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Monitoring and Evaluation and Performance of the ARV Supply Chain Program by NASCOP in Kenya

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Abstract

Cases of Antiretroviral (ARV) drug stock outs, untimely deliveries, shortages and expiries continue to emanate from healthcare workers, particularly in the pharmacy departments, of Antiretroviral Therapy (ART) health facilities across Kenya. Every stock out of ARV's contributes to the risk of interrupted treatment and possibly premature death of a child, woman or man somewhere in Kenya. This prompted the need for the study to determine how engagement of the key stakeholders at health facility level, through Monitoring and Evaluation (M&E), affects the performance of the National Aids and STI Control Program (NASCOP) as a health division mandated with programming of HIV & Aids in Kenya. The study thus sought to evaluate the effect of M&E on performance of the ARV supply chain program by NASCOP in Kenya. The study adopted the descriptive research design. The results revealed that M&E had a positive and significant effect on program performance (β=0.257, p=0.011). This implied that an increase in M&E by one unit would lead to increase in program performance by 0.257 units with other factors held constant. The study concluded that M&E had a positive and significant effect on performance of the ARV supply chain program by NASCOP in ART health facilities in Kenya. The study went ahead to recommend that NASCOP formulates mechanisms of strengthening M&E as a tool of assessment that enhances tracking, evaluating and monitoring of programs to a success. This can be done through provision of adequate reporting tools to each of the ART sites and regular revision of indicators to ensure that relevant and strategic objectives are being monitored. Also, there is need for routine system updates and sensitization to the pharmacy staff at health facilities to enhance commodity management. Allocation of adequate resources is also mandatory in the M&E docket if all M&E activities are to be conducted to achieve set program objectives and goals

Keywords: *Monitoring and Evaluation, Performance, ARV Supply Chain Program, NASCOP*

1.0 INTRODUCTION

The performance of a project or program can be attributed to the inputs, processes, outputs and outcome indicators depending on organizational structures and goals. This can be influenced by several factors like leadership skills, decision making capacity, monitoring and feedback systems, competence of the program managers, social conditions and top management support (Zhu & Mostafavi, 2017). Stakeholder roles and engagements pertaining to these factors need to be well managed through proper planning and monitoring of these engagements if objectives of a program are to be attained.

Internationally, Standing and Cripps (2015) evaluated the critical success factors required in Australia and Slovenia to successfully implement electronic health records. It was noted that program implementation is influenced by a myriad of critical success factors determined by the context, environment, and changes occurring overtime. In particular, engagement of stakeholders was identified as critical in e-health implementation programs. Moreover, Van Offenbeek and Vos (2016) addressed management of program issues across varying stakeholder groups in e-health record programs in Netherlands. It was cited that trade-offs between stakeholders, issue-stakeholder connections, effective communication, and differentiating stakeholder legitimacies are effective. Freire, Batista and Martinez (2016) in Brazil looked at program management accreditation with reference to the Program Management Body of Knowledge (PMBOK). The research focused on ten knowledge areas of PMBOK including risk and stakeholder management. Notably, stakeholder identification is considered a significant factor of consideration. Furthermore, stakeholder communications planning was identified as critical, with emphasis being laid on the importance of identifying the best channels of communication for different stakeholders, as well as determining the person responsible for disseminating information.

Odugbemi et al. (2018) investigated the role stakeholder play in malaria Rapid Diagnostics Test (RDT) programs within the private health sector in Nigeria. The research enlightens on key stakeholder management factors that positively influence program performance, which are effective communication, organization, use of plenary presentations, stakeholder engagement meetings and nominal group techniques. In South Africa, Staunton et al. (2018) identified three layers of stakeholder and emphasized the importance of stakeholder education, building of trust-based relationships and increase of consent processes. Diverse expectations and interests of different stakeholders have significant implications on the successful implementation of programs (Zigiriadis & Nicolaides, 2014). Alignment of stakeholder values and roles, effective communication, stakeholder involvement, effective stakeholder identification, and stakeholder interest management are key determinants of medical programs.

