`t understand TB indicators as definitions are difficult. Other poor performing indicators include poor referral system in place, poor retention to care and address high rates of lost to follow up of newly diagnosed PLHIV between the time of diagnosis and commencement to ART and Self-transfer, poor monitoring of viral load completion and suppression (R001)."

❖ **Participant number one further said:**

"I thing that other challenges are as results of cultural issue as they also don't feel to communicate early the moment when positive which affect positively rate which is also not doing well. The other reason it that we are not concentrating on to get the right group to test for HIV which affect HIV testing and yield. We must have a target group to test and to test instead of testing everyone. I think our Quality of Care (QC) is a serious problem…the reason why I say that it is because QC is that people that are loss to follow don't feel like it`s important to come back facilities and some still come to facilities still go unnoticed or without being captured. The other thing is that M&E are seen as strange concepts they are not well understood as people have different understanding. When they talk about cohorts and period to measure performance people don't understand I think some people see M&E as Greek language (R001)."

According to Ogungbemi et al., (2012) the M&E framework should cover all levels of HIV activities, with indicators and assessments and resources relevant to their operations and compatible with national reporting. It is also important to develop mechanisms to validate recorded data. Employees in all funded programs shall receive basic training in the values and practices of M&E. The main factors impacting retention of treatment include stigma, lack of support, and previous loss of follow-up activities (Ogungbemi et al., 2012). According to Adelekan, Andrew, Nta, Gomwalk,

Ndembi, Mensah, Dakum and Aliyu, (2019), in order to increase the retention of individuals on HIV medication, social constructs such as home-based stays, community-based support programs, transportation subsidies, and comprehensive solid social networks can be integrated into HIV service delivery models. The authors support more research on how differential models of treatment affect patient retention in care. According to Mapfumo (2016) for data collection to function properly, indicators should be carefully chosen and matched with available national reporting systems.

5.4.2.2 Sub-Theme 2.2: Data Feedback Received to Address Monitoring of HIV and AIDS Indicators

The findings also revealed challenges related to data feedback through data dissemination and use to improve HIV M&E programme poorly performance indicators. In this study participant revealed that feedback and data use refer to the utilization of the data for programme planning, monitoring, and reporting and for advocacy. Majority of participants perceived that there is no feedback mechanism since there are is no means of verification or proof of documentation to prove that feedback was given either through documentation or by any means of writing at district, sub-district and facility level, while there is feedback way of communication such as email and excel sheets. Dissemination on activities if the AIDS Council is conducted through regular AIDS Council meetings and M & E meeting and Civil Society meetings across the province and in districts. There are systems such as Government Electronic Quarterly Performance Reporting System (eQPRS) which give feedback online from office of the premier at provincial level of which Institutions like Provincial Legislatures only give proof of receiving report. This study revealed that

data is used for planning and decision making during monthly and quarterly reviews. In support of this finings an assessment conducted by Obunga (2017) revealed that Kenya plan for M&E system data analyses and use is functional as M&E staff and general staff use data analysed to inform decisions of the programmes.

In contrast to this study, an assessment conducted by Ledikwe et al., (2014) revealed that District and facility level staff reported getting only modest input, with most negative feedback correlated with the timeliness of results or data errors. Furthermore, the same analysis indicates that there is sometimes no correspondence made to report that a report has been submitted and reviewed. This differ from study findings conducted by Atika, (2013) which revealed there is evidence of data demand and use, which is enhanced through conferences where various stakeholders including researchers, policy makers and county officials meet and during this forum they can share findings with plans for implementation. Data dissemination and utilizing M&E reports should determine methods by which data will be collected, analysed and reported.

- **Below are some of the responses from participant number two said;**

> *"We use excel sheets and emails to send data to next level and also to send feedback. Sometimes data is collected without proper feedback being provided. I would say there is no formal feedback received from Department … What we do, we do it passively. There is no way of saying I submitted data and to review and change it (R002)."*

- **Participant number four said the following statement which agreed with majority:**

> *"Feedback is received only in writing on email, online and but when we submit to legislature, they also sign a copy of submission but I would say*

there is no feedback mechanism to document within the Department since there is no documentation to prove that feedback was given or received either through documentation or by means or writing, however the as systems such as EQPRS which give feedback online from office of the premier (R004)."

❖ **Participant number nine also said:**

"There is no feedback. The only time to receive feedback is when they want to give you instructions. There is never a feedback. There is a need of compliance of quality assurance person who follow on data and alignment with policy. Sometimes data is sent straight to the District without going through the sub-district which how there is jump up in reporting data (R009)."

According to Ogungbemi, et al., (2012) most organisations and Departments generate written reports on their operations, but only NACA disseminates the data to the stakeholders and the public through its website. A lack of knowledge of NACA's information products was stated by some stakeholders. Same study revealed in the analysis and creation of the National Strategic Framework (NSF), there is proof of the use of M&E knowledge. However, to evaluate the essence of the information needed for decision-making, Nigeria has not undertaken a stakeholder information needs assessment at national and sub-national levels. Meanwhile, at the sub-national level, data use is very limited and information produced is not disseminated to the stakeholders. According to MEASURE Evaluation, (2010) use of website and preparation of reports were some ways through which the Nigeria NACA organization ensured various stakeholders get information on HIV and AIDS in the country. The implementation of the country's national HIV and AIDS strategic plan was based on reviews of the use of M&E information. Finding from the study conducted in Nigeria

reveal that M&E system identifies lack of stakeholder needs assessment at all levels for the organization to understand how information should be packaged for better uptake of evidence.

5.4.3 Theme 3: Available M&E Mechanisms to Strengthen HIV and AIDS

Table 5.2 presents M&E mechanisms and strategies to strengthen HIV and AIDS.

5.4.3.1 Sub-Theme 3.1: Availability of Strategies in Place to Address Poor Performing HIV and AIDS Programme Indicators

Participants did agree that there are available strategies and best practices in place being used to improve or address HIV and AIDS programme performance such as the 10-point plan and operation Phuthuma turnaround strategy, quarterly data reviews through Nerve centers, District Health Plan review where selected facilities poorly performing against 90-90-90 target, are being monitored on daily bases and reviewed monthly but to improve programme performance such as Index HIV Testing, ART initiation and Loss to follow up. In support of this finding a study conducted by Ledikwe et al., (2014) in Botswana revealed other best practices and strategies to create awareness of the value and use of health information for evidence-based decision-making. The same study revealed that several national programs have reported conducting specific M&E trainings for district-level employees. The national program for TB has reported similar quarterly meetings. Johnson, Dorrington and Moolla (2017) indicated that although South Africa is well on the way to meeting the 90% HIV diagnosis target, with most provinces facing difficulties in achieving the remaining 1st and 2nd 90% targets. Ssekalembe, Isfandiari and Suprianto (2020) indicated in order to accomplish the 90-90-90 UNAIDS target, there is a need to scale up the potential

for HIV case-detection by raising awareness of HIV, HIV testing and therapy and improving ART facilities.

Granich, Gupta, Hall, Aberle-Grasse, Hader and Mermin (2017) cited that in 2014, the Joint United Nations Program on HIV and AIDS (UNAIDS) issued treatment goals for HIV 90-90-90 target, which specifies that by 2020, 90% of individuals living with HIV will know their HIV status, 90% of people with diagnosed HIV infection will receive ART, and 90% of those taking ART will be virally suppressed. Ledikwe et al., (2014) revealed that in order to highlight the importance of M&E and to provide training on data collection tools, there were also reports of workshops for staff at the facilities. This study reveals there is operation Phuthuma for selected sites where data clean-up is being conducted daily and pre-retrieval of files to properly manage patients. Findings reveals that there are monthly reviews in place, however, there are identified challenges such as lack of transport to monitor 10-point plan operation Phuthuma turnaround strategy, lack of budget to conduct data review and delay in reviewing District Health Plan. Participants in this study indicated that they cannot travel to facilities due to budget constrains this limit their meetings to conduct data reviews. The study reveals that the M&E budget not fairly allocated as there is insufficient budget to cover for M&E trainings and reviews. This study revealed there is insufficient budget to cover for M&E trainings.

- **This what participant number ten said in agreement with majority said during the interview:**

> *"We do have strategies in place. There is 10-point plan and operation Phuthuma which we use to monitor programme performance monthly and quarterly and there are tools which are used to monitor. We do conduct*

data reviews at facilities and at sub-district through operation Phuthuma using created platforms such as District nerve center, whereby facilities come together present progress report at sub-district level Monthly and also conduct their own review at facility bi-weekly measuring performance against set targets such as District targets and 90-90-90 targets (R010)."

❖ **This is what participant number eleven said:**

"The main focus of conducting data reviews is to obtain progress report focusing on selected poor performing 90-90-90 indicators performing indicators such as uLTF, VLD, VLS and other indicators such tracing patients for ART initiation, tracing early missed appointments, increasing Index testing, implementation of HPRS and other 10-point plan strategic focus. Operation Phuthuma sites and give feedback on findings to facilities same time (R011)."

Findings in this study reveal that one of the best mechanisms was the use of supportive visits for supervision to selected facilities in order to assessments improvement using National Presidential Operational Phuthuma performance review tools, while co-facilitating it with sub-district and facilities, whereby management also provide feedback on findings simultaneously before they leave a facility. This study reveals that feedback is given to supervised teams through data quality audit reports and using support visit supervision M&E tools. There are data Quality assessment tools and guidelines available. In support of this study, an assessment conducted by Ledikwe et al., (2014) indicated that in Botswana they use of supportive supervision visits to districts and facilities as a less resource-intensive feedback method and this is one of their best practice. Marsha, Eatonb, Mahya, Sabina, Autenrietha, Wanyeki, Dahera and Ghysa (2019) concluded that increased availability of HIV information has led to enhanced country`s ability to measure global progress towards the 90-90-90 target.

❖ **This is what participant number eleven had to say:**

> *"We do conduct site support visits to assessments using National Presidential Operational Phuthuma performance review tools which are co-facilitated together with sub-district and facilities and also to present feedback on findings before we leave facilities at the same time (P011)."*

This study also reveals there is poor documentation or proof of whatever the Department is doing. However, strategies which are there are being strengthened such as i.e., index testing but there is no documentation. Tracing of Loss to Follow up HIV clients have been done but not proper documentation due to lack of ownership or buy-in in the programme.

❖ **This is what a participant number twelve had to say:**

> *"You don`t get documentation or proof of whatever the Department is doing. However, strategies which are there, are being strengthened i.e., index testing has been one of those but not documented and tracing have been done but not proper documented as there is no ownership or buy-in in the programme (R012)."*

According to Atika, (2016) data management should assess procedures for processing, storing and managing M&E data. Data dissemination utilizing M&E reports should determine methods by which data will be collected, analysed and reported. Before implementing new data management techniques, data management should learn about existing data collection systems and quality. Systematic data collection, collation, processing, analysis and interpretation should form part of HIV-AIDS programme goals and objectives. Data managers should understand programme goals and objectives. Data managers should identify user needs and perspectives regarding data management and utilize this to enhance data management qualities in

HIV-AIDS management programme, with specific relevance to HIV-AIDS M&E activities.

Perriat, Balzer, Hayes, Lockman, Walsh, Ayles, Floyd, Havlir, Kamya, Lebelonyane, Mills, Okello, Petersen, Pillay, Sabapathy, Wirth, Orne-Gliemann and Dabis (2018) referred that through Universal Test and Care (UTT) a universal voluntary HIV therapy and monitoring, accompanied by timely initiation of ART (ART), is now a public health practice for all those diagnosed with HIV infection. Hayes, Sabapathy, Fidler (2011) also stated that all those diagnosed with HIV-positive though UTT which is a universal voluntary therapy and testing followed by rapid initiation of ART has the potential to significantly minimize HIV incidence, but it will be very difficult and expensive to deliver in the short term. This therefore can rescue loss to follow up of patients before the start treatment if they are initiated on same day.

A study conducted by Adelekan et al., (2019) on social barriers in accessing care by clients who returned to HIV care after transient loss to follow-up, revealed that factors such as lack of support, stigma, and early loss of follow-up activities have been discovered to be essential factors impacting retention of treatment. In order to increase the retention of individuals on HIV therapy, institutional constructs such as home-based stays, community-based support programs, transportation subsidies and robust solid social networks can be integrated into HIV service delivery models. Adelekan et al., (2019) support that more research needs to be conducted on how differential models of treatment affect patient retention in care.

5.4.3.2 Sub-Theme 3.2: Availability of Mechanisms and Processes in Place to Address Poor Performing HIV and AIDS Programme Indicators

The findings revealed there are various mechanisms in place such as running line list to identify early missed lost to follow up, however there is lack of actioning of those reports and not being signed off. Professionals and data capture also run the line lists reports then issue reports Operational Managers (OPMs) for actioning to monitor HIV programme challenges such as loss to follow up and early missed loss to follow up at facilities. Most respondents revealed that there are data verification mechanisms to validate and analyse data through tier.net and run data validation through District Health Information System (DHIS) after data export the Department is able triangulate to verify data. Other respondents reveal that the availability of the National health laboratory services (NHLS) electronic database is also used to track and monitor testing results through Lab tracking system this include PCR results, Viral load completion and viral load suppression for patient for follow up. Using mobile devices through WhatsApp by health care professionals has transformed the health sector as they can communicate through such platforms. This study reveal that managers are not monitoring their programs. Some of the respondents were even specific to say that data verification and validation is conducted daily while data is being captured. Various sector Departments conduct data validation, validation and data clean up.

- **This can be seen from participant number two during interviews who said:**

> *"These are data reviews, data validation, there are assessment that we conduct to clean data. There are data clean-up activities. This includes data a validation to address outliers (R002)."*

The World Health Organisation (WHO) has developed significant data training

manuals to capacitate HIV-AIDS data managers locally and globally. However, in reality, this never materialises due to the huge demand for assistance and minimal supply of assistance from in-country resources (World Health Organisation, 2015). It can be confirmed that the department of Health and AIDS Council need needs to urgently adopt a “train the trainer” approach. This method of information sharing will allow key personnel from key HIV-AIDS organisations within the healthcare sectors to attain the skills and then allow for transferring these skills to others in their organisations and other programmes. Key issues for data management transfer of skills include the provision of data management technical assistance, support development and collation of data management functions; and complete import, verification and validation of all data (World Health Organisation 2015).

5.4.3.3 Sub-Theme 3.3: Development and Implementation of HIV and AIDS M&E Plans

This study revealed there are strategies available for all sectors supporting HIV and AIDS programme. The main challenges identified by majority of respondents in this study includes strategy rejection, lack of strategy adoption and lack of committee to review policy framework which led to delay in approval of policy. Findings reveal that government employee see it as too much work to develop terms of reference and theory of change due to shortage of skills. Study reveals that M&E plans and evaluation frameworks are in place within all sector Departments. The M&E framework is done in alignment to National AIDS Council framework. LPAC Secretariat has developed the HIV and AIDS M & E framework in line with the Provincial Implementation Plan (PIP). There is M & E framework matrix detailing how data will be collected, indicators and their targets and the code book for definitions and

calculation methods of indicators. The study findings reveled that relevant stakeholders are involved in developing plans. There are no budget estimates provided for the M&E plan. Study findings revels that the M&E plan is not costed, however costing has been started. Findings reveals that the M&E framework is not describing how the 12 components will be implemented but the framework uses Logical Framework as the basis for routine M&E. The findings from this study revealed that Department of Health change strategies during the year without seeing results. UNAIDS, (2009a) describe that the M&E strategy should explain how the M&E system's 12 elements would be implemented and that the existence of the M&E plan for HIV M&E system should enable organization to cost all activities planned within a year and the period of implementing the programme and also it should highlight agencies responsible for activities implementation (UNAIDS, 2009a).

Study findings reveal that in Limpopo Department of Health and Social Development there is lack of policy review committee to approve M&E plan framework. The findings reveal that in other Districts the Municipal Development Plan (MDIP) is still not approved. These findings revealed that HIV and AIDS M&E framework and evaluation framework were developed are in alignment to National AIDS Council and National Department of presidency frameworks.

- **This is what participant number two said during interviews:**

> *"You mean the challenges? Mmmm…. I don`t remember us having challenges in terms of development of plans. The challenge is with regard to implantation (002)"."*

❖ **This is what participant number four had to say:**

> *"The M&E framework is done in alignment to National AIDS Council framework. The challenge is mainly lack of policy review committee to approve M&E plan framework. The other problem is when you discuss strategies but later you hear rejection of those strategies (004)"*

❖ **Respondent number four further said:**

> *"Yes, there is an M&E plan and evaluation framework in place within the Department we just need to strengthen it. However, they see it as too much work to develop terms of reference and Theory of Change (P004)."*

❖ **This is what participant number six had to say:**

> *"The Secretariat relies on other department and stakeholders for that, as NGO's and research institutions like HSRC, LPAC does not have capacity to conduct research, relies on other agencies (P006)"*

This is similar to study conducted by Ogungbemi, et al., (2012), which revealed that only the national HIV M&E framework met with international guidelines and is consistent with the National Strategic Framework; however, it was developed prior to the development of other sector plans and thus there are weak linkages. There is room to improve the national M&E plan as a new generation plan to monitor and evaluate NSF is being developed. Review of the Kenya AIDS strategic framework indicates that some indicators in the M&E plan have baseline values which is a plus as it helps in setting targets within some period of implementing the framework. According to Mapfumo (2016) at least 10% of the overall program expenditure should be prioritised for the provision of sufficient funding for M&E operations.

5.4.4 Theme 4: Availability of databases, Routine Monitoring, Supervision, Data Audits, and Evaluations in HIV M&E Systems

Table 5.2 represents availability of databases, routine monitoring, supervision, data audits, and evaluations within HIV M&E systems. This section focusses on challenges related to focusing on databases, routine monitoring, supervision, data audits, and evaluations in HIV M&E systems.

5.4.4.1 Sub-Theme 4.1: Routine Monitoring, Evaluation and Reporting Systems

Participants revealed that challenges they face include data discrepancy issues, challenges of internet connectivity which also affect data submission from facility level. Although there are forms and tools for routine monitoring of programmes, the findings in this study revealed there are challenges related discrepancies and outliers being found on data collection tools submitted for capturing on DHIS and there is delay in reporting data from facility to District which affect data submission timeliness and data completion rate. Study findings revealed that HIV testing data is still having backlog in some area which might affect them not to reach target.

Marsh, et al., (2019) highlighted there are many limitations of tracking progress towards 90-90-90 are illustrated, this includes inconsistencies in recorded data, restricted access to public domain on availability of data, and lack of comparable cross-country cascade. Granich et al., (2017) indicated that the lack of evidence and lack of standardization makes it impossible to reliably assess if many countries are on track to meet the objective of 90-90-90. In this study it was further revealed that HIV M&E systems are established within the Department of Health, however AIDS Council does not have standard M&E system or database to report across all stakeholders.

Some ffacilities are still faced with poor connectivity network. In support of this findings a study conducted by Ledikwe, et al., (2014) found that there was raise in the workload of health care professionals when they continue to use paper-based methods and this was due to unreliability of electronic services. Ledikwe et al., (2014) indicated that due to lack of electronic based systems health professional that the need for paper-based types was not abolished, but due to inadequate internet services, insufficient funding for information technologies, and lack of computer expertise among health care staff, both electronic and paper-based parallel use was determined. Same study by Ledikwe et al., (2014) revealed data was reported being lost or missing from the electronic system failure and backlogs of data which was not captured for long time. This might affect achievement of target as not all data is being reported on electronic systems. In support of this findings a study conducted by Ledikwe et al., (2014) revealed that Information technology (IT) funding was lacking at all levels, which was a problem for health-related data there was a need for network to be properly managed and upgraded at all times. Still in same study, data was reported being lost due to computer failures, viruses, and misfiled electronic data was recorded by participants from facility to national level in the same survey.

- **During the discussions participant number one indicated the following:**

> *"I think the main of challenges are data discrepancies issues … Our other challenge is that there is lack of connectivity of internet which affect data submission from facility level more especially in areas like Blouberg area. ... I think …. the challenge is lack of meeting since they cannot meet to discuss data quality feedback (R001)."*

❖ **Participant number thirteen said:**

> *"The is lack of access to web-DHIS, waiting for dispatches on monthly basis on tier net and lack of human resources capacity to monitor and evaluate HIV and AIDS (P013)."*

This study reveals there is poor understanding of what need to be achieved in terms of strategic goals, objectives and activities on HIV and AIDS programme to achieve the set targets.

❖ **Participant number ten indicated that:**

> *"I think its understanding, where people don't understand what is expected from them to achieve results …. I think they know the end goal but they don't know what is expected to them to reach the end goal (P010)."*

This study reveals there is delay in submission of reports at all levels despite the availability of data management guidelines, standard operation procedures and policies. Some of the respondents were specific to say that Limpopo Department of Health and Department of Social Development still face challenges such as delay in submission and non-alignment of data collection tools as they are not standardised across all programmes at all level from facility level to Provincial level and this is seen as affecting the reliability and integrity of data submitted. In order to address this challenge, the South Africa National Digital Health Strategy for 2019 – 2024 outlined the plan to rationalize PHC data collection registers which resulted in the reduction on the number of PHC registers from more than fifty registers to six uniform standardised registers. This improved and organized data collection and eased the burden of data capture at the facility level (South Africa Department of Health, 2019). In support of this findings a study conducted by Ledikwe et al., (2014) revealed that they may not

eradicate the need for paper-based types in Botswana, but exist concurrently because of unreliable internet services, inadequate IT support, and lack of computer skills among health care staff.

- **This is what participant number eighteen had to say:**

> *"I would say main one is delay in submission of reports from the districts. Misalignment of data reported in the data collection tools. Data capturers putting movies inside work computers is still the issue, you find that computer not having enough capacity for using database…. (P018)."*

- **Participant number six also said:**

> *"There is poor record keeping management in some District and Local Municipalities (P006)."*

5.4.4.2 Sub-Theme 4.2: Availability of Systems to Report Data and Performance Information

The majority of participants answered that there are still challenges affecting HIV and AIDS programme performance such as the late submission of reports, lack of connectivity or poor network, different or too many reporting parallel systems within the Department of Health which give different information. Findings reveal that the use of online Web-DHIS is still a problem since not all operational managers and sub-district managers cannot access data or use the system as majority are technologically disadvantaged and due to lack of knowledge and required skills. Majority of the respondents reveal that there is no space for filing and data capturers at facility level as there is shortage of space for data capturers and filing storages.

Respondents in this study reversal that facilities still rely on paper base information which affect data timeliness and could take forever to compile and consolidate unlike

digital procedures. It was similar to a study conducted by Ogungbemi, et al., (2012) which shows that in order to gather, capture, and validate the data required for the HIV M&E system, there were several databases available throughout Nigeria. Most donations, though, are powered by donors and lack integration; they often have a responsibility on those who run them at lower levels, especially when there are two or more donors who each have their own data reporting system.

- **This is what participant number two had to say during interviews:**

  "I would say that late submission of reports affects data reporting and performance information management submission to next level. I think connectively networks is a problem (R002)".

- **Participant number three also said:**

  "You submit something but it's different from what you sent. The other thing is different reporting systems (R003)."

- **This is what participant number said:**

  "There are inadequate or I would say lack of standardized M&E systems in some Districts and Local municipalities to report performance information (R006)."

According to Ogungbemi, et al., (2012) this could be because the M&E framework is viewed by most observers at the sub-national level as a monitoring obligation only for program funders, not for the Government of Nigeria. Therefore, this might be similar to South African government whereby the Government have different reporting systems which also report to donors or stakeholders with different disaggregation. Indicators and monitoring mechanisms are proliferating in all industries. The harmonization of metrics and the merging of current instruments, in cooperation with

other partners, should be one of the main strategic activities.

5.4.4.3 Sub-Theme 4.3: HIV Database in Place to Ensure Smooth Process of Data Flow

The study reveals there are available forms and tools for routine monitoring of HIV and AIDS programme with guideline for data collection and general data management. Other respondents were specific to say that reporting AIDS Council is not in an electronic format, the LPAC is starting changing reporting tools into excel to make it easier to report and for longitudinal record keeping and analysis. Study finds that relevant documents which are applicable to data management are being shared with district and local municipalities and all stake holders have been trained. The study reveals that the Department of Health have best guidelines and procedure in place this include the availability of DHMIS policy, facility information management Standard Operation Procedures (SOPs) and M&E frameworks which can be implemented to ensure adherence to improve smooth data flow process from facility level. Findings reveals that there are data flow mechanisms in place such as National portal OnCloud portal where reports or dispatches are being sent through emails which is also not accessible by all facilities but only in District where there is PEPFAR funded partner but some still send data using transport. There are guidelines which indicate and show data flow from all levels of submission. In contrast to this study, a study conducted by Ledikwe et al., (2014) revealed there were still no specifically defined methods, to address data completeness and double counting and for solving any data quality issues identified; however, data completeness was still highlighted as one of the biggest challenges.

Similarly, a study conducted by Atika, (2013) revealed that further review of documents revealed that non-health programmes, such as home-based care and behavior change and communication lacked clearly defined processes for data flow, collecting, transmission and reporting. Review of past reports and discussions with key informants showed that some Implementers have used their own monitoring structures, rejecting national data sharing protocols from the facility to higher levels. In a study conducted by Ogungbemi, et al., (2012) revealed that Nigeria has many HIV databases that are not connected to each other and that collect, check, evaluate and present program tracking data. There is also a high risk of duplication of initiative and inadequate use of capital. The study further shows that there were certain aspects or elements which were absent in Nigeria since most M&E-related systems are driven by donors. A need to develop and organize the activities in its annual workplan and execute them as scheduled was established to develop the appropriate standards for data auditing and supportive monitoring.

- **Participant number fifteen said:**

> *"I should think for now the best strategy is to use Oncloud to send tier.net data dispatches and then run reports export to DHIS, but is not sustainable as not all facilities have network connectivity (R015)."*

- **Participant number two during interviews said that:**

> *"Basically, the best strategy is to implement the available District Health Management Information System (DHMIS) policy, facility information management Standard Operation Procedure and M&E frameworks, if there are people to enforce that this happens, I think the issue of timelines will be addressed but there is no reinforcement to implement and adhere (R002)."*

A functional M&E system should have databases functional to enable stakeholders'

access data for programmes for better formulation of policies and decision making of programme implementation. These databases should be linked and should not be seen to operate like they are parallel to what other databases are implementing (UNAIDS, 2009a). An M&E system should have structures to conduct data quality audit on all six data management processes often following documented procedures, with feedback session to teams audited. Data quality audits should be supplemented with supervisory visits which should also be carried out periodically. An M&E system should be able to conduct research and evaluation of its activities for the system to better understand the impact of its implementation (UNAIDS, 2009a).

5.4.4.4 Sub-Theme 4.4: Efforts to Conduct Evaluation for HIV and AIDS Programme

The findings reveal that there is no specialized evaluation unit within all Limpopo Departments. There is no specialization unit focusing on evaluation only but there is a unit that deal with research. Findings reveal that there are no personnel for M&E at District level as they are only few based at the Provincial level. The findings reveal there are no evaluations done over the past two years focusing on HIV and AIDS, however findings reveal that there were different various researches which are done annually by other sectors facilitated by the office of the Premier. LPAC does not have capacity to conduct research, relies on other agencies. LPAC has developed a database which is updated regularly on researches and surveys conducted by other stakeholders across the province related to HIV and AIDS.

Study findings reveal that there are evaluation plans in place for future evaluation that include evaluation or conduction assessments on HIV and AIDS and each programme

developed a term of reference for evaluation planning for five years. Few respondents indicated that there some baseline evaluations and programme assessment or audits being conducted however they are not coordinated as per evaluation plans. Atika (2016) findings differ with this study in that, Kenya has a catalogue of research and assessment studies done and transformed into a research hub and which is accessible online by all partners and that the organization is working with ethics and review committee to can share all studies that have been approved and are ongoing in the system. To support of the findings, a study which was conducted by Ledikwe., (2014) revealed that advice on data auditing and analysis of source records is issued nationally in Botswana, but there is no daily timetable for these audits. According to Ogungbemi et al., (2012) in Nigeria, numerous HIV-related assessment and analysis studies have been carried out, finding that NACA has recently made attempts to organize HIV research and assessment studies, but little ground has been covered. In conducting joint analyses of the national reaction, Nigeria has performed reasonably well.

- **This is what participant number one said:**

> *"I think the Issue of not being able to travel one cannot be able to evaluate the programme very well and "le taba ya uri" "…you finish your phone call minutes trying to make follow up calls (R001)."*

- **Participant number four said:**

> *"There is no baseline evaluation conducted in the past years not to my knowledge. I am not yet sure about evaluation for HIV. They only conducted evaluation of employee Health and wellness programme. The Department is about to conduct crime prevention and support evaluation and the last one will be HIV and AIDS Non-Institutional support as per Departmental*

approved evaluation Plan (R004).”

A study conducted by Obunga (2017) in Kenya revealed that all evaluation activities are explicitly outlines in the M&E framework. This is the same in Limpopo Province where all evaluations are being coordinated the Premier`s office in alignment with Department of Presidency DPM&E unit. Discussed strategies get to be rejected strategies during implementation. These findings are similar from what Measure evaluation, (2011), Atika, (2013) and Sikuku (2016) show that in Moldova he found inventory of research and evaluations were missing. A research sub-committee within the Kenya the research science planning committee on HIV and AIDS was set up to organize research and assessment focusing on public health. This committee helped to guide research on HIV and AIDS in the country. However, the assessment discovered a gap on evaluation and understanding how the progress of implementation of the research and studies has been and thus the organization cannot learn from its activities. Atika, (2013) observed that the system had weaknesses which include; inadequate personnel with requisite skills form a crucial part of M&E system.

5.5 Summary

Despite the fact that there are monitoring and evaluation systems for HIV and AIDS in place, measure need to be taken to address challenges facing the implementation of HIV and AIDS interventions towards achieving 90 90 90 targets. The main theme, focusing on challenges facing monitoring, evaluation and reporting systems reveals those challenges include data discrepancy issues, challenge of internet connectivity which also affect data submission from facility level. Other challenges include data delayed to timeliness and discrepancies reported on data collection tools. There are

M&E units at provincial level among the Departmental sectors that are members of AIDS Council, however there are no dedicated M&E personnel who are more focus on HIV and AIDS data only at District level, except under districts where there are development partners. Provincially only office of the Premier AIDS Council secretariat has dedicated M&E personnel who is more focus on the M&E of HIV and AIDS. There are provincial and District level AIDS Councils established at different municipality organizational structures. Challenges related to human resource capacity and skills include lack of data review meetings to discuss data quality feedbacks, lack of training and capacity building since some are trained while some are not and those who are trained do not provide feedback to others after training. stakeholders are available and there is relationship between stakeholders handling HIV and AIDS as they can meet with partners to discuss programme performance.

There is lack of ownership and not taking responsibility of planned activities. There are strategies available for all sectors supporting HIV and AIDS programme. The main challenge includes strategy rejection, lack of strategy adoption and lack of committee to review policy framework which lead to delay in approval of policy. Government employee see it as too much work to develop terms of reference and ToC. However, there is M&E plans in including evaluation framework in place within the Department that need to be strengthened. The M&E framework is done in alignment to National AIDS Council framework. There is lack of policy review committee to approve M&E plan framework. In this study challenges facing poorly performing HIV and AIDS programme indicators include High Loss to follow up (LTFu) rate due to clients who move to another area clinic without honoring their appointment either due to seasonal

workers in farming areas and due to faith-based beliefs. There are various mechanisms in place such as running line list to identify early missed lost to follow up, however there is lack of actioning of those reports and not being signed off due to lack of printing papers. There are strategies in place being used to improve or address HIV and AIDS programme performance such as 10-point plan and operation Phuthuma turnaround strategy, quarterly data reviews through Nerve centers, District Health Plan review where selected facilities poorly performing are being monitored on daily bases and reviewed monthly but to improve programme performance such as Index Testing and Loss to follow up.

The findings in this study revealed there was no formal M&E trainings received, personnel only received data management trainings this included NIDS, web-DHIS and tier.net systems which are information management systems workshops or training. There are challenges which are still affecting HIV and AIDS programme performance such as late submission of report, lack of connectivity or poor network, different or too many reporting parallel systems within the Department of Health which give different information. There were no evaluations done over the past two years focusing on HIV and AIDS specifically, however various assessments are being done annually by other sector such as office of the Premier. This study reveals that while there is undocumented and unformal way of feedback communication such as use of email using excel sheets. However, undocumented feedback is also done during site visits, since there are no means of verification or proof of documentation to prove that feedback was given either through documentation or by any means of writing.

CHAPTER 6

INTEGRATION OF PHASE 1-A QUANTITATIVE AND PHASE 1-B QUALITATIVE STUDY FINDINGS

6.1 Introduction

In this chapter the researcher integrates and describe findings from phase 1-A the quantitative phase and phase 1-B the qualitative research part of the study. This section discusses the findings from both the quantitative and qualitative phases of the research study. In addition, the findings provide guidance towards the last phase linking to the aim of the study, which is to develop strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo. The researcher was interested in conducting assessments to describe the relevance of the M&E interventions and design of HIV and AIDS programme, to develop strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo. To integrate data, the researcher used study objectives to develop three main themes to merge the results using a single table. Three themes were developed from these objectives (Table 6.1):

- **Objective 1:** To evaluate relevance and design of current M&E of HIV and AIDS programme interventions in Limpopo Province.
- **Objective 2:** To assess the relevance of capacity building strategies and Interventions towards strengthening HIV M&E System.

- **Objective 3:** To determine the challenges facing Provincial Multi-sector stakeholders when implementing HIV and AIDS M&E systems.

In this chapter the researcher followed steps of data integration process using the steps suggested by Creswell and Creswell (2018). This study implemented integration at the interpretation and reporting level in two ways: integration through narrative in themes and the use of a joint display in Table 6.1 (McCrudden & McTigue, 2019).

The researcher organized the findings in an integrated results matrix, a joint display used to juxtapose quantitative results and qualitative findings to allow side-by-side comparisons, and to provide evidence to support a researcher's process for drawing meta-inferences and new insights about the topic (Guetterman, Fetters, & Creswell, 2015; Plano-Clark & Sanders, 2015). A joint display is defined as a way to "integrate the data by bringing the data together through a visual means to draw out new insights beyond the information gained from the separate quantitative and qualitative results" (Guetterman, Fetters and Creswell, 2015).

Data integration at the analytic and interpretation level has been done primarily in 2 ways: by writing about the data in a discussion wherein separate results of quantitative and qualitative analysis are discussed in Chapter 4 and Chapter 5, and then in Chapter 6 followed by presenting the data in the form of a table, a joint display, that simultaneously arrays the quantitative and qualitative results. First, in Chapter 4 the researcher interpreted the quantitative results then in Chapter 5 followed by qualitative results that provide more depth, and insight of the quantitative results to help answer the major research questions of this study. This involved augmenting the discussions

by citing related literature, reflecting both quantitative and qualitative published studies. Thirdly, followed by the integration of the findings by answering the guiding research questions in the quantitative phase. This process allows for the findings from the second phase to specify how the qualitative results help to expand, further clarify and explain the quantitative results of the first phase. This third step involve discussing the study results in detail by grouping the findings in table in order to the corresponding quantitative and qualitative research sub-questions relating to each of the explained factors.

The elements of evaluation include relevance, coherence, effectiveness, efficiency, impact and sustainability, however in this study the focus is on measuring the relevance of HIV programme M&E systems, by measuring the availability of M&E systems in order to develop strategies to further improve HIV and AIDS interventions (Organisation for Economic Co-operation and Development, 2019). The following major questions were used to measure relevance if Departmental sectors are doing the right thing:

> *"What is the current M&E systems interventions for HIV and AIDS programmes?" What is the relevance of the HIV and AIDS M&E systems?"*
>
> *"What is the status of capacity building on M&E systems to improve HIV and AIDS programme?"*
>
> *"What are the major challenges faced when implementing M&E systems for HIV and AIDS?"*

How is the relevance or significance of the intervention regarding Provincial and national requirements, standards operating procedures and priorities? To what extent

does the intervention comply with policies and strategic planning of the HIV and AIDS programme in Limpopo Province and South Africa as a country? The answers to these key questions will enable the researcher to develop M&E strategies to strengthen HIV and AIDS programme.

In order to measure relevance and design, this study assess whether the HIV and AIDS programme fulfils important function from a strategic or AIDS Council perspective looking at the availability of key elements and priorities of M&E, and whether HIV and AIDS programme design was fundamentally suited to achieving the M&E goals associated with the programme" Whether the HIV and AIDS programme is appropriately addressing an important strategic goal or focus, considering the strategic requirements of the M&E country plans.

This study focuses evaluating the HIV programme design and implementation aiming to evaluate whether M&E interventions are relevant and support achievement of the HIV and AIDS strategic objectives or not and to understand why if not met. The study also focuses on relevance of capacity including training received to provide recommendations for restructuring and future trainings (Ishola & Cekan, 2019 Organisation for Economic Co-Operation and Development (OECD), 2019).

6.2 Interpretation of Quantitative and Qualitative Findings

A study conducted by Mbondo et al., (2013) in Kenya revealed significant developments at the national level and in the subsystems that lead to the total strategic knowledge on HIV. The same study showed that there were major deficiencies, including the absence of M&E guidance, parallel monitoring structures, sub-national

level input, and sub-national data usage and general data management and usage ability. Quantitative findings from this study revealed there are M&E systems in place within different spheres of government in Limpopo Province to monitor and evaluate HIV and AIDS programme, however qualitative findings further reveal there are poor implementation of HIV and AIDS interventions, which affect M&E of HIV and AIDS programme.

Other challenges include data delays, timeliness and discrepancies reported on data collection tools. This study revealed that HIV M&E reporting systems are established within the Department of Health, however AIDS Council does not have standard electronic M&E reporting system database to report across all stakeholders.

The study observed that the system had weakness, which include inadequate personnel with requisite skills form a crucial part of M&E system. The findings further reveal there are still gaps to address organisational Capacity Building and Interventions towards strengthening HIV M&E System, However, lower-level organisations such as health centers, nongovernmental organizations and other implementing partners have very weak systems and are often uncertain of their mandate for M&E. There are challenges facing Provincial AIDS Multi-sector stakeholders when implementing HIV and AIDS M&E systems.

