The African Journal of Monitoring and Evaluation

Participatory Monitoring and Evaluation Practices, Policy Beliefs, and Performance of Policy-Mandated HIV Prevention Projects for Key Populations in Kenya

Author(s): Edwin Lwanya[1] & Isaac Odhiambo Abuya[1,2]
[1]Department of Management Science and Project Planning, University of Nairobi
[2]Center for Policy Projects

2026: Vol 4(1), pp. 446-484

The Regional Center for Project Management and Evaluation Training
eISSN 2958-9436

Received: 20/10/2025, Revised:11/12/2025, Accepted: 17/01/2026

Participatory Monitoring and Evaluation Practices, Policy Beliefs, and Performance of Policy-Mandated HIV Prevention Projects for Key Populations in Kenya

Edwin Lwanya[1] & Isaac Odhiambo Abuya[1,2]
[1]Department of Management Science and Project Planning, University of Nairobi
[2]Center for Policy Projects

ABSTRACT

The disproportionate burden of HIV infections in key populations in Kenya, is an important public health concern, being responsible for almost 30% of new infections. This study examined the relationship between participatory practices in monitoring and evaluation (M&E) and policy beliefs and their relation to HIV prevention project performance among Female Sex Workers (FSWs), Men who have Sex with Men (MSM), People Who Inject Drugs (PWID) and Transgender Individuals. A cross-sectional research design using quantitative and qualitative methodology was employed. Data were gathered from 81 respondents including project directors, M&E specialists and policy managers from 36 HIV prevention projects through structured questionnaires and interviews. Reliability (Cronbach's alphas all >= 0.79) and diagnostic tests guaranteed strong statistical results. Regression analysis tested hypothesis, Findings show that the participatory M&E practices have a significant positive impact on project performance ($\beta = 0.723$, $p < 0.001$) which is moderated by policy beliefs ($\beta\_interaction = 0.145$, $p = 0.039$). Results from the combined effects of M&E practices and policy beliefs was found to account for 52% of the variance in project outcomes ($\beta\_joint = 0.356$, $p = 0.002$). While service coverage, quality and health impacts were good, stigma reduction and consistent inclusion of PWID and Transgender Individuals remain the challenges. The study provides empirical evidence that inclusive M&E practices, supported by positive stakeholder beliefs, are essential for improving HIV prevention outcomes, offering practical insights for policymakers and program implementers in Kenya and other high-prevalence contexts.

Keywords: Participatory M&E Practices, Policy Beliefs, Performance of Policy Mandated HIV Prevention Projects, Key Populations

INTRODUCTION

Background of the Study

In policy mandated HIV prevention projects targeting key populations (men who have sex with men, sex workers, people who inject drugs and transgendered people), the intersection between participatory monitoring and evaluation (PME) practices (Mehrotra, Davis, Evens, White & Wilcher, 2020), belief towards policy mandated HIV prevention projects for key populations and

attitudes towards men who have sex with men, sex workers, people who inject drugs and transgendered people () may influence the performance of policy mandated projects for key population and ultimately national efforts aimed at reduction in HIV infections among key populations in the AIDS pandemic in high HIV prevalent countries, like Kenya.

The combined participatory monitoring and evaluation practices (Estrella & Gaventa, 1998; Holte-McKenzie, Forde, & Theobald, 2006), and embedded beliefs and attitudes towards these key populations (Scorgie, Nakato, Harper, Richter, Maseko, Nare & Chersich, 2013), may influence the performance of HIV policy prevention projects for key populations in high AIDS burdened countries like Kenya. When these key populations are respectfully and meaningfully involved in all the phases of monitoring and evaluation of policy mandated HIV prevention interventions that target them, and when service providers and the general community members are not stigmatizing and less discriminatory, the HIV prevention projects and the services they provide may collectively contribute to sustainable positive outcomes for the key populations.

This study is anchored on Stakeholder Theory (Freeman, 2010) which emphasizes the interconnectedness and interests of diverse stakeholders in an organization, in the context of this study, HIV policy prevention projects for key populations. The often conflicting interests of diverse stakeholders require a coordinated management, informed by knowledge of the stake different stakeholders have in a project. HIV policy prevention projects for key populations have diverse stakeholders, including but not limited to donors, governments, key population communities, implementing partners, whose interests must be acknowledged and managed, if the HIV policy prevention projects are to deliver value for all. Stakeholder theory helps in explaining the pivotal role of participatory monitoring and evaluation and beliefs that diverse stakeholders hold about the key populations and the HIV policy prevention projects for key populations in Kenya.

The supporting theories in this study are the Theory of Reasoned Action (Fishbein & Iceck Ajzen, 1975) and Agency Theory (Ross & Mitnick, 1970s). The Theory of Reasoned Action (Fishbein & Iceck Ajzen, 1975) assumes that an action can only be supported and implemented when those responsible for its implementation believe in its value and utility. In the context of this study, the

HIV policy prevention project stakeholders can only be committed to implanting these HIV prevention projects, if they have positive beliefs and attitude towards key populations, and they strongly believe in the value and utility of the national policy on HIV prevention for key populations.

The Agency Theory (Ross & Mitnick, 1970s) assumes asymmetric relationships between principals and their agents, and that agents are driven by their own personal interests, requiring effective monitoring by the principal. In the context of this study, managers responsible for implementing HIV policy prevention projects for key populations may have their own interests in these projects, which require close monitoring and evaluation, clear understating of their beliefs and attitudes towards key populations and the national policy on HIV prevention for key populations in Kenya, to ensure sustainable outcomes for key populations.

Kenya is among the countries in sub-Saharan Africa with the highest HIV prevalence (Dwyer-Lindgren, Cork, Sligar, Steuben, Wilson, Provost & Hay, 2019; Joshi, Lessler, Olawore, Loevinsohn, Bushey, Tobian & Grabowski, 2021). While Kenya has witnessed significant reduction in overall HIV prevalence, key populations, including sex workers, men who have sex with men, people who inject drugs and transgendered population, remain disproportionately affected, contributing to about 30% of new HIV infections in the country (Young, Musingila, Kingwara, Voetsch, Zielinski-Gutierrez, Bulterys & De Cock, 2023; Musyoki, Bhattacharjee, Sabin, Ngoksin, Wheeler, & Dallabetta, 2021). Key populations in Kenya face unique challenges including stigma and discrimination, limited access to quality HIV prevention services, which predispose them to heighted risk and vulnerability to HIV infections.

To address this problem, the government of Kenya, through the Ministry of Health have prioritized HIV prevention projects and services for this population, by developing the Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016- 2025). The policy, coordinated by the National AIDS Control Programme (NASCOP), prioritizes key HIV policy prevention projects for key populations.

Research Problem

Kenya is among the countries in sub-Saharan Africa with the highest HIV prevalence (Dwyer-Lindgren, Cork, Sligar, Steuben, Wilson, Provost & Hay, 2019; Joshi, Lessler, Olawore, Loevinsohn, Bushey, Tobian & Grabowski, 2021). Whereas the country has witnessed significant reduction in overall HIV prevalence, key populations, including sex workers, men who have sex with men, people who inject drugs and transgendered population, remain disproportionately affected, contributing to about 30% of new HIV infections in the country (Young, Musingila, Kingwara, Voetsch, Zielinski-Gutierrez, Bulterys & De Cock, 2023; Musyoki, Bhattacharjee, Sabin, Ngoksin, Wheeler, & Dallabetta, 2021).

Key populations in Kenya face unique challenges including stigma and discrimination, limited access to quality HIV prevention services, which predispose them to heighted risk and vulnerability to HIV infections. To address this problem, the government of Kenya, through the Ministry of Health, has prioritized HIV prevention projects and services for key population, by developing the Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016- 2025). The policy, coordinated by the National AIDS Control Programme (NASCOP), prioritizes key HIV policy prevention projects for key populations.

However, there is limited research that investigates how participatory monitoring and evaluation practices and belief towards policy mandated HIV prevention projects for key populations and attitudes towards men who have sex with men, sex workers, people who inject drugs and transgendered people may influence the performance of these policy mandated projects for key populations in Kenya.