In Kenya, various surveys have been carried out assessing the relationship between stakeholder engagement and program performance. Ochieng (2016) looked at the determinants of health program sustainability across public hospitals in Nairobi, Kenya. Interaction with stakeholders, stakeholder availability, proactive stakeholder, formal communication, and involvement of stakeholders in evaluation and monitoring were identified as critical factors for program performance. In a similar line of thought, Abuya, Maina and Chuma (2015) identified that stakeholder involvement in health programs is critical in determining program success. NASCOP's health initiatives in HIV and AIDS management include the running of an uninterrupted and coherent supply of ARV drugs that should not be negotiable as the lives of patients are at risk. Stakeholders at the level of health facilities, such as the pharmacy staff, need to take responsibility for implementing a correct ARV management process, enhancing inventory management and warehousing procedures, implementing more efficient and reliable procedures of production and transportation, enhancing supply chain coordination and general

communication (Health SA Gesondheid, 2017). By so doing, ARVs can be used for patients whenever required; rendering the supply chain with minimal obstacles that can affect the efficiency of NASCOP.

1.1 Statement of the Problem

Once a project process or an activity within a program is complete, its success can be assessed based on its adherence to budgeted price, specified timeline, scope and quality and capacity to meet stakeholder requirements. A program is regarded a failure if it fails to satisfy stakeholders' expectations. This has a lot of effect on the organization as well as on the program. Some prevalent program failures include overruns of time, degradation of quantity and quality, frustration and pressure, quitting individuals, low public opinion, low commercial market value and adverse press campaigns (Macharia, 2016). There are countless times when a project's success measured in time and budget is not enough, particularly if the project is completed after a longer period of time (Aziz, 2013).

As Kenya strives to achieve Universal Health Coverage, the HIV& Aids docket aims at ensuring that all PLHIV are able to acquire ARV's whenever need arises. One of the challenges for NASCOP in the implementation of the ARV supply chain program has been to ensure that the treatment requirements of PLHIV are fully met without sacrificing the needs of prevention or the quality of treatment (Kenya HIV estimates report 2018). Cases of ARV stock outs, untimely deliveries, shortages and expiries continue to emanate from healthcare workers particularly in the pharmacy departments of ART health facilities across Kenya. Every stock out of ARV drugs contributes to the risk of interrupted treatment or unnecessary and premature death of a child, woman or man somewhere in Kenya. Additionally, this brings about low public opinion and a negative public image to NASCOP.

This prompted the need for the study to determine how engagement of the key stakeholders (pharmacy staff) at health facility level affects the performance of NASCOP as a health division mandated with programming of HIV & Aids in Kenya. In Particular, the study focused on M&E and its effect on program performance. While many previous studies focused on what can affect it at higher levels, this study focuses on point of care, the health facility. The findings in this study help fill the gaps experienced in the ARV supply chain at facility level, by offering information tied to examination of pharmacy M&E and its influence on the ARV supply chain program at NASCOP by recommending possible operational strategies to mitigate the gaps.

1.2 Objective of the Study

The study sought to evaluate the effect of monitoring and evaluation on performance of the ARV supply chain program by NASCOP in Kenya.

2.0 EMPIRICAL REVIEW

2.1 Theoretical Framework

The study was anchored on the Resource-Based View Theory (RBV) developed by Barney in 1991. The theory stipulates that an organization's resources include financial, natural, capital and intangible assets. The theory argues that, given that resources are common, valuable, inimitable, and non-replaceable, it's possible for a firm to become competitive. The advocates of RBV theory emphasize maximizing the use of available funds in all new enterprises as opposed to acquiring new resources (Biggs, 2016). An organization's resources can be categorized into intangible and tangible assets. The intangible assets include; intellectual property, brand reputation, patents and trademarks. Constructions, land, capital and equipment are tangible resources. According to Kull, Mena and Korschun (2016), ownership of distinctive capacities and inputs influences the difference in performance of one company from the other.

For example, funds with an expanded learning cycle or curve that is not simple to transfer offer a company important market leverage. RBV theory is basically an efficiency-based explanation of variations in performance, according to Hoskisson, Gambeta, Green and Li (2018). The performance variances are considered to occur from resources with intrinsically distinct levels of efficacy meaning that a company can give clients higher advantages at the same or lower profit.

The RBV theory is extremely relevant in this research because it promotes the evaluation of the study's goals. In particular, the monitoring and assessment capacities taken in a program provide an organization with a platform to effectively evaluate the effectiveness, efficiency and effect of its operations. In addition, acquiring and allocating the correct resources to support stakeholder capacity building further affects efficiency. Also noteworthy is the role played by stakeholders in managing human resources as an organization or program's critical resource or asset. In essence, appropriate management of human resource positively influences organization outcome.