Regarding capacity building the study revealed there is no formal M&E training received at all levels focusing on M&E, however relevant data management trainings received including NIDS web-DHIS and tier.net systems, which are information management systems trainings. M&E trainings are focusing more on senior

management at provincial level than junior position who are implementers.

The results of the study revealed challenges related to human resource capacity and skills include lack of data review meetings to discuss data quality feedbacks, lack of raining and capacity building since some are trained while some are not and those who are trained do not provide feedback to others after training.

A study conducted by Mbondo, Scherer, Aluoch, Sundsmo and Mwaura (2013) in Keya indicated that there is an immediate need to develop national standards for M&E and a comprehensive framework for instruction. Skill building at sub-national levels should be carried out and input mechanisms for sub-national workers should be developed and retained in order to ensure more progress.

There are challenges regarding strategy rejection in the implementation, which results poor implementation and sustainability, lack of strategy adoption and lack of committee to review policy framework, which lead to delay in approval of policy. These findings revealed that HIV and AIDS M&E frameworks and evaluation framework are in alignment to National AIDS Council and National Department of presidency framework, however not in alignment with the 12 components of HIV and AIDS M&E systems strengthening tool as designed by UNAIDS in 2009.

Qualitative findings study revealed there are strategies in place, which are being used to improve or address HIV and AIDS programme performance such as 10-point plan and operation Phuthuma turnaround strategy, Data review and District Health Plan (DHP) review.

Table 6.1: Integration of quantitative and qualitative findings

Objective 1: To evaluate relevance and design of current M&E of HIV and AIDS programme interventions in Limpopo province. Limpopo.	
Summary of Quantitative Findings	**Summary of Qualitative Findings**
❖ **The results show that 85.7% indicated that indicators are linked to 90-90-90 HIV and AIDS strategic plan and** ❖ **that 83.4% indicated that all HIV and AIDS data collection and reporting tools linked to the national reporting system indicators.** ❖ **results show that 84.6% indicated that set targets are linked to 90-90-90 Provincial HIV and AIDS strategic plan.** ❖ **results show that 77.7% indicated that HIV Programme have existing data management guidelines.** ❖ **Study shows that 72% indicated that HIV Programme have up to date electronic M&E databases.** ❖ **This study shows that 72% indicated there are procedures and mechanisms in place including data reviews and validation meeting.** ❖ **Results shows that 65.7%indictated that reports are submitted on time and signed off to the next level adhering to deadlines.**	❖ In this study qualitative findings revealed that even though there are available systems in place such as indicators tht are linked to strategic plans and with targets, there are still challenges facing M&E of poorly performing 90 90 90 HIV and AIDS indicators such as HIV testing case finding, linkage to care, High Loss to follow-up (LTFu) rate, viral load completion and suppression are affected through the follows challenges; clients not traceable due to wrong contact details; poor recording on clinical stationaries; some clients move around clinics and farming areas; farming area immigrants from neighbouring countries; cultural and faith-based beliefs system affecting poor same day initiation; parallel M&E systems giving different information; poor Implementation and Monitoring of decanted clients; poor implementation and monitoring of universal test and treat (UTT) and poor referral system. ❖ Findings reveals that HIV M&E systems are established within the Department of Health; however, AIDS Council does not have standard electronic M&E reporting system database to report across all stakeholders. ❖ Main identified challenges facing M&E and reporting this include data discrepancy issues, internet connectivity, which also affect data submission from facility level and strategy rejection, lack of strategy adoption and lack of committee to review policy framework, which lead to delay in approval of policy.

Objective 2: To assess the relevance of capacity building strategies and interventions towards strengthening HIV M&E System.	
❖ **Findings shows that 58.3% indicated that there are dedicated personnel for monitoring, evaluation and reporting with clearly assigned responsibilities.** ❖ **Findings shows that 53.7% indicated that they received M&E training on how to utilize the HIV and AIDS data collection forms or registers.**	❖ Follow up study findings shows that there is still lack of M&E personnel for HIV and AIDS programme; poor structures with no funded M&E Vacancies; key personnel not aware of their M&E mandate. ❖ Findings shows that even though there are trainings conducted there is still lack of formal M&E trainings at all level; Lack of capacity building and poor skills transfer; lack of feedback after training. ❖ There is no formal M&E training received at facility, sub-district and district level focusing on M&E. ❖ Only received data management trainings received included NIDS web-DHIS and tier.net systems, which are information management systems trainings. ❖ M&E training focusing more on senior management at provincial level than junior position. ❖ Challenges related to human resource include lack of capacity building and poor skills transfer as there is no feedback after training.
Objective 3: To determine the challenges facing the Provincial HIV and AIDS Multi-sector stakeholders when implementing M&E of HIV and AIDS programme.	
❖ **Only 34.6% officials responded that specific M&E improvement work plan with clear indicators, activities, timelines and responsibilities linked to the most recent Departmental HIV and AIDS Plan.**	❖ Lack of ownership and not taking responsibility of planned activities; ❖ Lack of dedicated M&E personnel; ❖ DAC and LAC structures due to lack of stakeholder participation; ❖ Stakeholders not meeting due to lack of budget; ❖ Delay in reviewing District Health Plan; ❖ Limited support on AIDS Council activities by Departmental sectors. ❖ Lower-level entities such as health facilities, civil society organizations and other implementing partners have very poor structures and, which are not even aware of their M&E mandate.

❖ **Only 25.1% received M&E capacity building, mentoring and supervision support at least once in the past 6 months.**	❖ Poor understanding activities to be achieved; ❖ Lack of knowledge to action line list reports; ❖ Line list reports not printed due to lack of budget; ❖ Shortage of personnel to conduct M&E; ❖ Lack of transport to monitor plans and turnaround strategies; ❖ Lack of budget to conduct data review; ❖ Lack of ownership and not taking responsibility for their planned activities; ❖ Lack of budget allocation to M&E and monthly data reviews. ❖ Lack review meetings to discuss data quality feedbacks at facility level due to travel budget. ❖ There are still municipalities with no functional Civil Society sectors.
Source: Created by the researcher	

6.3 Interpretation and Discussion of Integrated Finings

6.3.1 Objective 1: To Evaluate Relevance and Design of Current M&E of HIV and AIDS Programme Interventions in Limpopo Province

6.3.1.1 Indicators Are Linked to 90-90-90 HIV and AIDS Strategic Plan

It is very crucial to link HIV and AIDS indicators with National and Provincial strategic plan on HIV and AIDS to track progress towards achieving 90-90-90 strategy. Quantitative findings revealed that 85.7% of the respondents indicated that indicators are linked to 90-90-90 HIV and AIDS strategic plan. This means there are standardised indicators aligned with National strategic plan for HIV and AIDS. Qualitative research further revealed that though indicators are linked to the 90-90-90 strategy, there are still challenges regarding achieving key performance indicators such as high loss to follow-up rate, poor retention to care rate, missed appointments, lack of understanding of programme indicators, poor same day initiation, poor linkage to care due to traditional beliefs and seasonal farms, poor referral systems, lack of understanding of programme indicators, poor referral system in place, poor retention to care and high rates of lost to follow up of newly diagnosed PLHIV. This can reveal that though there are indicators available, there is still poor implementation of HIV and AIDS programme, which is still affecting programme to achieve its goals and set targets. The availability of indicators linked to 90-90-90 HIV and AIDS strategy will further strengthen M&E of HIV and AIDS programme interventions including clear data collection procedures and tools, which are linked to National M&E reporting systems. To monitor progress group of indicators should trace achievement of HIV and AIDS programme achievements against 90-90-90 target using standard data dashboards and cascades indicators. To strengthen HIV and AIDS interventions, align indicators with National Indicator dataset to simplify reporting and flow of information from lower

to higher level.

The 90-90-90 goal states that 90% of people living with HIV will know their HIV status by 2020, 90% will undergo ART for people with confirmed HIV infection, and 90% of those taking ART will be virally suppressed. The indicators offer a great political and programmatic transparency mechanism and also demonstrate the value of achieving viral suppression for at least 73% of people living with HIV by 2020 across the continuum of treatment. Although consensus is emerging around the 90-90-90 goal, assessing success involves the ability to evaluate a standard of treatment at the country level that includes the proportions of all HIV-positive individuals diagnosed with HIV, on ART, and virally suppressed (UNAIDS, 2014, Granich, Gupta, Hall, Aberle-Grasse, Hader and Mermin, 2017). According to Malaza, Smith, Mdaka, Haynes and Shezi (2016) cascades are needed in order to monitor performance towards reaching 90-90-90 indicator and target. This means that the performance of each indicator affects the performance of the indicators flow. Indicators are tracked per programme areas independently using unique tracer indicators. The cascades track the success of the key indicators through the areas of the health system and describe their effect on the cascade.

6.3.1.2 HIV and AIDS Data Collection and Reporting Tools

More than simply addressing data consistency, the DHMIS policy calls for details to be used in service preparation and to explain the key functions and duties in maintaining data accuracy, quality assurance, and data usage and ownership at all levels of the health system (National Department of Health, 2011).

In the DHMIS policy the main concern is the ongoing data-collection tools and processes. DHMIS call for standardization of software and processes to promote the accurate and timely completion of collection tools and to help users get familiar with and comfortable with data tools, and make it easy to detect errors and problems for users and collectors. Standardisation is one means of leading to the continual enhancement of consistency and the production and use of immediate and long-term resources and techniques (Murphy, Mershon, Struthers & McIntyre, 2013). The quantitative results of this study further revealed that 83.4% respondents indicated that all HIV and AIDS data collection and reporting tools are linked to the national reporting system indicators. This confirms there are available standardised systems for data collection and reporting, which are linked to National reporting systems. Qualitative findings revealed that though there are data collection and reporting tools available which are liked to national reporting systems. There are identified challenges such as data discrepancy issues, poor Internet connectivity and late data submission to next level which might affect the quality of data.

6.3.1.3 Targets Are Linked to 90-90-90 Provincial HIV and AIDS Strategic Plan

The results in this quantitative study revealed that 84.6% of the respondents indicated that set targets are linked to 90-90-90 Provincial HIV and AIDS strategic plan. This means that Limpopo Province strategies to address HIV and AIDS interventions are aligned to National Strategic plan of the Country which should make it easy to implement and align M&E interventions. Targets are essential for measuring performance of programme success. In this study qualitative study revealed there are challenges which affect the implementation on targets and strategic plan where you

find management rejecting or abandoning strategy just adapted at its early or in the middle or beginning of implementation and lack of strategy adoption.

The qualitative study further explained challenges which might be hindering the implementation of HIV and AIDS strategic plan on 90-90-90 and its targets such as setting of ambitious targets which cannot be achieved and setting target which can be overachieved at early stage while not affecting provincially and Nationally. Other challenges identified include lack of committee to review policy framework which results in delay in approval of policy or framework. According to Malaza, Smith, Mdaka, Haynes and Shezi (2016) the goals of NSP are a helpful weapon in the effort to both bend and end the course of the HIV epidemic. Every stakeholder must be concerned with the 90-90-90 goals in addressing the still persistent challenges in order to finding the correct answers. Everyone must be kept responsible and accountable for not meeting the negotiated targets and goals at local and global community level.

6.3.1.4 Existing Data Management Guidelines and Standard Operating Procedures

The quantitative study revealed that 77.7% of respondents indicated that HIV programme have existing data management guidelines. This means that availability of data management guidelines at Limpopo Department of Health will serve as guidance for all stakeholders and professionals to improve data management at all level from facility level to provincial level, this will ensure compliance to data submission guidelines. Qualitative findings revealed that, though there are existing guidelines however, there are challenges facing the implementation due to lack of adherence to DHMIS policy and data flow standard procedures.

The study reveals that to improve smooth data flow process from facility level the department have best strategy in place this include DHMIS policy, facility information management Standard Operation Procedure and M&E frameworks which can be implemented to ensure adherence. There are data flow mechanisms such as Oncloud where data is sent through emails also not accessible by all facilities but only in District where there is PEPFAR funded partner but some still send data using transport. There are guidelines which indicate and show data flow from all levels of submission. The South African Department of Health, in 2011 developed a DHMIS policy, which stared that a well-functioning DHMIS would ensure changes in the efficiency of the health sector's M&E and better health outcomes.

6.3.1.5 Data Storage and Filing Systems for HIV and AIDS Programme

The quantitative study revealed that 79.2% respondents indicated that data is properly stored, filed, up to date and readily available. It can be concluded that if data is properly stored, confidentiality is maintained since HIV and AIDS information is sensitive and need to be stored in a place where privacy will be maintained. Qualitative findings reveal that to properly manage patient files, health care workers conduct data clean-up, file audit and pre-retrieval of files to properly manage patients.

All relevant stakeholders in healthcare settings should avoid violation of privacy or infringement of the collection and use of medical records, particularly those of patients with HIV and AIDS or other diseases vulnerable to stigmatization (Khac Hai, et al., 2017). UNAIDS (2007) stated that for protecting data, three interrelated concepts affect creation and deployment of critical data security. This includes confidentiality, privacy, and protection. In middle-and lower-income countries, growing focus is put

on the gathering of information to enhance case management and tracking and program or service M&E as part of the scaling-up of HIV programs. Availability of data allows patients to be monitored over time and between locations and allows longitudinal patient-level knowledge for clinical management to be established. When used for program or facility tracking or appraisal, patient-level information becomes even more important. This would include information systems that protect patient confidentiality, whether paper-based or electronic, while providing reasonably easy access to information at both the individual and aggregate level. According to Beck, Gill, De Lay 2016; Khac Hai et al., (2017) providing regular training and active implementation and oversight of healthcare staffing activities could contribute to a greater understanding and appreciation of the value of national policy decisions on HIV-related patient records. The use of patient-identifiable information must balance the maximization of data use gains with the minimization of possible damage due to inadvertent or malicious release of confidential data (Beck, Gill, De Lay 2016; Khac Hai et al., 2017).

6.3.1.6 Availability of M&E Databases

Herselman and Botha (2016); Geldenhuys and Botha, (2015) claimed that the introduction of an electronic framework for the enrolment of patients in healthcare facilities across South Africa would not be an achievement without addressing its obstacles and barriers. In order to enforce the eHealth plan in most South African healthcare facilities there is a need to sufficient infrastructure and internet access including all which is deemed necessary. Herselman and Botha (2016) emphasise that often, implementing HISs is driven by donor-funded vertical programmes that

focus on specific eHealth initiatives, such as the M&E of HIV and AIDS programmes. These may not necessarily fit well with a country's overall national eHealth initiatives.

The quantitative study showed 72.3% indicated that HIV programme have up to date electronic M&E databases. This means that if there are electronic databases, data collect will be of good quality instead of relying on paper-based reporting systems that might delay data submission to the next level. The availability of electronic databases may improve the reliability, validity, consistency and timeliness of data. Availability of databases also simplify reporting of M&E of HIV and AIDS programme interventions. It is therefore concluded that availability of electronic database will improve the quality of data collected, reported and also improve data use at all levels. Qualitative findings reveal challenges encountered in reporting data or performance information to the next level this include late submission of report, lack of connectivity or poor network, too many reporting parallel systems, that not all operational managers and sub-district managers cannot access data or use the system since and that some areas are technologically disadvantaged due to lack of knowledge and skills.

6.3.1.7 Data Reviews and Validation Procedures, and Mechanisms in Place

In order to be considered for validation of removal or to be on the road to elimination of HIV and syphilis, countries must have a tracking and surveillance system validation level. A typical validation method will reliably determine intervention coverage for both monitoring and treatment and promptly identify a vast number of HIV and syphilis MTCT cases. Service implementation and result data from both the public and private health facilities should be gathered and causes of errors should be minimized (World

Health Organisation, 2017). Data accountability is the responsibility of everybody, from facilities and local data collectors, to district officials and national decision makers. Accountability involves understanding the data aspects, what the knowledge shows about the quality and performance of health care, and how to use data correctly and effectively to optimize the health system (Murphy, Mershon, Struthers & McIntyre, 2013).

The quantitative study revealed that 72.3% of participants indicated there are procedures and mechanisms in place including data reviews and validation meeting. Based on these results it can be concluded that availability of data quality mechanism will improve the quality of data reported, as data will be validated and verified before being submitted to higher level. This means data submitted will be accurate. However, to do improve and sustain the process of data reviews and validations, training should be conducted to all staff members responsible for handling HIV data. The results revealed that 64% of the respondents indicated there are steps and procedures in place to limit calculation errors, including automation which include checking, double-counting and detecting missing data.

The availability of steps and procedures should be able to minimise the double counting and data quality errors reported on HIV and AIDS programme interventions. Even though there are strategies in place however, qualitative study findings reveal there are challenges such as lack of ownership and not taking responsibility for their planned activities, lack of budget allocation to M&E and monthly data reviews.

6.3.1.8 Supervision and Data Feedback on Quality of Reports Submitted to the Next Level

Murphy, et al., (2013) stated that within public health sector centres and districts throughout South Africa, data usage and data accuracy continue to be a concern. Key partners, such as the Anova Health Institute and district health management committees, are seen as coordinating strategists to resolve these disparities, while being led by the National Department of Health. It is important to ensure the coverage and proper execution of current instruments, including TIER.net, regular data collection forms and the South African District Health Information System. Murphy et al., (2013) recommended that there is a need for greater coordination between clinicians, professionals, facility supervisors and data collectors and between various layers of the healthcare system about the data within facilities. The same research indicated that facility and district executives should convey what the evidence informs them about the distribution of facilities and resources.

Quantitative findings revealed that 65.7% of the respondents reported that reports are submitted on time and signed off to the next level adhering to deadlines. The ability to provide data sign off improve data verification and increase accountability on data submitted to the next level. If data is being verified and signed off, it limits the opportunity of reporting incorrect interventions. In this study 61.7% of the respondents revealed that they received any form of feedback on quality of reports submitted to the next level. To improve HIV and AIDS programme performance feedback is important and also good for evidence-based decision making and for corrective action in such a way if there are discrepancies identified data can be corrected with evidence of feedback given for audit purpose.

About 52.9% of respondents in this study indicated there is evidence that supervisory visits have been made in the last 12 months. Supervision is good for building capacity, training and mentoring HIV and AIDS programme interventions if they are being done according to guidelines. This means that if proper supervision is being conducted many gaps on HIV and AIDS interventions can be identified and addressed same time. The results revealed that 77.4% respondents indicated that data is being verified and signed off before submitted to the next level. This confirm there are procedures and process in place for data verification and sign off that allow professionals to go through data before being submitted to the next level. The availability of data verification process in place will continue to address data discrepancies and provide opportunity to provide feedback at all levels.

Qualitative findings revealed there are challenges which might hinder supervision, support and data auditing and feedback on data submitted such as lack of knowledge in actioning of line list reports and not being signed off, line list reports not printed due to lack of budget, lack of personnel to conduct M&E at District level, lack of transport to monitor 10-point plan -operation Phuthuma turnaround strategy, lack of budget to conduct data review, delay in reviewing District Health Plan, lack of ownership and not taking responsibility for their planned activities, lack of budget allocation to M&E and monthly data reviews. Mbondo, Scherer, Aluoch, Sundsmo and Mwaura (2013) in Kenya noted that local health care committees select to visit urban centres and problematic or concern centres on weekly basis and also conduct diagnostic clinics visits to less busy treatment-only centres on quarterly basis. This is done in order to avoid congesting facilities during the time when they are too busy.

6.3.2 Objective 2: To Assess the Relevance of Capacity Building Interventions and Strategies Available Towards Strengthening HIV M&E System

6.3.2.1 Availability of M&E Human Capacity for HIV and AIDS Programme

Quantitative findings revealed that 58.3% of the respondents agreed there are dedicated personnel responsible for monitoring, evaluation and reporting with clearly assigned responsibilities. The availability of dedicated personnel responsible for monitoring, evaluation and reporting of HIV and AIDS interventions is essential for closer programme monitoring as there are many indicators and sub-programmes which require key M&E personnel to closely loot at the programme with undivided attention. This study results reveal there are structures in place to ensure that personnel are assigned with clear responsibilities, however these key personnel only exist at provincial level.

The qualitative study revealed that there are M&E units at provincial level among the Departmental sectors that are member of AIDS Council, however there are no dedicated M&E personnel who are more focus on HIV and AIDS data only at District level, except under districts where there are development partners. Regarding AIDS Council being trained on web-DHIS and Tier.net system, the qualitative study finds that only, only members of the AIDS Council Secretariat have been trained on M&E related trainings. Qualitative study further revealed there was no formal M&E trainings received, however there are data management trainings received this included NIDS, web-DHIS and tier.net systems which are information management systems trainings. A study conducted by Mbondo, Scherer, Aluoch, Sundsmo and Mwaura (2013) in Kenya noted a shortage of key personnel who are responsible for handing data such

as records and information officers, ICT officers, and biostatisticians at decentralized District and sub-national level. The study discovered that most workers had basic data capture and reporting abilities, but were limited in their ability to verify data accuracy, analyze and interpret basic data, and use the data generated for decision-making.

6.3.2.2 Relevant HIV and AIDS M&E Training Received

Quantitative findings revealed 53.7% of the respondents in this study felt they received M&E training on how to utilize the HIV and AIDS data collection forms and registers to improve data quality. This study reveals that training of key personnel is suitable and essential to improve the quality of data and reporting as health care workers will be capacitated on how to monitor HIV and AIDS programme interventions. The importance of training and any capacity activity conducted on M&E will help to improve data quality, management and data use. This study results revealed that even though majority of respondents indicated that they are being trained, however only 33.1% indicated that training was last received two years.

Training for health professionals should be continuous as there are always new developments and changes on the National indicator datasets and relevant HIV and AIDS guidelines developed after a year or two years. Without continuous training and development, professionals will lack understanding of relevant new information on HIV and AIDS programme interventions. Further training should be provided in in-service training or mentorship focusing on HIV indicators, reporting tools, HIV testing and ART initiation guidelines. Training will further equip professionals to better monitor and evaluation HIV and AIDS programme intervention in Limpopo province. Further training will not only improve programme performance but also enhance employees

to feel empowered and keep them motivated to improve programme outcomes. Qualitative findings revealed that lack of data review meetings, lack of training and capacity building, and lack of feedback to after training as challenges facing regard to human resource capacity development and skills transfer for M&E. Through qualitative findings this study revealed there was no formal M&E trainings received, however there are data management trainings received this included NIDS, web-DHIS and tier.net systems which are information management systems trainings. M&E trainings are focusing more on senior management at provincial level than junior position which need more training since they are the primary producer for data management.

Skills development is a significant factor in raising the degree of proper privacy and protection policies, enhancing knowledge and raising awareness among workers about transition (Khac Hai, et al., 2017). In order to develop their capacity to successfully organize and execute HIV prevention programs, organisations use many methods. Popular methods are simply focused on the transfer of expertise and skills by tailoring individualized support, educating individual groups, or supplying information by disseminating resources and equipment (Nu'Man, King, Bhalakia, & Criss, 2007). Mahlangu, Vearey, Thomas and Goudge (2017) indicated that AIDS Councils (ACs) ought to be informed on the essential elements needed for successful collaboration, including strategic planning, M&E, and local level progress monitoring.

6.3.2.3 M&E Capacity Building, Mentoring and Supervision Support for HIV and AIDS Programme

Quantitative results revealed that only 25.1% of respondents received M&E capacity building, mentoring and supervision support at least once in the past 6 months. These

results confirm that officials are not capacitated and supervised on how to monitor and evaluate the HIV and AIDS programme, this might limit the ability of supervisors to conduct data quality audits at facility level if proper supervision is not done. Therefore, further steps need to be taken to ensure that all officials are capacitated on all monitoring, evaluation and reporting.

Qualitative findings revealed there are no local and regional institutions that offer training on M&E to technical group and health professionals, however on job training is being conducted to staff during supervision visits. The provincial M&E provides the in-service training to the districts and municipalities. In this study one of the best practice or mechanism was the utilization of supportive supervision visits to facilities to assessments improvement using National Presidential Operational Phuthuma performance review tools, while co-facilitating it with sub-district and facilities, whereby management also provide feedback on findings simultaneously before they leave a facility. Organizations give feedback to supervised teams with data quality audit reports using tools for supportive supervision on M&E. There are data Quality assessment tools and guidelines are available, however the Province still needs to conduct Self-assessment and data quality soon as they are not being done. However, there Human capacity assessment have been conducted within Departmental sectors whereby human capacity development plan have been developed.

A study conducted by Mahlangu, Vearey, Thomas and Goudge (2017) in South Africa revealed that SANAC is struggling to provide provincial, district and municipal AIDS Councils with much-needed funding. On same study it was revealed There is a lack of sustained dedication and members from both fields are not included. In order to

coordinate the execution of multi-sectoral action (MSA), there is little capacity to conduct operations, and undefined functions and duties which result in divisions and disputes between sectors. Senior political leadership and support is insufficient to promote the successful adoption of the MSA. According to Mpofu, et al., (2014) in South Africa and Malawi, data quality has been shown to improve through the availability of positive oversight, the application of routine assessments, and the initiation of organizational analysis. Mpofu et al., (2014) indicated that the implementation of a dedicated district-level M&E platform has made a positive contribution to health information systems in Botswana by helping to create capacity for M&E and enhancing data consistency, management and data use.

The assessment conducted by Mpofu, et al (2014) It has demonstrated that such cadres can be established sustainably if the program is country-led, with a consistent government retention strategy focused on recruiting and skill growth of local equivalents. Mpofu, et al., (2014) in addition, the M&E officer function was responsible for improving data collection, maintaining regular and accurate monitoring and input, fostering a culture of data use and evidence-based preparation, and developing health system M&E capability. A study conducted by Ogungbemi, Oyediran, Mullen, LaFond, Azeez, Boone, Mharadze, Kanagat, and Atobatele, (2012) in Nigeria discovered since most M&E related processes are donor oriented, it lacks a portion of supporting oversight and data auditing. The National Agency for the Control of AIDS has to develop and arrange the activities in its annual workplan and execute them as scheduled, with the requisite guidance for data auditing and supportive monitoring.

6.3.3 Objective 3: To Determine the Challenges Facing Provincial HIV and AIDS Multi-Sector Stakeholders When Implementing HIV and AIDS M&E Systems

6.3.3.1 M&E Challenges Facing AIDS Councils When Implementing HIV and AIDS

Quantitative results revealed that only 121 (34.6%) officials responded that specific M&E improvement work plan with clear indicators, activities, timelines and responsibilities linked to the most recent Departmental HIV and AIDS Plan. Study shows that only 121 (34.6%) officials responded that specific M&E improvement work plan with clear indicators, activities, timelines and responsibilities linked to the most recent Departmental HIV and AIDS Plan coupled. Quantitative results reveal that only show that only few 88 (25.1%) of received any M&E capacity building, mentoring or supervision support at least once in the past 6 months.

Qualitative study revealed that there are challenges facing poorly performing HIV and AIDS Programme indicators those indicators include High Loss to follow up rate whereby clients move around clinics without attending their appointment either due to seasonal workers in farming areas or due to faith-based beliefs, lack of understanding of programme indicators, poor same day initiation and linkage to care due to traditional beliefs & poor referral systems. Qualitative study reveals that to improve smooth data flow process from facility level the department have Information management standard operating procedures and District Health Information Management Sin place, they also use Oncloud which is not accessible by all district but only in District where there is PEPFAR supported partner. Findings from qualitative study further reveals that while there is feedback way of communication such as use of email using excel sheets. Some respondents perceive there is no feedback mechanism within the

Department since there is no documentation to prove that feedback was given either through documentation or by means or writing, however the as systems such as Government Electronic Quarterly Performance Reporting System (EQPRS) which give feedback online from office of the premier.

Qualitative findings in this study shows there is a relationship between stakeholders and M&E of HIV and AIDS programme as they can meet with partners to discuss programme performance. However, participants indicated there is lack of ownership and not taking responsibility of planned activities. This study revealed that the M&E TWG well represented and ensures wide participation of key public and NGO stakeholders. Communication channels well established between reporting partners or stakeholders. HIV M&E stakeholders are in line with Departmental M&E systems. A study conducted by Mahlangu, Vearey, Thomas and Goudge (2017) in South Africa revealed that the majority of DACs and LACs is not made up of members of all three sectors. Across all ACs in the report, civil society was the most represented sector. Community-oriented organizations such as Mothers to Mothers and sex workers, faith-based organizations such as churches and traditional healers' forums, and NGOs such as Anova Health and All Seasons Home Based Care are examples of civil society organizations active in ACs. The same report showed that government agencies had little interest.

A study conducted by Ogungbemi, Oyediran, Mullen, LaFond, Azeez, Boone, Mharadze, Kanagat, and Atobatele, (2012) in Nigeria discovered that organizational systems have been developed by national level institutions such as umbrella organisations and federal ministries and departments. However, health services, civil

society organisations and other implementation stakeholders at the lower level have very weak systems and are often not aware or ignorant of their M&E mandate. A robust National HIV and AIDS M&E Mechanism has been established in Kenya by the National AIDS Control Council (NACC) to align stakeholders into one approved country-level M&E framework. The M&E framework aims to set up a well-coordinated, harmonized method of monitoring, assessment and analysis. This framework is structured to provide relevant and accurate strategic knowledge to guide national HIV and AIDS response preparation. The analysis found that the National M&E Structure was not well connected to the Kenya National HIV and AIDS Strategic Plan and was not adequately implemented into the planning phase, because of incompetence, existence of parallel M&E programs, insufficient data quality assurance systems, critical data not reported, insufficient use of knowledge in planning at fragmented levels, and there was an untimely delivery of HIV M&E data to stakeholders (Karani, Bichanga & Kamau, 2014).

6.3.3.2 Availability of M&E Improvement Work Plans with Clear Indicators, Activities, Timelines and Responsibilities

Quantitative findings revealed that 34.6% respondents agreed there is specific M&E improvement work plan which exists with clear indicators, activities, timelines and responsibilities linked to the most recent Departmental HIV and AIDS Plan. Therefore, there is a need to develop specific M&E improvement plan which can reveal clear indicators/activities, timelines and responsibilities linked to the most recent Departmental HIV and AIDS plan. M&E Quality improvement plans are important to trace if activities are being done as expected and to focus specific programme interventions. Quality improvement plans are important for aligning indicators with

specific targets and improve accountabilities as activities are linked to professionals responsible. Although the quantitative study identified lack of M&E improvement workplan, however the qualitative study revealed there are strategies and best practices in place being used to improve or address HIV and AIDS programme performance such as 10 point plan and operation Phuthuma turnaround strategy, quarterly data reviews through Nerve centres, District Health Plan review where selected facilities poorly performing against 90-90-90 target are being monitored on daily bases and reviewed monthly but to improve programme performance such as Index HIV Testing, ART initiation and Loss to follow up. A study conducted by Ogungbemi, Oyediran, Mullen, LaFond, Azeez, Boone, Mharadze, Kanagat, and Atobatele (2012) reveal that the HIV M&E strategy was tested in Nigeria and found that the plan complies with international requirements and is consistent with the NSF; however, it was developed before other sector proposals were developed and linkages are therefore limited.

6.3.3.3 Electronic Database Systems to Capture and Monitor HIV and AIDS Programme

Quantitative findings revealed that 74% of the respondents agreed there are electronic database systems to capture and monitor performance information of HIV and AIDS programme for the Department of Health. Therefore, the available electronic databases to capture performance information will make it easier for Limpopo Department of Health to monitor, evaluate and report on HIV and AIDS management. Electronic databases are important for capturing, collating, analysing and use of data at all levels. It can be further emphasised that without proper database it will be difficult to retrieve, analyse and monitor HIV programme interventions at all levels.

In 2010, South Africa implemented TIER.Net, a three-tiered management method that involves paper registers called TIER 1 proposed for facilities with <500 patients, an offline electronic registry called TIER 2 proposed for facilities with 500-2,000 patients, and networked electronic medical records called TIER 3 proposed for facilities with more than 2,000 patients (Osler M, Hilderbrand K, Hennessey C, Arendse J, Goemaere E, Ford N, et al.,2014; Etoori, Wringe, Kabudula, Renju, Rice, Gomez-Olive and Reniers, 2020). Respondents in the qualitative study revealed there are challenges still affecting HIV and AIDS programme performance such as late submission of report, lack of connectivity or poor network, different or too many reporting parallel systems within the Department of Health which give different information, however there is improvement since most facilities have computer and now the Department use online Web-DHIS which can be accessible everywhere which is still a problem since not all operational managers and sub-district managers cannot access data or use the system since they are technologically disadvantage due to lack of skills and knowledge.

Karani, Bichanga and Kamau, (2014) revealed that in Kenya with partners participating in the planning, the M&E initiative has also been a success. A study conducted by Ogungbemi et al., (2012) discovered that Nigeria has many HIV databases that are not connected to each other and that collect, check, evaluate and present program tracking data. There is also a high risk of duplication of initiative and inadequate use of capital. Etoori, Wringe, Kabudula, Renju, Rice, Gomez-Olive and Reniers (2020) suggested that misclassification of patient outcomes has implications for service forecasting M&E, in the TIER.Net database.

The bulk of the misclassification was accounted for by undocumented transfers, indicating that the referral process between clinics should be strengthened for more reliable documentation of patient data. Processes that contribute to proper patient status identification such as patient tracing, should be improved.

In a study conducted by Etoori, et al., (2020) it was reported that patients who remained qualifying for the study were listed as LTFU, still in service or care, moved out, outcome as dead in the TIER.Net database and with national IDs being compulsory for clinic enrolment, the sharing of information may be helpful in recognizing silent transfers. With TIER.Net being updated to a networked database, this can also become less of a concern. Clinics can match patients who are LTFU to the national death list and other databases such as the NHLS database to register patient national ID numbers in order to assess vital status, as this has proven helpful in other studies in South Africa.

6.4 Summary

This chapter presented the research findings and interpretation of results from the quantitative and qualitative research based on the research study's objectives. Both aspects of this research study revealed there are available M&E systems in place for HIV and AIDS programme. The main theme was developed to assess the availability of M&E systems for HIV and AIDS. Through this data revealed there is a need to build a strong capacity of M&E for both AIDS Council stakeholders. There is a need to develop a central electronic database used by AIDS Councils from local, District and Provincial to strengthen HIV and AIDS programme monitoring and reporting. The second theme developed was to assess the available Capacity and resources for HIV

and AIDS linked to the objective number two. Through theme two It can be concluded there are still challenges related to human resource capacity and skills include need to strengthen data review meetings to discuss data quality feedbacks due to lack of budget at sub-district and District level, to raining and building capacity to health professional since some are trained while some are not and those who are trained do not provide feedback to others after training, this need to be addressed by creating platforms for learning agenda and sharing. Theme three revealed there are still challenges related to human resource capacity and skills include lack of data review meetings to discuss data quality feedbacks, lack of raining and capacity building since some are trained while some are not and those who are trained do not provide feedback to others after training. Findings on data generated from both phases has provided significant critical information on which the conclusions and recommendations of this research study can be based.

CHAPTER 7

DEVELOPMENT AND VALIDATION OF THE DEVELOPED STRATEGIES

7.1 Introduction

This chapter is focusing on developing M&E intervention strategies to strengthen the implementation of HIV and AIDS programme. In this chapter of the study the researcher used findings of both quantitative and qualitative study findings to identify key performance areas needed to develop strategies to strengthen the implementation of M&E systems of HIV and AIDS programme.

7.2 Approach Used to Develop Strategies

Strategic management can be defined as the art and science of (a) formulating, (b) Implementing and (c) evaluating cross-functional decisions that enable an organization to achieve its objectives. The strategic-management process consists of three stages: strategy formulation, strategy implementation, and strategy evaluation. In this study strategies are developed as guided by prescriptive approach. According to Hashim (2016) the prescriptive approach emphasizes the explicit, planned and logical thought process. According to Hashim (2016) the process of the prescriptive approach involves eight related components which include establishing the mission of an organisation; conducting the environmental scanning, identifying the organisation's internal strength and weakness, formulating alternative strategies, choosing a strategy, implementing a strategy and evaluating and controlling the strategy.

7.2.1 Strategy Formulation

Strategy formulation involves the formation of a strategy and task, the identification of the external opportunities and threats of an organisation, the identification of internal strengths and vulnerabilities, the setting of long-term priorities, the generation of potential strategies and the selection of specific strategies to implement (David, 2011). According to Igwe, Onwumere and Egbo (2015) strategy formulation is is to define viable courses of action to achieve organizational vision, mission and priorities, to achieve organizational intent. In this study the researcher conducted situational analysis following prescriptive approach as a guide for strategy development to address problems identified focusing on Strength, Weakness, Opportunities and Threats (SWOT) of the existing HIV and AIDS programme M&E strategies and plans (Hande, 2014; Gürel et al., 2017; Chen & Bruneski, 2007; Bunn & Conlin, 2013).

Gürel and Tat, (2017) defined that SWOT analysis is a tool used for strategic planning and strategic management in organizations. According to Van Durme, Macq, Anthierens, Symons, Schmitz, Paulus, Vanden Heede and Remmen (2014) SWOT analysis is a conceptual framework aimed at identifying and appraising Strengths, Weaknesses, Opportunities and Threats of phenomena of interest presently affecting the implementation of M&E systems for HIV and AIDS programme in Limpopo province.

The SWOT analysis conceptual framework was applied looking at findings from both quantitative and qualitative study findings. Strength is the characteristic that adds value to something and makes it more special than others. Weakness refers to not having the form and competency for something. Opportunity means a situation or

condition suitable for an activity. Threat is a situation or condition that jeopardizes the actualization of an activity (Gürel & Tat, 2017).

In this study SWOT analysis was applied using two dimensions, namely Internal and external factors. Internal dimension includes organizational factors, also strengths and weaknesses, external dimension includes environmental factors, also opportunities and threats. The internal factors discussed include PFiLMS (PFiLM). The external factors included analysis of Political factors, Environmental factors, Social Factors, Technological factors, Economic factors and Laws (PESTEL) that would be helpful or harmful in implementing M&E intervention strategies for HIV and AIDS programme (Chen & Bruneski, 2007; Bunn & Conlin, 2013). SWOT analysis used is presented in Table 7.1.