Moreover, existing research on participatory monitoring and practices(Sendak, Young, Kim, Hasan, Kelsey, O'Neal & Okeke 2025; Fournier, Kwame, Caron-Roy, Maina, Mendelsohn, Sommerfeldt & Ojok 2025; Humphries, Marotta, Hu, Wang, Gross, Rucker & Carter 2025; Gobat, Slack, Hannah, Salzwedel, Bladon, Burgos & von Harbou 2025; OS, Nkwo, Adiri, Asimadu & MI 2025), belief towards policy mandated HIV prevention projects for key populations(El-Sahn, Elliott, Kong, El-Sahn, Wood Santos, Garcia-Gurtubay & Lucas ,2025; Mogaka, Kwach, Odira, O'Malley, Hearst, Bukusi & Stewart, 2025; Jauregui, Lewis, Moore, Ogunbajo, Odero, Wambaya & Harper ,2025; Hamilton, Guo, Dadabhai, Panchia, Ogendo, Reynolds & HPTN 075 study team,

2025; Bauman, Smith, Pulliam, Harper, Jadwin-Camak, Hussen & Odhiambo, 2025), and performance of HIV prevention projects for key populations (Bhattacharjee, McClarty, Isaac, Kimani, Emmanuel, Kabuti and Becker, 2024; Li, Xie and Xiang, 2025; Zotova, Shongo, Lelo, Mbonze, Kaba, Ntangu & Ross, 2025; Emmanuel, Sanni, Roger, Umoh, Boniface, Paul & Auwal ,2025; Rampilo, Phalane & Phaswana-Mafuya, 2025), present contextual, theoretical, and methodological research gaps, which the current study seeks to address.

Value of the Study

This research can significantly inform policy makers by providing evidence-based insights on how to improve project effectiveness and resource allocation

This research contributes to improving project management practices by providing insights on how participatory monitoring and evaluation practices and policy beliefs interact and such intersection influence performance of HIV prevention efforts for key population in Kenya

This research is valuable for theory testing, particularly of stakeholder theory, theory of reasoned action and agency in the context of theory participatory monitoring and evaluation practices, policy beliefs and performance of policy driven HIV prevention projects for key populations.

This study is essential for developing new research aimed at improving HIV prevention project outcomes for key populations, informing policy decisions, and may contribute help to targeted HIV prevention efforts for key population in Kenya.

REVIEW OF RELATED LITERATURE

Theoretical Foundation

This study is grounded on three theories: stakeholder theory, theory of reasoned action (TRA), and agency theory.

Stakeholder Theory

This study is anchored on Stakeholder Theory (Freeman, 2010) which emphasizes the

interconnectedness and interests of diverse stakeholders in an organization, in the context of this study, HIV policy prevention projects for key populations.

The often conflicting interests of diverse stakeholders require a coordinated management, informed by knowledge of the stake different stakeholders have in a project. HIV policy prevention projects for key populations have diverse stakeholders, including but not limited to donors, governments, key population communities, implementing partners, whose interests must be acknowledged and managed, if the HIV policy prevention projects are to deliver value for all. Stakeholder theory helps in explaining the pivotal role of participatory monitoring and evaluation and beliefs that diverse stakeholders hold about the key populations and the HIV policy prevention projects for key populations in Kenya.

Theory of Reasoned Action

The Theory of Reasoned Action (TRA) was developed by Martin Fishbein and Iceck Ajzen in 1975. The theory assumes that behavior (action) is primarily determined by a person's intention to perform that action (Fishbein, 1979; Ajzen & Fishbein, 2000). Individual who have a positive attitude towards an action, will most likely carryout and implement that action (expected behavior), and that individuals who do not believe in a particular action (behavior) will not carry out or implement the required behavior (Ajzen & Fishbein, 2000.

The Theory of Reasoned Action and its assumptions are relevant to the current study. TRA is relevant to the current study: Managers responsible for HIV prevention policy projects have positive attitude towards the Kenya National Policy on HIV/AIDS, and policy interventions mandated by the policy, then they are more likely to implement specific policy projects and interventions in the policy national policy on HIV prevention interventions, then they are more likely to implement the prevention policy projects. Conversely, managers who do not believe in the policy, will not be committed to its implementation.

Agency Theory

The Agency Theory (Ross & Mitnick, 1970s) assumes asymmetric relationships between principals and their agents, and that agents are driven by their own personal interests, requiring

effective monitoring by the principal. In the context of this study, managers responsible for implementing HIV policy prevention projects for key populations may have their own interests in these projects, which require close monitoring and evaluation, clear understating of their beliefs and attitudes towards key populations and the national policy on HIV prevention for key population in Kenya, to ensure sustainable outcomes for key populations.

Empirical Literature Review

Participatory Monitoring and Evaluation Practices, Policy Beliefs and Performance HIV policy Mandated Projects for Key Population

Five empirical studies on performance of HIV prevention for key population were reviewed (Bhattacharjee, McClarty, Isaac, Kimani, Emmanuel, Kabuti and Becker, 2024; Li, Xie and Xiang, 2025; Zotova, Shongo, Lelo, Mbonze, Kaba, Ntangu & Ross, 2025; Emmanuel, Sanni, Roger, Umoh, Boniface, Paul & Auwal ,2025; Rampilo, Phalane & Phaswana-Mafuya, 2025).

Bhattacharjee, McClarty, Isaac, Kimani, Emmanuel, Kabuti and Becker (2024) assessed the coverage of HIV prevention services for key populations (KPs) in Nairobi, Kenya using an expanded Polling Booth Survey (ePBS) method. The study found that the condom programme for FSW and MSM had low availability (60.2% and 50.9%), contact (68.8% and 65.9%) and utilization (52.1% and 43.9%) coverages. The pre-exposure prophylaxis (PrEP) programme had very low utilization coverage for FSW and MSM (4.4% and 2.8%). These findings suggest poor performance of HIV prevention interventions for key populations in Nairobi, Kenya. The study by Bhattacharjee, *et al. (*2024) presents a theoretical gap, as it was not anchored on any theory. The current study addresses this research gap by being anchored on stakeholder theory, the theory of reasoned action and agency theory.

Li, Xie and Xiang (2025) analyzed the efficacy of mHealth tools in optimizing the HIV prevention cascade (from risk identification to PrEP adherence) among key populations (including men who have sex with men, bisexual individuals, sex workers, transgender populations and some other groups who at elevated risk of HIV acquisition). The researchers adopted a systematic review and meta-analysis method. The results of the meta-analysis showed that mHealth interventions

significantly promoted PrEP adherence (OR = 1.60, 95% CI [1.09, 2.35], p = 0.016) and HIV testing (OR = 1.63, 95% CI [1.39, 1.90], $p < 0.01$). It had also shown some effectiveness in promoting the use of PrEP. The study by Li, Xie and Xiang (2025), whoever, presents contextual and theoretical research gaps. The context of the focus countries for this study, is different from that of Kenya. The study is not grounded on any theory. The current study addresses these two research gaps by being situated in Kenya, and being grounded on stakeholder theory, theory of reasoned action and agency theory.

Zotova, Shongo, Lelo, Mbonze, Kaba, Ntangu and Ross (2025) examined PrEP attrition patterns and barriers to engagement among FSW and MSM in Kinshasa, DRC, using programmatic data from five sites, clinical records, and qualitative interviews. Multiple methods study was used. The study found that among 8,822 FSW and MSM eligible for PrEP in 2019–2021, only 24% (n=2,070) initiated it. Of 809 FSW initiators, 33% (n=268) were lost to follow-up by 1 month and 78% (n=421) by 3 months. Among 1,261 MSM, 26% (n=332) and 87% (n=808) were lost by 1 and 3 months, respectively. For FSW, prior PrEP use and recent STIs were associated with higher attrition at 1 month. These findings suggest performance challenges in HIV prevention projects for key populations in DRC. Despite these important findings, the research by Zotova *et al.* (2025) presents contextual, theoretical and methodological research gaps. The study was undertaken in the DRC, whose contexts are totally different from that of Kenya. The study was also not informed by any theory, and there is no clarity on what "multiple methods" mean. The current study addresses these three research gaps by being undertaken in Kenya, being grounded on stakeholder theory, theory of reasoned action and agency theory, and by adopting cross-sectional survey research design.

Emmanuel, Sanni, Roger, Umoh, Boniface, Paul and Auwal (2025) assessed the prevalence of HIV and the willingness to access HIV preventive services among key populations in three selected local government areas (LGAs) in Nigeria. A cross-sectional study was adopted using a snowball sampling technique. The study findings suggest that MSM and PWIDs exhibited higher HIV prevalence rates compared to FSWs. Willingness to access HIV preventive services was recorded at 57.7%, with significant influences from geographical location and sexual practices. The findings highlight the critical need for targeted interventions addressing the specific barriers

faced by KPs in these regions. The research by Emmanuel, *et al*. (2025) presents contextual and theoretical research gaps. The study was conducted in Nigeria, a country whose contexts and settings are totally different from that of Kenya. Moreover, the study was not anchored on any theory, thereby presenting a theoretical gap. The current research addresses these two research gaps by having the research in Kenya, and by being grounded on stakeholder theory, theory of reasoned action and agency theory.

Rampilo, Phalane and Phaswana-Mafuya (2025) explored how Sub-Saharan African (SSA) countries have integrated key populations (KPs) into unique identifier codes (UICs) for routine health information management systems (RHIMS) Systematic review was used. The review found that only nine of the fifty-three SSA countries have incorporated UICs for KPs into their RHIMS through alphanumeric codes. They include Burundi, Burkina Faso, Ghana, Mali, Kenya, Uganda, Togo, Malawi, and Liberia. Facilitators for KPs' UIC adoption included strong data security and political will, whereas barriers encompassed compromised privacy, stigma and discrimination. While the study by Rampilo, Phalane and Phaswana-Mafuya (2025) point to the progress that Kenya is making in integrating KPs' data into the country's routine health information management systems, it presents a theoretical research gap, which the current study addresses by being centered on stakeholder theory, theory of reasoned action and agency theory.

Conceptual Framework

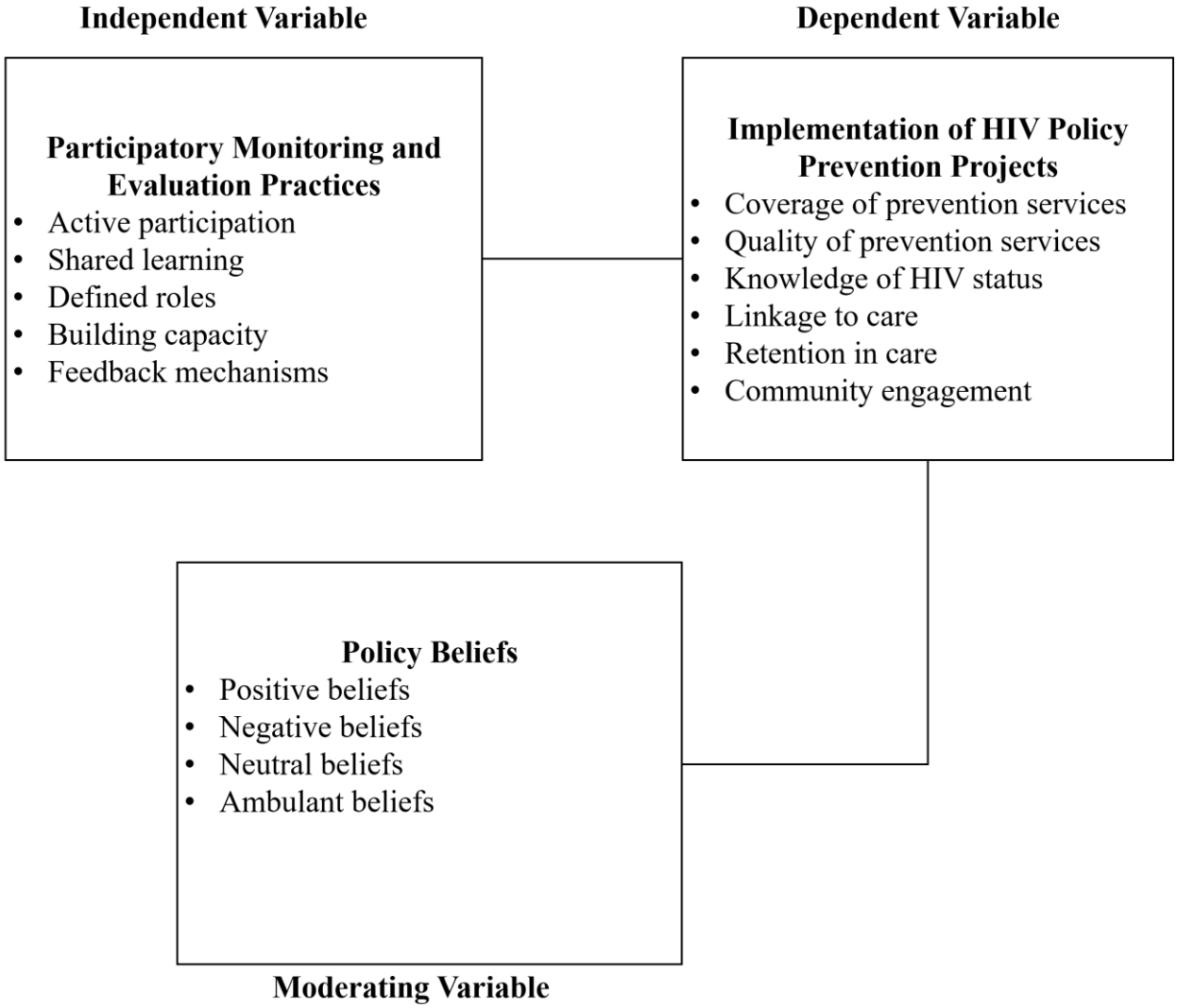

Figure 1: Conceptual framework

METHODOLOGY

This section presents the methodological framework for investigating the influence of participatory monitoring and evaluation (M&E) practices and policy beliefs on the performance of policy-mandated HIV prevention projects targeting key populations in Kenya. It encompasses the

research philosophy, design, target population, sampling procedures, sample size, data collection instruments, diagnostic tests for regression assumptions, operationalization of variables, data analysis techniques, and ethical considerations. This structured approach ensures the reliability and validity of findings, aligning with the objectives of examining how participatory M&E practices and policy beliefs affect the outcomes of the 36 HIV prevention projects outlined in the Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016–2025), coordinated by the National AIDS Control Council (NACC).

Research Philosophy

The study is grounded in a pragmatic philosophical paradigm, which emphasizes practical solutions to real-world problems through the integration of diverse research methodologies (Holma & Huhtala, 2025; MacNeil, 2025). Pragmatism posits that knowledge is derived from practical experiences and situational contexts, prioritizing problem-solving over absolute truths. This paradigm is particularly suitable for addressing the complex issue of HIV prevention, as it supports mixed-methods approaches to explore participatory M&E practices and policy beliefs. By focusing on the practical implications of these factors, pragmatism facilitates a comprehensive understanding of their role in enhancing the implementation and effectiveness of HIV prevention projects for key populations in Kenya (Holma & Huhtala, 2025).

Research Design

A cross-sectional research design is adopted, involving data collection from the target population at a single point in time without manipulating variables (Olsen & St George, 2004; Setia, 2016). This design accommodates both quantitative and qualitative data, aligning with the pragmatic paradigm's emphasis on methodological flexibility. It is cost-effective and ideal for this unfunded study, enabling the capture of a snapshot of participatory M&E practices, policy beliefs, and project performance without altering their natural state. The design's relevance is enhanced by its ability to collect data from diverse HIV prevention projects targeting key populations, ensuring a robust analysis of the study variables across the 36 projects coordinated by the NACC (Setia, 2016).

Target Population

The target population comprises 36 national HIV prevention policy projects outlined in the Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016–2025), coordinated by the NACC and implemented by county governments and national agencies. These projects focus on key populations, including Young Key Populations (YKPs), Female Sex Workers (FSWs), Men who have Sex with Men (MSM), People who Inject Drugs (PWID), Transgender Individuals, and New HIV Prevention Technologies. The total target respondents include 81 individuals, with each project represented by one project director, one M&E specialist, and one policy manager, ensuring comprehensive representation of stakeholders involved in project coordination and implementation. The distribution of these projects and respondents is summarized in Table 1.1.

Table 1.1: Target Population of HIV Prevention Policy Projects for Key Populations

Category of HIV Policy Prevention Projects	Total Number of HIV Policy Prevention Projects	Target Respondents	Total Target Respondents
Young Key Populations (YKPs)	9	1 Project Director, 1 M&E Specialist, 1 Policy Manager	27
Female Sex Workers (FSWs)	8	1 Project Director, 1 M&E Specialist, 1 Policy Manager	24
Men who have Sex with Men (MSM)	5	1 Project Director, 1 M&E Specialist, 1 Policy Manager	15
People who Inject Drugs (PWID)	5	1 Project Director, 1 M&E Specialist, 1 Policy Manager	15
Transgender People	1	1 Project Director, 1 M&E Specialist, 1 Policy Manager	3
New HIV Prevention Technologies	3	1 Project Director, 1 M&E Specialist, 1 Policy Manager	9
Totals	36 HIV Policy Prevention Projects		81

Source: Project/Organizational Records (NACC, 2016)

Sample Size and Sampling Procedures

Sample Size

Due to the manageable number of 36 HIV prevention policy projects and 81 coordinating respondents, a census approach is employed, as recommended by Ross and Reeve (2003). This approach ensures that all projects and their respective project directors, M&E specialists, and policy managers are included, providing a complete representation of the target population. The census method is particularly suitable for this study, given the small and well-defined population, allowing for comprehensive data collection without the need for sampling subsets. This approach enhances the study's ability to capture the full spectrum of participatory M&E practices and policy beliefs across all projects (Ross & Reeve, 2003).