Table 7.1: Two-by-Two Matrix: SWOT analysis guidance

HELPFUL: *To achieved the objective, they can be manipulated*	**HARMFUL:** *To achieve the objective, they should be overcome*	**FACTORS**	**PFiLMS/ PESTEL Analysis**
STRENGTHS: *Use strength to reduce the organisation's vulnerability to threats*	**WEAKNESS:** *Overcome weakness to obtain opportunities*	**Internal factors**	• Personnel • Finance • Infrastructure • Leadership • Management • Systems
OPPORTUNITIES: *Achieve opportunities that greatly match the organisation's vulnerability to threats*	**THREATS:** *Prevent weakness to avoid making the organisation more susceptible to threats*	**External factors**	• Political • Economic • Social • Technology • Environment • Legal
Source: Modified by the researcher from Chermack and Kasshanna (2007).			

7.2.2 Strategy Implementation

Strategy formulation issues include deciding what new tactics to embrace, what strategies to drop, how to distribute capital, whether to extend or diversify activities, whether to penetrate foreign markets, whether to combine or form a joint partnership, and how to prevent a hostile takeover (David, 2011).

In this study the researcher used BOEM model in response to the SWOT analysis findings, focusing on Build on Strength, Overcome Weakness, Exploring Opportunities and Minimise Threats (BOEM) to develop strategies simultaneously exploring opportunities that would best support the achievement of objectives. The basic Logic Model was used to structure M&E strategies developed through ToC approach to link and structure causal factors to address goals identified.

7.2.3 Strategy Evaluation

Strategy evaluation can be defined as determining the success of a given approach in achieving an organizational goal and taking remedial steps where applicable (Regenesys Management, 2014). Strategy evaluation requires that strategies are evaluated to determine whether they are working or not (David, 2011).

In this study Delphi Technique, a Step-by-Step Guide was used to guide validation (Haughey, 2010). Delphi Technique was used to validate developed strategies. The Delphi Technique is a method used to estimate the likelihood and outcome of future events with the aim is to clarify and expand on issues, identify areas of agreement or disagreement and find consensus using a participatory approach.

7.3 Internal and External Factors

7.3.1 Internal Factors: Strengths

The SWOT analysis was developed from findings in Chapter 4, 5 and 6. These can be discussed under internal factors discussed following from PFiLMS. The following are the strengths that emerged from the research findings:

7.3.1.1 Personnel

Findings in this study reveals there are data capturers at facility level, information officers at sub-district, district level at the Department of Health. There are M&E positions are available at Provincial level. There are also HIV and AIDS programme managers, Operational managers and sub-district managers who are there evaluating HIV and AIDS programme.

7.3.1.2 Finance

Results revealed there is available M&E plan required to help to develop a costed budget plan to strengthen M&E systems for HIV and AIDS programme.

7.3.1.3 Leadership and Governance

Findings in this study revealed there is a strong leadership and governance in place to bring accountability to M&E of HIV and AIDS programme this include availability of established local, District and Provincial and National AIDS Councils and civil society organisation. This also include availability of Departmental governance structures and supportive Political Leadership. According to Life Healthcare (2016) the element of reliability requires strong leadership commitment with performance goals, risk reduction procedures, quality improvement policies, quality measurement systems

and reward mechanisms.

7.3.1.4 Management

Findings in this study revealed that the department has data management procedures in place including Monthly and quarterly data reviews. The Limpopo Department of Health can provide direction to the implementers absent permanently appointed such as M&E personnel at District level, Sub-district managers, HIV and AIDS Coordinators and other key role players. There are available, established and functional District AIDS Councils and TWG.

7.3.1.5 Systems

Findings in this study revealed that M&E systems for HIV and AIDS programme are in place. Findings also reveal that referral system are in place. There are systems to in place to ensure retention of HIV client on ART to care and to address high rates of lost to follow up of newly diagnosed PLHIV between the time of diagnosis and commencement to ART and Self-transfer. The availability of systems to monitoring viral load completion and suppression. There are available mechanisms to ensure data integrity, measurability, reliability, consistency and timeliness. The programme has performance of HIV and AIDS indicators. There are available mechanisms in place address smooth process of data flow including availability of data collation software and hardware to collect performance information.

Findings in this study revealed that the Limpopo Department of Health can conduct data validation practices. Availability of data presentation, feedback, reporting, dissemination and electronic access in a user-friendly format. There are available

strategies on data use to improve HIV and AIDS programme indicators and performance information for evidence-based health program management. The Limpopo Department of Health has a District health information management standard operation procedure in place, and M&E policy and framework for HIV and AIDS programme. Enough staff members with the knowledge and skills and clear roles and responsibilities at all levels. The department of health has effective hardware and software, and access to the internet and emails. There are standardized data elements, indicators with standardized definitions. There are effective tools and structures for obtaining, organizing, sharing and using information. There are effective data management processes to collect, collate, validate, analyse and disseminate information. The department has easy access to data in a user-friendly format though web-DHIS.

7.3.2 Internal Factors: Weaknesses

The following are the weakness that emerged from findings. These are discussed under internal factors discussed following from PFiLMS which are Personnel, Finance, Infrastructure, Leadership, Management and Systems below:

7.3.2.1 Personnel

Findings in this study show there are no specific relevant M&E human resource personnel for HIV and AIDS at District to render M&E of HIV and AIDS services. In this study it was revealed there is limited supervision and management of performance by supervisors. The study also reveals there is poor visit for data Audits at facility by supervisors. This study also reveals there that supervisory support visits have been made. Lack proper Monitoring, Evaluation and reporting knowledge and skills by key

personnel handling HIV and AIDS. Study reveals there is lack proper Monitoring, Evaluation and reporting knowledge and skills by key personnel handling HIV and AIDS data. The study also reveals lack of skill transfer and feedback by teams after attending trainings.

7.3.2.2 Finance

The findings from this study revealed there is insufficient budget to cover for M&E trainings. The study further revealed there is limited budget to evaluate HIV and AIDS activities such as field visits and data reviews. Participants in this study indicated that they cannot travel to facilities due to budget constrains this limit their meetings to conduct data reviews. Findings from this study reveals there are insufficient human resources for monitoring the coordination of AIDS Councils and Technical Committees at District and Local levels.

7.3.2.3 Infrastructure

The study findings revealed there is no space for filing and data capturers at facility level as there is shortage of space for data capturers and filing storages.

7.3.2.4 Leadership

Findings in this study reveals there is lack of M&E personnel at District level. The study further reveals there is lack of organised structure to support M&E for HIV and AIDS. The study further reveals that poor coordination of programmes is a weakness. The study reveals that not all Districts have functional AIDs Councils.

7.3.2.5 Management

Findings from this study revealed there is poor coordination in monitoring and

integration of HIV and AIDS programmes. This study reveals poor integrated health referral systems for HIV and AIDS programme, which lead to poor monitoring of patients. The study reveals there are delays in filling vacant posts such as Assistant Director and District Director on M&E at district and provincial level for HIV and AIDS programme.

7.3.2.6 Systems

The findings from this study showed that systems are not in place for monitoring and reporting by stakeholders in all sub-districts, and there is poor implementation referral system to monitor movement of patients. There is also a lack of data storage and filing management to improve HIV and AIDS programme performance. There is a lack of technical working group to strengthen M&E of HIV and AIDS programme in some Districts. There is lack of capacity building address HIV and AIDS programme M&E challenges. There is wrong targeting of people during outreach campaigns and HIV Testing index cases leading to low case finding. Other weakness identified include lack of contact details to trace clients. The findings show lack of design referral pathway between community and facility; poor adherence to treatment and support. The study reveals non-functionality of referral system, non-functional adherence clubs. Finding from this study shows there is lack of computers, outdated or poorly performing computers and networks and Ineffective IT support which affect reporting of HIV and AIDS data to next level. There is poor network to connect to performance M&E system in place.

7.3.3 Internal Factors: SWOT Analysis on Strength and Weakness

Table 7.2 shows the SWOT analysis matrix for internal factors with respect to

strengths and weakness.

Table 7.2: SWOT analysis matrix - internal factors for strength and weakness

PFiLMS	STRENGTHS	WEAKNESSES
• **Personnel**	• Experienced personnel to render M&E of HIV and AIDS services • Human capacity assessment been conducted • Availability of Human capacity development plan • On-the-job trainings are provided to staff during supervision visits • Some officials were trained on information management trainings such as web-DHIS and tier.net	• There are no specific relevant M&E human resource personnel for HIV and AIDS at District to render M&E of HIV and AIDS services • There is lack of monitoring supervision support visits to facilities to improve HIV and AIDS programme performance. Lack of M&E personnel at District level • Members of the AIDS Council Secretariat have not been trained on formal HIV M&E trainings • Only members of the AIDS Council Secretariat have been trained on reporting, DHIS or Tier.net over the last 5 years of strategic plan • Lack of Local and regional institutions that offer trainings on M&E to professionals • Delay in filling of vacated vacant post for HIV and AIDS M&E at provincial and at District level • Shortage of data capturers in some facilities • Lack of capacity building address HIV and AIDS programme M&E challenges
• **Finance**	• Availability of M&E plan which require a costed budget plan to strengthen M&E systems for HIV and AIDS programme	• Insufficient budget to cover for M&E trainings, sites visits and programme review meetings • The M&E plan regarding costing, started • Lack of budget allocation to M&E to conduct monthly data reviews and sites support visits
• **Infrastructure**	• Availability of facilities to conduct M&E review meetings	• Overcrowded staff in the available offices and shortage of space for data capturers • Shortage of filing storage
• **Leadership**	• Availability of Departmental governance structures such as Provincial AIDS Council (PAC), District AIDS Council (DAC), Local AIDS Council (LAC) • M&E TWG meets regularly on a quarterly basis with clear meeting agenda • Provincial AIDS Council secretariat has clearly defined functions, structure and responsibilities • Supportive Political Leadership • M&E TWG meets regularly on a quarterly basis with clear meeting agenda • HIV M&E stakeholders are in line with Departmental M&E systems	• There is limited political and administrative support on AIDS Council activities by Departmental sectors • Some District do not have M&E Committee established • Health facilities, civil society organisations, and other implementing partners have very poor structures with some established committees are not even aware of their M&E mandate • The provincial M & E provides the in-service training to the districts and municipalities • Only few Districts have functional Civil Society sectors

		• Not all TWG are functional and not meeting regularly • Shortage of qualified human resources at all levels of the M&E system • Lack of M&E trainings • Lack of organized structure to support M&E for HIV and AIDS at District level • Poor coordination and integration of programmes • Not all District AIDS Councils are functional
• **Management**	• Ability to provide direction to the district in the absence of permanently appointed district M&E personnel at district manager • Communication channels well established between reporting partners or stakeholders • Availability of support and groups adherence clubs • Trained professionals • Health Information Management and M&E policies and standard operating procedures available • Established and functional District AIDSs Councils • The LPAC Secretariat ensures that and has all the record of all respective District AIDS Councils Secretariat	• Poor coordination of programmes • Unclear roles and responsibilities requirements • Lack of buy in by stakeholders and support at local AIDS Councils • Undocumented feedback to facility levels employees • Delay in approval of structure which support M&E function at District level
• **Systems**	• M&E systems in place • M&E work plan addressing HIV and AIDS indicators in place • M&E TWG TOR available with guiding roles and responsibilities of the TWG • Referral system in place • Forms and tools in place for routine monitoring of programmes • Availability of targets to measure HIV and AIDS programme • Availability of mechanisms to ensure data integrity, measurability, reliability, consistency and timeliness • Availability of performance of HIV and AIDS indicators • Availability of mechanisms in place address smooth process of data flow • Availability of data collation software and hardware • The ability to conduct data validation • Availability of feedback, reporting, data dissemination meetings and electronic access of information	• There is poor network connectivity in place which affect reporting timeliness. • Research and evaluation findings are not regularly disseminated and discussed as they depend on external service providers to conduct evaluations. • Poor implementation and monitoring of the Health referral system. • Non-compliance with reporting by other AIDS Council stakeholders at sub-districts. • Lack of data storage and filing management improve HIV and AIDS programme performance. • Some sub-districts still lack functional technical working group to strengthen M&E of HIV and AIDS programme at local AIDS Councils. • Wrong targeting of people during outreach campaigns and index cases to address low case finding improve the HIV and AIDS programme performance. • Poor monitoring of linkage to care. • Poor monitoring on implementing Universal test and treat for HIV

	• Availability of strategies on data use to improve HIV and AIDS programme indicators • A health information management and M&E policy and framework available • Staff members with the knowledge and skills and clear M&E roles and responsibilities at all levels • Availability of standardized indicators and data elements definitions • Availability of structures and platforms to share and use information • Available data management processes to collect, collate, validate, analyse and disseminate information • Effective use of data and information for evidence-based health programme management	testing leading to poor implementation of HTS model. • Lack of contact details to trace clients. • Lack of designed referral pathway between community and facilities. • Inadequate M&E knowledge and skills levels. • Unclear M&E of roles and responsibilities. • Not all AIDS Council structures are functional across Districts. • Ineffective IT support due to inadequate and shortages number of IT support staff members. • Insufficient feedback to facility level and to program and line managers. • Poor retention to care and high rate of lost to follow up of newly diagnosed PLHIV between the time of diagnosis and commencement to ART and. • Client self-transfer without the knowledge of referring and referral facility. • Poor monitoring of viral load completion and suppression.

7.3.4 External Factors: Opportunities

The following are the opportunities that emerged from the research findings. These can be discussed under internal factors discussed following from PFiLMS which are:

7.3.4.1 Political

The findings from this study revealed there is Provincial AIDS Council (PAC), District AIDS Councils and availability of the Provincial Strategic Plan (PSP) for HIV, TB and STIs.

There is ongoing monitoring of targets in line with National strategic plan on 90-90-90 targets through various meetings with Multi-sector stakeholders. There is involvement of stakeholders in developing the M&E plan. There is involvement of stakeholders in terms of HIV and AIDS M&E activities.

7.3.4.2 Economic

There are funded multi sector stakeholders to implement and assist in M&E of HIV and AIDS programme. There are available medications such as ARV treatment to give to patients.

7.3.4.3 Social

The findings from this study revealed there are available teams to conduct tracing of Loss to follow up HIV clients. There are communication channels well established between reporting partners or stakeholders. The findings from this study revealed there are available programmes such as Social behaviour change and life skills programme available to increase 90-90-90 targets through services.

7.3.4.4 Technology

Findings shows there are databases such as web-DHIS and Tier.net available at clinics, sub-district and district and provincial level used to monitor and evaluate HIV and AIDS services implementation. The availability of the NHLS electronic database can also track and monitor testing results through Lab tracking system this include PCR results, Viral load completion and viral load suppression for patient for follow up. The study reveal that some clinics have WIFI for internet connection in some facilities. Using mobile devices through WhatsApp by health care professionals has transformed the health sector as they can communicate through such platforms.

7.3.4.5 Environmental

Availability of District AIDS Councils and provincial AIDS Councils as enabling environments to monitor and evaluate the implementation of HIV and AIDS

programme. Some clients access treatment in farming areas easy to conduct HIV Testing to reach targets. Availability of platforms such 10-point plan operation Phuthuma meetings held to monitor HIV and AIDS programme are the enabling environment.

7.3.4.6 Legal

The findings from this study revealed there is available M&E framework, District Health Information Management policy and Standard Operating Procedures (SOPs) available for HIV and AIDS M&E. The study further reveals there is available Policy review committee in place at provincial level to review, approve developed policies, guidelines and frameworks for HIV and AIDS.

7.3.5 External Factors: Threats

The following are the threats emerged from the research findings. These can be discussed under internal factors discussed following PFiLMS which are as follows;

7.3.5.1 Political

The findings from this study revealed that Department of Health change strategies during the year without seeing results. Findings reveal delay in approving organisational structure that support M&E by executive authorities leading to shortage of M&E personnel.

7.3.5.2 Economic

The findings from this study revealed there are many plans developed with no follow up and implementation due to insufficient funds.

7.3.5.3 Social

The study finding reveals that other challenges include poor referral whereby clients move from one facility to another through self-transfer without notifying the other and undocumented immigrants and foreign nationals from neighbouring counties who go without identify which affect poor recording and early miss appointment, loss to follow up and defaulter rate as they are not traceable. Social factors identified in this study include poor same day initiation and poor linkage to care due to traditional beliefs which affect poor enrolment in to the HIV and AIDS programme.

7.3.5.4 Technological

Findings in this study reveals that monitoring of HIV and AIDS can be affected as not all operational managers and sub-district managers can access data or use the system since they are technologically disadvantage due to lack of skills and knowledge. Data is sent through emails but not accessible by all facilities.

7.3.5.5 Environmental

Findings in this study reveals that some facilities are in poor network in some areas which may affect enabling environments. The study findings revealed there is no space for filing and data capturers at facility level as there is shortage of space for data capturers and filing storages. Findings in this study reveals availability of farming areas which affect HIV programme through loss to follow up as clients move around clinics without attending their appointment due to seasonal workers in farming areas.

7.3.5.6 Legal

Findings in this study reveals there is delay and unavailability of policy review

committee members contribute to slowness in the review and approval of policies by the policy review committee.

7.3.6 External Factors: SWOT Analysis on Opportunities and Threats

In this study SWOT analysis (Table 7.3) was developed from findings of this study in order to reflects on the positive and negative internal and external factors that affect the implementation M&E of HIV and AIDS programme and also suggest possible strategies to address identified factors though SWOT analysis (Voss, 2005).

Table 7.3: SWOT analysis – external factors to address opportunities and threats

PESTEL	OPPORTUNITIES	THREATS
• Political	• Availability of the Limpopo Provincial AIDS Council (LPAC) PSP which is aligned to National strategic plan indicators. • Ongoing monitoring of PSP, DSP, NSP targets in line with 90-90-90 strategic goals. • Involvement of stakeholders in developing the M&E plan and development PIP for HIV and AIDS.	• Department of Health change strategies during the year without seeing results. • Delay in approving organisational structure that support M&E by executive authorities leading to shortage of M&E personnel.
• Economic	• Available budget to fund HIV-AIDS programme • Availability of ARV treatment.	• Many plans developed with no follow up and implementation • No budget allocation for M&E activities • Undocumented foreign nationals affect monitoring through poor recording.
• Social	• Available teams to conduct tracing of Loss to follow up HIV clients. • There are communication channels well established between reporting partners or stakeholders. • Available programme such as Social behaviour change and life skills programme available to increase 90-90-90 targets through services.	• Poor referral whereby clients move from one facility to another through self-transfer without notifying the other and undocumented immigrants and foreign nationals from neighbouring counties who go without identify which affect poor recording and early miss appointment, loss to follow up and defaulter rate • Poor same day initiation and poor linkage to care due to traditional beliefs, poor referral systems which affect poor enrolment in to the HIV and AIDS programme.

• Technology	• There are databases such as web-DHIS and Tier.net available at clinics, sub-district and district and provincial level used to monitor and evaluate HIV and AIDS services implementation. • The availability of the National health laboratory services (NHLS) electronic database can also track and monitor testing results through Lab tracking system this include PCR results, Viral load completion and viral load suppression for patient for follow up. • Some clinics have WIFI for internet connection in some facilities. • Using mobile devices through WhatsApp by health care professionals has transformed the health sector as they can communicate through such platforms.	• Not all operational managers and sub-district managers can access data or use the system since they are technologically disadvantage due to lack of skills and knowledge. • Data is sent through emails also not accessible by all facilities.
• Environment	• Availability of District AIDS Councils and provincial AIDS Councils as enabling environments to monitor and evaluate the implementation of HIV and AIDS programme. • Some clients access treatment in farming areas easy to conduct HIV Testing to reach targets. • Availability of platforms such 10-point plan operation Phuthuma meetings held to monitor HIV and AIDS programme are the enabling environment. • Availability of NGOs and NPOs to render HIV and AIDS related services. • Availability of AIDS Council stakeholders and sub-contracted civil society organisations partners to implement HIV and AIDS services.	• Facilities are in poor network in some areas which may affect enabling environments. • Shortage of space for data capturers and filing storages. • Availability of farming areas which affect HIV programme through loss to follow up as clients move around clinics without attending their appointment due to seasonal workers in farming areas.
• Legal	• Availability of supportive legislative framework and policies.	• Unavailability of policy review committees in Departments • Slowness in the review and approval of policies.

7.4 Development of Strategy to Strengthen M&E for HIV AND AIDS Programme

7.4.1 Orientation to the Strategy

In this study all the activities are discussed under SWOT are shown below whereby each activity or intervention is addressed by developed strategy. In this study to identify further interventions strategies on Action Plan for SWOT analysis (Table 7.4), the researcher used action plan Build, Overcome, Explore and Minimise (BOEM) strategy (Figure 7.1) as outlined in the strategies were used to develop strategies based on the SWOT findings (Pearce, 2010). Strategies would be built so it minimises chances of them failing to attain the desired goals (Haughey, 1996).

Figure 7.1: Combination of SWOT and BOEM to develop an action plan strategy

Table 7.4: Building on the strength – SWOT analysis – internal factors – action plan

BUILDING STRENGTHS	ACTIONS REQUIRED
• Experienced and skilled personnel to render HIV and AIDS services	• Through coordination of office of the Premier AIDS secretariat in collaboration with South African Universities the Limpopo AIDS Council sector Departments should capacitate employees on basic M&E course for HIV and AIDs programme focusing on employees working with HIV and AIDS to produce employee who are knowledgeable and qualified in the field.
• Availability of programme budget	• Sector Departments should be allocated budget of up to at least 10% of the total budget to strengthen M&E of HIV and AIDS programme to enable its functionality and to achieve it target.
• Availability of Departmental governance structures and supportive Political Leadership such as Limpopo Provincial and District AIDS Council to monitor implementation of HIV and AIDS strategies	• The Limpopo Provincial and District AIDS Council should support structures such as Local AIDS Council AIDS Council through ongoing follow up meetings and coordination through schedules.
• Available programme such as Social behaviour change and life skills programme available to increase 90-90-90 targets through services	• To increase target HIV and AID programme Managers should make use of sub – programmes are integrated with services to easily identify clients who are regarded as early missed and loss to follow while still activate while contacting identified people infected and affected by HIV and AIDS.
• M&E systems for HIV and AIDS in place	• Available M&E systems for HIV and AIDS should be integrated with other M&E systems in order using unique identity to give reliable and consistent information.
• Monitoring referral system in place	• To strengthen health referral systems in place, strong measures need to be taken to strengthen health referral, there is a need to monitor patients who were referred to check those referred if they ever arrived. • Documented and verbal feedback need to be issued to referring facilities to improve retention of loss to follow up patients • There is a need to merge data on SyNCH system and tier.net in order to monitor patient who are regarded as loss to follow up on tier.net while they are active on Sync CCMDD system.
• Monitoring of poor retention to care and address high rates of lost to follow up of newly diagnosed PLHIV between the time of diagnosis and commencement to ART and Self-transfer	• To monitor early missed and loss to follow-up there is a need to continuously monitor recording of two addresses and update phone numbers in patients' folders as patients may change contacts • Department of Health should work with Social Development to refer loss to follow up clients to Social work services and increase the capacity of Community Health workers for tracing and linking back to care through integration of services • Social Workers and Community based care workers to conduct Visit for holistic risk assessments of family members. • In order to strengthening the tracing process, there is a need to monitor tracing and recording of outcomes on registers or Tier.net of patient already accessing CCMDD • Monitor data clean-up for all clients on CCMDD through external pick-up points and space fast lanes to ensure that capturing is done correctly

	• Develop a tracking systems of ART decanted patient collecting ART treatment on CCMDD and link them to central teir.net treatment to update Outcomes • There is a need to continually conduct clinical file audits in poor performing facilities to monitor patient management and recording of client information • Facility Operations Managers should to monitor 100% capturing of files on Tier.net on daily basis to ensure that all client who accessed services are being captured to avoid filing without updating new information
• The availability of systems to monitoring viral load completion and suppression	• On weekly basis data capturers should generate viral load due list and monitor collection thereof through professional nurses then trace all clients who missed collection of viral loads weekly and also action viral load result list weekly and ensure person responsible act on it. • Train professionals & use health talks to encourage clients on the importance of viral load uptake • The Operational Managers should monitor the capturing of viral load results on Tier.net weekly.
• Availability of index HIV Testing to reach the first 90 target	• To conduct index recruitment of clients – through list of viral unsuppressed clients to bring index clients for testing at facility or home visits. • To conduct index trailing - target those who tested positive – target the cycle around relatives or friends. • Need to conduct targeted community Index Testing through contracting of Community Health Care (CHWs) while working together with Ward Based Teams (WBOT) leaders. • Facilities should strengthen counselling through updates and mentoring sessions. • Monthly facilities should conduct outreach campaign focusing most at risk population farm workers, sex workers, drug users and churches to reach 90-90-90 targets. • There is a need to community dialogues and facility health talks to encourage the importance of testing to reach 90-90-90 targets.
• Availability of M&E mechanisms to ensure data integrity, measurability, reliability, consistency and timeliness	• Operations Managers at facility level should monitor and ensure data Captures and data clears conduct de-duplication of files and ensure that patients seen during extended hours and weekends are captured on Tier.net system. • There should be uniformity to Implement and monitoring the use of HPRN file numbering across all the patient file records including referral forms, Lab results and on Tier.net to address missing files. • In order to strengthened data Management systems there is a need to conduct regular weekly data clean-up meetings focusing on using line list reports generated from tier.net and actioning need to be monitored by the Operational managers and address outstanding issue.
• Availability of performance indicators to measure HIV and AIDS programme interventions	• Facilities should conduct bi- weekly and monthly data review, validations and data clean up meetings where the main focus will be data and progress towards achievement of targets and poor performing indicators • Further training needs to be done on newly revised HIV and AIDS indicators focusing on their measurability, calculations, aggregation, collection, reporting and analysis.

• Availability of mechanisms in place to address smooth process of data flow and M&E systems	• Limpopo Department of Health should strengthen standardized, compatible and well-designed data collection and reporting flow suitable for the purpose to monitor HIV and AIDS programme including intruding smart way of submitting input forms and dispatches for long distance facilities.
• Availability of data collation software and hardware	• Limpopo Department of Health should implement functional effective information systems measures focusing on hardware, software and place effective IT support readily available and that responds to improve HPRN, Teir.net and Web-DHIS. • Every employee must take responsibility while being be held accountable for their data from the point of data collection to the highest point of evidence-based decision-making for actions to be taken seriously.
• The ability to conduct data validation practices	• District Information officers should provide data validation feedback methods that error errors. • Electronic data collection tools should be tested before implementation. • Data should be presented and verified to all staff members monthly before being certified for signed off by Operational Manager and District Managers to validate any data discrepancies.
• Availability of data presentation, feedback, reporting, dissemination & electronic access in a user-friendly format	• The Department of Health should ensure that each facility to develop data quality improvement plan with minutes reflecting continuous feedback and use of data meetings.
• Availability of strategies on data use to improve HIV and AIDS programme indicators	• On Monthly and Quarterly basis, information and M&E unit should verify the reports against the means of verification of data input forms submitted and certify the reports as a true reflection to provide feedback through these forums: strategic planning meetings, Limpopo Province ten-point plan review meetings. • M&E Unit and information management unit should provide continuous feedback and use of data in a user-friendly report based on selected poorly performing indicators identified, for example reports HIV and AIDS outputs, outcomes and impacts indicators.
• Availability of health information management SOP and M&E policy and framework for HIV and AIDS programme	• All stakeholders should be invited in the developed of M&E framework, SOPs and plans to ensure transparency and accountability. • Policies, frameworks and SOPs should reflect role of the provincial M&E unit in providing support to District and sub-district Health information and HAST coordinators on monthly and quarterly basis to monitor implementation of improvement plans focusing on poorly performing indicators. • All SOPs should clearly reflect the role of Operational Managers to ensure that the data from facilities is submitted, captured and complete on monthly basis through routine completeness reports.
• Enough staff members with the knowledge and skills and clear roles and responsibilities at all levels	• Programme staff members should be capacitated to use databases for HIV and AIDS programmes for them be able to monitor progress towards performance indicators and achieving targets. • This can be done by conducting trainings and ongoing mentoring on M&E activities.

• Effective hardware and software such as databases, and access to the internet and emails	• Sector Departments should ensure that development of databases and data collection tools aligns with National indicators dataset and data collection tools including targets • Department should ensure that the information management officials are provided with required hardware, a database (software), and skilled individuals to use the databases to capture, verify, transfer, analyse, and share data through secured emails (UNAIDS, 2009a).
• Standardized data elements, indicators with standardized definitions	• The Limpopo Provincial AIDS Secretariat should ensure that M&E plan/framework is regularly updated on time in alignment to the NSP on AIDS including identifying data needs, alignment with national standardised indicators and also ensure alignment with data collection procedures and tools. • Limpopo Department of Health should adhere to National strategic plan indicators technical standards.
• Effective tools and structures for obtaining, organizing, sharing and using information	• All sector Departments should improve the already existing HIV and AIDS structures to strengthen planning and coordination of HIV and AIDS programme at province, sub-national level.
• Effective data management processes to collect, collate, validate, analyse and disseminate information	• There is a strong need to put effective data management processes in place to collect, collate, validate, analyse and disseminate information at all levels to strengthened data management systems through conducting regular data clean-up. • Data capturers should improve the quality of data management through data analytics and data use on tier.net to use facility-level data to guide facility managers.
• Access to quality data in a user-friendly format	• The Information Management unit should ensure that timely, valid and reliable HIV and AIDS programme data should be easily made available and accessible to managers at facility, sub-district and District all levels to inform effective decision making and reporting process. • This is by ensuring that all managers have password to access to web-DHIS and tier.net reporting system.
• Effective use of data and information for evidence-based health program management	• The Department should be able to have access to quality, trustworthy, timely and relevant information on the performance of HIV and AIDS programmes. • The focus should not only be on technical issues but provide ongoing evidence of improving service delivery through this information (Beck *et al.*, 2018). • Information and M&E staff is to support managers in evidence-based decision making aimed at strengthening health care systems to optimize the health status of communities (Presidency 2007).

Table 7.5 presents the action plan which indicate BOEM developing strategies from SWOT analysis focusing on overcoming weakness.

Table 7.5: SWOT analysis - internal factors - overcoming weaknesses

OVERCOMING WEAKNESSES	ACTIONS REQUIRED
• There is lack of monitoring supervision support visits to facilities to improve HIV and AIDS programme performance	• There is need for continuous data driven supervision through dissemination and use of data to guide HIV and AIDS programme planning and improvement. • Development of guidelines and tools for data quality assurance, and instruments for supportive supervision.
• Insufficient M&E budget to cover for M&E activities such as site visits and data reviews	• The Department of Health should see the necessity of including the budget for M&E activities this should include activities such as data review, data quality assessments, sites monitoring visits. • The annual M&E work planning cycle should cost and closely linked to the overall budgeting cycle for HIV to ensure that funding can be secured for implementation of the plan (UNAIDS, 2009a). • There is a need to increase donor funding for the program for HIV and AIDS M&E.
• Lack of organizational structure to support M&E for HIV and AIDS	• Limpopo Department of Health should sign an organised structure that is supportive and very focus to the HIV and AIDS programme with key personnel focusing only at HIV and AIDS programme and also at District level. • There should be a call for a planning session to further clarify roles and responsibilities of various organisations functions in terms of M&E deliverables. • Limpopo Department of Health and Social Development should have factional structures with filled and funded vacancies to help them perform their M&E mandates and functions for HIV and AIDS programme.
• Not all District AIDS Councils are functional	• Limpopo Provincial government through office of the Premier should provide supportive function to all AIDS Councils and its TWG committees to ensure they are established and functional.
• Poor implementation and monitoring of the Health referral system • Lack of designed referral system pathway between community and facility	• Strong measures to be taken to strengthen health referral, there is a need to design and implement a process flow to monitoring patients who are referred to check if they ever arrived and feedback to be issued to place of referral to improve training of loss to follow up patients • Department should develop and strengthen internal and external referral pathways which must be adhered to to monitor patient arrival and referral • There is a need to monitor and continue update documentation of two addresses and phone numbers in patients' files • There should be a proper documentation handover from referring to referral facilities that include sending a list of clients referred to nearby clinics • Proper consultation with clients should be done to handover clients from referring facilities • To strengthen health referral proper home visit should be conducted for holistic assessments to make it easy to monitor daily linkage of services daily • Proper referral tools should be developed to include referral and arrival of patient referred for easy monitoring • Referral systems should be integrated to include in integration of services by all sector Departments such as Education, Health, Social Development and SASSA • Continuous update of contact details should be done as every individual may turn to change numbers for different purposes
• Lack of electronic information management system database for Limpopo Province AIDS Councils and	• Limpopo Provincial AIDS Council should be in position to develop information management database to M&E the implantation of HIV and AIDS programme from various sector Department and civil society organisations with data

Department of Social Development which can produce readily available data	collection tools linked to PIP indicators, information management database. • Various sector Departments may use mobile devices tools to collect HIV and AIDS information to be exported to main database at District and Provincial office.
• Delay in filling of M&E vacant posts	• Limpopo Provincial Departments should prioritise filling of vacant Strategic information, M&E posts by ensuring that all M&E funded vacant posts are prioritised to be filled.
• Shortage of Data Capturers	• The Department of Health should increase the Capacity of Data captures per facility to ensure capturing of backlog and to address data quality.
• Inefficient Implementation of Information Management norms and Standards Operating procedures for information management at facilities and clarification of unclear roles, responsibilities while addressing required skill requirements	• Limpopo Department of Health should ensure the implementation of SOP for information management in facilities. • Ensure that information management roles and responsibilities clarified this is to ensure that personnel understand their roles and responsibilities in information management. • In order to inform efficient decision-making and monitoring, timely, relevant and credible data should be widely available and accessible to executives at all levels of healthcare framework (Kusek & Rist, 2004).
• Inadequate and undocumented data feedback to lower levels on data submitted	• Management to give feedback regarding data quality issue picked and sub-district with facilities should develop remedial action plans and progress towards data quality improvement on identified gaps. • To Provincial and District TWG which is the District Implementation Team (DIT) should use data to inform decision and give feedback to lower level on data quality and performance issues and request remedial plans.
• Lack of data storage and filing management improve HIV and AIDS programme performance	• The Department of Health should strengthen management of data through proper filing management systems, this includes procuring steel cabinets, building and creating more space for filing system using online systems such as on-cloud server. • Use of library catalogue system can also solve misplacement of files.
• Lack of M&E technical working group at sub-district level to strengthen M&E of HIV and AIDS programme	• There is a need to establish M&E Technical Working groups committees at Sub-District and District level to monitor the data quality status and monitor performance of HIV and AIDS indicators within the District using we-DHIS and TIER.Net data. • Established TWG should technically guide address data quality issues at all levels.
• Lack of capacity building and training address HIV and AIDS programme M&E challenges	• There is a need to conduct capacity building to empower personnel with M&E of HIV and AIDS skills and knowledge. • Department should conduct human capacity development assessment and develop implementation plan to monitor capacity building processes at all levels. • Provincial Council on AIDS and its sector Department should liaise with Public Sector SETA and institutions of Higher learning to receive funding for M&E course trainings focusing on HIV and AIDS programme.
• Wrong targeting of people to address linkage to care during outreach campaigns which affect reaching 90-90-90 targets on HIV testing, clients knowing status and linking patient to care	• Use of HIV index testing cases to address low case finding • To reach 2nd 90-90-90 target on HIV testing there is a need to conduct door to door HIV campaign targeting farm workers, sex workers, drug users, and congregated places improve the HIV and AIDS programme performance this conducting outreach campaign focusing on most at risk population. • To conduct index testing target testing using contacts via door-to-door campaign to increase case finding.

	• To conduct index recruitment of clients – through list of viral unsuppressed clients to bring index clients for testing at facility or home visits.
• Poor monitoring of linkage to care (Poor implementation of Universal Test and Treat)	• Monitor daily linkage to HIV and AIDS care activities daily. • To link people back to care the Department of Health should strengthen proper counselling through information updates and mentoring sessions as some clients are not comfortable to be initiated on same day. • Strengthen internal and external referral pathways at facility level to improve high retention to care at facility level. • Strengthen quality of HTS counselling through training of HTS councillors and conduct mentoring sessions with counsellors focusing on quality counselling. • The Department of Health should appoint community tracers and increase the capacity of community health workers to make follow up with clients and to update client's access to treatment in case if client accessed treatment elsewhere. • Need to conduct targeted community Index Testing through contracting of Community Health Care (CHWs) while working with Ward Based Teams (WBOT) leaders. • The Department should launch cell phone SMS reminder to clients based on client consent counselling agreement. • Monitor documentation of two addresses and phone numbers in patients' files. • There is a need to for Department of Health to implement of Universal Test and Treat model and continue to monitor implementation thereof to reach 2nd 90-90-90 target.
• Lack of contact details to trace clients. • Availability of farming areas which affect HIV programme through loss to follow up as clients move around clinics without attending their appointment due to seasonal workers in farming areas.	• Monitor documentation of two addresses and phone numbers in patients' files and continuously update of client telephone numbers as the visit facilities.
• Poor adherence support system for treatment and support	• Department of Health should strengthen recruitment and retention of newly HIV diagnosed People Living with HIV (PLHIV) into care and enrol them on support groups, this is to reduce the high rate of loss to follow up between the time of diagnosis and the commencement of ART. • Use of telephone tracing on clients who missed their appointment early is best strategy to address poor adherence and loss to follow up.
• Poor monitoring of viral load completion and suppression	• Department should address poor monitoring of viral load completion and suppression more especially focusing on children.

Table 7.6 presents the action plan which indicate BOEM developing strategies from SWOT analysis focusing on building opportunities.

Table 7.7 shows the action plan which indicate BOEM developing strategies from SWOT analysis focusing on mitigating threats.