Sampling Procedures

To account for the diversity of HIV prevention projects and their focus on different key populations, a combination of sampling methods is utilized. Simple random sampling ensures an equal opportunity for all 36 projects and 81 respondents to be included, promoting representativeness and minimizing bias (Noor, Tajik & Golzar, 2022). Stratified random sampling categorizes projects by key population groups, such as YKPs, FSWs, MSM, PWID, Transgender Individuals, and New HIV Prevention Technologies, ensuring proportional representation across these strata (Ding, Haieh, Wu & Pedram, 1996). Purposive sampling is applied to select key informants, such as project directors and policy managers, to provide information-rich qualitative data, enhancing the depth of insights into policy beliefs and M&E practices (Rai & Thapa, 2015). This multi-method sampling approach aligns with the pragmatic paradigm, ensuring robust and representative data collection.

Research Instruments

Data collection is facilitated through a Likert-type questionnaire and an interview guide, designed to capture both quantitative and qualitative data. The questionnaire is structured into four sections: Section A collects information on the characteristics of the HIV prevention projects, Section B assesses participatory M&E practices, such as active participation and feedback mechanisms, Section C evaluates policy beliefs and attitudes toward key populations, and Section D examines

project implementation and performance outcomes. The interview guide comprises four open-ended questions addressing participatory M&E, policy beliefs, attitudes toward key populations, and project implementation, providing deeper qualitative insights. These instruments align with the pragmatic paradigm by integrating quantitative and qualitative approaches to provide a comprehensive understanding of the study variables (Setia, 2016).

Validity of the Instruments

Content and construct validity are rigorously assessed to ensure the instruments accurately measure the intended constructs. Content validity is evaluated to confirm that the questionnaire comprehensively covers all relevant indicators of participatory M&E practices, policy beliefs, and project performance, ensuring no critical aspects are omitted (Rossiter, 2008). Construct validity verifies that the instruments adequately measure the study's theoretical constructs, such as stakeholder engagement, belief systems, and project outcomes, aligning with the research objectives (Brahma, 2009). Both validity types are assessed by University of Nairobi research supervisors, who are experts in content and construct validity and possess extensive knowledge of HIV prevention projects in Kenya, ensuring the instruments' relevance and accuracy for the study context.

Reliability of the Instruments

The reliability of the questionnaire is tested using Cronbach's Alpha, with a threshold of 0.7 indicating acceptable reliability and 0.8 strongly preferred for robust measurement (Izah, Sylva & Hait, 2023; Bujang, Omar & Baharum, 2018). The questionnaire's three scales—participatory M&E practices, policy beliefs, and project performance—are evaluated to ensure internal consistency across the 36 HIV prevention projects. This rigorous testing confirms that the items within each scale consistently measure the intended constructs, enhancing the reliability of the study's findings and ensuring trustworthy data for subsequent analyses (Izah, Sylva & Hait, 2023).

Data Collection Procedures

Data collection commences following the successful oral defense of the research dissertation. A letter of introduction is obtained from the University of Nairobi's Department of Management Science and Project Planning, and a research permit is secured from the National Commission for

Science, Technology and Innovation (NACOSTI). Upon approval, the study is formally introduced to the National Syndemic Diseases Control Council (NSDCC, formerly NACC), with a request to access the 36 HIV prevention projects. Consent is sought from coordinating officers, including project directors, M&E specialists, and policy managers, ensuring their voluntary participation. As all projects are coordinated from Nairobi, data collection is expected to take one month, leveraging centralized coordination to streamline the process (NACC, 2016).

Questionnaire

The Likert-type questionnaire is administered to all 81 respondents across the 36 projects, targeting project directors, M&E specialists, and policy managers. It collects quantitative data on project characteristics, participatory M&E practices, policy beliefs, and performance outcomes, using a structured format to ensure consistency in responses. The Likert-scale design facilitates statistical analysis, allowing for the measurement of variables on an interval scale. The interview guide complements the questionnaire by collecting qualitative data through open-ended questions, providing deeper insights into the complexities of M&E practices, beliefs, and project implementation, aligning with the mixed-methods approach of the study (Setia, 2016).

Diagnostic Tests for Statistical Assumptions of Regression Analysis

Linearity Test

The linearity assumption, which posits a direct proportional relationship between independent variables (participatory M&E practices and policy beliefs) and the dependent variable (project performance), is tested using scatterplot analysis and correlation matrices. Scatterplots visually inspect the relationships, while a high correlation coefficient, approaching +1 or -1, indicates a significant linear association, validating the regression model's applicability. This test ensures that the relationships between variables are appropriately modeled, supporting accurate statistical inferences (Pearson, 1896).

Normality Test

The normality assumption, requiring normally distributed residuals, is assessed using Probability-Probability (P-P) plots and the Shapiro-Wilk test. P-P plots provide a visual representation of residual distribution, while the Shapiro-Wilk test offers a statistical evaluation, with a p-value

greater than 0.05 confirming normality. This test verifies that residuals are evenly distributed, ensuring the regression model's robustness and the reliability of statistical findings (Shapiro & Wilk, 1965).

Multicollinearity Test

Multicollinearity is examined to ensure independent variables are not excessively correlated, which could distort regression results. A correlation matrix, Variance Inflation Factor (VIF), and tolerance values are used, with VIF values exceeding 5 or tolerance below 0.2 indicating severe multicollinearity. If detected, corrective measures, such as variable removal or combination, are applied to stabilize the model. This test ensures that the regression coefficients accurately reflect the relationships between variables (Marquardt, 1970).

Heteroscedasticity Test

The homoscedasticity assumption, requiring constant variance of residuals across levels of independent variables, is tested using the Breusch-Pagan test and scatterplot analysis. A p-value greater than 0.05 and a random distribution of residuals confirm homoscedasticity, ensuring reliable standard errors. This test validates the regression model's assumptions, supporting the accuracy of the study's findings (Breusch & Pagan, 1979).

Autocorrelation Test

The autocorrelation assumption, requiring independent residuals, is assessed using the Durbin-Watson statistic. Values between 1.5 and 2.5 indicate no significant autocorrelation, ensuring observation independence. If autocorrelation is detected, corrective strategies, such as introducing lagged variables or employing the Cochrane-Orcutt procedure, are implemented to address it. This test ensures that the regression models' results are not biased by correlated errors (Durbin & Watson, 1950, 1951).

Data Analysis Techniques

Descriptive Statistics

Descriptive statistics, including means, standard deviations, frequencies, and percentages, are used

to summarize quantitative and qualitative data on participatory M&E practices, policy beliefs, and project performance. These statistics provide a detailed overview of the characteristics, trends, and distributions within the 36 HIV prevention projects, facilitating a clear understanding of the data and setting the stage for inferential analyses (Sekaran, 2006).

Inferential Statistics

Inferential statistics, specifically Pearson's correlation coefficient and regression analysis, are employed to test associations between independent (participatory M&E practices), moderating (policy beliefs), and dependent (project performance) variables. Hypotheses are tested at a 0.05 significance level, with p-values ≤ 0.05 leading to rejection of the null hypothesis. Hierarchical multiple regression models, as proposed by Baron and Kenny (1986), are used to assess direct, moderating, and joint effects, ensuring robust statistical inferences about the relationships between variables and their impact on project outcomes (Sekaran, 2006).

Summary of Tests of Hypotheses

The study tests hypothesis at a 0.05 significance level: (3) H03: There is no significant joint effect between M&E practices, policy beliefs, and performance. Pearson's correlation and regression analyses are used, with p-values ≤ 0.05 indicating rejection of the null hypothesis. The results are summarized in Table 1.2, outlining the objectives, hypotheses, analysis tools, models, and decision rules for accepting or rejecting the hypotheses

Table 1.2: Statistical Tests of Hypotheses

Objective	Hypothesis	Tools of Analysis	Analysis Model	When to Accept or Reject
To examine the joint effect of participatory M&E practices and policy beliefs on performance of policy-mandated HIV prevention projects for key	H03: There is no significant relationship between joint participatory M&E practices, policy beliefs, and performance of policy-mandated HIV prevention	Multiple Linear Regression Analysis	$Y = \beta0 + \beta1X1 + \beta2X2 + \beta3X3 + \varepsilon$	P-Value > 0.05 do not Reject; P-Value ≤ 0.05 Reject

populations in Kenya	projects for key populations in Kenya

Source: Research Design (2025)

Ethical Considerations

Ethical considerations are paramount, given the sensitive nature of HIV prevention projects involving vulnerable populations. Informed consent is obtained by providing clear, comprehensive information tailored to participants' needs, ensuring understanding and voluntariness. Confidentiality is maintained through data anonymization, secure storage, and strict access controls, with verbal consent considered for sensitive topics. The study prioritizes participants' well-being by minimizing risks and maximizing benefits, adopting culturally sensitive approaches, and committing to share findings with involved communities to ensure they benefit from the research. These measures align with ethical standards for research involving key populations (NACC, 2016).