Table 7.6: SWOT analysis - external factors - exploring opportunities

EXPLORING OPPORTUNITIES	ACTION PLAN REQUIRED
• Availability of Limpopo Department of Health stakeholders and involvement M&E interventions	• Limpopo Department of Health should strengthen relationship by involving stakeholders such as Department of Health, Department of Social Development, DoE, SASSA and civil society organisations through Provincial, District and Local AIDS Councils and Local AIDS Council to monitor the implementation of HIV and AIDS PSP for HIV, TB and STIs • Strengthen the implementation and use of real-time monitoring of PSP and DSP targets in line with NSP and UNAIDS 90-90-90 strategic goals • Involvement of stakeholders in developing the M&E plan • M&E stakeholder advocacy involvement
• Some clients access treatment in farming areas easy to conduct HIV Testing to reach targets.	• Use farming community through support groups and engage farming business leaders in order to retain clients.
• Ability to use Data for evidence-based decision making	• Limpopo Department of Health and its stakeholders should strengthen the use evidence-based approach HIV-AIDS to monitor HIV and AIDS strategic plan
• Budget available for HIV and AIDS programme	• Allocate suitable and sustainable budgets to fund HIV-AIDS M&E activities such as data reviews and site support visits
• Available of development partners as stakeholders to monitor and evaluate HIV and AIDS programme	• Limpopo Department of Health and other AIDS Council sector Departments should use the opportunity of International and local funded partners to monitor and evaluate HIV and AIDS strategy implementation
• Availability of operations research and evaluation frameworks within HIV-AIDS programmes	• Limpopo Province office of the premier should be a coordinating body to monitor the opportunities to conduct operations research and evaluation studies focusing on HIV and AIDS programme. • Establish a mechanism for sharing evaluation and research findings, including the synthesis and interpretation of programmatic implications of the findings
• Use of information systems to monitor HIV and AIDS	• Limpopo Province sector Department should gain access to Ad Hoc reports from Web-DHIS and Tier.net for planning and for evidence-based decision making • Rebooting and troubleshooting the tier.net system on a regular basis to keep the system up to date with the latest client line lists.

Table 7.7: SWOT analysis - external factors - mitigating threats

MITIGATING THREATS	ACTIONS PLANS
• Less supportive supervision and data audits	• Supportive supervision and data auditing are needed to build strong M&E frameworks. • Supportive supervision and data auditing should be conducted at all levels this will improve HIV and AIDS programme M&E. • There is a need to strengthen support to facilities to monitor the implementation of improvement plans and performance review.

	• Facilities to be supported to conduct regular weekly data clean-up and file Audits and request remedial plans from management teams.
• Monitoring of non-functionality of referral system	• There is a need to link patient to proper referral, care and treatment pathway for easy monitoring. • There is a need to develop M&E tools in order to tracking referral and linkage to care indicators to establish progress (World Health Organisation, 2014). • Monitoring of recruitment and retention of newly diagnosed People Living with HIV (PLHIV) into care and support groups should be done to ensure reduction of high rate of loss to follow up between the time of diagnosis and the commencement of ART.
• Less resources including shortage of data captures and M&E expertise at District level	• Department of Health should ensure that M&E tools are allocated to appropriately to meet high demand of services from the facilities this include availability of hardware, software and resource such as Data capturers to effectively capture performance information at facility level and submit to higher level. • Department of health should ensure that each facility have data admin clerk and data capture to ensure efficient in capturing of 100% files daily, pre-retrieval of patient files and filing of patient information on time.
• M&E budget not fairly allocated as there is insufficient budget to cover for M&E trainings and reviews. • There is a limited budget to conduct M&E of HIV and AIDS activities such as field visits and data reviews	• Limpopo Provincial Governments should allocate at least 10% of the budget to M&E activities for HIV and AIDS programme. • Allocated funds for M&E of HIV and AIDS will also strengthen capacity building and institutional M&E capacity at all levels to manage HIV and AIDS programme efficiently and effectively.
• Poor network connectivity in some facilities	• Limpopo Provincial Department of Health should build effective and efficient information technology to sustain and maintain data collation at all levels. • There is a need to develop an integrated electronic health database containing historic and patient demographic details and clinical information of every client is linked to home affairs unique Identity to trace patient access to services across the country. • Limpopo Provincial government should ensure technological innovation that will address the issues faced with loss of patient files and missing information to ensures that each person had one healthcare record.
• Unavailability of policy review committees in Departments and slowness in the review and approval of policies	• Provincial office of the Premier to ensure participatory policy review and development committees in Departments and should address slowness in the review and approval of policies • Participatory policy review should include NGO receiving HIV and AIDS funding through various mechanisms ranging from the National Department of Health, PEPFAR, USAID, Global Fund and several international private pharmaceutical organisations.
• Skilled professionals aiming to leave Departments and crowded offices with shortage of space for data management	• The Department of Health and Social Development should improve working condition, incentives and trained, skilled and experienced healthcare work force to retain employee intending to leave the Department.

7.4.2 Using the Logic Model Approach to Structure M&E Strategies

In this study Logic Model identified and structured goal, input, activities, output, outcome and impact indicators of each developed BOEM strategy. The Logic Model and ToC will represent how Limpopo Department of Health and its stakeholders are expected to achieve the desired results to reach 90-90-90 targets. Table 7.8 below represent Logic Model developed to structure the current HIV and AIDS interventions strategies for performing 90-90-90 indicators.

7.4.3 Using Theory of Change (ToC) as a Strategy to Structure the Interventions Developed

The following narratives are adding to ToC diagram illustrated in Table 7.9 linking to Table 7.8 of the Logic Model. These strategies are developed to address major challenges identified such as HTS case finding, linkage to care, referral, reduction of loss to follow up and retention of People Living with HIV into care and support programme. Table 7.9 is developed to structure BOEM strategies and Logic Model through ToC framework.

7.4.3.1 Gaps Identified in the Study

In this study the main challenge identified through study findings include high rate of lost to follow-up of HIV Clients who are enrolled on ART which leading to poor linkage to care and poor retention. These barriers should be addressed to achieve the desired outcome and impact result for the HIV and AIDS programme in this include: Not targeting the right people this include Index cases; no contact details to trace clients; premature transfer out without initiating; poor referral pathway between community and facility; clients who do self-transfer; failure to identify early and late missed for

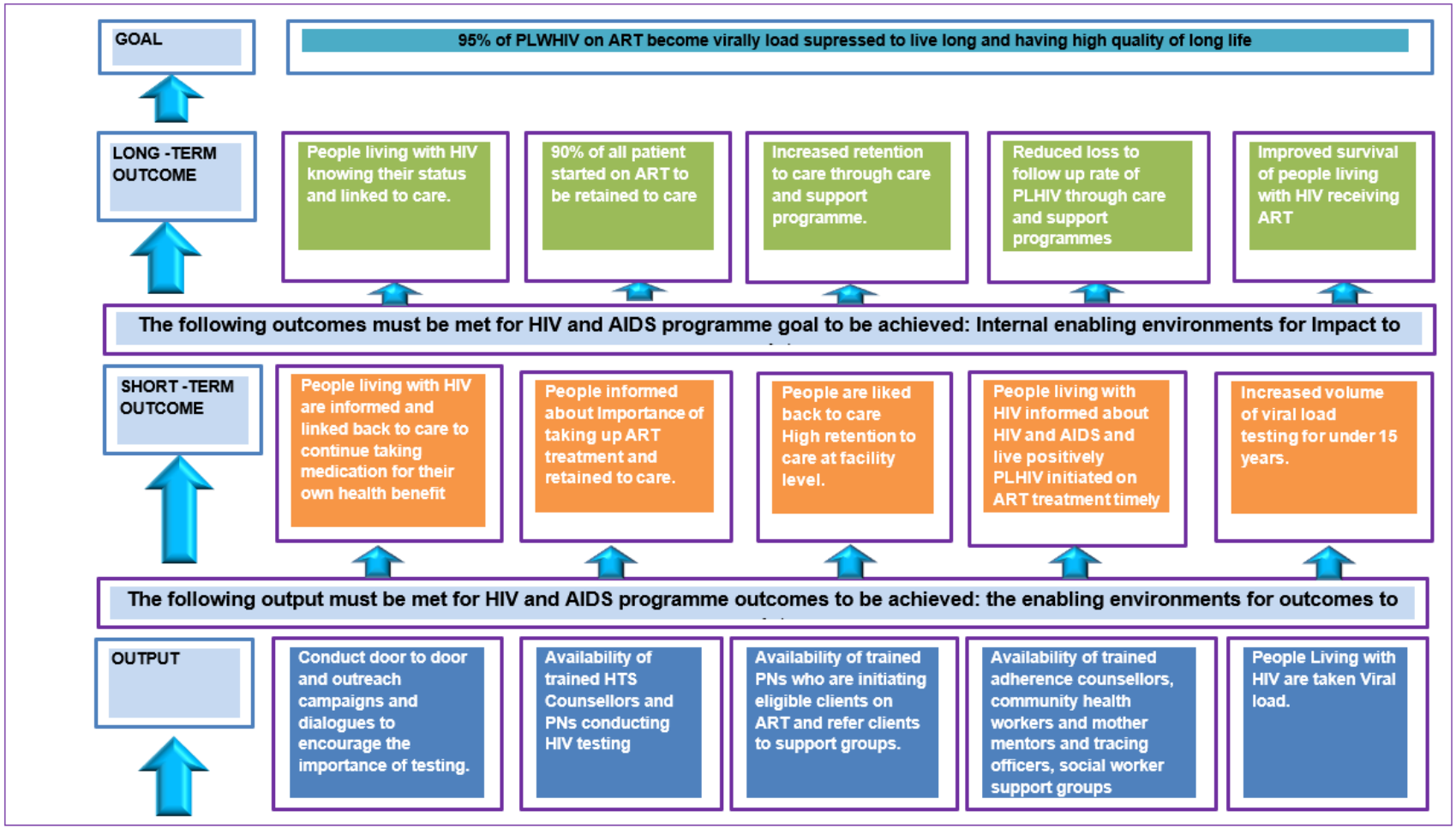
Table 7.8: Logic Model to structure the current HIV and AIDS interventions strategies for performing 90-90-90 indicators

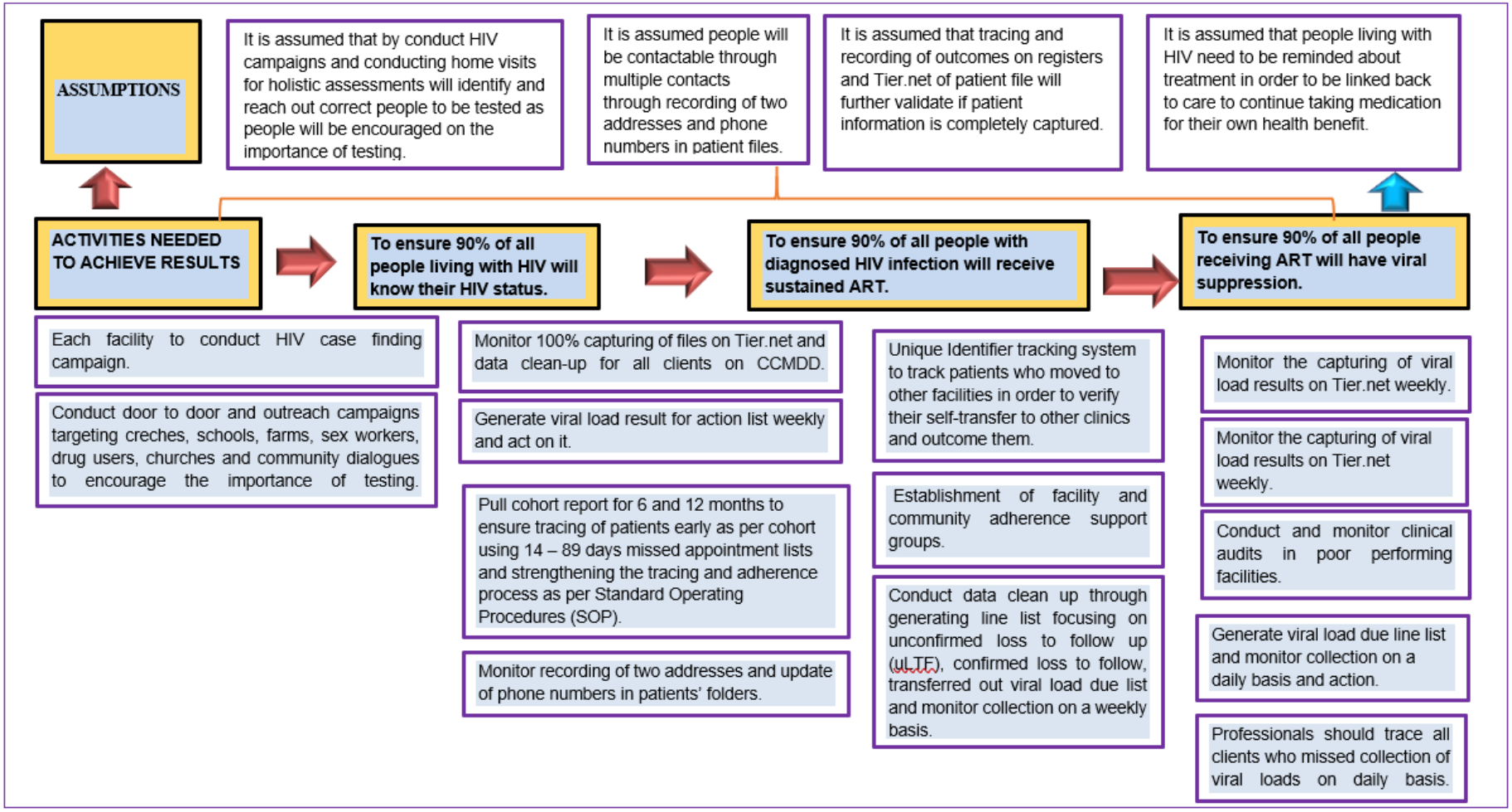
INPUT	ACTIVITIES	OUTPUTS	OUTCOME	IMPACT	INDICATORS TO MEASURE
PLANNING STAGE	**INTERVENTIONS STRATEGIES**	**IMPLEMENTATION**	**SHORT-TERM RESULTS**	**LONG-TERM RESULTS**	**INDICATORS**
• Availability of organisational structure that support of HIV and AIDS • Availability of skilled human resource. • Availability of Standardised and user-friendly M&E framework and plans • Availability of M&E programme review structures • Availability of health information policies, standard operating procedures and strategies • Staff knowledgeable and skilled in terms of health information management databases and M&E systems for HIV and AIDS programme	• HIV Index Testing & to conduct door to door and outreach campaigns targeting most at risk population. • Community dialogues to encourage the importance of testing. • To conduct index testing targeted testing using contacts via door-to-door campaign to increase case finding. • Use media to educate people to increase case finding. • Monitor reach of targets for Lay counsellors to reach more people. • Improve facility-based index testing through high-volume facilities. • Data audit and clean up focusing on HTS registers and tier.net. • Training of HTS councillors. • Mentoring sessions to counsellors to improve quality counselling.	• Availability of trained HTS Counsellors and PNs conducting HIV testing • Staff knowledgeable and skilled in terms of health information management and M&E • People are tested and initiated on same day.	• Clients become Informed about their HIV and AIDS positivity status • People tested and linked to care through target testing • People educated on HIV to know the importance of being tested • All contacts of positive clients tested to increase the reach • People living with HIV informed about HIV and AIDS and live positively.	• Increased case finding through 95% linkage to care on PLWHIV who know their status. • People take up treatment after being aware of their HIV status	• Number of people tested • Number of people tested positive • Number of people tested • Number of clients linked to care through Index testing • Number of clients newly initiated on ART • Same day ART initiation rate • Percent of diagnosed initiated on ART.

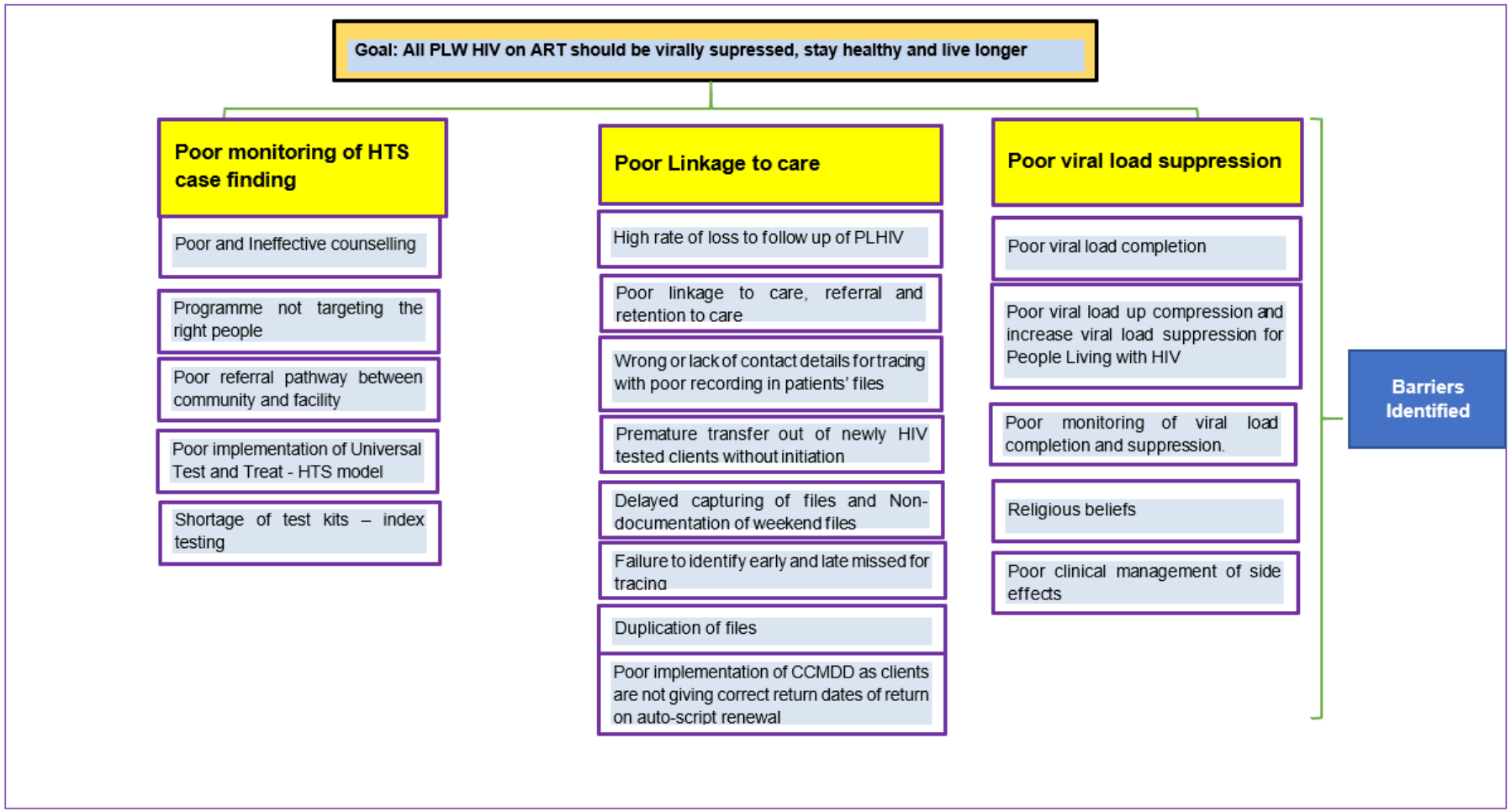
• Standardised lists of data elements and indicators to enable measuring of HIV and AIDS programme inputs, processes, outputs, outcomes and impact • Equipment such as computers, networks and software • Availability of ARV drugs • Availability of evaluation reports	• Create Adherence club to enrol ART clients. • Conduct farm visits to trace clients & treat site. • Recruitment and placement of data capturers in facilities without data capturers. • Strengthen internal and external referral pathways between referring facilities. • Monitor documentation and continuous updating of two addresses and phone numbers including next of kin on patient files and tier.net • Conduct holistic risk assessments to family members. • Monitor daily linkage activities. • Use a tracking tool for to monitor Linkage to care. • Track clients tested HIV positive to ensure they have been linked to care. • Follow-up telephone calls for those who are not linked to care. • NIMART training focusing on Paediatrics HIV testing for children under 15 years including Viral load completion and suppression. • Conducting data cleaning focusing on recording and capturing of ART decanted clients.	• Early missed appointment clients traced • Diagnosed patients initiated on ART on same day • Clients are linked back clients to care. • Adherence counsellors and mother mentors and tracing officers, social workers open support groups • Clients referred to support groups • PLHIV initiated on ART treatment timely	• People are liked back to care • High retention to care at facility level • All patient who are initiated on ART captured on tier.net • All patient who missed their appointment traced back to care.	• Link 100% of newly HIV diagnosed clients back to care according guidelines timelines. • 95% of all patient started on ART to be retained to care. • Reduced HIV related death rate. • Reduction of loss to follow rate (LTFu) up at 6 month and 12 months to less than 10%.	• 15% Facilities with less than Lost to follow up of client on ART. • Number of facilities conducted data clean-up • Percentage of early missed appointment clients traced. • Number of HIV client decanted • HIV Lost to Follow up (LTFu) rate • Percentage of clients traced and linked back to care. • Total remaining in ART at the end of the month (TROA) • PLHIV retention to care rate

	• Pull cohort report early to ensure early tracing before clients appear as late missed appointment. • Use Lab tracking to track patients to verify their self-transfer to other clinics and outcome them. • Support the establishment of facility and community adherence support groups. • Monitor tracing and recording of outcomes. • Conduct and monitor clinical audits in poor performing facilities. • Monitor 100% capturing of files on Tier.net				
• Skilled personnel • Availability of printers • Availability of Lab reports	• Generate viral load due list and monitor collection on weekly basis. • Conduct file audits to monitor recording and clinical management of clients. • Train professionals & use health talks to encourage clients on the importance of viral load uptake. • Educate professionals on how to address sputum rejections & monitoring and mentoring on the collection of blood. • 100% monitoring of viral load capturing. • Trace all clients who missed collection of viral loads weekly. • Generate viral load result for action list weekly and action.	• People Living with HIV taken Viral load completed • People living with HIV with viral load completion.	• People Living with HIV with supressed viral load • 90% of Viral Load completion. • 90% of Viral Load suppression • All clients on ART are taken viral loads • All clients who are not suppressed are enrolled on Enhanced Adherence counselling • Ensure 100% recording and capturing of VLD taken on tier.net	• Ensure that 90% of clients are done viral load completion and 90% suppressed. • PLWHIV on ART should be virally supressed load to live long and having high quality of long life. • All clients in treatment are virally supressed	• Viral Load completion and Suppression Rate • Number of clients on ART who are taken viral loads • Number of clients virally suppressed.

Table 7.9: Theory of change as a strategy to structure M&E strategies developed







tracing; wrong or lack of contact details for tracing; religious beliefs; poor implementation of CCMDD not giving correct return dates; poor monitoring of viral load completion and suppression.

7.4.3.2 Intervention Strategies to Address Gaps Identified

These interventions explain what the HIV and AIDS programme must do to achieve the desired outcome and impact. These interventions strategies were identified to increase reaching of 90-90-90 targets such as conduct door to door campaigns targeting to schools and conduct outreach campaign targeting farms, sex workers, drug users, churches per month; conduct community dialogues and health talks to encourage the importance of testing; trace men through pregnant women through men to mothers; strengthen internal and external referral pathways; monitor documentation of two addresses and phone numbers in patients' files; visit for holistic risk assessments; monitor daily linkage activities daily; monitor recording of two addresses and phone numbers in patients' folders; support the establishment of facility and community adherence support groups; monitor tracing and recording of outcomes on registers and Tier.net; conduct and monitor clinical audits in poor performing facilities; monitor data clean-up for all clients on CCMDD; monitor 100% capturing of files on tier.net; conduct roadshows on recording and capturing of CCMDD; strengthen the implementation of client tracing process; generate viral load due list and monitor collection weekly; grace all clients who missed collection of viral load weekly; generate viral load result for action list weekly and act on it; monitor the capturing of viral load results on tier.net weekly.

7.4.3.3 Assumptions of HIV and AIDS Programme Interventions

The assumptions are important conditions needed for the success of your program, and which the researcher assumes that there must be conditions for the intermediate result to be obtained. It is assumed that by conducting HTS campaigns and through visiting for holistic assessments will identify and reach out correct people to be tested as people will be encouraged on testing. It is assumed people will be contactable through multiple contacts through recording of two addresses and phone numbers in patient files. It is assumed that tracing and recording of outcomes on registers and Tier.net of patient file will further validate if patient information is captured. It is assumed that people living with HIV need to be reminded about treatment to be linked back to care to continue taking medication for their own health benefit.

7.5 Validation of the Developed Intervention Strategies

Validation is “the process of determining the degree to which a model is an accurate representation of the real world from the perspective of the intended uses of the model” (Henninger, Reese, Anderson & Weiss, 2010). The importance of validation is that it would not be feasible to use equipment not knowing if it will produce the product we want, not to employ the people with no assurance they can do or fail to implement process checks or examination to assure that product meet specification. The advantage of validation is that Enhanced data and evaluation capabilities and increased confidence about process reproducibility and product quality (Murthy, 2013). In this study strategy validation is generally, to validate the user-friendly, relevance, reliability, validity, trustworthiness, importance and truthfulness to the context in which its M&E strategies for HIV and AIDS were developed. Validation

involved the consolidation of all valuable point in research findings to demonstrate the ability the study has to reveal a phenomenon.

7.5.1 Aim of Validating Developed Intervention Strategies

The aim was to validate whether the developed interventions strategies applied to correct the gaps identified during this study. To assess the practical applicability of the developed strategies meant to strengthen the implementation of HIV and AIDS M&E framework in Limpopo Province. To clarify and expand on issues, identify areas of agreement and disagreement and find solution using a participatory approach.

7.5.2 Objective of Validation of the Developed Strategies

- To review whether the developed strategies can address gaps identified in the study findings
- Explore if M&E professional, programme managers, HIV and AIDS coordinators and managers understand the importance of developed strategies
- To determine the usefulness and relevance of developed strategies while using the available resources

7.5.3 Methodology of Validating the Developed Strategies

In this study Delphi Technique, a Step-by-Step Guide was used to guide validation (Haughey, 2010). The Delphi Technique is a method used to estimate the likelihood and outcome of future events. The aim is to clarify and expand on issues, identify areas of agreement or disagreement and find consensus. A group of experts'

exchange views, and each independently gives estimates and assumptions to a facilitator who reviews the data and issues a summary report. The group members discussed and review the strategies, and give updated forecasts to the facilitator, who again reviews the material and issues a second report. This process continues until all participants reach a consensus. The technique is an iterative process, and first aims to get a broad range of opinions from the group of experts. The results of the first round of questions, when summarised, provide the basis for the second round of questions. This was done in following steps (Haughey, 2010);

- **Step 1: Choose a Facilitator**

The researcher took the role as facilitator to validate developed strategies. The strategies were validated by independent and professional monitoring and evaluation experts.

- **Step 2: Identify Your Experts**

The researcher purposefully selected a panel of members working for the Department of Health and AIDS Council, including other experts from his organisation who are experts in M&E field. Validation was done after completing the main research to assess whether the developed intervention strategies will apply to correct the gaps identified during the research study. The quantitative and qualitative research was used to ascertain whether the challenges experimented by professionals were expressed in the developed strategies. The following was done as in the main study, chapter 3, that include setting, population and sampling of professionals. In this study the biography was similar to the one in Chapter 5. This was done in bringing participant's views and assessments about the extent to which the developed

strategies reflected their previous responses which they offered in the first data collection period.

Purposive sampling technique was used to select 15 expert who participated in the main study that is Provincial, District and Sub-District officials to exchange their views independently to the researcher. Furthermore, four (4) key stakeholder meetings were held to validate strategies developed using semi-structured checklist for them express their opinions via Microsoft Teams view presentations at District and Provincial level to validate and adopt developed strategies using a public participation approach. The researcher ensured that the participants had knowledge on the strategies that can be utilised to strengthen the implementation of HIV and AIDS M&E framework in Limpopo Province, South Africa. Comparative analysis assisted the researcher to determine how the strategies will address the challenges when implementing M&E systems for HIV and AIDS programme. The questions were developed into four components, that is building from strength, overcoming weakness, exploring opportunities and minimizing threats. Same questions were developed on both questionnaire and interview guide. In the quantitative design closed ended questions whereby participants had to answer by ticking “Yes” or “No”. and in the qualitative research open ended questions were asked whereby participants were answering verbally. Duration of the both answering Semi-Structured Interview had to take about 10 to 15 Minutes.

7.5.4 Data Collection Method

Researcher targeted district meetings whereby most managers and facility managers were present to hand questionnaire to those who participated in the study. The

researcher also went to facilities and offices at sub-district, district and provincial offices level to administer questionnaire and interview.

7.5.5 Data Analysis

According to Pilot & Beck, (2012: 557), the analysis search for identifying the criteria selected for the research study whether the developed strategy met the authenticity and usefulness criteria. It is a process involving organising data. In this study all findings were similar to the suggestions made by the participants when they responded to the questions in the main study in Chapter 4 and chapter 6, except as discussed below in point 6.3.7.

7.5.6 Validation Findings

Table 7.10 is a summary of the validation findings.

7.5.6.1 Validation of strategies Findings

Findings support that the strategies developed will address the gaps identified during the study. One participant was concerned about monitoring if the department is testing the right people for HIV and she prefer is the department can pit strong measures to ensure the correct people are tested. Majority of respondents were more concern about lack of monitoring systems to ensure clients are trace back to care or confirm self-transfer to other clinics in order to outcome as it is contributing to high loss to follow up rate of patient enrolled on ART. They supported that early pulling of patient files at facilities will also assist clinics with patient record keeping and management of patients. One participant was concerned with introduction and change or models such as Karabo Model since it was just recently changed without validating if or if it was

yielding positive results, she sees this as discouraging to implement other new strategies. In this section findings support that the strategies developed will address the gaps identified during this study.

7.6 Outcome of Validation

The outcome of validation supported that the developed strategies were based on the findings from this study and from other strategies developed in consultation with Limpopo Province AIDS Councils sector Departments and another expert in M&E field. All participants agreed 100% with developed strategies. In this study the researcher also reviewed and updated other strategies developed by various Department to address HIV and AIDS programme. Those developed strategies can contribute to the implementation, M&E of HIV and AIDS programme in Limpopo, South Africa. All individual consultant agreed 100% with the developed strategies. All stakeholders consulted agreed that the strategies were valid and they were looking forward to implement those strategies. Participants supported that the strategies developed will address the gaps identified during the study.

7.7 Summary

In this study a SWOT analysis was used to conduct environmental scanning, to identify and analyse the SWOT affecting the implementation of HIV and AIDSs programme. Developed strategies need to be coordinated for it to be effective and for certain behaviour to change. HIV and AIDS programme coordinators and managers should apply each stage suitable at each stage in a comprehensive and coordinated manner. The Logic Model and ToC was explored to structure strategies developed through BOEM in order strengthen HIV and AIDS programme interventions.

Table 7.10: Validation of M&E strategies to strengthen the implementation of HIV and AIDS M&E framework

BUILDING ON STRENGTH

QUESTION	INTERVENTION STRATEGY: BUILDING ON STRENGTH	FREQUENCY	PERCENTAGE
Training and capacity building on M&E will improve employee efficiency to strengthen HIV programme performance?	✓ Capacitate employees on M&E course or workshop focusing on HIV and AIDS programme to produce knowledgeable and qualified employees in the field.	All	100%
Allocation of M&E budget of at least up to 10% will strengthen the functionality of M&E systems and to enable program managers to achieve their allocated targets?	✓ All sector Departments should allocate budget of up to at least 10% from the total departmental budget to be allocated strengthen M&E of HIV and AIDS programme to enable HIV program managers to conduct sites visits to achieve their allocated targets. ✓ Allocated budget for HIV and AIDS M&E will also strengthen capacity building and institutional M&E capacity at all levels to manage HIV and AIDS programme efficiently and effectively.	All	100%
Will the following strategy strengthen non-functional Local and District AIDS Councils structures?	✓ The Provincial AIDS Council secretariat Limpopo AIDS Council should support the establishment of M&E technical working groups through ongoing follow up meetings and coordination through annual developed schedules to make follow and enforce accountability. ✓ Where possible some of M&E technical working group meeting should be incorporated with the AIDS Council meetings. ✓ Provision of M&E supportive function to all AIDS Councils and its TWG committees to ensure they are established and functional. ✓ Document data collection procedures and reporting timelines to be communicated to all members of AIDS Councils and its stakeholders.	All	100%
Will integration HIV and AIDS programme with other programme such as Social behaviour change and life skills programme to increase the chance of reaching 90-90-90 targets?	✓ The Department of Health should integrate HIV and AIDS programme with other programmes such as integrated school health programmes, psychosocial support groups, vulnerable groups and key populations to easily identify early missed and late loss to follow and reach out in order to identified people infected	All	100%

	and affected by HIV and AIDS ✓ Continuously monitor integration of sub-programmes with other sector Departments to reach 90-90-90 targets.		
Will these strategies strengthen mechanisms to ensure reliable and consistent data integrity, measurability, reliability, consistency and timeliness for HIV and AIDS programme	✓ HIV and AIDS information systems to be integrated with other M&E systems to ensure validity, integrity, consistency and reliability of reported data. ✓ Development of data quality improvement plans and guideline manuals should be provided on how to conduct data quality assessments every three to 6 months. ✓ Monitor and ensure data captures and data clerks conduct de-duplication of files and ensure that patients who are seen during extended hours and weekends are captured on Tier.net system. ✓ Implement functional effective information systems measures focusing on hardware, software and place effective IT support readily available and that responds to improve HPRN, Teir.net and Web-DHIS. ✓ All employees to be held accountable for data from point of data collection to the highest point of evidence-based decision-making in order for data to be taken seriously. ✓ Ensure that M&E tools are allocated appropriately to meet high demand of services from the facilities this include availability of hardware, software and resource such as Data capturers to effectively capture performance information at facility level and submit to higher level. ✓ Ensure that each facility have data admin clerk and data capture to ensure effectiveness in pre-retrieval, filing of patient information on time and capturing of 100% files daily. ✓ Monitor 100% capturing of files on Tier.net on daily basis and to ensure that all client who accessed services are being captured to avoid filing without updating new information. ✓ Continuous monitoring the use of HPRN file numbering across all the patient file records including referral forms, Lab results and on Tier.net to address missing files in alignment with facility ideal clinic protocol and procedures and records management policy.	All	100%

Those strategies will strengthen monitoring and implementation of HIV and AIDS referral system in place	✓ A need to monitor patients who were referred to check those referred if they ever arrived. ✓ Documented and verbal feedback need to be issued to referring facilities to improve retention of loss to follow up patient. ✓ Proper consultation with referral and referring facilities needs to be put in place in order to properly handover client information and monitor arrival. ✓ Monitoring of patients who were referred to check if they ever arrived and feedback to be issued to place of referral to improve training of loss to follow up patients. ✓ Develop and strengthen internal and external referral pathways which must be adhered to to monitor patient arrival and referral.	All	100%
Those strategies will strengthen monitoring of poor retention to care and address high rates of lost to follow up of newly diagnosed PLHIV between the time of diagnosis and commencement to ART and Self-transfer	✓ To monitor early missed and loss to follow-up there is a need to continuously monitor recording of two addresses and update phone numbers in patients' folders as patients may change contacts ✓ Department of Health should work with Social Development to refer loss to follow up clients to Social work services and increase the capacity of CHW for tracing and linking back to care through integration of services ✓ In order to strengthening the tracing process, there is a need to monitor tracing and recording of outcomes on registers or Tier.net of patient already accessing CCMDD and ✓ Monitor data clean-up for all clients on CCMDD through external pick-up points and space fast lanes to ensure that capturing is done correctly ✓ Develop a tracking systems of ART decanted patient collecting ART treatment on CCMDD and link them to central teir.net treatment to update Outcomes ✓ There is a need to continually conduct clinical file audits in poor performing facilities to monitor patient management and recording of client information ✓ Facility Operations Managers should to monitor 100% capturing of files on Tier.net on daily basis to ensure that all client who accessed services are being captured to avoid filing without updating new information	All	100%

The following strategy will help improve monitoring Viral load completion and suppression	✓ Generate viral load due list and monitor collection thereof through professional nurses then trace all clients who missed collection of viral loads weekly and also action viral load result list weekly and ensure person responsible act on it. ✓ Monitor daily capturing of viral load results on Tier.net.	All	100%
Will these strategies increase the chance of reaching the 1st 90 target through increase HTS testing update?	✓ Conduct outreach campaign focusing most at risk population such as farm workers, sex workers, drug users and churches to reach 90-90-90 targets ✓ Department of Health to work with Department of social development to conduct risk assessment of clients exposed to HIV and AIDS ✓ Conducting community dialogues and facility health talks to encourage the importance of testing to reach 90-90-90 targets. ✓ Use of HIV index testing cases to address low case finding ✓ To conduct index testing target testing using contacts via door-to-door campaign to increase case finding. ✓ To conduct index recruitment of clients – through list of viral unsuppressed clients to bring index clients for testing at facility or home visits.	All	100%
Will these strategies address performance of HIV and AIDS indicators?	✓ Conduct bi-weekly and monthly data review, validations and data clean up meetings where the main focus will be data and progress towards achievement of targets and poor performing indicators ✓ Training to be done focusing on newly revised HIV and AIDS indicators focusing on their measurability, calculations, aggregation, collection, reporting and analysis ✓ Develop and standardized data element and indicator sets with well-defined numerator and denominators with more clear definitions of data elements and indicators consistently which will be used at all levels to provide guidance.	All	100%
Will these mechanisms in place address smooth process of data flow?	✓ Strengthen standardized, compatible and well-designed data collection and reporting flow suitable for the purpose to monitor HIV and AIDS programme including intruding smart way of submitting input forms and dispatches for long distance facilities.	All	100%
Will these strategies improve effective and consistent data collection and validation practices?	✓ District Information officers should provide monthly data validation feedback methods that address data discrepancies.	All	100%