Operationalization of the Variables

The study variables-participatory M&E practices, policy beliefs, and project performance-are operationalized into latent constructs, sub-constructs, measurable indicators, and measurement methods, supported by relevant literature. Participatory M&E practices are measured through indicators such as active participation, shared learning, defined roles, capacity building, and feedback mechanisms. Policy beliefs are assessed via positive, negative, neutral, and ambivalent beliefs toward key populations. Project performance is evaluated through outcomes such as service coverage, quality, knowledge of HIV status, and stigma reduction. The operationalization is detailed in Table 1.3, specifying objectives, variables, indicators, question items, measurement scales, research approaches, statistical analyses, and analysis tools.

Table 1.3: Operationalization of Variables

Objectives	Variables	Indicators	Question Items	Scale of Measurement	Research Approach	Type of Statistical Analysis	Tools of Data Analysis

To examine the joint effect of participatory M&E practices and policy beliefs on performance of policy-mandated HIV prevention projects for key populations in Kenya	Mediating: Policy Beliefs, Participatory M&E Practices	Active participation, Shared learning, defined roles, Building capacity, Feedback mechanisms, Positive beliefs, Negative beliefs, Neutral beliefs, Ambivalent beliefs	Section D	Interval	Quantitative, Qualitative	Parametric, non-parametric	Mean, Standard Deviation, Correlation Analysis, Multiple Regression Analysis

Source: Research Design (2025)

FINDINGS/RESULTS

This section presents the findings from the data collected to evaluate the participatory monitoring and evaluation practices, beliefs and attitudes, and performance of HIV prevention projects targeting key populations in Kenya. The analysis is based on responses from participants involved in these projects. The chapter is structured to include response rate, reliability test results, descriptive statistics, regression analysis, and diagnostic tests.

Response Rate

The response rate reflects the extent to which the collected data represent the target population, ensuring the findings are valid and generalizable. The study targeted 81 respondents associated with 36 HIV prevention policy projects outlined in the Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016-2025), coordinated by the National AIDS Control Council (NACC). All 81 questionnaires were distributed to these stakeholders, and 70 were completed and returned, yielding a response rate of 86.4%.

Table 1.4: Response Rate

Parameter	Frequency	Percent
Target Population	81	100.0
Questionnaires Distributed	81	100.0
Questionnaires Returned	70	86.4
Non-Respondents	11	13.6

Source: Research Data (2025)

Table 1.4 shows that all 81 questionnaires were distributed, covering the entire target population across the 36 HIV prevention policy projects. Of these, 70 questionnaires were returned, resulting in an 86.4% response rate. The non-response rate of 13.6% (11 respondents) is low, indicating minimal risk of non-response bias. The high response rate was achieved through targeted sampling of key stakeholders, personalized follow-up via email and phone, and leveraging NACC and county-level networks. The non-respondents (11 individuals) likely faced time constraints, competing priorities, or logistical challenges, particularly in remote areas. The respondent distribution was proportional across the project categories: YKPs (27 targeted), FSWs (24), MSM (15), PWID (3), Transgender People (3), and New HIV Prevention Technologies (9). Although non-response by category was not tracked, the 86.4% response rate ensures representation across these groups, providing a robust foundation for analyzing participatory M&E practices, beliefs, and project performance.

Reliability Test Results

Reliability testing ensures that the questionnaire items consistently measure the intended constructs, supporting the validity of the findings. Cronbach's Alpha was used to assess internal consistency, with a threshold of 0.7 indicating acceptable reliability. The questionnaire included three scales, each with eight items tailored to the 36 HIV prevention policy projects: participatory monitoring and evaluation (M&E) practices, beliefs and attitudes about key populations, and performance of HIV prevention projects. The tests were conducted using responses from the 70 returned questionnaires, completed by project directors, M&E specialists, and policy managers.

Table 1.5: Reliability Test Results

Scale	Number of Items	Cronbach's Alpha
Participatory M&E Practices	8	0.82
Beliefs and Attitudes about Key Populations	8	0.79
Performance of HIV Prevention Projects	8	0.85

Source: Research Data (2025)

Table 1.5 presents the Cronbach's Alpha coefficients for the three scales. The participatory M&E practices scale, with eight items assessing engagement, sharing of M&E findings, defined roles, and capacity building, achieved a Cronbach's Alpha of 0.82. This high value indicates strong internal consistency, showing that the items cohesively measured participatory M&E practices across the 36 projects targeting YKPs, FSWs, MSM, PWID, Transgender People, and New HIV Prevention Technologies. The consistency reflects the items' alignment with the NACC's policy framework and the respondents' clear understanding of their M&E roles.

The beliefs and attitudes scale, also with eight items, recorded a Cronbach's Alpha of 0.79. This acceptable value indicates that the items measuring attitudes toward key populations (e.g., FSWs, MSM, PWID, and Transgender People) were generally consistent. The slightly lower reliability may reflect the sensitive nature of attitudes, particularly toward PWID and Transgender People, where responses may vary due to differing professional roles or personal perspectives among project directors, M&E specialists, and policy managers.

The performance of HIV prevention projects scale, with eight items evaluating outcomes like service coverage, quality, and stigma reduction, achieved a Cronbach's Alpha of 0.85, indicating excellent internal consistency. This high reliability suggests that the items consistently measured project performance, likely due to their alignment with the NACC's policy objectives and the respondents' familiarity with evaluating outcomes.

All Cronbach's Alpha values (0.79 to 0.85) exceed the 0.7 threshold, confirming the reliability of the scales. The high reliability of the participatory M&E practices (0.82) and performance scales

(0.85) supports robust data for operational and outcome analyses. The slightly lower reliability of the beliefs and attitudes scale (0.79) suggests potential for refining items addressing sensitive topics in future studies. These reliable instruments ensure trustworthy data for subsequent descriptive and regression analyses.

Descriptive Statistics

This section presents the descriptive statistics for the study, focusing on the characteristics of the HIV prevention policy projects targeting key populations in Kenya. The data were collected from 70 respondents, including project directors, monitoring and evaluation (M&E) specialists, and policy managers, across 36 projects coordinated by the National AIDS Control Council (NACC) under the Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016-2025).

Key Populations Targeted by HIV Projects

This section examines the key populations targeted by the HIV prevention projects, as outlined in the NACC policy framework. Understanding the focus of these projects is critical for assessing their alignment with the needs of vulnerable groups.

Table 1.6 Key Populations Targeted by HIV Projects

Key Population	Frequency	Percent
Female Sex Workers (FSW)	45	64.3
Male Sex Workers (MSW)	8	11.4
Men who have Sex with Men (MSM)	7	10.0
People who Inject Drugs (PWID)	6	8.6
Transgender Individuals	4	5.7
Total	**70**	**100.0**

Source: Research Data (2025)

Table 1.6 shows the distribution of key populations targeted by the 36 HIV prevention projects, based on responses from the 70 respondents. Female Sex Workers (FSWs) were the most frequently targeted group, with 45 respondents (64.3%) indicating their inclusion. This strong

focus on FSWs reflects their high vulnerability to HIV, as they are a priority population in the NACC policy due to elevated risk behaviors and structural barriers to healthcare access. Male Sex Workers (MSWs) and Men who have Sex with Men (MSM) were targeted by 8 (11.4%) and 7 (10.0%) respondents, respectively, indicating moderate attention to these groups. People who Inject Drugs (PWID) and Transgender Individuals were the least targeted, with 6 (8.6%) and 4 (5.7%) respondents, respectively. The lower focus on PWID and Transgender Individuals suggests potential gaps in addressing these populations, which face unique challenges such as stigma and limited-service access. The distribution aligns with the NACC's prioritization of FSWs but highlights the need for increased efforts toward less-targeted groups to ensure comprehensive coverage of all key populations.

HIV Prevention Approaches for Key Populations

This subsection analyzes the HIV prevention approaches implemented for key populations, highlighting the strategies employed to address HIV transmission risks.

Table 1.7: HIV Prevention Approaches for Key Populations

Approach	Frequency	Percent
Condom Promotion and Distribution	6	8.6
Combination Prevention	16	22.9
Treatment as Prevention	18	25.7
PrEP (Pre-Exposure Prophylaxis)	13	18.6
HIV Testing Services (HTS)	12	17.1
Addressing Stigma and Discrimination	4	5.7
Voluntary Medical Male Circumcision (VMMC)	1	1.4
Total	**70**	**100.0**

Source: Research Data (2025)

Table 1.7 presents the HIV prevention approaches implemented, as reported by the 70 respondents. Treatment as Prevention was the most common approach, cited by 18 respondents (25.7%), reflecting a strong focus on antiretroviral therapy to reduce viral loads and prevent transmission. Combination Prevention, integrating multiple strategies, was reported by 16 respondents (22.9%),

indicating a holistic approach. Pre-Exposure Prophylaxis (PrEP) and HIV Testing Services (HTS) were implemented by 13 (18.6%) and 12 (17.1%) respondents, respectively, highlighting the emphasis on biomedical interventions. Condom Promotion and Distribution was noted by 6 respondents (8.6%), while Addressing Stigma and Discrimination and Voluntary Medical Male Circumcision (VMMC) were the least common, reported by 4 (5.7%) and 1 (1.4%) respondent, respectively. The predominance of biomedical approaches aligns with global HIV prevention guidelines, but the limited focus on stigma reduction suggests a gap in addressing social barriers, which are critical for ensuring equitable access and uptake of services among key populations.

Performance of HIV Prevention Projects for Key Populations in Kenya

This section evaluates the performance of the 36 HIV prevention projects, focusing on outcomes such as service coverage, quality, knowledge of HIV status, and stigma reduction. The data were collected from 70 respondents, and the results are presented in Table 1.8, with all mean and standard deviation values discussed.

Table 1.8: Performance of HIV Prevention Projects

Statement	N	Mean	Std. Deviation
The project has led to improved coverage of HIV prevention services for key populations	70	4.44	1.016
By prioritizing and improving HIV prevention services for key populations, the project has made significant strides in controlling the HIV epidemic and achieving the goal of ending AIDS	70	4.39	0.967
The project has led to improved quality of HIV prevention services for the key populations	70	4.47	0.959
Enhancing the quality of HIV services has significantly improved the health and well-being of members of the key population	70	4.47	0.944
The project has led to increased knowledge of HIV status among the key populations	70	4.40	1.095
The project has linked members of key populations to accessible and quality HIV care and treatment services	70	4.37	1.052
The project has promoted regular community engagement in HIV prevention for key populations	70	4.36	1.036

The project has reduced stigma and discrimination against key populations thereby fostering more inclusive communities	70	4.29	0.965

Source: Research Data (2025)

Table 1.8 presents the descriptive statistics for project performance, based on responses from 70 respondents. The statements "The project has led to improved quality of HIV prevention services for the key populations" (M = 4.47, SD = 0.959) and "Enhancing the quality of HIV services has significantly improved the health and well-being of members of the key population" (M = 4.47, SD = 0.944) had the highest mean scores, indicating strong agreement on the projects' success in delivering high-quality services and improving health outcomes. The low standard deviations suggest consistent perceptions across respondents, reflecting the NACC's focus on quality in the policy framework.

The statement "The project has led to improved coverage of HIV prevention services for key populations" scored a mean of 4.44 (M = 4.44, SD = 1.016), showing strong performance in expanding service reach. The statement "The project has led to increased knowledge of HIV status among the key populations" had a mean of 4.40 (M = 4.40, SD = 1.095), indicating success in promoting HIV testing, with moderate variability. The statement "By prioritizing and improving HIV prevention services for key populations, the project has made significant strides in controlling the HIV epidemic and achieving the goal of ending AIDS" scored 4.39 (M = 4.39, SD = 0.967), reflecting progress toward national HIV goals.

The statements "The project has linked members of key populations to accessible and quality HIV care and treatment services" (M = 4.37, SD = 1.052) and "The project has promoted regular community engagement in HIV prevention for key populations" (M = 4.36, SD = 1.036) indicate strong performance in linkage to care and community engagement, with moderate variability suggesting differences across projects. The lowest mean score was for "The project has reduced stigma and discrimination against key populations thereby fostering more inclusive communities" (M = 4.29, SD = 0.965), suggesting that while progress has been made, stigma reduction remains a challenge. The low standard deviation indicates relatively consistent views.

Overall, the high mean scores (M = 4.29 to 4.47, SD = 0.944 to 1.095) demonstrate strong project

performance, particularly in service quality and health outcomes. The focus on stigma reduction requires further strengthening to support inclusive communities for all key populations.

Regression Analysis

This section presents the regression analysis conducted to test the hypotheses regarding the relationships between participatory monitoring and evaluation (M&E) practices, policy beliefs, and the performance of the 36 HIV prevention policy projects targeting key populations in Kenya, as coordinated by the National AIDS Control Council (NACC) under the Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016-2025*)*.

Model 3 for Hypothesis 3

This subsection tests Hypothesis 3 (H03): There is no significant relationship between joint participatory monitoring and evaluation practices, policy beliefs, and the performance of policy-mandated HIV prevention projects for key populations. The model is expressed as:

$$Y_j = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3) + \varepsilon_i$$

where X_3 represents the joint effect of participatory M&E practices and policy beliefs.

Table 1.9: Model 3 Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.721	0.520	0.496	0.557

Source: Research data (2025)

Table 1.9 presents the Model 3 summary. The R value (0.721) indicates a strong correlation between the predictors (participatory M&E practices, policy beliefs, and their joint effect) and project performance. The R Square value (0.520) shows that 52.0% of the variance in project performance is explained, a further improvement over Model 2. The Adjusted R Square (0.496) confirms a robust fit, and the standard error of the estimate (0.557) indicates high precision.

Table 1.10: Model 3 ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.

Regression	22.287	3	7.429	23.917	0.000
Residual	20.583	66	0.311		
Total	42.870	69			

Source: Research data (2025)

Table 1.10 shows the ANOVA results for Model 3. The F-statistic (F = 23.917, p = 0.000) indicates that the model is statistically significant at the 0.05 level, rejecting H03. The regression sum of squares (22.287) and residual sum of squares (20.583) demonstrate that the joint effect significantly enhances the model's explanatory power.

Table 1.11: Model 3 Coefficients

Predictor	**Unstandardized Coefficients (B)**	**Standardized Coefficients (Beta)**	**t**	**Sig.**
Constant	0.678		1.678	0.098
Participatory M&E Practices (X1)	0.581	0.496	5.124	0.000
Policy Beliefs (X2)	0.298	0.255	2.763	0.007
Joint Effect (X3)	0.356	0.305	3.214	0.002

Source: Research data (2025)

Table 1.11 presents the coefficients for Model 3. The constant (β0=0.678, t=1.678, p=0.098) is marginally significant. The coefficient for participatory M&E practices (β1=0.581, Beta=0.496, t=5.124, p=0.000) remains significant, indicating a strong direct effect. The coefficient for policy beliefs (β2=0.298, Beta=0.255, t=2.763, p=0.007) is significant, showing that beliefs contribute to performance. The joint effect (β3=0.356, Beta=0.305, t=3.214, p=0.002) is significant, confirming that the combined influence of M&E practices and policy beliefs enhances project performance. These results reject H03, indicating that the joint effect significantly improves outcomes like service coverage, quality, and community engagement.

Diagnostic Test Results

This section presents the diagnostic test results conducted to validate the assumptions of the regression models used to test the hypotheses regarding participatory monitoring and evaluation

(M&E) practices, policy beliefs, and the performance of the 36 HIV prevention policy projects targeting key populations in Kenya.

Linearity Test

This subsection assesses the linearity assumption, which requires that the relationship between the independent variables (participatory M&E practices and policy beliefs) and the dependent variable (project performance) is linear. A linear relationship ensures that the regression model accurately captures the associations.

Table 1.12: Linearity Test Results

Model	Independent Variable	Method	Result
Model 3	Participatory M&E Practices (X1), Policy Beliefs (X2), Joint Effect (X3)	Scatterplot Analysis	Linear pattern observed

Source: Research data (2025)

Table 1.12 presents the linearity test results for the three regression models. Scatterplot analyses were conducted to examine the relationship between the independent variables and project performance. for Model 3, scatterplots of participatory M&E practices (X1), policy beliefs (X2), and the joint effect (X3) against performance showed a linear relationship. The absence of curvilinear or non-linear patterns in all scatterplots confirms that the linearity assumption is met for all models. This ensures that the regression models appropriately capture the relationships, supporting the validity of the findings that participatory M&E practices and policy beliefs positively influence project performance.

Normality Test

This subsection evaluates the normality assumption, which requires that the residuals of the regression models are normally distributed to ensure unbiased and efficient estimates.

Table 1.13: Normality Test Results

Model	Test	Statistic	p-value	Result
Model 3	Shapiro-Wilk	0.968	0.257	Residuals normally distributed

Source: Research data (2025)

Table 1.13 presents the normality test results using the Shapiro-Wilk test, applied to the residuals of each regression model. For Model 3, the statistic was 0.968 with a p-value of 0.257 ($p > 0.05$), also supporting normality. The non-significant p-values ($p > 0.05$) across all models indicate that the residuals do not deviate significantly from a normal distribution. This satisfies the normality assumption, ensuring that the regression models' estimates are reliable and unbiased, supporting the findings that participatory M&E practices, policy beliefs, and their joint effect significantly predict project performance.

Multicollinearity Test

This subsection examines the multicollinearity assumption, which requires that independent variables in the regression models are not highly correlated to avoid distorted coefficient estimates.