	✓ Electronic data collection tools should be tested before implementation. ✓ Data should be presented and verified to all staff members monthly before being certified for signed off by Operational Manager, District Managers to validate any data discrepancies. ✓ Training of people responsible for collecting data before implementation and provide clear instructions on data collection tools. ✓ Ensure that data is verified and certified by Sub-District-Managers before being send off to Provincial Office. ✓ The Provincial Managers will verify and certify the reports and POE's and submits to M&E Office. ✓ Implement well developed standardized electronic tools for summarizing data.		
Will these strategies on data use, improve HIV and AIDS programme indicators?	✓ Verify the reports against the means of verification of data input forms submitted and certify the reports as a true reflection to provide feedback through these forums: strategic planning meetings, Limpopo Province ten-point plan review meetings ✓ Provide continuous feedback and use of data in a user-friendly report based on selected poorly performing indicators identified, for example reports HIV and AIDS outputs, outcomes and impacts indicators ✓ Dissemination of performance information will take place through these forums: Strategic Planning meetings; Provincial AIDS Council secretariat meeting and District TWG meetings.	All	100%
Will the available data storage and filing improve HIV and AIDS programme performance information?	✓ There should be standardized process and guideline for data storage. ✓ There should be an available policy for filing practices and data storage that allows retrieval of documents for auditing purposes.	All	100%
How will availability of health information management standard operating procedure, policy and framework improve HIV and AIDS programme?	✓ Involvement of stakeholders in the developed of M&E framework, SOPs and plans to ensure transparency and accountability ✓ Policies, frameworks and SOPs should reflect role of the provincial M&E unit in providing support to District and sub-district Health information and HAST coordinators on monthly and quarterly basis to monitor implementation of improvement plans focusing on poorly performing indicators.	All	100%

BUILDING ON WEAKNESS

QUESTION	INTERVENTION STRATEGY: BUILDING ON WEAKNESS	FREQUENCY	PERCENTAGE
Will these strategies address lack of monitoring supervision support visits to facilities to improve HIV and AIDS programme performance	✓ Supervisors to develop facility support visit schedules for support visit ✓ Provide continuous data driven supervision through ✓ continuous assessment audit, dissemination and use of data through feedback to guide HIV and AIDS programme planning and improvement.	ALL	100%
Will allocation of M&E budget address HIV and AIDS M&E activities	✓ Sector Departments to allocate budget for M&E of HIV and AIDS programme activities such as data review, data quality assessments, sites monitoring visits.	ALL	100%
Lack of organizational structure to support M&E for HIV and AIDS	✓ Need for an organisational structure that is supportive and very focus on creating more vacancies to focus on M&E HIV and AIDS programme with key personnel focusing only at HIV and AIDS programme and also at District level.	ALL	100%
Strategy to address filling of M&E priority posts and funded vacant post for HIV and AIDS M&E at both District and Provincial level	✓ Design organisational structure that support HIV and AIDS M&E positions and prioritise filling of vacant Strategic information, M&E posts by ensuring that all M&E funded vacant posts are prioritised to be filled.	ALL	100%
Strategy to improve information management system database for Limpopo AIDS Councils and Sector Departments to produce readily available data	✓ Develop information management database to M&E the implantation of HIV and AIDS programme from various sector Department and civil society organisations.	ALL	100%
Strategy to address inefficient implementation of norms and Standards Operating procedures for information management	✓ Ensure that information management roles and responsibilities are clarified to ensure that personnel understand their roles and responsibilities in information management.	ALL	100%
Strategy to address inadequate and undocumented data feedback to lower levels on data submitted	✓ Use data to inform decision and give feedback to lower level on data quality and performance issues and request remedial plans.	ALL	100%
Lack of data storage and filing management to improve HIV and AIDS programme performance	✓ Strengthen management of data through proper filing management systems, this include procuring steel cabinets, building and creating more space for filing.	ALL	100%
Following strategies are needed to ensure there is support provided to facilities to improve HIV and AIDs programme performance	✓ M&E unit to provide support to District and sub-district HAST managers with monthly analysis of data to monitor monthly District improvement plans performance review, followed by generation of facility level run-charts and implementation and	ALL	100%

	review of facility level QI focusing on poorly performing indicators ✓ Facilities to conduct regular weekly data clean-up and file Audits and request remedial plans from management teams.		
File management improve data management and patient flow at facility	✓ Monitor the implementation of pre-retrieval of files for HIV and AIDS patient management. ✓ Monitor and support data captures on de-duplication and ensure that patients seen during extended hours and weekends are captured on Tier.net system. ✓ Implement and monitor the use of HPRN across all the records including referral forms, Lab and Tier.net ✓ Conduct regular weekly data clean-up and file Audits and request remedial plans from management teams.	ALL	100%
Will the establishment of Technical Working group strengthen M&E of HIV and AIDS programme	✓ Establishment of District Technical Working Group to provide proper guide and monitoring the implementation of District Implementation Plans and provide advisory service towards achieving targets and to address data quality issues at all levels.	ALL	100%
Will M&E capacity building address HIV and AIDS programme challenges	✓ There is a need for continuous capacity building of employee responsible for HIV and AIDS programme focusing on M&E related trainings.	ALL	100%
Will these strategies address low HIV testing uptake and poor linkage to care	✓ Monitor the Implementation of Universal Test and Treat as a strategy to increase target and implementation of HTS model. ✓ Monitor capturing of correct contact details to trace clients and link them to care. ✓ Monitor the establishment of facility and community adherence support groups. ✓ Adherence clubs should be run in collaboration with the local social worker. ✓ All loss to follow up clients need to be handed over to the local social worker for further tracing and linkage to care. ✓ Monitor tracing and recording of outcomes on registers and Tier.net. ✓ Conduct clinical audits in poor performing facilities to monitor clinical management of patients.	ALL	100%

	✓ Use Lab tracking to track patients to verify their self-transfer to other clinics and outcome them. ✓ Health Facilities should be able to retrieve cohort reports for all patient enrolled in the same period for tracing of patients early per cohort using early and late missed appointment for patient who may appear as missed appointment.at 14 days to 89 days to clean up data before patient appear as loss to follow up. ✓ Pull cohort report for 6 and 12 months to ensure tracing of patients early as per cohort using 14 – 89 days missed appointment lists and strengthening the tracing and adherence process as per SOP. ✓ Monitor data clean-up for all clients and ensure correct recording and capturing of CCMDD clients.		
Will these strategies address poor monitoring of viral load completion and suppression	✓ There is a need to continuously generate viral load due list and monitor collection weekly and trace all clients who missed collection of viral loads weekly and ensure monitoring of action list weekly and operational managers to act on it. ✓ Ensure that 90% HIV diagnosed clients are taken for Viral load at 6 month and 12 Monthly and monitor that 90% of all HIV clients are virally supressed at 6 month and 12 months.	ALL	100%

EXPLORING OPPORTUNITIES	ACTION PLAN REQUIRED	FREQUENCY	PERCENTAGE
Will the availability and involvement of stakeholders in M&E of HIV and AIDS interventions increase the chance of reaching 90-90-90 targets?	✓ Strengthen relationship by involving all stakeholders such as Department of Health, Department of Social Development, DoE, SASSA and civil society organisations through Provincial, District and Local AIDS Councils and Local AIDS Council to monitor the implementation of HIV and AIDS PSP for HIV, TB and STIs ✓ Strengthen the implementation and use of real-time monitoring of PSP and DSP targets in line with NSP and UNAIDS 90-90-90 strategic goals ✓ Involvement of stakeholders in developing the M&E plan	ALL	100%
Will the ability to use Data for evidence-based decision making improve HIV programme performance?	✓ Limpopo Sector Departments should strengthen the use evidence-based approach HIV-AIDS to monitor HIV and AIDS strategic plan	ALL	100%

Will the allocation of budget for M&E activities improve performance of HIV and AIDS programme?	✓ Allocate suitable and sustainable budgets to fund HIV and AIDS M&E activities such as data reviews and site support visits	ALL	100%
Will the following strategy strengthen M&E of HIV and AIDS programme?	✓ Use the opportunity of International and local funded partners to monitor and evaluate HIV and AIDS strategy implementation	ALL	100%
Will the following strategy increase the chance of conducting operations research and evaluation studies within HIV-AIDS programme?	✓ Limpopo Province office of the premier should be a coordinating body to identify the opportunities to conduct operations research and evaluation studies focusing on HIV and AIDS programme	ALL	100%
Will the following strategy improve the use of data to monitor and improve HIV and AIDS programme?	✓ Limpopo Province sector Department should gain access to Ad Hoc reports from Web-DHIS and Tier.net data to use data for planning and for evidence-based decision making	ALL	100%

MITIGATING THREATS	ACTIONS PLANS		
Will the following strategy of supportive supervision and data audits improve HIV and AIDS programme?	✓ Supportive supervision and data auditing should be conducted at all levels to improve HIV and AIDS programme M&E.	ALL	100%
Will sustainability of NGOs, NPOs, civil and advocacy groups sectors improve HIV programme performance?	✓ There should be integration of M&E activities focusing on sustainability of NGOs, NPOs, civil and advocacy groups sectors to improve HIV programme performance.	ALL	100%
Will the following strategy address of non-functionality of referral system	✓ There is a need to monitor linking patient through proper referral, care and treatment pathway for easy monitoring ✓ There is a need to develop M&E tools in order to tracking referral and linkage to care indicators to establish progress (World Health Organisation 2014).	ALL	100%
Will monitoring of non-functional adherence clubs address high rate of loss to follow up between the time of diagnosis and the commencement of ART?	✓ Monitoring of recruitment and retention of newly diagnosed People Living with HIV (PLHIV) into care and support groups should be done to ensure reduction of high rate of loss to follow up between the time of diagnosis and the commencement of ART.	ALL	100%
Will the availability of policy review committees improve performance of HIV and AID programme?	✓ Build effective and efficient information Provincial office of the Premier to ensure participatory policy review and development committees in Departments and should address slowness in the review and approval of policies	ALL	100%

	✓ Participatory policy review should include all stakeholders including NGOs receiving HIV and AIDS funding either through from the National Department of Health, PEPFAR, USAID, Global Fund and several international private pharmaceutical organisations.		
Unavailability of policy review committees in Departments and slowness in the review and approval of policies	✓ Provincial office of the Premier to ensure participatory policy review and development committees in Departments and should address slowness in the review and approval of policies ✓ Participatory policy review should include NGO receiving HIV and AIDS funding through various mechanisms ranging from the National Department of Health, PEPFAR, USAID, Global Fund and several international private pharmaceutical organisations.	ALL	100%
Skilled professionals aiming to leave Departments and crowded offices with shortage of space for data management	✓ The Department of Health and Social Development should improve working condition, incentives and and trained, skilled and experienced healthcare work force to retain employee intending to leave the Department.	ALL	100%

Intervention strategies were developed to address M&E of services such as HTS case finding, Improved linkage to care, referral and retention to care, low viral load uptake completion and increase in viral load suppression for People Living with HIV through care and support programmes. Further strategies to increase 90% 90% 90% targets by 2022 were further employed. In this study strategies to address identified data quality and assurance management were further strengthened. Various M&E strategies were further employed to address emerging challenges. The role of information and M&E staff should be to support HIV and AIDS managers in evidence-based decision making aimed at strengthening health care systems to optimize the health status of communities (Presidency, 2007). This supportive role does not replace the responsibility of managers to measure their health programs' impact in the geographical areas they are appointed in.

To ensure effective and participative M&E, information management skills, including skills for data collection, statistical analysis and data quality assurance are important. Organizations have to recruit skills, train existing staff and facilitate skills transfers from academics and consultants (Presidency, 2007). The Policy framework for the GWMES stipulates the institutional roles and responsibilities of accounting officers, program & line managers, service providers and designated M&E units, while the National Health Act stipulates the roles and responsibilities at national, provincial and district levels in terms of M&E and information systems.

CHAPTER 8

RECOMMENDATIONS, CONCLUSIONS AND LIMITATIONS OF THE STUDY

8.1 Introduction

The previous chapter used findings to develop strategies to strengthen M&E strategies for HIV and AIDS programme. In this chapter assessment was done as to whether the objectives of the study were met and validated. Recommendations were made related to strategies that can build on the present strength, overcome weakness, explore opportunities and minimise threats. Recommendations related to done by the Department implementing HIV and AIDS programme, community, Primary Health Care, researchers and governments department to strengthen the implementation of HIV and AIDS programme were taken.

8.2 Brief Summary of the Chapters

Table 8.1 presents a summary of each chapter, i.e., from Chapter 1 to Chapter 8.

8.3 Recommendations

In this study, every recommendation made will contribute towards implementation of HIV and AIDS M&E framework in Limpopo, South Africa. The strategies are aimed at addressing challenges facing M&E of HIV and AIDS programme in Limpopo Province such as the reduction of loss to follow up of PLHIV, improve monitoring, of HTS case finding, mproving linkage to care, referral and retention to care, increase viral load

Table 8.1: Brief summary of the chapters

Chapter	Description
1	This chapter presents an outline of what this thesis covers. It is a research proposal which formed an orientation to the study. The study was to develop strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo Province, South Africa. This chapter focuses on the introduction and background of the study. It covers the background of the study, major research questions, aims and objectives of the study, motivation and importance of the study, research methodology, delimitation of the study, definitions of concepts and division of the study.
2	Literature review was prepared after the collection of data and analysis using the available research articles and books to gather information already known about M&E of HIV and AIDS programme. This chapter explores the theoretical framework relevant literature to M&E of HIV and AIDS programme in other countries globally, regionally and in South Africa. It will also reveal the views of the authors and researches about M&E of HIV and AIDS programme.
3	Research methodology used were mixed method design, implying quantitative and qualitative research approach. The research methods, research design, research setting, population, sampling, data collection methods and instrument and data analysis measures to trustworthiness, ethical consideration and validation of intervention develop strategies to strengthen the implementation of HIV and AIDS M&E framework were presented.
4	This chapter presents and discuss the results of Phase 1-A of quantitative approach pertaining to the relevance and design of assessment of HIV and AIDS M&E system. The chapter provide information on the relevance of Limpopo Province AIDS Council sector Departments regarding the implementation of HIV M&E system.
5	This Chapter focus on results and discussion of Phase 1-B of qualitative findings while the previous chapter concentrated on quantitative study findings and discussions of phase 1-A used in this study. In this chapter data is interpreted and discussed using literature to support the study findings. The main purpose for this mixed method sequential explanatory study was to identify and describe M&E interventions for HIV and AIDS programme in Limpopo Province by first obtaining quantitative results; followed by qualitative approach to explore those results in more depth. Phase 1-A of this study, the researcher focused more on identifying whether the M&E interventions and systems are available or not, while identifying variables and organisational related factors.
6	In this section the researcher interpret, integrates and describe findings from phase 1-A Quantitative and phase 1-B of Qualitative study finding from both studies. This section discusses the findings from both the quantitative and qualitative phases of the research study. In addition, the findings provide guidance towards the last phase linking to the aim of the study, which is to develop strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo. The researcher integrated findings from assessment to describe the relevance of current M&E interventions and design of HIV and AIDS programme, to develop strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo Province. In this Chapter to integrate data, the researcher used study objectives to develop three main themes to merge the results using single table.
7	This chapter focused on the development and validation of the developed strategies of strategies to strengthen the implementation of HIV and AIDS M&E framework. The chapter focused on validation of the developed strategies for strengthening M&E of HIV and AIDS programme by different stakeholders, methods used in the validation of developed strategies such as population, sampling and data collection. Situational analysis was employed using SWOT and Political factors, Environmental factors, Social Factors, Technological factors, Economic factors and Laws (PESTEL) within the Opportunities and threat to further analyse the collected data. In this phase a Logic Model and ToC was explored to link and structure strategies developed through BOEM in order strengthen HIV and AIDS programme interventions. This chapter contribute to strategies that can strengthen HIV and AIDS programme in Limpopo province.

8	Recommendations were made related to strategies that can build on the present strength, overcome weakness, explore opportunities and minimise threats. In this chapter recommendations were made related to done by the AIDS Councils sector Departments implementing HIV and AIDS programme including community, Primary Health Care facilities, researchers and other Governments Department to further strengthen the implementation of HIV and AIDS programme.

completion and increase viral load suppression for People Living with HIV through care and support programmes towards increasing 90-90-90 targets by 2022. To address the findings in this study the researcher recommends the following:

- It is proposed that HIV and AIDS M&E systems should be viewed as a greater part of the wider aspect of healthcare quality control where there is a single M&E system connected to the number and file number of the patient identification.

- There is a strong need to merge all HIV and AIDS programme budget to contribute towards technological advancements of single data collection and reporting instrument across all HIV and AIDS healthcare to trace client's movement this will reduce loss to follow up.

- The M&E Technical Advisory Monitoring and Governance of HIV and AIDS Services in Limpopo Province should be introduced by the Provincial Council on HIV and AIDS to improve the administrative oversight, structures and procedures of all HIV-AIDS programs, including HIV and AIDS program evaluations within the Province.

- There is a need to work on HIV and ADIS programme best practices, operations research and learning data pertaining to this in the HIV-AIDS programme these learning platforms will serve inform the management of

HIV and AIDS programme to build capacity through learning forums. This data may provide significant information that may inform the field of HIV-AIDS. Best practices in HIV-AIDS programme should also focus on effectiveness of 10-point plan and 90-90-90 rollout strategy.

- Department of Health through office of the Premier should work on developing an integrated evaluation plan done across its stakeholders in implementing HIV and AIDS programme.

- Limpopo Department of Health should facilitate ToC approach focusing on indicators of HIV-AIDS programme whereby all stakeholders participate towards the M&E of the programme to align programme implementation indicators to specific strategic goals on the provincial Implementation plan.

- The researcher suggest that the Limpopo Department of Health should conduct a participatory development or review of M&E framework of HIV and AIDS at each term of strategic planning including other private sectors and stakeholders working with HIV-AIDS programmes.

- Department of Health should work with Social Development to refer loss to follow up clients to Social work services and increase the capacity of CHW for tracing and linking back to care through integration of services.

- There should be strong M&E systems in place to track the role and contribution of Limpopo AIDS Council stakeholders this include local NGOs, Departments of Health, Education and Social Development including civil society organisations.

- To achieve the first 90, there is a need to improve facility-based index testing first by selection of high-volume facilities to reach targeted groups both men and young women. There is a need to conduct targeted community Index Testing with the CHWs and WBOT team leaders.

- Limpopo Department of Health should support facilities to offer HIV testing services to young people. There is a need to conduct monthly audits focusing on the client referral booklets, HTS register and TIER.net to identify clients lost to initiation. To address Hospital poor initiation there is a need to liaise with the facility managers or Clinical Managers to encourage doctors to refer patients to ART site for capturing after ART initiation.

- To achieve the second 90 in ART initiations, the Department of Health should conduct mentoring of lay counsellors and professional nurses on same day initiation and UTT guidelines to ensure patients are counselled about the benefits of same day initiation.

- Nurses to verify if all the patients tested positive have been linked to care in all supported facilities and offer mentorship or in-service training if patients are not linked to care monthly.

- There is a need to use a tracking tool for Linkage to track clients that tested HIV positive in that month in facilities and communities and ensure they have been linked to care, with follow-up telephone calls for those who have not linked to care. All facilities should have a Universal Test and Treat

(UTT) memo from the national department of Health. OPMs and Professional nurse should be encouraged to monitor the implementation of UTT at facility level.

- The Department of Health should strengthen Health Education amongst patients about initiating ART early.

- There is a need to continue monitoring the PCR testing and the use of National Health Laboratory Service (NHLS) PCR results and also action reports at facility level in order to register, trace and connect infants to treatment. A PMTCT tracking tool and monthly reporting should be developed and used by the Department to improve monitoring of Mother to Child Transmission Prevention (PMTCT). The Department should capacitate caregivers on HIV testing in HIV exposed children and focus on 18 months old babies.

- To achieve the third 90, Viral load completion and suppression more attention should be focused on paediatrics HIV testing and ART initiation including Viral load completion and suppression. Data should be presented by OPM and HAST managers during District and sub-district data review meetings to reflect progress on Monthly basis. The Department of Health should continue to monitor paediatrics and adolescent with unsuppressed viral load.

- To address backlog capturing of HTS data Limpopo Department of Health should add more data capturers in facilities without data captures and also

train nurses such as Enrolled Nursing Assistant and Admin Clark to capture data through task shifting.

- To address the issue of data discrepancies between tier.net, DHIS and SynCh system about all decanted CCMDD clients, the Department should conduct data clean up session for both focusing on decanting to address discrepancies whereby decanting clubs are created for clients and allocated and ensure those active on Sych are also active on tier.net.

- The Department of Health to assign every decanted patient to a sub-clinic even if they are on CCMDD then re-name the sub-clinic according to the decanted model on TIER.Net.

Overall, there is a need to address M&E data quality challenges through data reviews and data clean up. To strengthen M&E of HIV and AIDS programs the Department should actively trace HIV clients early using systems such as NHLS lab tracing, PCR results for action report, consistently use of the PMTCT tracking tool, monitor Viral load for all patients including children under 15 years. There is a need to link tracking of HIV exposed clients in hospitals. The Department should monitor linkage to care for clients whereby all clients tested HIV positive in hospitals and down referred to be linked to nearby clinic. Health talks should be conducted to address poor implementation of same day initiation with clients who are not comfortable of the first day.

8.4 Limitations

Limitations were that some respondents had to be reached through use of Microsoft teams view due to COVID-19 epidemic operation lock down during strategy development phase. Some managers were not available due to assigned responsibilities on COVID-19 and some

facilities were packed, while some Units within Departments were closed. Some questionnaires were not returned while some skipped questions when they were answering. The research cannot be generalised to the whole Limpopo Province population as some sub-districts were not covered due to long distance. Few members of AIDS Councils were available since the AIDS Council comprises only few members and some of the AIDS Council committees are not yet established.

8.5 Implications of the Study

Intervention strategies were developed followed by action plans. The researcher made recommendation for strategies developed and different stakeholders were involved in strategy development process. The developed strategies can help in improving achievement of 90 90 90 targets and further strengthen M&E framework for HIV and AIDS in Limpopo Province. Strategies developed should be implemented to strengthen the implementation of HIV and AIDS M&E framework and to address gaps identified in this study. Rapid Implementation of developed strategies can fast track the improvement of HIV and AIDS M&E systems. Strategies should be explored, then if strategies can yield positive results in improving HIV and AIDS outcomes and impact, therefore the implementation should be expanded to other Provinces.

8.6 Dissemination of Results

Results will be shared with the Limpopo Provincial AIDS Council Sector Department stakeholders such as the Department of Health, Department of Social Development, Limpopo AIDS Council secretariat and civil society organisation. Presentations will be done through conferences. The findings of the study will be published as research articles in peer review journal. Soft copies of thesis will be submitted to the University of Venda library and the National Research Foundation.

8.7 Summary

The main aim of the study was to develop strategies to strengthen the implementation of HIV and AIDS M&E framework in Limpopo Province. This process was completed through meeting the following objectives:

- To evaluate the relevance and design of the M&E interventions of HIV and AIDS program in Limpopo;
- To assess the relevance of capacity building strategies and Interventions towards strengthening HIV M&E System;
- To determine the challenges facing Provincial Multi-sector stakeholders when implementing M&E of HIV and AIDS programme;
- Develop intervention strategies to strengthen the implementation of M&E of HIV and AIDS programme; and
- Describe the perceived practical applicability of the developed intervention strategies through validation.

In this study's first and second objective to evaluate the relevance and design of M&E interventions of HIV and AIDS program in Limpopo Province and to assess the Capacity Building Strategies and Interventions towards strengthening HIV M&E System, were conducted though quantitate research approach. The third objective to determine the challenges facing Provincial Multi-sector stakeholders when implementing HIV and AIDS M&E framework was achieved through qualitative research approach. In this study the qualitative approach. The quantitate approach findings were used to develop qualitative in-depth semi-structured interview guide. The qualitative research approach was explanatory, descriptive

while quantitate was exploratory. The fourth objective was to develop intervention strategies to strengthen the implementation of M&E of HIV and AIDS programme in Limpopo Province was met by using SWOT analyses, PESTEL used to analyse the findings. The Logic Model and ToC approach was used to structure and link interventions strategies developed through BOEM.

The fifth objective was to describe the perceived practical applicability of the developed intervention strategies through validation. More efforts are needed to strengthen the HIV and AIDS programme towards meeting 90-90-90 targets by 2022. This research reveal that Limpopo Province is experiencing high rates of lost to follow-up of HIV Clients who are enrolled on ART. This results in missed opportunities managing clients who are initiated on ART and also makes it difficult to manage their opportunistic infections and also difficult to implement psychosocial support to follow up of HIV clients who are enrolled on ART and newly diagnosed living with HIV due to low case finding, and poor Linkage to Care. There is poor retention due to high rates of lost to follow up of newly diagnosed PLHIV between the time of diagnosis and commencement to ART. This research revealed that challenges can be addressed if multiple strategies are used to monitor and evaluate the implementation of HIV and AIDS programme at all levels. Further studies are also needed to understand barriers experienced by clients when accessing Antiretroviral treatment or HIV and AIDS programme services. These barriers should be addressed in order through ToC to achieve the desired outcome and impact result for the HIV and AIDS programme. There is a need to link community services indictors with current M&E systems being used by the department of Health to document services rendered.

REFERENCES

Brink, H., Van der Walt, C. & Van Rensburg, G., (2014). Fundamentals of research methodology for health care professionals, 3rd Ed. Juta, Cape Town.

Bhutta ZA, Lassi ZS, Pariyo G, & Huicho L. (2010). Global Experience of Community Health Workers for Delivery of Health-Related Millennium Development Goals: A Systematic Review, Country Case Studies, and recommendations for Integration into National Health Systems. Geneva, Switzerland: Global Health Workforce Alliance and World Health Organization; 2010.

Adelekan B, Andrew N, Nta I, Gomwalk A, Ndembi N, Mensah C, Dakum P, & Aliyu A. (2019). Social barriers in accessing care by clients who returned to HIV care after transient loss to follow-up. AIDS Research and Therapy, 12 Aug 2019, 16(1):17 DOI: 10.1186/s12981-019-0231-5 PMID: 31405386 PMCID: PMC6691550 https://europepmc.org/article/med/31405386

Anderson, A. (2005). The Community Builder's Approach to Theory of Change: A Practical Guide to Theory Development, New York: Aspen Institute Roundtable on Community Change.

Atika, N. (2016). Assessment of National Monitoring and Evaluation System for National Aids Control Council Kenya. Published 2016. Political Science Corpus ID: 157268697.http://erepository.uonbi.ac.ke/bitstream/handle/11295/100353/Atika_Assessment%20Of%20National%20Monitoring%20And%20Evaluation%20System%20For%20National%20Aids%20Control%20Council%20Kenya.pdf?isAllowed=y&sequence=1 (Accessed 22 June 2020).

Babbie, E. & Mouton, J. (2010). The practice of social research. 10th Ed. Republic of South Africa [RSA], Cape Town: Oxford University Press. Southern Africa.

Babbie, E. (2007). The practice of social research. 11th Ed. Thompson Wadsworth, Belmont. In De Vos, A.S. (Ed.), Schurink, E.M. & Strydom H. Research at grass roots for the social sciences and human service professions. Pretoria: Van Schaik Publishers.

Babbie, E. (2010). The practice of social research. 12th Ed, Wadsworth, Belmont.

Bakewell, O., & Garbutt A. (2005). The Use and Abuse of the Logical Framework Approach: A Review of International Development NGOs' Experiences', INTRAC report for SIDA University College London, Gower Street, London.

Banister, P., Burman, E., Parker, I., Taylor, M., & Tindall, C. (1994). Qualitative methods in psychology: A research guide. Maidenhead, BRK, England: Open University Press.

Barnett, T. and & Whiteside, A. (2002). AIDS in the 21st Century: Disease and globalisation. London: Palgrave McMillan. Kerry Cullinan.

Beck E.J, Shields J.M, Tanna G, Henning G, De Vega I, Andrews G, Boucher P, Benting L, Garcia-Calleja J.S, Cutler J, Ewing W, Kijsanayotin B, Kujinga T, Mahy M, Makofane K, Marsh K, Nacheeva C, Rangana N, Vega M.F.R, Sabin K, Varetska O, Wanyee S.M, Watiti S, Williams B, Zhao J, Nunez C, Ghys P & Low-Beer D., (2018). Developing and implementing national health identifiers in resource limited countries: why, what, who, when and how? Global Health Action, 11:1, 1440782, DOI: 10.1080/16549716.2018.1440782

Blamey, A., and Mackenzie, M. (2007). Theories of change and realistic evaluation: Peas in a pod or apples and oranges. Evaluation, 13(4), 439–455.

Beck E.J., Gill W, & De Lay P.R. (2016). Protecting the confidentiality and security of personal health information in low- and middle-income countries in the era of SDGs and Big Data. Glob Health Action. 2016; 9(1): 32089 DOI: 10.3402/gha.v9.32089 [PMC free article] [PubMed] [Google Scholar]

Bhattacherjee, A. (2012). Social Science Research: Principles, Methods, and Practices. USF Tampa Bay Open Access Textbooks Collection. Book 3. Online available from:http://scholarcommons.usf.edu/oa_textbooks/3, (Accessed: 14 March 2019)

Bhutta ZA, Lassi ZS, Pariyo G, & Huicho L. (2010). Global experiences of community health workers for delivering health related millennium development goals: a systematic review, country case studies, and recommendations for integration into national health systems. Geneva: WHO Global Health Workforce Alliance. Available: http://www.who.int/workforcealliance/knowledge/publications/alliance/Global_CHW_web.pdf (Accessed 20 June 2020)

Bless, C., Higson-Smith, C. & Kagee, A. (2006). 4th Ed. Fundamentals of social research

methods: An African perspective. Cape Town: Juta

Bolger. J. (2008). Capacity development in the Pacific: learning from success Mandaluyong City, Phil.: Asian Development Bank, http://library.umac.mo/e_resources/org_publications/b19511176.pdf

Botswana National AIDS Coordinating Agency (2013). Global AIDS response report, Progress Report of the National response to the 2011 Declaration of Commitments on HIV AND AIDS National AIDS Coordinating Agency, 31 March 2014

Boyatzis, R. E. (1998). Transforming qualitative information: Thematic analysis and code development. Thousand Oaks, CA, US: Sage Publications, Inc.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3 (2). pp. 77-101. ISSN 1478-0887 Available from: http://eprints.uwe.ac.uk/11735

Breuer E, Lee L, De Silva M, & Lund C. (2016b). Using theory of. change to design and evaluate public health interventions: A systematic review. Implement Sci, 11 (1). p. 63. ISSN 1748-5908 DOI: 10.1186/s13012-016-0422-6

Breuer E, Lee L, De Silva M, Lund C (2016b). Using Theory of Change to design and evaluate public health interventions: A systematic review. https://implementationscience.biomedcentral.com/articles/10.1186/s13012-016-0422-6 (Accessed 20 August 2020)

Brink H.I., Van der Walt C., & Van Rensburg G. (2017). Fundamentals of research methodology for healthcare professionals (Paperback, 4th ed)

Brink, H., Van der Walt, C. & Van Rensburg, G., (2014), Fundamentals of research methodology for health care professionals, 3rd Ed., Cape Town: Juta, Cape Town

Brown, A.M., (2017). Theory of change vs. the logic model, viewed 30 November 2019, from https://www.annmurraybrown.com/single-post/2016/03/20/theory-of-change-vsthe-logic-model-never-be-confused-again

Bryman, A. (2012), Social Research Methods. Oxford University Press, 2012. 4th edition.

Bunn, S. & Conlin, D. 2013. Draft integrated business plan. National Health Services Trust.

Croydon Health Services. Juta & Company, Limited. In Vhuromu E.N (2017), Utilization of Cervical Cancer Screening Services among Women in Vhembe District, South Africa: A Cross-Sectional Study. Department of Advanced Nursing Science, University of Venda, Thohoyandou, South Africa, PhD thesis. http://univendspace.univen.ac.za/bitstream/handle/11602/932/Thesis%20-%20Vhuromu,%20e.%20n.-.pdf?isAllowed=y&sequence=1

Burns, N. & Grove, S.K. (2003). Understanding nursing research. (3rd Ed), Fundamentals of research methodology for health professionals, Philadelphia, W.B. Saunders Company.

Cantrill, J. A., Sibbald, B., & Buetow, S. (1996). The Delphi and nominal group techniques in health services research. International Journal of Pharmacy Practice, 4(2), 67-74.

Cercone J.A. (2003). Design and Baseline Data for a Monitoring and Evaluation System.

Draft M&E Concept Paper and Elements for the M&E Operational Manual. Moldova Social Investment Fund II Project. https://fism.gov.md/sites/default/files/document/attachments/16_msif_2_monitoring_and_evaluation_manual.pdf

Canadian President of the Treasury Board, (2012). Theory-Based Approaches to Evaluation: Concepts and Practices ISBN: 978-1-100-20593-9 Catalogue No. BT22-131/2012E-PDF.https://www.canada.ca/en/treasury-board-secretariat/services/audit-evaluation/centre-excellence-evaluation/theory-based-approaches-evaluation-concepts-practices.html

Chaulagai CN, Moyo CM, Koot J, Moyo HB, Sambakunsi TC, Khunga FM, & Naphini PD. (2005). Design and implementation of a health management information system in Malawi: issues, innovations and results. Health Policy Plan. 2005;20(6):375–384. doi: 10.1093/heapol/czi044. [PubMed] [Cross Ref]

Chen, E & Bruneski, P. (2007). A guide to research tools. SWOT analysis. Recreation Tourism Research Institute. Retrieved from http://web.viu.ca/rtri/SWOT%20Analysis.pdf

Chermack T.J & Kasshanna B.K (2007). The Use and Misuse of SWOT Analysis and Implications for HRD Professionals DOI:10.1080/13678860701718760. Corpus ID: 145098663

Cohen, D., & Crabtree, B. (2006). RWJF - Qualitative Research Guidelines Project | Reflexivity | Reflexivity. Retrieved January 8, 2018, from http://www.qualres.org/HomeRefl-3703.html

Commonwealth Secretariat (2003). Guidelines for Implementing a Multi-Sectoral Approach to HIV and AIDS in Commonwealth Countries. Revised Version. Health Section. Social Transformation Programmes Division. Commonwealth Secretariat. Marlborough House, Pall Mall. London SW1Y 5HX. United Kingdom. March 2003 https://www.hivpolicy.org/Library/HPP000393.pdf

Constitution of the Republic of South Africa, 1996

Creswell, J. W. (2014). Research Design Qualitative, Quantitative and Mixed Methods Approaches (4th ed.). Thousand Oaks, CA Sage.

Creswell, J. W., & Creswell, J. D. (2018). Research design: qualitative, quantitative and mixed methods approaches. Fifth edition. SAGE Publications Inc.

Creswell, J. W., & Plano Clark, V.L. (2011). Designing and conducting mixed methods research. (2ND ed.). Thousand Oaks, CA: SAGE.

Creswell, J. W., & Poth, C. N. (2017). Qualitative inquiry and research design: Choosing among five approaches (4th ED). Los Angeles, CA: Sage.

Creswell, J. W., & Plano Clark, V. L. (2011). Designing and Conducting Mixed Methods Research. Thousand Oaks Sage Publications. Los Angeles.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L. & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori and C. Teddlie (EDS), Handbook on mixed methods in the behavioral and social sciences (pp. 209-240). Thousand Oaks, CA: Sage Publications.

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L. & Hanson, W. E. (2006). Advanced mixed methods research designs. In A. Tashakkori and C. Teddlie (Eds), Handbook on mixed methods in the behavioral and social sciences (pp. 209-240). Thousand Oaks, CA: Sage

Creswell, J. W., Plano Clark, V. L., Gutmann, M. L. & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori and C. Teddlie (Eds), Handbook on mixed

methods in the behavioral and social sciences (pp. 209-240). Thousand Oaks, CA: Sage Publications

Creswell, J.W. & Plano Clark, V.L. (2011). Designing and conducting mixed methods Research. 2nd ed. USA: Sage Publications, Inc.

Creswell, J.W. (2007). Qualitative inquiry and research design: Choosing among five approaches (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J.W., Ebersohn, L., Eloff, I., Ferreira, R., Ivankova, N.V., Jansen, J.D., Nieuwenhuis, J., Pietersen & Plano Clark, V.L. (2016). First steps in research. 2nd ed. Published by van Schaik Publishers.

Cwayi, S. (2011). An examination of how the five case study departments of the Provincial Government of the Western Cape have organised their monitoring and evaluation function. By Siphumeze Cwayi Master of Philosophy in Public Policy Faculty of the Humanities, University of Cape Town.

Dantzker, M.L. & Hunter, R.D. (2000). Research Methods for Criminology and Criminal Justice: A Primer. Woburn, MA: Butterworth-Heinemann.

David, F.R. (2011). Strategic management: concepts and cases. 13th ed. p. cm. Library of Congress Cataloging-in-Publication Data. ISBN-13: 978-0-13-612098-8 (casebound) Copyright © 2011, 2009, 2007 by Pearson Education, Inc., publishing as Prentice Hall, One Lake Street, Upper Saddle River, New Jersey 07458 http://www.mim.ac.mw/books/David's%20Strategic%20Management%20Concepts%20and%20Cases%2013e%20.pdf

De Vos, A., Strydom, H., Fouché, C. and Delport, C. (2011). Research at Grass Roots for Social Sciences and Human Services Professions. 4 th ed. Pretoria: JL Van Schaik Publishers.

De Vos, A.S., Strydom, H, Schulze, S. & Patel, L. (2011). The sciences and the profession. In De Vos A.S., Strydom, H., Fouché C.B. & Delport C.S.L. Research at the grass roots for the social sciences and human service professions. 4 th ed. Pretoria: JL Van Schaik Publishers.

De Vos, A.S., Strydom, H., Fouché, C.B., & Delport, CSL. (2011). Building a scientific base for

the helping professions. In De Vos A.S., Strydom, H., Fouché C.B. & Delport C.S.L. 2011. Research at the grass roots for the social sciences and human service professions. 4th ed. Pretoria: JL Van Schaik Publishers.

Delport, C.L.S. & Fouché, C.B. (2011). Mixed methods research. In A.S. de Vos, H. Strydom, C.B. Fouché & C.S.L. Delport, Research at Grass Roots. For the Social Sciences and Human Service Professions. 4th Edition (pp. 433-488). Pretoria: Van Schaik.

Delport, C.S.L. & De Vos, A.S. (2005). Professional research and professional practice. In de Vos A.S., Strydom, H., Fouché C.B. & Delport C.S.L. Research at the grass roots for the social sciences and human service professions. 3rd Ed. Pretoria: JL Van Schaik Publishers.

Delport, C.S.L. & Fouché, C.B. (2011). Mixed methods research. In De Vos A.S., Strydom, H., Fouché C.B. & Delport C.S.L. Research at the grass roots for the social sciences and human service professions. 4th ed. Pretoria: JL Van Schaik Publishers.

Delport, C.S.L. & Roestenburg, W.J.H. 2011. Quantitative Data-Collecting Methods: Questionnaires, Checklists, Structural Observation and Structured Interview Schedules. In de Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. (eds.) 2011. Research at Grass Roots for the Social Sciences and Human Service Professions. 4thedition.Pretoria: Van Schaik.

Delport, C.S.L. (2005). Quantitative data collection methods. In de Vos, A.S., Strydom, H. Fouché C.B. & Delport C.S.L. Research at the grass roots for the social sciences and human service professions. 3rded. Pretoria: JL Van Schaik Publishers.

Denscombe, M. (2008). Ground rules for good research: a 10-point guide for social researchers. London: Open University Press.

DePoy, E. & Gibson, S. (2008). Evaluation practice: how-to do-good evaluation research in work settings. London: Routledge Taylor & Francis Group.

Etoori D, Wringe A, Kabudula CW, Renju J, Rice B, Gomez-Olive FX & Reniers G (2020) Misreporting of Patient Outcomes in the South African National HIV Treatment Database: Consequences for Programme Planning, Monitoring, and Evaluation. Front. Public Health 8:100. DOI: 10.3389/fpubh.2020.00100. Accessed on https://www.frontiersin.org/articles/10.3389/fpubh.2020.00100/full

Evidence Based Health Management Manual. March 2012 version. States Agency John Snow, Inc. through contract # GHS-1-00-07-00002-00

Family Health International (FHI 360), Rehle T, Saidel T, Mills S & Magnani R (2001). Evaluating programs for HIV / AIDS prevention and care in developing countries: a handbook for program managers and decision makers. Publication details: USA, Family Health International, 2001. Location: Pl 1. BS/6476. https://www.fhi360.org/sites/default/files/media/documents/Monitoring%20HIV-AIDS%20Programs%20(F acilitator)%20-%20Module%203.pdf

FHI 360, (2004). Developed seven steps towards developing a Monitoring and Evaluation Work Plan. Monitoring HIV and AIDS Programs: A Facilitator' s training guide a USAID resource for Prevention, Care and Treatment.

Framework for Managing Programme Performance Information (National Treasury, 2007). http://www.treasury.gov.za/publications/guidelines/2015-16/FMPI.pdf

Framework for Strategic Plans and Annual Performance Plans (National Treasury, 2010). http://www.treasury.gov.za/legislation/pfma/TreasuryInstruction/Revised%20Framework%20for%20Strategic%20Plans%20and%20Annual%20Performance%20Plans.pdf

Frankel, N., Gage, A. (2007). M&E Fundamentals. A self-guided mini course. Measure Evaluation.

Fukuda-Parr S, Lopes C, & Malik K, (2002). Capacity for Development: New Solutions to Old Problems. London: Earthscan Publications, Ltd.

Geldenhuys, P., & Botha, A. (2015). On the design of an electronic health patient registration system for South Africa. Paper presented at the 9th IDIA conference, Zanzibar.

Grant, M.J. & Booth, A. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. Health Information & Libraries Journal, 26(2), 91-108. DOI: 10.1111/j.1471-1842.2009.00848.

Goldman, I., Mathe, J.E., Jacob, C., Hercules, A., Amisi, M., & Buthelezi, T. (2015). 'Developing South Africa's National evaluation policy and system: First lessons learned', African Evaluation Journal 3(1), Art. #107, 9 pages. http://dx.doi. org/10.4102/aej.v3i1.107

Guest G & Emily E, Daniel J. (2015). Public Health Research Methods. SAGE publication Inc.

Online ISBN: 9781483398839 DOI: https://dx.doi.org/10.4135/9781483398839. United Kingdom. Online Publication Date: December 18, 2017.

Gorgens, Marelize, & Jody, Z. (2009). Making Monitoring and Evaluation Systems Work: A Capacity Development Toolkit. Washington D. C.: The World Bank.

Gotsadze G (2017). Evaluate HIV Monitoring and Evaluation System in the Republic of Moldova. Accessed at: http://www.ccm.md/sites/default/files/2018-11/2017_Evaluation%20of%20the%20HIV%20monitoring%20and%20evaluation%20system%20in%20RM.pdf

Granich R, Gupta S, Hall I, Aberle-Grasse J, Hader S, & Mermin J (2017). Status and methodology of publicly available national HIV care continua and 90-90-90 targets: A systematic review. PLoS Med 14(4): e1002253. https://doi.org/10.1371/journal.pmed.1002253

Gravetter, F. J., & Forzano, L.-A. B. (2003). Research methods for the behavioral sciences. Belmont, CA: Wadsworth.

Grinnell, R.M & Unrau, Y.A. (2008). Social work research and evaluation: foundations evid of ence-based practice. New York: Oxford University Press.

Grove, S. K., Burns, N., & Gray, J. R. (2014). Understanding nursing research: Building an evidence-based practice. Elsevier Health Sciences. 6th Edition

Grove, S. K., Burns, N., & Gray, J. R. (2013). The practice of nursing research: Appraisal, synthesis, and generation of evidence (7th ed.). St Louis, MO: Saunders Elsevier.

Guest, G., Bunce, A. & Johnson, L. (2006) How Many Interviews Are Enough? An Experiment with Data Saturation and Variability. Field Methods, 18, 59-82. http://dx.doi.org/10.1177/1525822X05279903

Guetterman, T. C., Fetters, M. D., & Creswell, J. W. (2015). Integrating quantitative and qualitative results in health science mixed methods research through joint displays. Annals of Family Medicine, 13(6), 554–561. https://doi.org/10.1370/afm.1865

Gürel E & Tat M, (2017). SWOT Analysis: A Theoretical Review. The Journal of International Social Research Cilt: 10 Sayı: 51 Volume: 10 Issue: www.sosyalarastirmalar.com ISSN: 1307-9581 Doi Number: http://dx.doi.org/10.17719/jisr.2017.1832

Hande, S. (2014). Strengths Weaknesses Opportunities and Threats of Blended Learning: Students' Perceptions. Ann Med Health Sci Res. 2014 May-Jun; 4(3): 336–339. DOI: 10.4103/2141-9248.133455. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4071729/

Hashim, M.K (2016). Approaches to Formulating Business Strategy: A Review. College of Business University, Strategic Management/Small and Medium-sized Enterprises, Utara, Malaysia. Arabian Journal of Business and Management Review DOI: 10.4172/2223-5833.1000281. https://www.hilarispublisher.com/open-access/approaches-to-formulating-business-strategy-a-review-.pdf

Haughey, D. (2010). Delphi Technique a Step-by-Step Guide. Project Smart.com.uk. 1-2. https://www.projectsmart.co.uk/pdf/delphi-technique-a-step-by-step-guide.pdf

Hayes R, Sabapathy K, & Fidler S (2011). Universal testing and treatment as an HIV prevention strategy: research questions and methods. HIV research, 9 (6). pp. 429-445. ISSN 1570-162X DOI: https://doi.org/10.2174/157016211798038515

Henninger H.B, Reese S.P, Anderson A.E, & Weiss J.A (2010). Validation of computational models in biomechanics. PMID: 20839648 PMCID: PMC2941217 DOI: 10.1243/09544119JEIM649. 2010;224(7):801-12. doi: 10.1243/09544119JEIM649.

Herselman, M & Botha, A. (2016). Strategies, Approaches and Experiences: Towards building a South African Digital Health Innovation Ecosystem, CSIR Meraka, Pretoria, South Africa. eBook available from https://goo.gl/uSQWW0. ISBN 978-0-7988-5632-4 (hbk). ISBN 978-0-7988-5634-8 (ebk). Cover design: Kashan Advertising. Language edited by: Isabel Claassen. https://mlab.co.za/wp-content/uploads/2019/09/botha-2016.pdf

Heywood, A., & Rohde, J. (nd). Using information for action. A manual for health workers at facility level. South Africa: The equity Project.

HST & HISP. (2005). Monitoring and evaluation of the operation plan for comprehensive HIV and AIDS care, Management and treatment for South Africa. Training manual for facilitators. Durban: HST

John Snow Incoporated Inc (JSI) 2012. Evidence Based Health Management Manual https://publications.jsi.com/JSIInternet/Inc/Common/_download_pub.cfm?id=12441&lid=3

South Africa Department of Health and South Africa National AIDS Council (2017). Let Our Actions Count sets: The South Africa`s National Strategic Plan for HIV, TB and STIs 2017-2022. https://sanac.org.za/wp-content/uploads/2017/06/NSP_FullDocument_FINAL.pdf

Human Sciences Research Council (HSRC), (2017) The Fifth South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, (SABSSM V), a population-based cross-sectional survey of households in South Africa, conducted between January and December, 2017 http://www.hsrc.ac.za/uploads/pageContent/9225/SABSSMVImpactAssessment_Summary_ZA_ADS_cleared1%20(002).pdf

Human Sciences Research Council, (2019). Incidence, Behaviour and Communication Survey, 2017. (SABSSM V1). The Fifth Communication Survey, (SABSSM V).

Igwe A, Onwumere J, Egbo O (2015), Building Blocks of Successful Strategy Implementation and Execution in the Management of Organisations. Corpus ID: 64300667. Published 2015 Economics. Information and Knowledge Management. ISSN 2224-5758 (Paper) ISSN 2224-896X (Online). Vol.5, No.3, 2015. https://core.ac.uk/download/pdf/234671932.pdf

Ishola, F. & Cekan, J., (2019). 'Evaluating the sustainability of health programmes: A literature review', African Evaluation Journal 7(1), a369. https://doi.org/10.4102/aej.v7i1.369

Islam, M., ed. (2007). Health Systems Assessment Approach: A How-To Manual. Submitted to the U.S. Agency for International Development in collaboration with Health Systems 20/20, Partners for Health Reformplus, Quality Assurance Project, and Rational Pharmaceutical Management Plus.

Ivankova, N. V., & Stick, S. L. (2007). Students' persistence in a distributed doctoral program in educational leadership in higher education: A mixed methods study. Research in Higher Education, 48(1), 93-136.

Ivankova, N.V., Creswell, J.W., & Stick. S.L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. Field Methods 18(1), 3-20 (2006).

John Snow Incorporated, (2012). Evidence Based Health Management Manual through United States Agency John Snow, Inc. through contract # GHS-1-00-07-00002-00 March 2012

version.

Johnson L.F, Dorrington R.E, & Moolla H. (2017) Progress towards the 2020 targets for HIV diagnosis and antiretroviral treatment in South Africa. South African Journal HIV Med. 2017;18(1), a694. https://doi.org/10.4102/sajhivmed.v18i1.694

Johnson LF, Chiu C, Myer L, Davies M, Dorrington R.E, Bekker L, Boulle A & Meyer-Rath G (2016). Prospects for HIV control in South Africa: a model-based analysis. Glob Health Action. 2016; 9: 10.3402/gha.v9.30314. Published online 2016 Jun 8. doi: 10.3402/gha.v9.30314 PMCID: PMC4901512 accessed on: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4901512/

Johnson, G., & Scholes, K. (2002). Exploring corporate strategy, 6th Ed., Prentice-Hall, London.

Kaposhi, B.M., Mqoqi, N., & Schopflocher, D., (2015). Evaluation of antiretroviral treatment programme monitoring in Eastern Cape, South Africa. Health Policy Plan. 30 (5), 547e554. http://dx.doi.org/10.1093/heapol/czu028

Karani F.N, Bichanga WO, & Kamau CG, (2014). Effective use of monitoring and evaluation systems in managing HIV and AIDS related projects: A case study of local NGOS in Kenya. Science Journal of Business and Management 2 (2), 67-76. Science Publishing Group. 2014; 2(2): 67-76. Published online April 30, 2014 (http://www.sciencepublishinggroup.com/j/sjbm) doi: 10.11648/j.sjbm.20140202.13. article.sciencepg.net › 10.11648.j.sjbm.20140202.13.pdf (Accessed 20 June 2020).

Kariuki, P., & Reddy, P., (2017). 'Operationalising an effective monitoring and evaluation system for local government: Considerations for best practice', African Evaluation Journal 5(2), a240. https:// doi.org/10.4102/aej.v5i2.240

Kawonga M, Blaauw D, & Fonn, S. (2012). Aligning vertical interventions to health systems: a case study of the HIV monitoring and evaluation system in South Africa. Health Research Policy and Systems 10 (1): 2.

Keita, N, Okidegbe, N, Cooke, S & Marchant, T. (2009). Developing countries' perspective: Selecting a core set of Indicators for Monitoring and Evaluation in Agriculture and Rural Development in Less-than-Ideal Conditions and implications for countries statistical system, Paper Presented by N. Keita, Senior Statistician, FAO Wye City Group Meeting.

Taber K.S. (2017). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. Science Education Centre, Faculty of Education, University of Cambridge, 184 Hills Road, Cambridge CB2 8PQ, UK. DOI 10.1007/s11165-016-9602-2

Kelly J.D, Frankfurter R, Lurton G, Conteh S, Empson S.F, Daboh F, Kargbo B, Giordano T, Mukherjee J & Barrie M.B (2018) Evaluation of a community-based ART programme after tapering home visits in rural Sierra Leone: a 24-month retrospective study, SAHARA-J: Journal of Social Aspects of HIV and AIDS, 15:1, 138-145, DOI: 10.1080/17290376.2018.1527244.
https://www.ajol.info/index.php/saharaj/article/view/18 3573

Kerlinger, F.N. & Lee, H.B. (2000). Foundations of behavioural research. London: Wadsworth Thomson Learning, Inc.

Khac Hai N, Lawpoolsri S, Jittamala P, Thi Thu Huong P, & Kaewkungwal J. (2017). Practices in security and confidentiality of HIV and AIDS patients' information: A national survey among staff at HIV outpatient clinics in Vietnam. PLoS One. 2017 Nov 14;12(11): e0188160. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0188160

Koot J. & Martineau, T. (2005). Mid-term review. Zambian health-workers' retention scheme (ZHWRS) 2003–2004. HRH, Global Resource Centre: Chapel Hill. Final Report.

Koot, J. (2008). Monitoring and evaluation for NGOs in Health and AIDS programmes.

Kumar, K. (1989). Conducting Key Informants Interviews in Developing Countries. Agency for International Development, Washington D.C: United States of America.

Kumar, R. (2005). Research methodology: A step-by-step guide for beginners. 2nd ed. London: Sage Publications Ltd.

Kusek, J. & Rist, R. (2004). Ten Steps to a Results-Based Monitoring and Evaluation System. The World Bank. Washington DC.

Ledikwe JH, Grignon J, Lebelonyane R, Ludick S, Matshediso E, Sento B, Sharma A, & Semo, B, (2014). Improving the quality of health information: A qualitative assessment of data management and reporting systems in Botswana. Health Res Policy Syst. 2014 Jan 30;12(1):7. DOI: 10.1186/1478-4505-12-7.

Leedy, P.D. & Ormrod, J.E. (2005). Practical research, planning and design. 8th Edition. Person Merrill Prentice Hall: New Jersey.

Letebo, M. & Shiferaw F. (2016). Adapting HIV patient and program monitoring tools for chronic non-communicable diseases in Ethiopia. Globalization and Health (2016) 12:26 DOI 10.1186/s12992-016-0163-y

Levi J, Raymond A, Pozniak A, Vernazza P, Kohler P, & Hill A. (2016) Can the UNAIDS 90-90-90 target be achieved? A systematic analysis of national HIV treatment cascades. BMJ Global Health 2016;1: e000010. doi:10.1136/bmjgh-2015-000010

Liebler, C., & M. Ferri. (2004). NGO Networks: Building Capacity in a Changing World. Washington, DC: United States Agency for International Development.

Life Health Care Group, (2017). Life Health Care integrated report https://www.lifehealthcare.co.za/media/2520/life_healthcare_integrated_report_2017.pdf

Limpopo Department of Health, (2018). Department of Health 2017/18 Annual Performance Plans. Department of Health Vote 7. https://provincialgovernment.co.za/department_annual/674/2018-limpopo-health-annual-report.pdf

Limpopo Department of Public Works, (2011) Roads and Infrastructure. M&E Framework adopted in April 2011.

Limpopo Provincial AIDS Council secretariat (2020). An assessment conducted by Limpopo AIDS Council on functionality of AIDS Councils.

Limpopo Provincial AIDS Council, 2015/16 Annual Progress Report for the Provincial Strategic Plan 2012-2016 published in March 2017 sanac.org.za/wp-content/uploads/2017/06/Limpopo.pdf

Limpopo Provincial Council on AIDS, (2019). Provincial Strategic Plan (NSP) for HIV, TB and STIs: 2017-2022.

Lincoln, Y. & Guba, E. (1999). Establishing Trustworthiness, in A. Bryman & R.G. Burgess (Eds) Qualitative Research, Volume 3. London: Sage. In De Vos, A., Strydom, H., Fouché, C. and Delport, C. (2011) Research at Grass Roots for Social Sciences and Human Services Professions. 4th ed. Pretoria: JL Van Schaik Publishers.

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic Inquiry. Newbury Park, CA: Sage Publications. In Nowell L.S, Norris J.M, White D.E and Moules N.J (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. International Journal of Qualitative Methods Volume 16: 1–13. The Author(s) 2017. Reprints and permissions: sagepub.com/journalsPermissions.nav. DOI: 10.1177/1609406917733847 journals.sagepub.com/home/ijq

Lopez Acevedo G., Rivera K., Lima L., Hwang H., (2010). M&E Network Challenges in Monitoring and Evaluation: An Opportunity to Institutionalize M&E Systems Fifth Conference of the Latin America and the Caribbean June 2010 The International Bank for Reconstruction and Development / The World Bank. 1818 H Street, N.W. Washington, D.C. 20433, U.S.A.

Lopez-Acevedo, GC., Rivera, KL.; Lima, L., & Hwang, H. (2010). Challenges in monitoring and evaluation: an opportunity to institutionalize M&E systems (English). Washington, DC: World Bank. http://documents.worldbank.org/curated/en/980451468016816661/Challenges-in-monitoring-and-evaluation-an-opportunity-to-institutionalize-M-E-systems

Macheka T & NASTAD South Africa Team, (2016). Strengthening Early Linkage, Treatment Adherence and Retention in HIV care using HCT and pre-ART TIER.NET Modules in Limpopo, Mpumalanga and Free State Provinces In South Africa. Using Tier.Net to strengthen the HIV Care Cascade. May 26, 2016 https://www.nastad.org/blog/using-tiernet-strengthen-hiv-care-cascade (Accessed 1 December 2020).

Mackay, K. (2006). Institutionalization of monitoring and evaluation systems to improve public sector management. ECD working paper series no. 15. Washington, DC: World Bank.

Mayne, J. (2008). Contribution analysis: An approach to exploring cause and effect (PDF – 130 KB) (ILAC Brief No. 16). Rome, Italy: The Institutional Learning and Change Initiative (ILAC). European Commission, Monitoring and evaluation of European cohesion policy: concepts and recommendations, Brussels 2011.

Mackay, K. (2007). How to Build M&E Systems to Support Better Government. Independent Evaluation Group. The World Bank. Washington, DC.

Mahlangu, P. Vearey, J., Thomas, E. & Goudge, J. (2017). Implementing a multi-sectoral response to HIV: A case study of AIDS Councils in the Mpumalanga Province, South

Africa Global Health Action 10(1): 1387411. DOI: 10.1080/16549716.2017.1387411. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5678501/

Maimula, S., (2017). Challenges in Practicing Monitoring and Evaluation: The Case of Local Government Water Projects in Mkuranga, Tanzania. The Open University of Tanzania. http://repository.out.ac.tz/1933/ (Accessed July 2020).

Maguire M, Delahunt B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. AISHE-J: The All-Ireland Journal of Teaching and Learning in Higher Education 2017, 9(3).

Makhado L & Davhana-Maselesele M. (2016.) Knowledge and uptake of occupational post-exposure prophylaxis amongst nurses caring for people living with HIV. Curationis | Vol 39, No 1 | a1593 | DOI: https://doi.org/10.4102/curationis.v39i1.1593 | This work is licensed under CC Attribution 4.0. Curationis 39(1), a1593. http://dx.doi.org/10.4102/curationis. v39i1.1593 https://curationis.org.za/index.php/curationis/article/view/1593/1942 (Accessed 20 June 2020).

Malaza A, Smith J, Mdaka N, Haynes R, & Shezi S. (2016). The 90-90-90 Compendium: An Introduction to 90-90-90 in South Africa. 2016. Health Systems Trust, 34 Essex Terrace, Westville 3630, South Africa https://www.hst.org.za/publications/HST%20Publications/90-90-90%20Vol%201(web)%202019.pdf

Manzi A, Hirschhorn L.R, Sherr K, Chirwa C, Baynes C, & Awoonor-Williams J K. (2017). Mentorship and coaching to support strengthening healthcare systems: lessons learned across the five Population Health Implementation and Training partnership projects in sub-Saharan Africa. Dec. 21, 2017. From: BMC Health Services Research (Vol. 17, Issue Suppl 3). Publisher: BioMed Central Ltd. BMC Health Services Research, vol. 17, no. Suppl 3, 2017. Gale OneFile: Health and Medicine. Accessed 1 Dec. 2020.

Mapfumo, T. (2016). Monitoring and evaluation of HIV and AIDS programmes by Non-Governmental Organisations: a case study of uMngeni Local Municipality, KwaZulu-Natal, South Africa (Durban University of Technology) Published Article in 2016. Masters dissertation

Marsha K, Eaton J.W, Mahy M, Sabin K, Autenrieth C.S, Wanyeki I, Daher J & Ghys P.D (2019) Global, regional and country-level 90-90-90 estimates for 2018: assessing progress

towards the 2020 target. 2019 Dec 15;33 Suppl 3(Suppl 3): S213-S226. PMID: 31490781 PMCID: PMC6919229 DOI: 10.1097/QAD.0000000000002355. https://pubmed.ncbi.nlm.nih.gov/31490781/

Matsiliza N.S. (2019). Strategies to Improve Capacity for Policy Monitoring and Evaluation in the Public Sector. Journal of Reviews on Global Economics, 2019, 8, 490-499. Durban University of Technology, South Africa. Maxfield M.G & Babbie E.R. (2018). Product cover for Research Methods for Criminal

Justice and Criminology, 8th Edition (9781337091824) by Michael G. Copyright 2018. Publisher: Boston, MA: Cengage Learning.

Mbondo M, Scherer J, Aluoch GO, Sundsmo A, & Mwaura N. (2013). Organizational HIV monitoring and evaluation capacity rapid needs assessment: the case of Kenya. Pan Afr Med J. 14:129. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3670202/pdf/PAMJ-14-129.pdf/?tool=EBI (Accessed 28 November 2020).

McCrudden M.T & McTigue E.T (2018). Implementing Integration in an Explanatory Sequential Mixed Methods Study of Belief Bias About Climate Change with High School Students. SAGE Publications. 2455 Teller Road, Thousand Oaks, CA 91320. Web site: http://sagepub.com. Journal of Mixed Methods Research, Vol. 13(3) 381–400. sagepub.com/journals-permissions.DOI:10.1177/1558689818762576. journals.sagepub.com/home/mmr

Measure Evaluation, (2011). Monitoring and Evaluation assessment report. Republic of Moldova. Moldova, Chisinau, Measure evaluation.

Measure Evaluation, (2017). Tools and Support to Achieve 90-90-90 Targets and Save Lives. December 2017. This publication was produced supported by the United States Agency for International Development (USAID) under the terms of MEASURE Evaluation cooperative agreement. AID-OAA-L-14-00004. Accessed on https://www.measureevaluation.org/resources/publications/fs-16-169/at_download/document

Monette, D.R., Sullivan, T.J. & DeJoung, C.R. (2005). Applied social research: tool for the human services, (6th ed). Australia: Thomson Brooks/Cole.

Morris, T. (2006). Social Work Research Methods: Four Alternative Paradigms. Thousand

Oaks, CA: Sage.

Mouton, C. (2010), The History of Programme Evaluation in South Africa. MPhil degree IN Social Science Methods at the University of Stellenbosch http://scholar.sun.ac.za/handle/10019.1/5413

Mpofu M, Semo BW, Grignon J, Lebelonyane R, Ludick S, Matshediso E, Sento B, & Ledikwe JH. (2014). Strengthening M&E and building sustainable health information systems in resource limited countries: lessons learned from an M&E task-shifting initiative in Botswana. BMC Public Health. 2014 Oct 3;14(1):1032. doi: 10.1186/1471-2458-14-1032.

Murphy J, Mershon C-H, Struthers H, & McIntyre J. (2013). 'Feedback: Where data finally get thrilling' – tools for facility managers to use data for improved health outcomes in the prevention of mother-to-child transmission of HIV and antiretroviral therapy. Southern African Journal of HIV Medicine | Vol 14, No 3 | a66; | DOI: https://doi.org/10.4102/sajhivmed.v14i3.66

Murthy D. N., & Chitra K., (2013). Review article on process validation as a quality assurance tool a theoretical approach. Internationale Pharmaceutica Sciencia, 3(2): 6-14, Vol. 3 Issue 2 Available online http://www.ipharmsciencia.comISSN 2231-5896

Myburgh H, Peters RPH, Hurter T, Grobbelaar CJ, & Hoddinott G. (2019). Transition to an in-facility electronic Tuberculosis register: Lessons from a South African pilot project. Republic of South Africa; c2016 [cited 2019 Jun 5]. Southern African Journal of HIV Medicine, 16 Jan 2020, 21(1):1025 DOI: 10.4102/sajhivmed.v21i1.1025 PMID: 32158556 PMCID: PMC7059247 https://europepmc.org/article/med/32158556 (Accessed 21 August 2020)

N P Simelela N.P & Venter W D F (2014). A brief history of South Africa's response to AIDS. S Afr Med J 2014;104(3 Suppl 1):249-251. DOI:10.7196/SAMJ.7700 http://www.samj.org.za/index.php/samj/article/viewFile/7700/5855 (Accessed 28 November 2020).

National Agency for the Control of AIDS (NACA) (2011a). National HIV and AIDS monitoring and evaluation plan - Nigeria National Response Information Management Systems (NNRIMS) operational plan II; third edition. Abuja (Nigeria): The National Agency for the Control of AIDS. Retrieved on 08 April 2013.

National Agency for the Control of AIDS (NACA). (2011a). Fact sheet 2011: Women, girls and HIV in Nigeria.

National Agency for the Control of AIDS (NACA). (2011b). fact sheet 2011: update on the HIV and AIDS epidemic

National Department of Health (2011) SANAC National Strategic Plan on HIV, STIs and TB. Pretoria: South African National AIDS Council; 2011. https://sanac.org.za/wp-content/uploads/2019/02/NSP-2007-2011.pdf (Accessed 28 November 2020).

National Department of Health, (2011). District Health Management Information System (DHMIS) Policy. Publisher: National Department of Health https://www.knowledge hub.org.za/elibrary/district-health-management-information-system-dhmis-policy

National Department of Health. The Operational Plan for Comprehensive HIV and AIDS Care, Management and Treatment for South Africa. 19 November 2003. https://www.gov.za/documents/operational-plan-comprehensive-hiv-and-aids-care-management-and-treatment-south-africa (accessed 28 November 2020).

National Sport and Recreation Amendment Act, 1998 (as amended) National Treasury Guidelines, (2010)

National Treasury, (2007). Framework for Managing Programme Performance Information. Republic of South Africa: National Treasury.

National Treasury, (2007). Government-Wide Monitoring and Evaluation (GWME) Framework for managing programme performance information. Formeset Printers Cape (Pty) Ltd, Cape Town.

National Treasury. (2007). Framework for Managing Program Performance Information. Pretoria. South Africa.

Neuman, W.L. (2006). Social Research Methods Qualitative and Quantiative Approaches 6th Ed. University of Wisconsin, Whitewater: Pearson.

Nicol E, Dudley L, & Bradshaw D. (2016) Perceptions about data-informed decisions: an assessment of information-use in high HIV-prevalence settings in South Africa. 95:60–70. https://doi.org/10.1016/j.ijmedinf.2016.09.006.

Nsanzimana S, Prabhu K, McDermott H, Karita E, Forrest J, Drobac P, Farmer P Mills E.J & Binagwaho A (2015). Improving health outcomes through concurrent HIV program scale-up and health system development in Rwanda: 20 years of experience. BMC Medicine volume 13, Article number: 216 (2015) https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-015-0443-z

Nu'Man, J., King, W., Bhalakia, A., & Criss, S. (2007). A framework for building organizational capacity integrating planning, monitoring, and evaluation. Journal of Public Health Management Practice, 13(Suppl.), S24—S32.

Nxumalo NL., (2013). Community health workers, community participation and community level inter-sectoral action: the challenges of implementing primary health care outreach services, Wits PhD dissertation http://wiredspace.wits.ac.za/handle/10539/14597

Obunga R.O (2017) An Assessment of Monitoring and Evaluation Systems of Plan Kenya: a Case Study of Young Health Programme and Adolescent Girls Initiative Kenya, Nairobi Political Science. Masters dissertation http://erepository.uonbi.ac.ke/handle/11295/103254 (Accessed 20 June 2020).

Ogungbemi K, Oyediran KA, Mullen S, LaFond A, Azeez A, Boone D, Mharadze TN, Kanagat N, & Atobatele A (2012). Using UNAIDS's organizing framework to assess Nigeria's national HIV monitoring and evaluation system. Open Journal of Preventive Medicine 2012. 2:372-378. Doi: 10.4236/ojpm.2012.23054. accessed on https://www.measureevaluation.org/resources/publications/ja-12-144

Ogunmefun C, Madale R, Matse M, Jassat W, Mampe T, Tlamama F & Masuku M. (2011). An Audit of Community Health Workers in the Districts of the North West Province. Health Systems Trust; Durban. http://www.jphcf.co.za/wpcontent/uploads/2014/06/Final%20Report-%20Audit%20of%20CHWs%20in%20the%20NWP%2010%20Oct%202011.pdf

Onwuegbuzie, A.J., & Leech, N.L. (2006). Linking Research Questions to Mixed Methods Data Analysis Procedures 1. The Qualitative Report, 11(3), 474-498. Retrieved from http://nsuworks.nova.edu/tqr/vol11/iss3/3

Onwuegbuzie, A.J., & Wilson, V.A. (2003). Statistics anxiety: Nature, etiology, antecedents, effects, and treatments: A comprehensive review of the literature. Teaching in Higher Education, 8, 195-209. https://psycnet.apa.org/record/2003-03933-003

Organisation for Economic Co-Operation and Development, (2019), Development aid at a glance, Statistics by region. Africa, viewed 20 April 2019, from https://www.oecd.org/dac/financing-sustainable-development/development-finance-data/Africa-Development-Aid-at-a-Glance-2019.pdf.

Osler M, Hilderbrand K, Hennessey C, Arendse J, Goemaere E, & Ford N. (2014). A three-tier framework for monitoring antiretroviral therapy in high HIV burden settings. Journal Int AIDS Soc. (2014) 17:18908. doi: 10.7448/IAS.17.1.18908

Patton, M.Q. (2002). Qualitative Research & Evaluation Methods. 3rd ed. Sage Publications, Inc.

Pearce, C. (2010). Foundation for Professional Development. Building Strength, Overcoming Weakness, Explore Opportunities and Minimize threats. In Vhuromu E.N (2017), Utilization of Cervical Cancer Screening Services among Women in Vhembe District, South Africa: A Cross-Sectional Study. Department of Advanced Nursing Science, University of Venda, Thohoyandou, South Africa, PhD thesis. http://univendspace.univen.ac.za/bitstream/handle/11602/932/Thesis%20-%20Vhuromu,%20e.%20n.-.pdf?isAllowed=y&sequence=1

Peltzer, K. (2018). Longitudinal analysis of HIV risk behaviour patterns and their predictors among public primary care patients with tuberculosis in South Africa, SAHARA-J: Journal of Social Aspects of HIV and AIDS, 15:1, 1-6, DOI: 10.1080/17290376.2018.1433057

Perez G. M., Cox V., Ellman T., Moore A., Patten G., Shroufi A., & Ibeto M. (2016). I know that I do have HIV but nobody saw me. Oral HIV self-testing in an informal settlement in South Africa. PLoS One, 11(4), 1–15. [PMC free article] [PubMed] [Google Scholar]

Plano, C.V.L., & Sanders, K. (2015). The use of visual displays in mixed methods research: Strategies for effectively integrating the quantitative and qualitative components of a study. In McCrudden, M., Schaw, G., Buckendahl, C. (Eds.), Use of visual displays in research and testing: Coding, interpreting, and reporting data (pp. 177-206). Charlotte, NC: Information Age Publishing.

Polit, D.F., Beck C. & Hungler, B. (2004). Nursing Research Basics: Methods, Evaluation and use. 5th Ed. Porto Alegre: Ana Thorell.

Polit, D.F., & Beck, C.T. (2012). Nursing research: generating and assessing evidence for nursing practice. Ninth Edition. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.

Presidency (2011). Department of Planning, Monitoring and Evaluation (DPME), National Evaluation Policy Framework 23 November 2011. https://www.dpme.gov.za/publications/Policy%20Framework/National%20Evaluation%20Policy%20Framework.pdf (Accessed 23 August 2020)

Presidency, (2014). Department of Planning, Monitoring and Evaluation (DPME) Discussion Document on Performance Monitoring and Evaluation: Principle and Approach, 27 October 2014.

Presidency. (2007). Policy Framework for the Government-Wide Monitoring and Evaluation System. Republic of South Africa: The Presidency.

Public Finance Management Act (PFMA), 1999

Public Service Commission, (2008). Basic Concepts in Monitoring and Evaluation South Africa. 2008.

Rasila, B.N., (2019). An assessment of alignment between development interventions and monitoring and evaluation in Limpopo Province, South Africa', Africa's Public Service Delivery and Performance Review 7(1), a223. https://doi.org/10.4102/apsdpr.v7i1.223

Regenesys Management, (2014) a guide for Postgraduate Diploma in Business Management for Organisational Strategy Planning and Management. Regenesys Business School. Place of Publication: Sandton. Version Control 5.1_f

Rehle, T., Saidel, T., Mills, S., & Magnani, R. (2001). Evaluating programs for HIV and AIDS Prevention and Care in developing Countries: A Handbook for Program Managers and Decision Makers.

Republic of Moldova National Coordination Council for HIV and AIDS & TB (2008). M&E system assessment report 2008, Republic of Moldova

Republic of South Africa, United Nations General Assembly Special Session on HIV and AIDS, Country Progress report on the declaration of Commitment on HIV and AIDS 2010 report - reporting period: January 2008 - December 2009 http://data.unaids.org/

pub/report/2010/southafrica_2010_country_progress_report_en.pdf

Tania, A. & Ronette, E. (2010). Implementing a Government-wide Monitoring and Evaluation System in South Africa, Independent Evaluation Group Communications, Learning, and Strategy (IEGCS). The Word Bank. Washington, DC: United States of America.

Stratton S.J. (2016). Comprehensive Reviews. Published online by Cambridge University Press: 27 July 2016. https://www.cambridge.org/core/journals/prehospital-and-disaster-medicine/article/comprehensive-reviews/D1845F8EBDC8128C59C468C76D9EC277

SANAC & South Africa Department of Health (2017). South African National Strategic Plan for HIV, TB and STIs 2017 – 2022 (NSP) Mar 06, 2018

SANAC (2015), Global AIDS Response Progress Report (GARPR) 2015. Jun 22, 2016 sanac.org.za/2016/06/22/global-aids-response-progress-report-garpr-2015

SANAC National Strategic Plan on HIV, STIs and TB. Pretoria: South African National AIDS Council; 2011.

SANAC South Africa's National Strategic Plan for HIV, TB and STIs 2017–2022. Pretoria: South African National AIDS Council; 2017.

SANAC, (2014). South Africa Global AIDS Response Progress Report (GARPR) 2015 http://sanac.org.za/wp-content/uploads/2016/06/GARPR_report-high-res-for-print-June-15-2016.pdf

SANAC, (2015). The South Africa Global AIDS Response Progress Report (GARPR). sanac.org.za/wp-content/.../06/GARPR_report-high-res-for-print-June-15-2016.pd

Shannon G, Minckas N, Tan D, Haghparast-Bidgoli H, Batura N, & Mannell J. (2019). Feminisation of the health workforce and wage conditions of health professions: an exploratory analysis. Hum Resource Health. 17:72. https://doi.org/10.1186/s12960-019-0406-0. https://link.springer.com/article/10.1186/s12960-019-0425-x

Shisana O, Rehle T, Simbayi LC, Zuma K, Jooste S, Pillay-van-Wyk V, Mbelle N, Van Zyl J, Parker W, Zungu NP, Pezi S & the SABSSM III Implementation Team. (2009). South African national HIV prevalence, incidence, behaviour and communication survey 2008: A turning tide among teenagers? Cape Town: HSRC Press

Sikuku C. (2016) Assessment of the Monitoring and Evaluation System for Kenyatta National Hospital. Masters Dissertation University of Nairobi.

Simbayi LC, Zuma K, Zungu N, Moyo S, Marinda E, Jooste S, Mabaso M, Ramlagan S, North A, van Zyl J, Mohlabane N, Dietrich C, Naidoo I and the SABSSM V Team (2019) South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2017. Cape Town: HSRC Press. http://www.hsrc.ac.za/uploads/pageContent/10779/SABSSM%20V.pdf

Sivagnanasothy, V. (2007). Institutionalization of Monitoring and Evaluation System in Sri Lanka – Lessons Learnt, Best Practices, Issues, Challenges and the Way Forward.

South Africa Department of Health, (2019). National Digital Health Strategy for South Africa 2019-2024.http://www.health.gov.za/index.php/2014-08-15-12-54-26?download=3651:national-digital-health-strategy-for-south-africa-2019-2024

South Africa Department of Social Development and Centre for AIDS Development, Research and Evaluation (CADRE). (2006). Situational analysis and needs assessment of Management Capacity among Home and Community Based Care Service Providers. December 2006

South Africa Department of Social Development. (2007). National Norms and Minimum Standards for Home and Community Based Care (HCBC) and Support Programme. November, 2007.

South Africa National Department of Health UNGASS Country Report. Progress Report on Declaration of Commitment on HIV and AIDS, 2008. https://data.unaids.org/pub/report/2010/southafrica_2010_country_progress_report_en.pdf

South Africa National Department of Health UNGASS Country Report. Progress Report on Declaration of Commitment on HIV and AIDS, 2010. https://data.unaids.org/pub/report/2010/southafrica_2010_country_progress_report_en.pdf (Accessed 28 November 2020).