Table 1.14: Multicollinearity Test Results

Model	Independent Variable	Variance Inflation Factor (VIF)	Result
Model 3	Participatory M&E Practices (X1)	1.356	No multicollinearity
	Policy Beliefs (X2)	1.310	No multicollinearity
	Joint Effect (X3)	1.467	No multicollinearity

Source: Research Data (2025)

Table 1.14 presents the multicollinearity test results using the Variance Inflation Factor (VIF). For Model 3, the VIF values were 1.356 for participatory M&E practices (X1), 1.310 for policy beliefs (X2), and 1.467 for the joint effect (X3). All VIF values are well below the threshold of 5, indicating no multicollinearity issues across all models. This confirms that the independent variables are sufficiently independent, ensuring that the regression coefficients accurately reflect the relationships with project performance, such as improved service coverage and quality.

Heteroscedasticity Test

This subsection tests the heteroscedasticity assumption, which requires that the variance of residuals is constant across levels of the independent variables to ensure reliable standard errors.

Table 1.15: Heteroscedasticity Test Results

Model	Test	Statistic	p-value	Result
Model 3	Breusch-Pagan	2.304	0.129	No heteroscedasticity

Source: Research data (2025)

Table 1.15 presents the heteroscedasticity test results using the Breusch-Pagan test. For Model 3, the statistic was 2.304 with a p-value of 0.129 ($p > 0.05$). The non-significant p-values across all models confirm that the variance of residuals is constant, satisfying the homoscedasticity assumption. This ensures that the standard errors in the regression models are reliable, supporting the validity of the findings that participatory M&E practices and policy beliefs significantly influence project performance.

Autocorrelation Test

This subsection assesses the autocorrelation assumption, which requires that residuals are not correlated with each other to ensure the independence of observations.

Table 1.16: Autocorrelation Test Results

Model	Test	Durbin-Watson Statistic	Result
Model 3	Durbin-Watson	1.995	No autocorrelation

Source: Research data (2025)

Table 1.16 presents the autocorrelation test results using the Durbin-Watson statistic. For Model 3, it was 1.995. The value is close to 2 (within the acceptable range of 1.5 to 2.5), indicating no autocorrelation in the residuals. This confirms that the observations are independent, satisfying the assumption and ensuring that the regression models' results are not biased by correlated errors. The absence of autocorrelation supports the reliability of the findings, indicating that participatory M&E practices, policy beliefs, and their joint effect are robust predictors of project performance

outcomes like service quality and community engagement.

CONCLUSIONS AND RECOMMENDATIONS

This section consolidates the key aspects of the research, providing a comprehensive summary of the study's objectives, methodology, findings, and implications. It draws conclusions based on the analysis, proposes recommendations for stakeholders involved in HIV prevention projects, and identifies the study's limitations and potential avenues for future research. The research investigated the influence of participatory monitoring and evaluation practices and policy beliefs on the performance of 36 HIV prevention policy projects targeting key populations in Kenya, as coordinated by the National AIDS Control Council (NACC) under the Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016–2025).

Summary of the Study

The research explored the interplay between participatory monitoring and evaluation (M&E) practices, policy beliefs, and the performance of HIV prevention projects targeting key populations, including Female Sex Workers (FSWs), Men who have Sex with Men (MSM), People Who Inject Drugs (PWID), and Transgender Individuals in Kenya. The motivation for this study stemmed from the disproportionate burden of HIV infections among key populations, contributing approximately 30% of new infections despite a national decline in HIV prevalence (Young et al., 2023; Musyoki et al., 2021). The Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016–2025), managed by the NACC, prioritizes targeted interventions, yet limited research exists on how participatory M&E and stakeholder beliefs influence project outcomes. The study aimed to address three objectives: to establish the relationship between participatory M&E practices and project performance, to assess the moderating effect of policy beliefs on this relationship, and to examine the joint effect of participatory M&E practices and policy beliefs on project performance.

The theoretical framework was grounded in Stakeholder Theory (Freeman, 2010), which emphasizes managing diverse stakeholder interests; the Theory of Reasoned Action (Fishbein & Ajzen, 1975), which links beliefs to implementation behavior; and Agency Theory (Ross & Mitnick, 1970s), which highlights the need for monitoring to align stakeholder interests. A cross-

sectional research design was adopted, guided by a pragmatic philosophical paradigm that integrated quantitative and qualitative methods. Data were collected from 70 respondents, comprising project directors, M&E specialists, and policy managers across the 36 projects, using a Likert-type questionnaire and an interview guide. The questionnaire covered project characteristics, participatory M&E practices, policy beliefs, and project performance. A census approach was employed due to the manageable population size, supplemented by simple random, stratified, and purposive sampling techniques. Instrument reliability was assessed using Cronbach's Alpha (target ≥ 0.8), and content and construct validity were verified by University of Nairobi supervisors. Diagnostic tests, including linearity, normality, multicollinearity, heteroscedasticity, and autocorrelation, ensured the robustness of regression models.

Descriptive findings indicated robust participatory M&E practices (mean scores: 4.01–4.31), with active engagement and inclusivity as strengths, though defining clear M&E roles was less consistent (M = 4.01, SD = 1.245). Policy beliefs revealed positive attitudes toward the rights of MSM and sex workers (M = 4.17–4.23), but negative perceptions persisted toward PWID and Transgender Individuals (M = 1.54–2.03), indicating stigma-related challenges. Project performance was strong, particularly in service quality and health outcomes (M = 4.47), though stigma reduction was less effective (M = 4.29).

Regression analysis tested the hypothesis. Model 3 rejected the null hypothesis (H03), showing a significant joint effect of M&E practices and policy beliefs on performance ($R^2 = 0.520$, $\beta\_joint = 0.356$, $p = 0.002$). Diagnostic tests validated the models: scatterplot analyses confirmed linearity, Shapiro-Wilk tests indicated normality ($p > 0.05$), Variance Inflation Factors (VIF < 5) showed no multicollinearity, Breusch-Pagan tests verified homoscedasticity ($p > 0.05$), and Durbin-Watson statistics (≈ 2) confirmed no autocorrelation.

The findings support Stakeholder Theory by highlighting the importance of engaging key populations in M&E, the Theory of Reasoned Action by linking positive beliefs to effective implementation, and Agency Theory by emphasizing monitoring to align stakeholder interests. The study addresses contextual, theoretical, and methodological gaps in prior research (e.g., Bhattacharjee et al., 2024; Zotova et al., 2025) by focusing on Kenya's policy context and

grounding the analysis in established theories.

Conclusion

The joint effect of participatory M&E practices and positive policy beliefs explains 52% of the variance in project performance, indicating a synergistic relationship that significantly enhances the success of HIV prevention initiatives. These findings reinforce the importance of Agency Theory in ensuring that monitoring mechanisms align the interests of diverse stakeholders, including project implementers, key populations, and policymakers. The study contributes to the broader discourse on HIV prevention by providing empirical evidence specific to Kenya's policy framework, supporting the goals of the Policy for the Prevention of HIV Infections Among Key Populations in Kenya (2016–2025). It highlights the need for sustained efforts to engage communities and address attitudinal barriers to achieve equitable health outcomes. By addressing gaps in prior research, the study offers a nuanced understanding of how participatory approaches and belief systems interact to drive project success, providing a foundation for refining HIV prevention strategies in Kenya and potentially other high-prevalence contexts. The findings suggest that fostering inclusive M&E practices and cultivating positive stakeholder beliefs are not only complementary but essential for achieving the policy's objectives of reducing HIV infections among key populations, thereby contributing to Kenya's broader public health goals.

Recommendations of the Study

The NACC and implementing partners should strengthen participatory M&E practices by establishing clear roles for key populations, particularly PWID and Transgender Individuals, to enhance participation and accountability across all 36 projects. Capacity-building initiatives in M&E should be expanded to ensure consistent implementation. To address negative beliefs and stigma, especially toward PWID and Transgender Individuals, the NACC should collaborate with community-based organizations to implement sensitization programs, improving service access and inclusivity. Leveraging positive attitudes toward MSM and sex workers can enhance project implementation, and integrating belief assessments into project planning will align stakeholder perspectives with policy goals. Given the relatively weaker performance in stigma reduction (M = 4.29), projects should adopt community-led approaches, drawing on models like those in Rampilo et al. (2025), to foster inclusive environments. The Ministry of Health and NACC should

incorporate these findings into the national policy framework to sustain project outcomes beyond 2025, ensuring alignment with Kenya's HIV prevention goals.

Areas for Further Research

Future research should adopt a longitudinal design to examine the long-term impact of participatory M&E practices and policy beliefs on HIV prevention project performance, providing insights into how these factors evolve and influence outcomes over time. Exploring additional key populations, such as people in prisons or young key populations, would enhance the understanding of whether these findings apply broadly across diverse groups. In-depth qualitative studies could investigate specific barriers to defining M&E roles for PWID and Transgender Individuals, offering practical solutions to improve participation. Comparative analyses with other high-HIV-prevalence countries, such as Nigeria or the Democratic Republic of Congo, could identify best practices and contextual differences in HIV prevention strategies. Additionally, examining the role of digital tools, such as mHealth interventions as highlighted by Li et al. (2025), in enhancing participatory M&E practices could inform innovative approaches to improve project outcomes.

References

Ajzen, I., & Fishbein, M. (2000). Attitudes and the attitude-behavior relation: Reasoned and automatic processes. *European review of social psychology, 11(1), 1-33.*

Bauman, K., Smith, J., Pulliam, R., Harper, G. W., Jadwin-Camak, L., Hussen, S., ... & Odhiambo, K. (2025). Mental Health, Substance Use, and HIV Prevention Among Gay and Bisexual Men Among Kenya. Undergraduate Journal of Public Health, 9.

Bhattacharjee, P., McClarty, L., Isac, S., Kimani, J., Emmanuel, F., Kabuti, R., ... & Becker, M. L. (2024). Applying the Effective Programme Coverage framework to assess gaps in HIV prevention programmes for female sex workers and men who have sex with men in Nairobi, Kenya: findings from an expanded Polling Booth Survey. *Journal of the International AIDS Society, 27, e26240.*

Brahma, S. S. (2009). Assessment of construct validity in management research: A structured

guideline. *Journal of Management Research, 9(2), 59-71.*

Ding, C. S., Haieh, C. T., Wu, Q., & Pedram, M. (1996, November). Stratified random sampling for power estimation. In Proceedings of *International Conference on Computer Aided Design (pp. 576-582). IEEE.*

Dwyer-Lindgren, L., Cork, M. A., Sligar, A., Steuben, K. M., Wilson, K. F., Provost, N. R., ... & Hay, S. I. (2019). Mapping HIV prevalence in sub-Saharan Africa between 2000 and 2017. *Nature, 570(7760), 189-193.*

El-Sahn, M., Elliott, R., Kong, K., El-Sahn, M., Wood Santos, T., Garcia-Gurtubay, I., ... & Lucas, J. (2025). Qualitative and Quantitative Research on Preferences and Perceptions regarding HIV Post-Exposure Prophylaxis (PEP) among Young Women, Men, Female Sex Workers, Members of the LGBTQ+ Community and People Who Inject Drugs in Kenya, Nigeria and Zimbabwe. VeriXiv, 2, 172.

Emmanuel, G. O., Sanni, O. F., Roger, A., Umoh, P., Boniface, O. B., Paul, A., ... & Auwal, A. M. (2025). Improving HIV Prevention for Key Populations in Nigeria: Insights on Access, Barriers, Stigma, and Service Utilization. *International Journal of Maternal and Child Health and AIDS, 14, e005.*

Estrella, M., & Gaventa, J. (1998). Who counts reality? Participatory monitoring and evaluation: A literature review.

Fishbein, M. (1979). A theory of reasoned action: some applications and implications.

Fournier, B., Kwame, A., Caron-Roy, S., Maina, G., Mendelsohn, J. B., Sommerfeldt, S., & Ojok, S. (2025). Process evaluation of an HIV stigma reduction intervention among young people in northern Uganda. *Health Promotion International, 40(3), daaf083*.

Freeman, R. E. (2010). Strategic management: A stakeholder approach. Cambridge university

press.

Gobat, N., Slack, C., Hannah, S., Salzwedel, J., Bladon, G., Burgos, J. G. ... & von Harbou, K. (2025). Better engagement, better evidence: working in partnership with patients, the public, and communities in clinical trials with involvement and good participatory practice. *The Lancet Global Health, 13(4), e716-e731.*

Hamilton, E. L., Guo, X., Dadabhai, S., Panchia, R., Ogendo, A., Reynolds, D., ... & HPTN 075 study team. (2025). Stigma and other correlates of self-esteem and depression in cisgender men and transfeminine persons with HIV who have sex with men in Kenya, Malawi, and South Africa (HPTN 075). AIDS care, 1-13.

Holma, K., & Huhtala, H. M. (2025). Habits of tolerance: the reformative power of pragmatism. *Educational Theory, 75(3), 460-477.*

Holte-McKenzie, M., Forde, S., & Theobald, S. (2006). Development of a participatory monitoring and evaluation strategy. *Evaluation and program planning, 29(4), 365-376.*

Humphries, D. L., Marotta, P., Hu, Y., Wang, V., Gross, G., Rucker, D. ... & Carter, C. R. (2025). St. Louis enhancing engagement and retention (STEER) in HIV/AIDS care: a participatory intersectional needs assessment for intervention and implementation planning. *Frontiers in Public Health, 13, 1589671*.

Izah, S. C., Sylva, L., & Hait, M. (2023). Cronbach's alpha: A cornerstone in ensuring reliability and validity in environmental health assessment. ES Energy & Environment, 23, 1057.

Jauregui, J. C., Lewis, K. A., Moore, D. M., Ogunbajo, A., Odero, W. W., Wambaya, J., ... & Harper, G. W. (2025). 'It kills the freedom or the spirit of people being who they are': impact of sexuality-based stigma and discrimination on the lives of gay and bisexual men in Kenya. Global Public Health, 20(1), 2489713.

Joshi, K., Lessler, J., Olawore, O., Loevinsohn, G., Bushey, S., Tobian, A. A., & Grabowski, M. K. (2021). Declining HIV incidence in sub-Saharan Africa: a systematic review and meta-analysis of empiric data. *Journal of the International AIDS Society, 24(10), e25818.*

Li, F., Xie, C., & Xiang, F. (2025). Impact of mHealth on enhancing pre-exposure prophylaxis adherence and strengthening the HIV prevention cascade among key populations: a systematic review and meta-analysis. *Frontiers in Public Health, 13, 1600773.*

Mehrotra, A., Davis, D. A., Evens, E., White, B., & Wilcher, R. (2020). The importance of key population community engagement and empowerment in HIV programming: insights from a global survey with local implementing partners. *Journal of Global Health Reports, 4, e2020044.*

Mogaka, F. O. E., Kwach, B., Odira, A., O'Malley, G., Hearst, M., Bukusi, E. A., & Stewart, J. (2025). Stakeholder perspectives on integrating doxycycline postexposure prophylaxis into Kenyan HIV PrEP programmes. Sexually Transmitted Infections.

Musyoki, H., Bhattacharjee, P., Sabin, K., Ngoksin, E., Wheeler, T., & Dallabetta, G. (2021). A decade and beyond: learnings from HIV programming with underserved and marginalized key populations in Kenya. *Journal of the International AIDS Society, 24, e25729.*

Noor, S., Tajik, O., & Golzar, J. (2022). Simple random sampling. *International Journal of Education & Language Studies, 1(2), 78-82.*

Olsen, C., & St George, D. M. (2004). Cross-sectional study design and data analysis. *College entrance examination board, 26(03), 2006.*

OS, O., Nkwo, P. O., Adiri, C. O., Asimadu, E. E., & MI, N. J. E. (2025). Male Participation in Prevention Programs of Mother to Child Transmission of HIV in Enugu, South Eastern Nigeria:A Cross Sectional Survey. *American Journal of Public Health, 13(1), 12-16.*

Rai, N., & Thapa, B. (2015). A study on purposive sampling method in research. Kathmandu:

Kathmandu School of Law, 5(1), 8-15.

Rampilo, M., Phalane, E., & Phaswana-Mafuya, R. N. (2025). Tracking HIV Outcomes Among Key Populations in the Routine Health Information Management System: A Systematic Review. Sexes, 6(3), 32.

Ross, C., & Reeve, N. (2003). Survey and census methods: population distribution and density. *Field and laboratory methods in primatology, 90-109.*

Scorgie, F., Nakato, D., Harper, E., Richter, M., Maseko, S., Nare, P., ... & Chersich, M. (2013). 'We are despised in the hospitals': sex workers' experiences of accessing health care in four African countries. *Culture, health & sexuality, 15(4), 450-465.*

Sendak, M., Young, M., Kim, J. Y., Hasan, A., Kelsey, C., O'Neal, C. ... & Okeke, L. (2025). Building models, building capacity: A review of participatory machine learning for HIV prevention. *PLOS Global Public Health*, 5(6), e0003862.

Setia, M. S. (2016). Methodology series module 3: Cross-sectional studies. *Indian journal of dermatology, 61(3), 261-264.*

Young, P. W., Musingila, P., Kingwara, L., Voetsch, A. C., Zielinski-Gutierrez, E., Bulterys, M., ... & De Cock, K. M. (2023). HIV incidence, recent HIV infection, and associated factors, Kenya, 2007–2018. *AIDS Research and Human Retroviruses, 39(2), 57-67*.

Zotova, N., Shongo, A., Lelo, P., Mbonze, N., Kaba, D., Ntangu, P., ... & Ross, J. (2025). Attrition from Care and Barriers to PrEP Use Among Key Populations in Kinshasa, DRC: A Multiple Methods Study. *AIDS and Behavior, 1-14.*