South Africa National HIV and AIDS /STI/TB Council, National HIV and AIDS /STI/TB Monitoring and Evaluation Plan and its Operational Plan 2011–2015 (2011–2015).

South Africa UNGASS Country Report, (2008) Country Progress Report on the Declaration of

Commitment on HIV and AIDS

South African Statistics Quality Assessment Framework (SASQAF)

Ssekalembe G, Isfandiari M.A. & Suprianto, H. (2020) Current Status Towards 90-90-90

UNAIDS Target and Factors Associated with HIV Viral Load Suppression in Kediri City, Indonesia. HIV and AIDS (Auckland, N.Z.), 16 Jan 2020, 12:47-57. DOI: 10.2147/hiv.s231173 PMID: 32021486 PMCID: PMC6970622

Stancefield, S. (2005). Structuring information and incentives to improve health in Bulletin of the WHO August 2005, 83 (8). 562-56 http://www.who.int/bulletin/volumes/83/8/562.pdf

Statistics South Africa, (2020). 2020 Mid-year population estimates | Statistics South Africa. Embargoed until: 9th July 2020 10:30 http://www.statssa.gov.za/?p=13453

Statistics South Africa, (2020). Statistics South Africa (Stats SA) estimates the mid-year population. https://www.statssa.gov.za/publications/P0302/P03022019.pdf

Sullivan, H, & Stewart, M. (2006). Who owns the theory of change? Evaluation 12, 179–199.

Teddlie, C. & Tashakkori, A. (2009). Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences. Sage, London.

Torraco, R.J. (2016). Writing Integrative Literature Reviews: Using the Past and Present to Explore the Future. Human Resource Development Review, 2016-12, Vol.15 (4), p.404-428. https://journals-sagepub-com.ez.sun.ac.za/doi/pdf/10.1177/1534484316671606

The Global Fund to Fight AIDS, Tuberculosis and Malaria, (2011). The Monitoring and Evaluation Toolkit is available electronically at: http://www.theglobalfund.org/en/me/documents/toolkit/

INTRAC for civil society (2017). Theory based Evaluation. https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Theory-based-evaluation.pdf

The Presidency Republic of South Africa, 2007. Policy Framework for the Government-wide

Monitoring and Evaluation System, 2007.

The Presidency Republic of South Africa. (2007). Policy framework for the government wide M&E system. South Africa.

The Presidency, (2007). Policy Framework for Government Wide Monitoring and Evaluation System. www.samea.org.za/documents/Government_Wide_ME_System.pdf

The Presidents Emergency Plan for AIDS Relief (PEPFAR). (2012). Capacity Building and Strengthening Framework, Version 2.0. Online. Available from: http://www.pepfar.gov/documents/organization/197182.pdf. Date Assessed: 17 March 2014.

The White Paper on Transforming Public Service Delivery (Batho Pele White Paper), 1997

The World Bank, (2004). Monitoring and Evaluation: Some tools, methods and approaches. World Bank. Operations Evaluation Department. http://siteresources.worldbank.org/EXTEVACAPDEV/Resources/4585672125148137859O/MandE_tools_methods_approaches.pdf

Thomas, A.R. & Smith, P.J. (2003). Spotlight on social research. Boston: Allyn & Bacon.

Ulin, P. R., Robinson, E. T., & Tolley, E. E. (2005). Qualitative methods in public health: A field guide for applied research. San Francisco, CA: Jossey-Bass. In Watkins D.C (2012), Qualitative Research: The Importance of Conducting Research That Doesn't "Count" Health Promotion Practice. March 2012 Vol. 13, No. 2 153–158. DOI: 10.1177/1524839912437370© 2012 Society for Public Health Education

UNAIDS (2008). Country Progress Indicators, Excel spreadsheet, 2008. https://data.unaids.org/pub/report/2008/nepal_2008_country_progress_report_en.pdf (Accessed October 2020).

UNAIDS (2014). 90–90–90 An ambitious treatment target to help end the AIDS epidemic, October 2014

UNAIDS (2019). Global HIV & AIDS statistics — 2020 fact sheet | https://www.unaids.org/en/resources/fact-sheet

UNAIDS (2020). Global HIV & AIDS statistics — 2020 fact sheet |

https://www.unaids.org/en/resources/fact-sheet

UNAIDS, (2008). Joint Reviews of National AIDS Responses. A Guidance Paper. Geneva: UNAIDS, 2008

UNAIDS, (2008). Report on the global HIV and AIDS epidemic 2008: executive summary, © Joint United Nations Programme on HIV and AIDS (UNAIDS) 2008, WHO Library Cataloguing-in-Publication Data. http://data.unaids.org/pub/globalreport/2008/ jc1511 _gr08_executivesummary_en.pdf

UNAIDS, (2010). 2011–2015 Strategy Getting to Zero. Joint United Nations Programme on HIV and AIDS (UNAIDS). UNAIDS/10.12E / JC2034E (English original). WHO Library Cataloguing-in-Publication Data. ISBN 978-92-9173-883-0. https://www.unaids.org/ sites/default/files/sub_landing/files/JC2034_UNAIDS_Strategy_en.pdf

UNAIDS, (2016). Global AIDS Response Progress Reporting (GARPR) 2016; UNAIDS 2016 estimates

UNAIDS, (2016). Global AIDS Response Progress Reporting (GARPR) 2016 www.unaids.org/sites/default/files/media_asset/global-AIDS-update-2016_en.p

UNAIDS, (2016). Global AIDS Update UNAIDS report http://www.who.int/hiv/pub/arv/global-aids-update-2016-pub/en/

UNAIDS, (2017). Global AIDS update, Ending AIDS: progress towards the 90–90–90 targets http://www.unaids.org/en/resources/campaigns/globalAIDSupdate2017

UNAIDS. (2009a). 12 Components Monitoring and Evaluation System. Strengthening Tool. Geneva: UNAIDS, 2009a. https://www.unaids.org/sites/default/files/sub_landing/ files/1_MERG_Assessment_12_Components_ME_System.pdf

UNAIDS. (2010). Guidance on Capacity Building for HIV Monitoring and Evaluation, this guidance is based on the Organizing Framework for a Functional National HIV Monitoring and Evaluation System. Geneva: Switzerland.

UNAIDS., (2008a). Guidance on Capacity Building for HIV Monitoring and Evaluation. Based on the Organizing Framework for a Functional National HIV Monitoring and Evaluation System. Geneva: UNAIDS, 2008a. http://www.unaids.org/sites/default/files/ sub_landing/ files/5_4_MERG_Guidance_HIV_ME_Capacity_Buidling.pdf

UNDP Part III. (2002). Monitoring and Evaluating Performance. Handbook on Monitoring and Evaluating for Results. [Available online from www.undp.org/eo/documents/ HandBook/ME-HandBook.pdf]

Van Durme, T., Macq, J., Anthierens, S., Symons L, Schmitz O, Paulus D, Vanden Heede K & Remmen R (2014) Stakeholders' perception on the organization of chronic care: a SWOT analysis to draft avenues for health care reforms. BMC Health Serv Res 14, 179 (2014). https://doi.org/10.1186/1472-6963-14-179https://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-14-179

Van Wyk. B, Strebel. A, Peltzer K, and Skinner D. (2006). Community-level behavioural interventions for HIV prevention in Sub-Saharan Africa. Human Science Research Council. South Africa, Cape Town.

Vogel, I. (2012). Review of the Use of Theory of Change in International Development", Review Report, Department for International Development. Available at: https://assets.publishing.service.gov.uk/media/57a08a5ded915d3cfd00071a/DFID_ToC_Review_VogelV7.pdf

Williams, J. K. (2018). A comprehensive review of seven steps to a comprehensive literaturereview. The Qualitative Report, 23(2), 345-349. Retrieved from http://nsuworks.nova.edu/tqr/vol23/iss2/4

Walliman, N. (2006). Social research methods. London: Sage. In De Vos, A.S. (Ed.), Schurink, E.M. & Strydom H. (2011) Research at grass roots for the social sciences and human service professions. Pretoria: Van Schaik Publishers

Waymack J.R, & Sundareshan, V. (2019). Acquired Immune Deficiency Syndrome (AIDS) Last Update: January 22, 2019. https://www.ncbi.nlm.nih.gov/books/NBK537293/

Weiss, C.H. (1995). Nothing as Practical as Good Theory: Exploring Theory-Based Evaluation for Comprehensive Community Initiatives for Children and Families. In J. Connell, A. Kubisch, L. Schorr and C. Weiss (Eds.) New Approaches to Evaluating Community Initiatives: Concepts, Methods and Contexts. Washington DC: Aspen Institute (65-92).

Welime, A.M., (2019). Assessment of integrated monitoring and evaluation system. Dissertation University of Nairobi – Kenya. http://erepository.uonbi.ac.ke/bitstream/ handle/11295/109255/Welime_Assesment%20Of%20The%20National%20Intergrate

d%20Monitoring%20And%20Evaluation%20System%20In%20Kenya.pdf?sequence=1&isAllowed=y (accessed 30 November 2020).

Welman, C. Kruger, F. & Mitchell, B. (2005). Research methodology. 3rd ed. Oxford University Press: RSA, Cape Town.

WHO, Geneva. (November 2009), Monitoring and evaluation of health systems strengthening: An operational framework. Paper prepared by WHO, World Bank, GAVI and Global Fund as part of the joint work on health systems strengthening and IHP+ common evaluation framework. http://www.who.int/healthinfo/HSS_MandE_framework_Nov_2009.pdf

WHO. (2003a). The world health report. Health systems: principled integrated care. Shaping the Future https://www.who.int/whr/2003/en/whr03_en.pdf

WHO. (2003b). Monitoring routine immunization and data management – Mid-level management course for EPI managers. Draft 3. WHO/Afro

WHO. (2007a). Everybody's business. Strengthening Health Systems to improve health outcomes: WHO's framework for action. Geneva. Switzerland.

Wilfred Njabulo Nunu W.N, Makhado L, Mabunda J.T and Lebese R.T (2020). Strategies to facilitate safe sexual practices in adolescents through integrated health systems in selected districts of Zimbabwe: a mixed method study protocol. Reproduction Health https://doi.org/10.1186/s12978-020-0862-y or https://reproductive-health-journal.biomedcentral.com/track/pdf/10.1186/s12978-020-0862-y.pdf

World Bank, Schiavo-Campo S., (2005). Building Country Capacity for Monitoring and Evaluation in the Public Sector: Selected Lessons of International Experience, the World Bank Operations Evaluation Department, ECD Working Paper Series no:13 The World Bank Washington, D.C

World Health Organization (2017). Global guidance on criteria and processes for validation: Elimination of Mother-to-Child Transmission of HIV and Syphilis. 2nd edition. ISBN: 978-92-4-151327-2. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO. Cataloguing-in-Publication (CIP) data. CIP data are available at http://apps.who.int/iris

Zambia Country Report (2014). Monitoring the Declaration of Commitment on HIV and AIDS and the Universal Access Biennial Report. Submitted to the United Nations General Assembly special session on HIV AND AIDS Reporting period: January 2012 – December 2013 MARCH 31st 2014

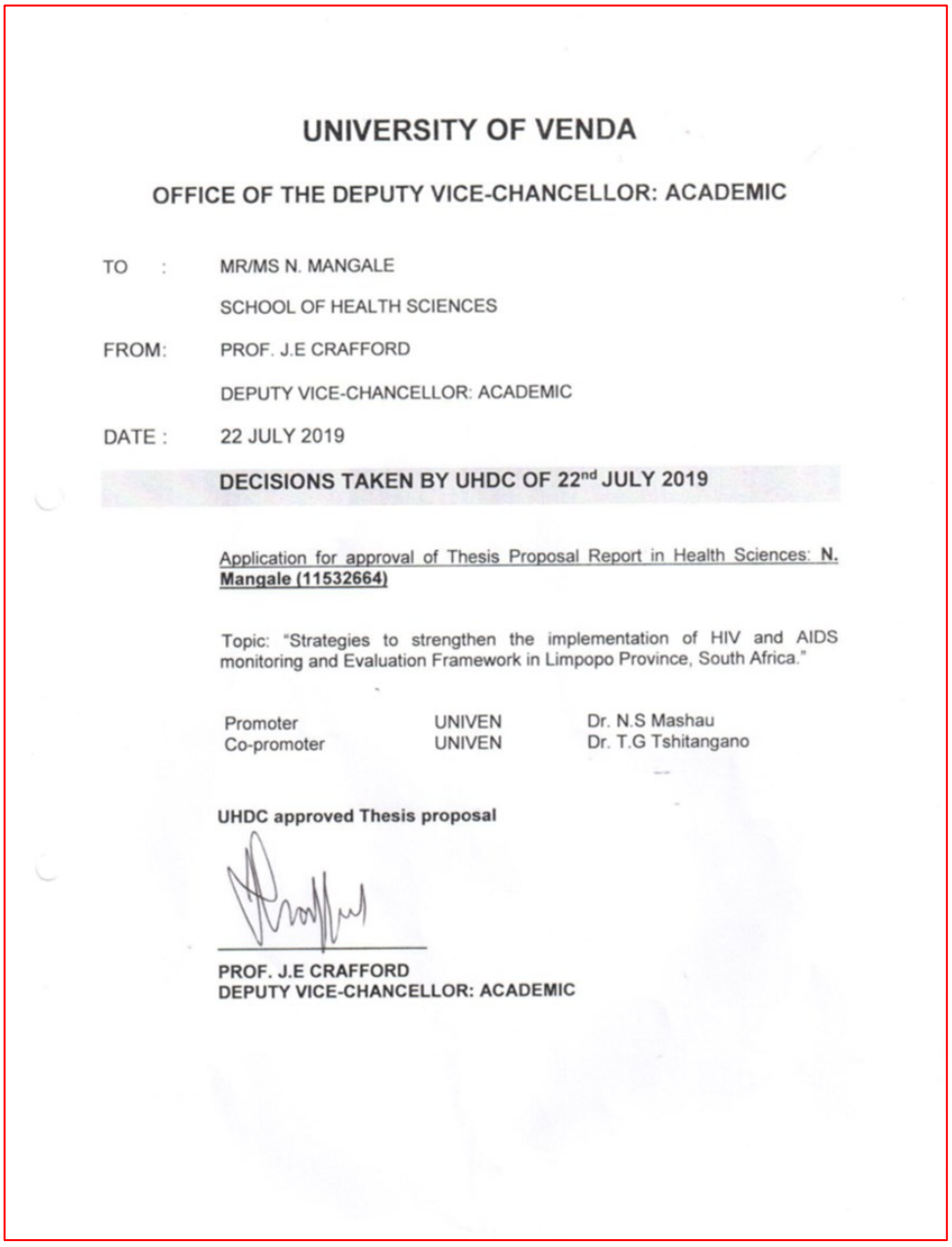
Zhou, G. & Zvoushe, H. (2013). Interrogating the Trajectory of National Budgeting in Zimbabwe". Global Business and Economics Research Journal. Jarkarta: Asian Economic and Social Society, Volume 2(3), 26-49.

Zimbabwe National AIDS Council. (2010). Zimbabwe National HIV and AIDS Strategic Plan (ZNASP) 2006-2010, 2006, 38 pp. Legal document | 01 July 2006

Zimbabwe National AIDS Council. (2015). Zimbabwe HIV and AIDS National Strategic Plan, 2011 – 2015

ANNEXURE A

UNIVERSITY OF VENDA HIGHER DEGREES COMMITTEE APPROVAL OF THESIS PROPOSAL



UNIVERSITY OF VENDA

OFFICE OF THE DEPUTY VICE-CHANCELLOR: ACADEMIC

TO : MR/MS N. MANGALE

SCHOOL OF HEALTH SCIENCES

FROM: PROF. J.E CRAFFORD

DEPUTY VICE-CHANCELLOR: ACADEMIC

DATE : 22 JULY 2019

DECISIONS TAKEN BY UHDC OF 22nd JULY 2019

Application for approval of Thesis Proposal Report in Health Sciences: **N. Mangale (11532664)**

Topic: "Strategies to strengthen the implementation of HIV and AIDS monitoring and Evaluation Framework in Limpopo Province, South Africa."

Promoter	UNIVEN	Dr. N.S Mashau
Co-promoter	UNIVEN	Dr. T.G Tshitangano

UHDC approved Thesis proposal

PROF. J.E CRAFFORD
DEPUTY VICE-CHANCELLOR: ACADEMIC

ANNEXURE B

ETHICS CLEARANCE CERTIFICATE FROM THE UNIVERSITY OF VENDA RESEARCH COMMITTEE

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:
Mr N Mangale

Student No:
11532664

PROJECT TITLE: Strategies to strengthen the implementation of HIV and AIDS monitoring and evaluation framework in Limpopo Province, South Africa.

PROJECT NO: SHS/19/PH/20/1109

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr NS Mashau	University of Venda	Promoter
Dr TG Tshitangano	University of Venda	Co-Promoter
Mr N Mangale	University of Venda	Investigator – Student

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: September 2019
Decision by Ethical Clearance Committee Granted
Signature of Chairperson of the Committee: .....
Name of the Chairperson of the Committee: Senior Prof. G.E. Ekosse

UNIVERSITY OF VENDA
DIRECTOR
RESEARCH AND INNOVATION
2019 -09- 11
Private Bag X5050
Thohoyandou 0950

University of Venda
PRIVATE BAG X5050, THOHOYANDOU, 0950, LIMPOPO PROVINCE, SOUTH AFRICA
TELEPHONE (015) 962 8504/8313 FAX (015) 962 9060
"A quality driven financially sustainable, rural-based Comprehensive University"

ANNEXURE C

ETHICAL CLEARANCE – LIMPOPO PROVINCIAL RESEARCH ETHICS COMMITTEE (LPREC)

CONFIDENTIAL

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

OFFICE OF THE PREMIER

TO: DR N RAMALIVHANA

FROM: DR T MABILA

CHAIRPERSON: LIMPOPO PROVINCIAL RESEARCH ETHICS COMMITTEE (LPREC)

DATE: JULY 2020

SUBJECT: STRATEGIES TO STRENGTHEN THE IMPLEMENTATION OF HIV AND AIDS MONITORING AND EVALUATION FRAMEWORK IN LIMPOPO PROVINCE, SOUTH AFRICA

RESEARCHER: MANGALE N

Dear Colleague

The above researcher's research proposal served at the Limpopo Provincial Research Ethics Committee (LPREC). The committee is satisfied with the research proposal's ethical soundness.

Decision: the research proposal is granted full approval and ethical clearance

Regards

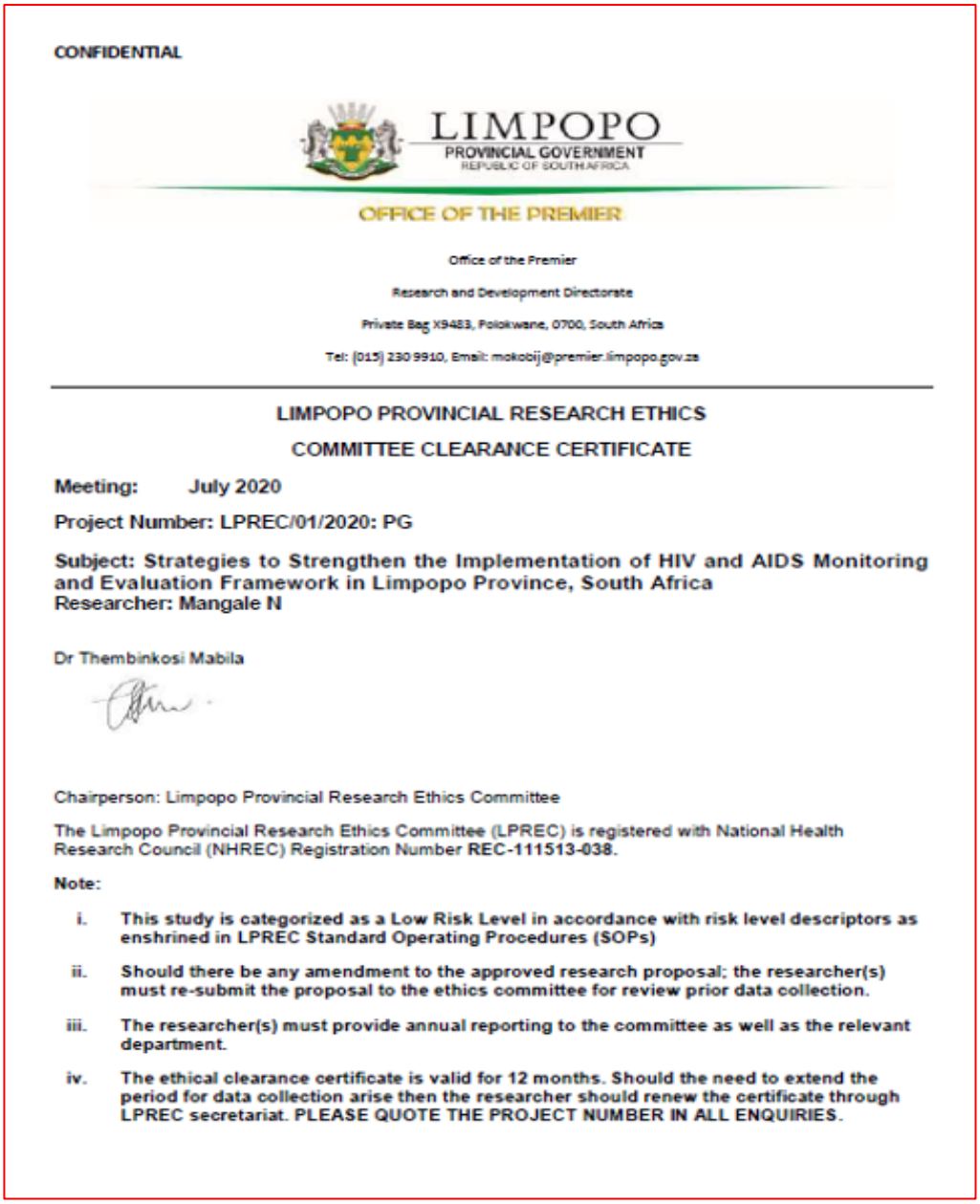
Chairperson: Dr T Mabila

Secretariat: Ms J Mokobi

Date: 27/07/2020

ANNEXURE D

ETHICAL CLEARANCE – LIMPOPO PROVINCE OFFICE OF THE PREMIER



CONFIDENTIAL

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

OFFICE OF THE PREMIER

Office of the Premier
Research and Development Directorate
Private Bag X9483, Polokwane, 0700, South Africa
Tel: (015) 230 9910, Email: mokobij@premier.limpopo.gov.za

LIMPOPO PROVINCIAL RESEARCH ETHICS
COMMITTEE CLEARANCE CERTIFICATE

Meeting: July 2020

Project Number: LPREC/01/2020: PG

Subject: Strategies to Strengthen the Implementation of HIV and AIDS Monitoring and Evaluation Framework in Limpopo Province, South Africa
Researcher: Mangale N

Dr Thembinkosi Mabila

Chairperson: Limpopo Provincial Research Ethics Committee

The Limpopo Provincial Research Ethics Committee (LPREC) is registered with National Health Research Council (NHREC) Registration Number **REC-111513-038.**

Note:

i. **This study is categorized as a Low Risk Level in accordance with risk level descriptors as enshrined in LPREC Standard Operating Procedures (SOPs)**

ii. **Should there be any amendment to the approved research proposal; the researcher(s) must re-submit the proposal to the ethics committee for review prior data collection.**

iii. **The researcher(s) must provide annual reporting to the committee as well as the relevant department.**

iv. **The ethical clearance certificate is valid for 12 months. Should the need to extend the period for data collection arise then the researcher should renew the certificate through LPREC secretariat. PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRIES.**

ANNEXURE E

PERMISSION FROM LIMPOPO PROVINCE DEPARTMENT OF HEALTH TO CONDUCT THE STUDY

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Ref : LP_201909_010
Enquires : Mrs P. Motimele
Tel : 015-293 6028
Email : Kurhula.Hlomane@dhsd.limpopo.gov.za

Mr N Mangale,
University of Venda, School of Public Health
PO BOX 798, PHIPHIDI, 0994

PERMISSION TO CONDUCT RESEARCH IN DEPARTMENTAL FACILITIES

Your Study Topic as indicated below;

Strategies to strengthen the implementation of HIV and AIDS monitoring and evaluation framework in Limpopo Province, South Africa.

1. Permission to conduct research study as per your research proposal is hereby Granted.
2. Kindly note the following:
   a. Present this letter of permission to the institution supervisor/s a week before the study is conducted.
   b. In the course of your study, there should be no action that disrupts the routine services, or incur any cost on the Department.
   c. After completion of study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
   d. The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   e. The approval is only valid for a 1-year period.
   f. If the proposal has been amended, a new approval should be sought from the Department of Health
   g. Kindly note that, the Department can withdraw the approval at any time.

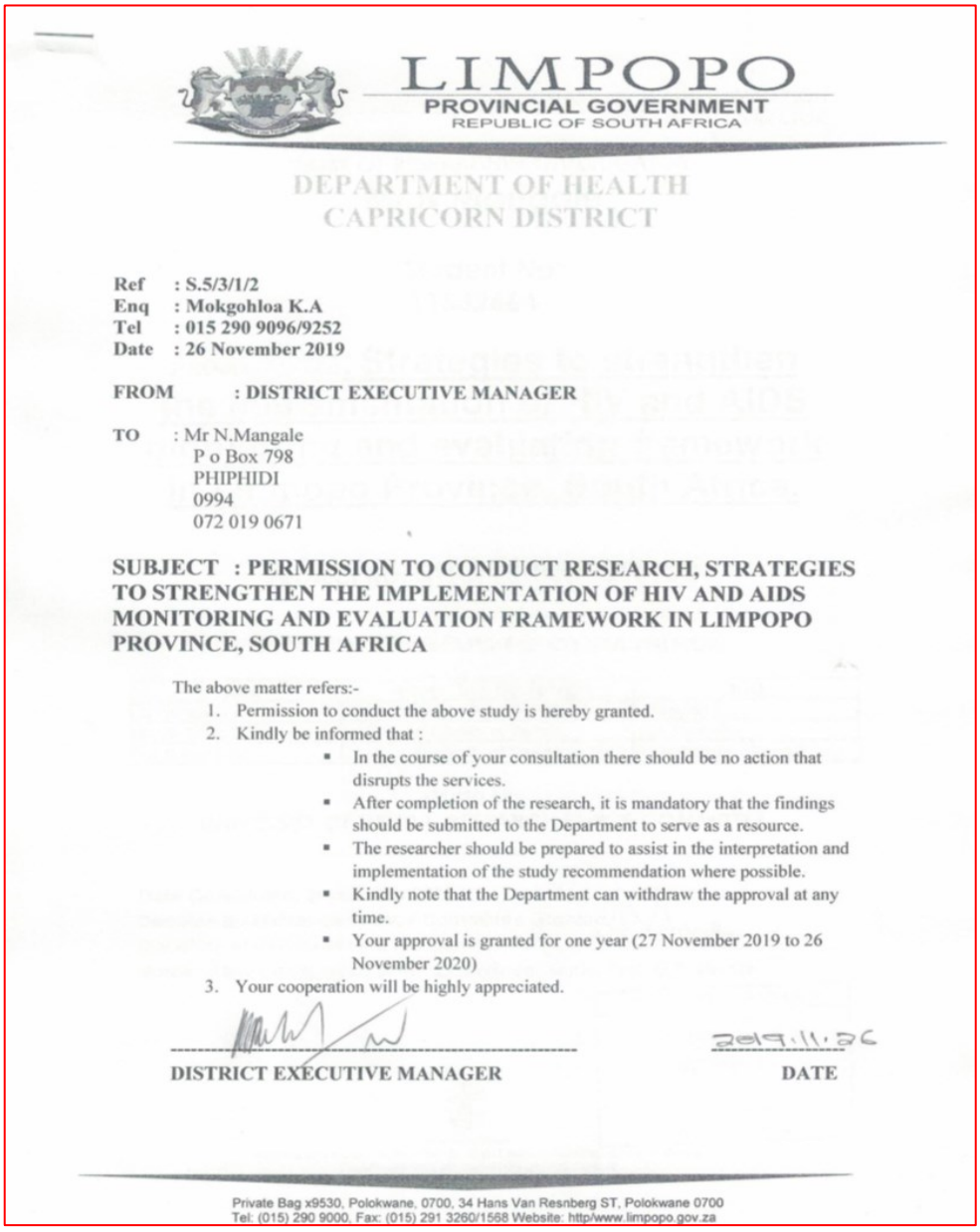
Your cooperation will be highly appreciated

Head of Department **Date** 4/10/19

Private Bag X9302 Polokwane
Fidel Castro Ruz House, 18 College Street. Polokwane 0700. Tel: 015 293 6000/12. Fax: 015 293 6211.
Website: http/www.limpopo.gov.za

ANNEXURE F

PERMISSION FROM CAPRICORN DISTRICT LIMPOPO DEPARTMENT OF HEALTH TO CONDUCT THE STUDY



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH
CAPRICORN DISTRICT

Ref : S.5/3/1/2
Enq : Mokgohloa K.A
Tel : 015 290 9096/9252
Date : 26 November 2019

FROM : DISTRICT EXECUTIVE MANAGER

TO : Mr N.Mangale
P o Box 798
PHIPHIDI
0994
072 019 0671

SUBJECT : PERMISSION TO CONDUCT RESEARCH, STRATEGIES TO STRENGTHEN THE IMPLEMENTATION OF HIV AND AIDS MONITORING AND EVALUATION FRAMEWORK IN LIMPOPO PROVINCE, SOUTH AFRICA

The above matter refers:-

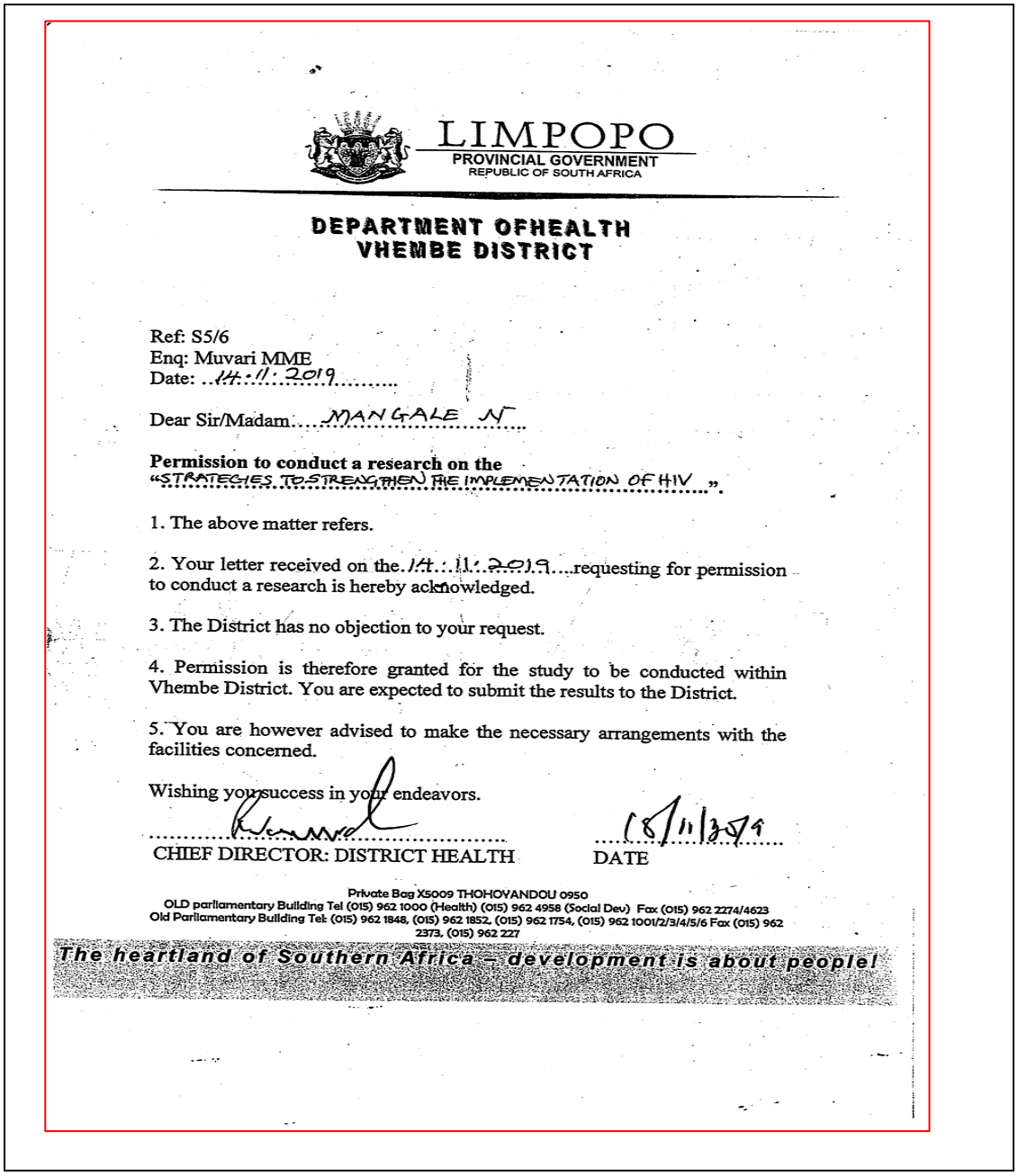
1. Permission to conduct the above study is hereby granted.
2. Kindly be informed that :
   - In the course of your consultation there should be no action that disrupts the services.
   - After completion of the research, it is mandatory that the findings should be submitted to the Department to serve as a resource.
   - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   - Kindly note that the Department can withdraw the approval at any time.
   - Your approval is granted for one year (27 November 2019 to 26 November 2020)
3. Your cooperation will be highly appreciated.

DISTRICT EXECUTIVE MANAGER — DATE 2019.11.26

Private Bag x9530, Polokwane, 0700, 34 Hans Van Resnberg ST, Polokwane 0700
Tel: (015) 290 9000, Fax: (015) 291 3260/1568 Website: http/www.limpopo.gov.za

ANNEXURE G

PERMISSION FROM VHEMBE DISTRICT LIMPOPO DEPARTMENT OF HEALTH TO CONDUCT THE STUDY



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OFHEALTH
VHEMBE DISTRICT

Ref: S5/6
Enq: Muvari MME
Date: 14:11:2019

Dear Sir/Madam MANGALE N

Permission to conduct a research on the
"STRATEGIES TO STREAGTHEN THE IMPLEMENTATION OF HIV".

1. The above matter refers.

2. Your letter received on the 14:11:2019 requesting for permission to conduct a research is hereby acknowledged.

3. The District has no objection to your request.

4. Permission is therefore granted for the study to be conducted within Vhembe District. You are expected to submit the results to the District.

5. You are however advised to make the necessary arrangements with the facilities concerned.

Wishing you success in your endeavors.

CHIEF DIRECTOR: DISTRICT HEALTH — DATE 18/11/2019

Private Bag X5009 THOHOYANDOU 0950
OLD parliamentary Building Tel (015) 962 1000 (Health) (015) 962 4958 (Social Dev) Fax (015) 962 2274/4623
Old Parliamentary Building Tel: (015) 962 1848, (015) 962 1852, (015) 962 1754, (015) 962 1001/2/3/4/5/6 Fax (015) 962 2373, (015) 962 227

The heartland of Southern Africa – development is about people!

ANNEXURE H

QUESTIONNAIRE

Developing Strategies to Strengthen HIV and AIDS Monitoring and Evaluation Framework in Limpopo Province, South Africa

The overall aim of the study is developing interventions strategies to strengthen HIV and AIDS M&E framework in Limpopo Province, South Africa. Following each statement or question, please mark the box that best represent your answer. Kindly mark only one box for each question, unless other instructions are applicable. Your answer to questions about providers should express your general feelings about all people who have provided you with medical care. Your response will be confidential.

SECTION A: BIOGRAPHICAL INFORMATION OF THE RESPONDENTS

1.1. Gender (choose)?

Male	**01**
Female	**02**
Not specified	**03**

1.2. What is your highest educational qualification(s)?

4	No formal Education	**01**
5	ABET Certificate	**02**
6	Grade 12	**03**
7	Advance Management Programme	**04**
8	Tertiary certificate	**05**
9	Diploma	**06**
10	Degree	**07**
11	Honours or Professional Degree	**08**
12	Master's Degree	**09**
13	Other_____	**10**

1.3. What is your position?

Item	**Mark with X where applicable**
a) Officer	
b) Coordinator	
c) Assistant Director	
d) Deputy Director	
e) Director	
f) Chief Director	
g) Head of Department	
h) Other (Please Specify)	

1.4. How long have you been within the organisation?

Less than 1 year	**01**
2- 5years	**02**
5-9 years	**03**
10 years and above	**04**

SECTION B: ASSESSMENT OF HIV AND AIDS M&E SYSTEM

SECTION B- 1: AVAILABILITY OF HIV AND AIDS PROGRAMME INDICATORS AND REPORTING TOOLS	**Yes**	**No**	**Do not Know**	**Not Applicable**
Did you receive any training on how to utilize the HIV and AIDS data collection forms?	Yes	No	Do not Know	Not Applicable
Are indicators linked to 90-90-90 Provincial Council on HIV and AIDS strategic plan?	Yes	No	Do not Know	Not Applicable
Does the data collection and reporting system of the Program link to the National Reporting System indicators?	Yes	No	Do not Know	Not Applicable
Are targets been set linked to 90-90-90 Provincial HIV and AIDS strategic plan?	Yes	No	Do not Know	Not Applicable
Are data collection tools including all required HIV and AIDS program indicators?	Yes	No	Do not Know	Not Applicable
SECTION B- 2: DOCUMENTATION OF COLLECTION, COLLATION, VERIFICATION AND USE OF DATA	**Yes**	**No**	**Do not Know**	**Not Applicable**
Does the HIV Programme have existing data management guidelines? With clear procedure documenting what is reported to who, and how and when reporting is required?	Yes	No	Do not Know	Not Applicable
Is the available data properly stored, filed, up to date and readily available?	Yes	No	Do not Know	Not Applicable
Does the HIV Programme have one or more electronic M&E databases up to date?	Yes	No	Do not Know	Not Applicable
Are there procedures or mechanisms in place for following up any missing data gaps?	Yes	No	Do not Know	Not Applicable
Does clear documentation of collection, aggregation and manipulation information steps exist?	Yes	No	Do not Know	Not Applicable
SECTION B- 3: DATA QUALITY SYSTEMS, VERIFICATION, ANALYSIS & USE	**Yes**	**No**	**Do not Know**	**Not Applicable**
Are there steps and procedures in place to limit calculation errors, including automation where possible for checking double-counting and detecting missing data?	Yes	No	Do not Know	Not Applicable
Are reports are submitted on time to the next level adhering to deadlines?	Yes	No	Do not Know	Not Applicable
Are all stakeholders provided with feedback on the quality of reporting?	Yes	No	Do not Know	Not Applicable
Is there evidence that supervisory site visits have been made in the last 12 months?	Yes	No	Do not Know	Not Applicable
Is data being verified and signed off before submitted to the next level?	Yes	No	Do not Know	Not Applicable

SECTION C: AVAILABLE RESOURCES AND CAPACITY BUILDING ON M&E

SECTION C-1: AVAILABLE RESOURCES AND CAPACITY ON M&E	Yes	No	Do not Know	Not Applicable
Is there a dedicated Personnel for M&E with clearly assigned responsibilities?	Yes	No	Do not Know	Not Applicable
Have you received any M&E training on how to utilize the HIV and AIDS data collection forms and registers?	Yes	No	Do not Know	Not Applicable
Have you been trained on M&E at least once in the last two years?	Yes	No	Do not Know	Not Applicable
Have you received any M&E visit for capacity building, mentoring or supervision at least once in the past 6 months?	Yes	No	Do not Know	Not Applicable
Is there a specific M&E improvement work plan with clear indicators, activities, timelines and responsibilities linked to the most recent Departmental HIV and AIDS Plan?	Yes	No	Do not Know	Not Applicable
Is there an electronic Database system to capture performance information for the Department?	Yes	No	Do not Know	Not Applicable

ANNEXURE J

STRATEGY VALIDATION AND ADOPTION QUESTIONNAIRE

Development of Monitoring and Evaluation Strategies to Strengthen the Implementation of HIV and AIDS Programme

Researcher: Mangale N
Promoter: Dr N.S Mashau
Co-promoter: Dr Tshitangano

KEY NOTE: In this questionnaire the response is Yes or No

BUILDING ON THE STRENGTH

Questions of the intervention strategy 1: Building on Strength

Questions	Intervention Strategy: Building on strength	✓	YES/NO
1. Training and capacity building on M&E will improve employee efficiency to strengthen HIV programme performance?	✓ Capacitate employees on M&E course or workshop focusing on HIV and AIDS programme to produce knowledgeable and qualified employees in the field.	✓	YES/NO
2. Allocation of M&E budget of at least up to 10% will strengthen the functionality of M&E systems and to enable program managers to achieve their allocated targets?	✓ All sector Departments should allocate budget of up to at least 10% from the total departmental budget to be allocated strengthen M&E of HIV and AIDS programme to enable HIV program managers to conduct sites visits to achieve their allocated targets. ✓ Allocated budget for HIV and AIDS M&E will also strengthen capacity building and institutional M&E capacity at all levels to manage HIV and AIDS programme efficiently and effectively.	✓	YES/NO
3. Will the following strategy strengthen non-functional Local and District AIDS Councils structures?	✓ The Provincial AIDS Council secretariat Limpopo AIDS Council should support the establishment of M&E technical working groups through ongoing follow up meetings and coordination through annual developed		

		schedules to make follow and enforce accountability. ✓ Where possible some of M&E technical working group meeting should be incorporated with the AIDS Council meetings.
		✓ Provision of M&E supportive function to all AIDS Councils and its TWG committees to ensure they are established and functional.
		✓ Document data collection procedures and reporting timelines to be communicated to all members of AIDS Councils and its stakeholders.
4.	Will integration HIV and AIDS programme with other programmes such as Social behaviour change and life skills programme to increase the chance of reaching 90-90-90 targets?	✓The Department of Health should integrate HIV and AIDS programme with other programmes such as integrated school health programmes, psychosocial support groups, vulnerable groups and key populations to easily identify early missed and late loss to follow and reach out in order to identified people infected and affected by HIV and AIDS ✓Continuously monitor integration of sub-programmes with other sector Departments to reach 90-90-90 targets.
5.	Will these strategies strengthen mechanisms to ensure reliable and consistent data integrity, measurability, reliability, consistency and timeliness within the organisation?	✓ HIV and AIDS information systems to be integrated with other M&E systems to ensure validity, integrity, consistency and reliability of reported data.
		✓ Development of data quality improvement plans and guideline manuals should be provided on how to conduct data quality assessments every three to 6 months.
		✓ Monitor and ensure data captures and data clerks conduct de-duplication of files and ensure that patients who are seen during extended hours and weekends are captured on Tier.net system.
		✓ Implement functional effective information systems measures focusing on hardware, software and place effective IT support readily available and that responds to improve HPRN, Teir.net and Web-DHIS.

		✓ All employees to be held accountable for data from point of data collection to the highest point of evidence-based decision-making in order for data to be taken seriously.	
		✓ Ensure that M&E tools are allocated appropriately to meet high demand of services from the facilities this include availability of hardware, software and resource such as Data capturers to effectively capture performance information at facility level and submit to higher level.	
		✓ Ensure that each facility have data admin clerk and data capture to ensure effectiveness in pre-retrieval, filing of patient information on time and capturing of 100% files daily.	
		✓ Monitor 100% capturing of files on Tier.net on daily basis and to ensure that all client who accessed services are being captured to avoid filing without updating new information.	
		✓ Continuous monitoring the use of HPRN file numbering across all the patient file records including referral forms, Lab results and on Tier.net to address missing files in alignment with facility ideal clinic protocol and procedures and records management policy.	
6.	Those strategies will strengthen monitoring and implementation of HIV and AIDS referral system in place	✓ There is a need to monitor patients who were referred to check if they ever arrived and feedback to be issued to referral facilities to improve tracing of patients who are loss to follow up.	✓ YES/NO
		✓ Documented and verbal feedback need to be issued to referring facilities to improve retention of loss to follow up patient.	✓ YES/NO
		✓ Proper consultation with referral and referring facilities needs to be put in place in order to properly handover client information and monitor arrival.	✓ YES/NO
		✓ Limpopo Department of Health should design referral pathway between community and facility to ensure patients are liked back	✓ YES/NO

		to care and address retention to care at facility level.	
		✓ Develop and strengthen monitoring of internal and external referral pathways which must be adhered to to monitor patient arrival and referral.	✓ YES/NO
		✓ Develop and strengthen internal and external referral pathways which must be adhered to to monitor patient arrival and referral.	✓ YES/NO
7.	Those strategies will strengthen monitoring of poor retention to care and address high rates of lost to follow up of newly diagnosed PLHIV between the time of diagnosis and commencement to ART and Self-transfer	✓ Continuously update and monitor recording of two addresses and update phone numbers in patients' folders as patients may likely change contacts either due to contract reason or social reason which may be leading to poor retention to care and high rates of lost to follow up of newly diagnosed of people living with HIV between the time of diagnosis and commencement to ART and self-transfer. ✓ Clients working in farming area should be required give the best suitable time for them to be contacted as their cell phones may be switched off during working day due to network or employment regulations.	✓ YES/NO
		✓ Monitor tracing and recording of outcomes on registers and Tier.net of patient accessing Centralised Chronic Medicines Dispensing and Distribution (CCMDD) and monitor data clean-up for all clients on CCMDD through external pick-up points and space fast lanes.	✓ YES/NO
		✓ Conduct clinical file audits and monitor poor performing facilities to monitor patient management and recording of client information.	✓ YES/NO
8.	The following strategy will help improve monitoring Viral load completion and suppression	✓ Generate viral load due list and monitor collection thereof through professional nurses then trace all clients who missed collection of viral loads weekly and also action viral load result list weekly and ensure person responsible act on it.	✓ YES/NO

	✓ Monitor daily capturing of viral load results on Tier.net.	✓	YES/NO
9. Will these strategies increase the chance of reaching the 1st 90 target through increase HTS testing update	✓ Conduct outreach campaign focusing most at risk population such as farm workers, sex workers, drug users and churches to reach 90-90-90 targets.	✓	YES/NO
	✓ Department of Health to work with Department of social development to conduct risk assessment of clients exposed to HIV and AIDS.	✓	YES/NO
	✓ Conducting community dialogues and facility health talks to encourage the importance of testing to reach 90-90-90 targets.	✓	YES/NO
10. Will these strategies address performance of HIV and AIDS indicators	✓ Conduct bi- weekly and monthly data review, validations and data clean up meetings where the main focus will be data and progress towards achievement of targets and poor performing indicators.	✓	YES/NO
	✓ training to be done focusing on newly revised HIV and AIDS indicators focusing on their measurability, calculations, aggregation, collection, reporting and analysis.	✓	YES/NO
	✓ Develop and standardized data element and indicator sets with well-defined numerator and denominators with more clear definitions of data elements and indicators consistently which will be used at all levels to provide guidance.	✓	YES/NO
11. Will these mechanisms in place address smooth process of data flow	✓ Strengthen standardized, compatible and well-designed data collection and reporting flow suitable for the purpose to monitor HIV and AIDS programme including intruding smart way of submitting input forms and dispatches for long distance facilities.	✓	YES/NO
12. Will these strategies improve effective and consistent data collection and validation practices?	✓ District Information officers should provide monthly data validation feedback methods that address data discrepancies.	✓	YES/NO
	✓ Electronic data collection tools should be tested before implementation.	✓	YES/NO

	✓ **Data should be presented and verified to all staff members monthly before being certified for signed off by Operational Manager, District Managers to validate any data discrepancies.**	✓	**YES/NO**
	✓ **Training of people responsible for collecting data before implementation and provide clear instructions on data collection tools.**	✓	**YES/NO**
	✓ **Ensure that data is verified and certified by Sub-District-Managers before being send off to Provincial Office.**	✓	**YES/NO**
	✓ **The Provincial Managers will verify and certify the reports and POE's and submits to M&E Office.**	✓	**YES/NO**
	✓ Implement well developed standardized electronic tools for summarizing data	✓	
13. Will these strategies on Data use improve HIV and AIDS programme indicators?	✓ **Verify the reports against the means of verification of data input forms submitted and certify the reports as a true reflection to provide feedback through these forums: strategic planning meetings, ten-point plan review meetings.**	✓	**YES/NO**
	✓ **Provide continuous feedback and use of data in a user-friendly report based on selected poorly performing indicators identified, for example reports HIV and AIDS outputs, outcomes and impacts indicators.**	✓	**YES/NO**
	✓ **Dissemination of performance information will take place through these forums: Strategic Planning meetings; Provincial AIDS Council secretariat meeting and District TWG meetings.**	✓	**YES/NO**
14. Will the available data storage and filing improve HIV and AIDS programme performance information?	✓ **There should be standardized process and guideline for data storage.** ✓ **There should be an available policy for filing practices and data storage that allows retrieval of documents for auditing purposes.**	✓	**YES/NO**
15. How will availability of health information management standard operating procedure,	✓ **Involvement of stakeholders in the developed of M&E framework, SOPs and plans to ensure transparency and accountability.**	✓	**YES/NO**

	policy and framework improve HIV and AIDS programme?	✓ Policies, frameworks and SOPs should reflect role of the provincial M&E unit in providing support to District and sub-district Health information and HAST coordinators on monthly and quarterly basis to monitor implementation of improvement plans focusing on poorly performing indicators.	✓ YES/NO

BUILDING ON WEAKNESSES

Questions of the intervention strategy 2: Building on Weaknesses

Questions		Intervention Strategy: Building on weakness	✓ YES/NO
1.	Will these strategies address ineffective supervision and management of performance?	✓ Supervisors to develop facility support visit schedules for support visit ✓ Provide continuous data driven supervision through.	✓ YES/NO
		✓ continuous assessment audit, dissemination and use of data through feedback to guide HIV and AIDS programme planning and improvement.	✓ YES/NO
2.	Will allocation of M&E budget address HIV and AIDS M&E activities	✓ Sector Departments to allocate budget for M&E of HIV and AIDS programme activities such as data review, data quality assessments, sites monitoring visits.	✓ YES/NO
3.	Lack of organizational structure to support M&E for HIV and AIDS	✓ Need for an organisational structure that is supportive and very focus on creating more vacancies to focus on M&E HIV and AIDS programme with key personnel focusing only at HIV and AIDS programme and also at District level.	✓ YES/NO
4.	Strategy to address filling of M&E priority posts and funded vacant post for HIV and AIDS M&E at both District and Provincial level	✓ Design organisational structure that supports HIV and AIDS M&E positions and prioritise filling of vacant Strategic information, M&E posts by ensuring that all M&E funded vacant posts are prioritised to be filled.	✓ YES/NO
5.	Strategy to improve information management system database for Limpopo AIDS Councils and Sector Departments to produce readily available data.	✓ Develop information management database to M&E the implantation of HIV and AIDS programme from various sector Department and civil society organisations.	✓ YES/NO

6.	**Strategy to address inefficient implementation of norms and Standards Operating procedures for information management**	✓	**Ensure that information management roles and responsibilities are clarified to ensure that personnel understand their roles and responsibilities in information management.**	✓	**YES/NO**
7.	**Strategy to address inadequate and undocumented data feedback to lower levels on data submitted**	✓	**Use data to inform decision and give feedback to lower level on data quality and performance issues and request remedial plans.**	✓	**YES/NO**
8.	**Lack of data storage and filing management to improve HIV and AIDS programme performance**	✓	**Strengthen management of data through proper filing management systems, this include procuring steel cabinets, building and creating more space for filing.**	✓	**YES/NO**
9.	**Following strategies are needed to ensure there is support provided to facilities to improve HIV and AIDs programme performance**	✓	**M&E unit to provide support to District and sub-district HAST managers with monthly analysis of data to monitor monthly District improvement plans performance review, followed by generation of facility level run-charts and implementation and review of facility level QI focusing on poorly performing indicators.**	✓	**YES/NO**
10.	**To address wrong targeting of people to address linkage to care during outreach campaigns which affect reaching 90-90-90 targets on HIV testing, clients knowing status and linking patient to care.**	✓	**To reach 2nd 90-90-90 target on HIV testing there is a need to conduct door to door HIV campaign targeting farm workers, sex workers, drug users, and congregated places improve the HIV and AIDS programme performance this conducting outreach campaign focusing on most at risk population.**		
		✓	**To conduct index testing target testing using contacts via door-to-door campaign to increase case finding.**		
		✓	**To conduct index recruitment of clients – through list of viral unsuppressed clients to bring index clients for testing at facility or home visits.**		
		✓	**Use of HIV index testing cases to address low case finding**		
		✓	**Facilities to conduct regular weekly data clean-up and file Audits and request remedial plans from management teams.**	✓	**YES/NO**

11. File management improve data management and patient flow at facility	✓	**Monitor the implementation of pre-retrieval of files for HIV and AIDS patient management.**	✓ **YES/NO**
	✓	**Monitor and support data captures on de-duplication and ensure that patients seen during extended hours and weekends are captured on Tier.net system.**	✓ **YES/NO**
	✓	**Implement and monitor the use of HPRN across all the records including referral forms, Lab and Tier.net**	
12. Will the establishment of Technical Working group strengthen M&E of HIV and AIDS programme	✓	**Establishment of District Technical Working Group to provide proper guide and monitoring the implementation of District Implementation Plans and provide advisory service towards achieving targets and to address data quality issues at all levels.**	✓ **YES/NO**
13. Will M&E capacity building address HIV and AIDS programme challenges	✓	**There is a need for continuous capacity building of employee responsible for HIV and AIDS programme focusing on M&E related trainings.**	✓ **YES/NO**
14. Will these strategies address low HIV testing uptake and poor linkage to care	✓	**Monitor the Implementation of Universal Test and Treat as a strategy to increase target and implementation of HTS model.**	✓ **YES/NO**
	✓	**Monitor capturing of correct contact details to trace clients and link them to care.**	
	✓	**Monitor the establishment of facility and community adherence support groups.**	✓ **YES/NO**
	✓	**Adherence clubs should be run in collaboration with the local social worker.**	
	✓	**All loss to follow up clients need to be handed over to the local social worker for further tracing and linkage to care.**	
	✓	**Monitor tracing and recording of outcomes on registers and Tier.net.**	
	✓	**Conduct clinical audits in poor performing facilities to monitor clinical management of patients.**	✓ **YES/NO**
	✓	**Use Lab tracking to track patients to verify their self-transfer to other clinics and outcome them.**	✓ **YES/NO**
	✓	**Health Facilities should be able to retrieve cohort reports for all patient enrolled in the same period for tracing of patients early per**	✓ **YES/NO**

		cohort using early and late missed appointment for patient who may appear as missed appointment.at 14 days to 89 days to clean up data before patient appear as loss to follow up.	
		✓ Monitor data clean-up for all clients and ensure correct recording and capturing of CCMDD clients.	✓ YES/NO
15. Will these strategies address poor monitoring of viral load completion and suppression		✓ There is a need to continuously generate viral load due list and monitor collection weekly and trace all clients who missed collection of viral loads weekly and ensure monitoring of action list weekly and operational managers to act on it.	✓ YES/NO
		✓ Ensure that 90% HIV diagnosed clients are taken for Viral load at 6 month and 12 Monthly and monitor that 90% of all HIV clients are virally supressed at 6 month and 12 months.	✓ YES/NO

EXPLORING OPPORTUNITIES

Questions of the intervention strategy 3: Exploring Opportunities

EXPLORING OPPORTUNITIES	ACTION PLAN REQUIRED	✓ YES/NO
1. Will the availability and involvement of stakeholders in M&E of HIV and AIDS interventions increase the chance of reaching 90-90-90 targets?	✓ Strengthen relationship by involving all stakeholders such as Department of Health, Department of Social Development, DoE, SASSA and civil society organisations through Provincial, District and Local AIDS Councils and Local AIDS Council to monitor the implementation of HIV and AIDS PSP for HIV, TB and STIs	✓ YES/NO
	✓ Strengthen the implementation and use of real-time monitoring of PSP and DSP targets in line with NSP and UNAIDS 90-90-90 strategic goals	✓ YES/NO
	✓ Involvement of stakeholders in developing the M&E plan	✓ YES/NO
2. Will the ability to use Data for evidence-based decision making improve HIV programme performance?	✓ Limpopo Province Sector Departments should strengthen the use evidence-based approach HIV-AIDS to monitor HIV and AIDS strategic plan	✓ YES/NO
3. Will the allocation of budget for M&E activities improve performance of HIV and AIDS programme?	✓ Allocate suitable and sustainable budgets to fund HIV-AIDS M&E activities such as data reviews and site support visits	✓ YES/NO

4.	**Will the following strategy strengthen M&E of HIV and AIDS programme?**	✓	**Use the opportunity of International and local funded partners to monitor and evaluate HIV and AIDS strategy implementation**	✓ **YES/NO**
5.	**Will the following strategy increase the chance of conducting operations research and evaluation studies within HIV-AIDS programme?**	✓	**Limpopo office of the premier should be a coordinating body to identify the opportunities to conduct operations research and evaluation studies focusing on HIV and AIDS programme**	✓ **YES/NO**
6.	**Will the following strategy improve the use of data to monitor and improve HIV and AIDS programme?**	✓	**Limpopo sector Departments should gain access to Ad Hoc reports from Web-DHIS and Tier.net data to use data for planning and for evidence-based decision making**	✓ **YES/NO**

MITIGATING THREATS
Questions of the intervention strategy 4: Exploring Mitigating Threats

MITIGATING THREATS		**ACTIONS PLANS**		✓ **YES/NO**
1.	**Will these strategies address threat on international donors funding and transitions on funded technical assistance**	✓	**Limpopo Province Departments should develop sustainability plan to build strong government service delivery model with support of development partners while placing less reliance on donor funding.**	✓ **YES/NO**
2.	**Will the following strategy of supportive supervision and data audits improve HIV and AIDS programme?**	✓	**Supportive supervision and data auditing should be conducted at all levels to improve HIV and AIDS programme M&E.**	✓ **YES/NO**
3.	**Will sustainability of NGOs, NPOs, civil and advocacy groups sectors improve HIV programme performance?**	✓	**There should be integration of M&E activities focusing on sustainability of NGOs, NPOs, civil and advocacy groups sectors to improve HIV programme performance.**	✓ **YES/NO**
4.	**Will the following strategy address of non-functionality of referral system**	✓ ✓ ✓	**There is a need to monitor linking patient through proper referral, care and treatment pathway for easy monitoring** **There is a need to develop M&E tools in order to tracking referral and linkage to care indicators to establish progress (World Health Organisation 2014).** **Need to conduct targeted community Index Testing through contracting of Community Health Care (CHWs) while working with Ward Based Teams (WBOT) leaders.**	✓ **YES/NO**

5.	**Will monitoring of non-functional adherence clubs address high rate of loss to follow up between the time of diagnosis and the commencement of ART?**	✓	**Monitoring of recruitment and retention of newly diagnosed People Living with HIV (PLHIV) into care and support groups should be done to ensure reduction of high rate of loss to follow up between the time of diagnosis and the commencement of ART.**	✓	**YES/NO**
6.	**Will the following strategy strengthen M&E systems for HIV and AIDS programme?**	✓	**Build effective and efficient information technology to sustain and maintain data collation at all levels.**	✓	**YES/NO**
		✓	**There is a need to develop an integrated electronic health database containing historic and patient demographic details and clinical information of every clients linked to home affairs unique Identity to trace patient access to services across the country.**	✓	**YES/NO**
		✓	**Limpopo Provincial government should ensure technological innovation that will address the issues faced with loss of patient files and missing information to ensures that each person had one healthcare record.**	✓	**YES/NO**
7.	**Will the availability of policy review committees improve performance of HIV and AID programme?**	✓	**Provincial office of the Premier to ensure participatory policy review and development committees in Departments and should address slowness in the review and approval of policies.**	✓	**YES/NO**
		✓	**Participatory policy review should include all stakeholders including NGOs receiving HIV and AIDS funding either through from the National Department of Health, PEPFAR, USAID, Global Fund and several international private pharmaceutical organisations.**	✓	**YES/NO**

THANK YOU!

ANNEXURE K

DOCUMENT REVIEW CHECKLIST

The scoring in the checklist was as follows;

1=Standard is Partially met;

2=Standard is Fully met;

0=Standard is Not met;

N/A=Standard is Not Applicable (Not Available for review purposes);

SECTION: DEMOGRAPHIC INFORMATION OF RESPONDENTS

a). Name of department:	
b). Position in the organisation	
c) Number of Years employed in the organisation	
d). Working experience	
d) Gender	

1. ORGANIZATIONAL STRUCTURES WITH M&E FUNCTIONS

Question	Score (1, 2, 0N/A)	Comment
1. M&E TWG meets regularly on a quarterly basis with clear meeting agenda		
2. Meeting minutes available and with decisions made by the TWG		
3. M&E TWG annual action planning practiced		
4. M&E TWG TOR available with guiding roles and responsibilities of the TWG		
5. Check if DSD, DBE and DoH have M&E units		
6. M&E structure exist and with M&E key personnel		

2. HUMAN CAPACITY FOR M&E

Question	Score (1, 2, 0, N/A)	Comment
1. Has Human capacity assessment been conducted in the organization?		
2. Is there a Human capacity development plan?		
3. Does the organization have defined skill sets for M&E personnel?		
4. Are there Local and regional institutions that offer trainings on M&E to Technical Working group?		

5. On-the-job trainings are provided to staff during supervision visits?		
6. Any M&E training provided for AIDS Council members (this include reporting, DHIS or Tier.net) over the last 5 years of strategic plan?		

3. PARTNERSHIPS FOR THE M&E SYSTEM

Question	Score (1, 2, 0, N/A)	Comment
1. M&E TWG well represented and ensures wide participation of key public and NGO stakeholders		
2. Specific M&E TWG ToR has yet to be developed		
3. There are formal mechanisms to ensure follow-up on the TWG decisions		
4. Check if there are all M&E partners with documentation describing how often they should hold meetings and their role		

4. M&E PLAN

Question	Score (1, 2, 0, N/A)	Comment
1. Check if there is an M&E plan developed for the organization.		
2. Check if development of the plan involved relevant stakeholders.		
3. Check for budget estimates for the M&E plan?		
4. Check if the M&E plan describes how the 12 components will be implemented.		
5. Check if the M&E plan describes data architecture from various partners.		
6. Check if the M&E plan has indicators with baseline values.		
7. Check if all the indicators have targets.		

5. COSTED ANNUAL M&E WORK PLAN

Question	Score (1, 2, 0, N/A)	Comment
1. Check if the organization has M&E work plan addressing HIV and AIDS indicators.		
2. Check if activities in the M&E work plans have been costed and allocated budgets (provides annual financial allocations and identifies sources of funding).		

6. M&E COMMUNICATION AND ADVOCACY CULTURE

Question	Score (1, 2, 0, N/A)	Comment
1. Communication channels well established between reporting partners or stakeholders?		
2. HIV M&E stakeholders are in line with Departmental M&E systems?		
3. Performance of the M&E system is communicated and reported frequently?		
4. Is a political buy-in by all sectors at all levels and all stakeholders are reporting?		
5. Check if advocacy activities for M&E are planned, targeted and structured this include on how information will flow?		

7. ROUTINE MONITORING OF THE PROGRAMME

Question	Score (1, 2, 0, N/A)	Comment
1. Check if there are forms and tools for routine monitoring of programmes?		
2. Check if there are guideline for data collection and general data management?		
3. Most of reporting in electronic format?		
4. All relevant source documentation at service provision level?		

8. SURVEYS AND SURVEILLANCE

Question	Score (1, 2, 0, N/A)	Comment
1. Check if there are inventory or list of completed surveys		
2. Routine health data collection system established for surveillance		
3. Check for documented schedules for surveys and surveillance i.e ANC survey		
4. Assess if the Population-based surveys are also carried out		

9. NATIONAL DATA BASES

Question	Score (1, 2, 0, N/A)	Comment
1. Check if there are any databases to for reporting within DoH, DSD and DBE		
2. Check if the databases are operational and functional		
3. Check if the databases are integrated and linked		
4. Check if there is sufficient IT equipment to manage the databases		

10. DATA AUDITING AND SUPERVISION

Question	Score (1, 2, 0, N/A)	Comment
1. Check for documented guidelines for supportive supervision and data auditing		
2. Check if the organisations give feedback to supervised teams with data quality audit reports		
3. Tools for supportive supervision on M&E		
4. Data Quality Assessment tools and guidelines are available		

11. RESEARCH AND EVALUATION

Question	Score (1, 2, 0, N/A)	Comment
1. Is there an updated research agenda for the organization?		
2. Check for listed ongoing operational research and evaluation studies planned		
3. Check for documented ethical approvals and procedures		
4. Check for list of various partners carrying evaluation and research in HIV and AIDS		
5. Check if evaluation and research findings are disseminated		

12. USE OF DATA AND ITS DISSEMINATION

Question	Score (1, 2, 0, N/A)	Comment
9. Check if there are schedules for dissemination of findings		
10. Check if information is analysed per user needs		
11. Check if the PAC has developed information sheets/products/packages for its audiences		

ANNEXURE L

INTERVIEW GUIDE

**Strategies to Strengthen the Implementation of HIV AND AIDS Monitoring and Evaluation Framework in Limpopo province,
South Africa**

SECTION A: BIOGRAPHICAL INFORMATION OF THE RESPONDENTS

1.2. Gender?

Male	**01**
Female	**02**
Other	**03**
Not Applicable	**04**

1.4. What is your highest educational qualification(s)?

_____

1.7. How long have you been within the organisation?

Less than 1 year	**01**
2- 5years	**02**
5-9 years	**03**
10 years and above	**04**

1.5. What is your position?

_____

1.6. What is the name of your organisation or Department?

_____

SECTION 2: CHALLENGES FACING THE IMPLEMENTATION OF MONITORING AND EVALUATION SYSTEMS FOR HIV AND AIDS SERVICES

2.1 **In your view, please describe challenges you face about the current available of monitoring, evaluation and reporting systems for HIV and AIDS programme in your day-to-day work?**

_____

2.2 **In your view is there available monitoring and evaluation unit or organizational structures that support HIV and AIDS programme?**

_____

2.3 **What is your understanding about the availability of M&E human resource capacity development and skills transfer within your Department?**

_____

2.4 **How are the internal or externally partners or stakeholders involved regarding HIV and AIDS M&E function?**

_____

2.5 **Are there any challenges you face regarding involving stakeholders when developing and aligning HIV and AIDS frameworks or HIV and AID strategic plans?**

_____

2.6 **What are the main challenges with regard to HIV and AIDS programme performance indicators?**

_____

2.7 **What are the challenges facing development and implementation of HIV and AIDS monitoring and evaluation plans?**

_____

2.8 **Which HIV and AIDS programme area or indicators are poorly performing? And what could be the main reason for such poor performance?**

_____

2.9 **What is the method or mechanism or strategies used for ensuring data integrity, measurability, reliability, consistency and timeliness within your organization?**

_____

2.10 **What are the strategies that are put in place in order to address or accelerate performance of HIV and AIDS related indictors?**

_____

2.11 **What are the trainings received on monitoring, evaluating and reporting within the past 5 years to date?**

_____

2.12 **Please, describe challenges your encounter in reporting or submitting data or performance information to the next level? What mechanisms are in place to ensure smooth process of data flow within your organisation? Where and by when do you send the reports?**

_____

2.13 **How is the feedback received of your data sent to the next level? How often do you receive feedback from the next level? And in what format?**

_____

2.14 **What are the challenges facing HIV and AID programme evaluation? (*this include any assessment, Audit or DQA done on HIV and AIDS programme?)***

ANNEXURE M

CONDUCTED INTERVIEW

STRATEGIES TO STRENGTHEN THE IMPLEMENTATION OF HIV AND AIDS MONITORING AND EVALUATION FRAMEWORK IN LIMPOPO PROVINCE, SOUTH AFRICA

Interview keys
R: Researcher
P: Participant

Participant 1

R: Good morning!!

P: Morning Ndivhu!!

R: How is work in general?

P: ***I can say work is fine, we are trying.***

R: Yes, lets push. First of all, thank you so much for allowing me to conduct interviews with you as my participant. Let me introduce myself formally I am Ndivhuho Manage. I a PhD student at the University of Venda. Our interviews will be focusing on Challenges Facing the Implementation of Monitoring and Evaluation Systems for HIV and AIDS service. I am conducting this study in three phases Phase 1 a quantitative and phase 1-b qualitative then I will later use this information to develop strategies.

R: So, let's start with the interview, tell me!! In your view, please describe challenges you face about the current available of monitoring, evaluation and reporting systems for HIV and AIDS programme in your day-to-day work?

P: Think its understanding, people don't understand, I would say its lack of understanding because people don't understand what is expected in them.

R: What do you thing think is the main cause of that?

P: They know the end goal but they don't know what's expected to them to reach the 90-90-90 targets.

R: In your view is there available monitoring and evaluation unit or organizational structures that support HIV and AIDS programme?

P: One cannot even tell if there is Monitoring and Evaluation unit or not, because you hardly see them coming down to support district, that is if they are available. I think they are not capacitated to manage their implementers or health professionals. They don't have capacity to monitor them, they lack the necessary skills but if is there is not followed, cause monitoring and Evaluation is not done effectively in the department.

R: What is your understanding about the availability of M&E human resource capacity development and skills transfer within your Department?

P: With HR I think they don't have enough, they are overworking their people, they blinded by work overhead, they cannot focus.

R: How are the internal or externally partners or stakeholders involved regarding HIV and AIDS M&E function?

P: They are involved. the problem is Department of Health does not want to take ownership. They get too dependent, yaa!!!!

R: Are there any challenges you face regarding involving stakeholders when developing and aligning HIV and AIDS frameworks or HIV and AID strategic plans?

P: Yes, we are involved but I think the problem is following through what they are advised on. "the main challenge is lack of accountability they don't want to own their action plans, and there is hardly a structure for Monitoring and Evaluation unit, you don't know who to approach when dealing with monitoring and evaluation both at District and Provincial level (P001)."

R: What are the challenges facing development and implementations of HIV and AIDS monitoring and evaluation plans?

P: The challenges? We don`t remember having challenges in terms of development. The challenge is with regard to implantation. They see it as too much work to develop terms of reference and Theory of Change.

R: Which HIV and AIDS programme area or indicators are poorly performing? And what could be the main reason for such poor performance?

P: Lost to follow-up-immigrants from neighbouring countries that comes and go because of forms same day initiation because of cultural values viral that completion and CCMDD.

R: What are the main challenges with regard to HIV and AIDS programme performance indicators?

P: Monitoring and Evaluation- they are not well understood-different understanding. When they talk about cohorts and period to measure side. M and E is seen as Greek people. "Our challenge mainly is unconfirmed loss to follow up as patients just move around other clinics without informing their clinics and Poor implementation of Universal Test and Treat. I should think patients should be able to inform others when moving in order to outcome them. I don`t think for HIV its understanding ……but as for TB people don`t understand TB indicators as definitions are difficult. Other poor performing indicators include poor referral system in place, poor retention to care and address high rates of lost to follow up of newly diagnosed PLHIV between the time of diagnosis and commencement to ART and Self-transfer, poor monitoring of viral load completion and suppression."

R: Mmm ok I see yes, you can continue – I was just trying to capture everything

"I think the other challenges are as results of cultural issue as they also don't feel to communicate early the moment when positive which affect positively rate which is also not doing well. The other reason it that we are not concentrating on to get the right group to test for HIV which affect HIV testing and yield. We must have a target group to test and to test instead of testing

everyone. I think our quality of care is a serious problem…the reason why I say that it is because quality of care is that people that are loss to follow don't feel like it`s important to come back facilities and some still come to facilities still go unnoticed or without being captured. The other thing is that M&E are seen as strange concepts they are not well understood as people have different understanding. When they talk about cohorts and period to measure performance people don't understand I think some people see M&E as "Greek language"."

R: What is the method or mechanism used for ensuring data integrity, measurability, reliability, consistency and timeliness within your organization?

P: I would say verification of tier.Net information. With verification it assists because you do data triangulation then verify with system. It can be assisted by proper monitoring and evaluation. I think the other thing is that Managers are not monitoring.

R: What are the strategies or mechanisms that are put in place to address performance of HIV and AIDS related indicators?

P: We have the Phuthuma Sienza facilities, daily data clean up, pre-retrieval of life, daily reporting. There is monthly review in place. You don`t get documental of proof of whatever they are doing. They like doing their own personal things. strategies that were there are being strengthened, for example: index has been done but not documented and tracing have been done but not proper documented.

R: What are the relevant trainings received on monitoring, evaluating and reporting within the past 5 years to date?

P: We have received trainings such as new NIDS, le Tier.Net and web DHIS. Yaa basically, training received were just that DHIS, tier. Net, TB, Tier there no formal training or qualifications in place.

R: Describe challenges encountered in reporting or submitting data or performance information to the next level? What mechanisms are in place to ensure smooth process of data flow within your organisation? Where and by when do you send the reports?

P: "I think the main of challenges are data discrepancies issues…Our other challenge is that there is lack of connectivity of internet which affect data submission from facility level more especially in areas like Blouberg area." ……. "I think …. the challenge is lack of meeting since they cannot meet to discuss data quality feedback." The challenge that I have seen is that their facilities still relay on paper-based information which affect counting because it takes forever unlike where it was digital where they would just send data.

R: What mechanism are in place to ensure smooth process of data flow your organization? Where and by when do you send reports?

P: Basically, is to go to DHIS policy, there are timelines closely stated but those are no started but those are no followed to implement and adhered to.

R: Just a follow up is there any means to send data to next level?

P: Most of our facilities have computers, so they can easily just send reports using email and also load OnCloud.

R: How is feedback received of your data sent to the next level? How often do receive feedback from the next level? And in What format?

P: There is no feedback. The only time to receive feedback is when they want to give you instructions. There is never a feedback.

R: What are the challenges facing HIV and AIDS programme evaluation? (this include any assessment done on programme?)

P: "I think the Issue of not being able to travel now affect us, as one cannot be able to evaluate the programme very well and "le taba ya uri" "…you finish your phone call minutes trying to make follow up calls (R001)." The first on is constancy-we are not consistent in doing things. We are not good in every good incoming new thing. we are not good in ending or implementing and at the end to see the results so we are hardly there.

R: Owk, thank you so much do you have anything to add?

P: Not that I know of for now, I think that is all.

R: So, tell me how was the interview? Just for me to improve as feedback?

P: It was very interesting to engage as this is what is happening with our day-to-day work. I would say it was very interesting and informative, Thank you

R: Thank you once more and thank you for allowing me to conduct this interview with you.

P: You are welcome!!

ANNEXURE N

STRATEGY VALIDATION M&E EXPERT LETTER

"History shows that it does not matter who is in power...those who have not learned to do for themselves and have to depend solely on others never obtain any more rights or privileges in the end than they had in the beginning." - Dr. Carter Goodwin Woodson

BREAK THE CHAINS
Development Services cc

11 December, 2020

To whom it may concern

This letter serves to conform that Break the Chains Development Services (BTC) validated strategies developed and made appropriate suggestions as requested by Mr. Ndivhuho Mangale (**Student Number 11532664**) a student attached to the Department of Public Health in the School of Health Sciences for his Doctor of Philosophy in Public Health.

The title of his study is: **Strategies to strengthen the implementation of HIV and AIDS monitoring and evaluation framework in Limpopo Province, South Africa.** Break the Chains consultant have read the strategies and made appropriate suggestions on the developed strategies.

Background of consultant: Mr. Andries Mphoto Mangokwana hold Master's Degree in Social Science specialising in Social Planning and Administration(UCT), Post graduate certificate in Financial Analysis from (Wits), He is an accredited trainer with the National School of Government in Monitoring and Evaluation and assessor registered with Public Sector SETA (P21/0613/AR786) for unit standards 337059 and 337063 respectively. He has more than 20 years of extensive experience in monitoring and evaluation and has done work both locally and internationally.

Yours Sincerely

Mr. Andries Mphoto Mangokwana (072 8212136)

Signature Date: 11/12/2020

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