2.2 Empirical Review

Ouma and Kamaara (2018) examined the determinants used to ensure successful implementation of Pathfinder International programs in Kenya. The primary factors were resource allocation, instruments for program planning, teamwork, tracking & assessment. The research took a quantitative approach. The findings of the study revealed that the four variables positively and significantly influenced implementation of the Pathfinder International programs in Kenya. The research found that improving the indices of all the factors examined would significantly improve the execution of donor-funded programs in Kenya. The reviewed study presents a contextual gap since it focused on Pathfinder International and not NASCOP programs.

At the Kenya Marine and Fisheries Research Institute, Jamaal (2018) evaluated the impacts of participatory surveillance and assessment on program results. The study used as descriptive survey design. The research population was 144 Kenya Marine and Fisheries Research Institute workers and a census was carried out. The research found that participatory surveillance and assessment involves stakeholders in joint planning and assessment of progress, leads to effective completion of programs, financial capital is often related to program viability, participatory M&E provides community-based economic mobilization methods that lead to program achievement and complete performance management initiatives. The reviewed work presents a contextual gap since it did not focus on programs in NASCOP. Phiri (2015) researched how program efficiency is influenced by M&E plans. Two effectively implemented programs by African Virtual University (AVU), the Virtual University for Cancer Control Network (VUCCnet) and the Multinational Program (MNP) were evaluated using a blended ex-post-facto research design and survey to identify a potential M&E-program results connection. Results indicate that surveillance and assessment as a function of leadership does indeed affect the efficiency of the program. The research evaluated presents a contextual gap as it has not focused on NASCOP programs.

Kihuha (2018) evaluated the impact of M&E approaches on UNEP GEF Kenyan chapter programs execution. There were 15 program managers, 32 support employees, 5 surveillance and assessment employees in the study population. The research created adaptability of scheduling method and technical knowledge on allocating M&E resources, developing clear M&E plans/tools, regularly collecting and analyzing M&E data, training M&E staff and attracting qualified M&E staff with average flexibility on M&E needs evaluation. The research found that the scheduling process and the methods of technical professionals were implemented optimally while low-level applications were applied to stakeholder involvement and

participation in leadership. The study recommends establishment of strategic plans to define internal process of carrying out M & E, strengthening organizational M & E capacity, structuring stakeholder involvement and management participation.

3.0 RESEARCH METHODOLOGY

The study adopted the descriptive research design to enable collection of data to answer to research questions and describe the characteristics of the population in study. The study's target population comprised of pharmacy staff in ART health facilities. Stratified proportional sampling was applied to enhance accuracy and representation of the results by reducing sampling bias. Descriptive and inferential statistics were used in analyzing the data.

4.0 RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Table 1 provides descriptive statistic results that include percentages, means and standard deviations for the variable monitoring and evaluation.

Table 1: Monitoring and Evaluation

Statements N=185	1	2	3	4	5	Mean	Std. Deviation
The organization allocates sufficient funds for monitoring and evaluation	19.5%	10.3%	4.3%	42.7%	23.2%	3.4	1.4
The organization has a well-developed M&E mechanism/system	11.4%	11.9%	7.6%	46.5%	22.7%	3.6	1.2
The organization has M&E personnel	2.2%	22.2%	20.5%	29.7%	25.4%	3.5	1.2
Staff have been trained on DHIS2 reporting	4.3%	3.8%	8.1%	64.3%	19.5%	3.9	0.9
There are sufficient ART reporting tools	22.2%	6.5%	9.2%	55.1%	7.0%	3.2	1.3
There is a reliable electronic dispensing system in place	5.4%	11.4%	0.5%	68.1%	14.6%	3.8	1.0
Aggregate mean						**3.6**	**1.2**

A good number of the respondents (83.8%) acknowledged that staff in the pharmacies had been trained on the DHIS2 reporting system that facilitates ARV logistics. About 62.1% of the respondents admitted that there is sufficient reporting ART registers in their facilities. The findings basically infer that M&E plays a role in the performance of the ARV supply chain program by NASCOP in ART health facilities in Kenya. In concordance with Phiri (2015) who determined that M&E influences program efficiency, majority of the respondents gravitated towards agreeing with the notion that M&E affects the performance of a program, evidenced by a mean of 3.6 and standard deviation of 1.2.

Table 2 shows the respondents opinions on the statements pertaining to the performance of the ARV supply chain program by NASCOP in their facilities.

Table 2: ARV Supply Chain Program Performance

Statements N=185	1	2	3	4	5	Mean	Std. Deviation
Drugs are delivered within stipulated 2 weeks lead time	8.6%	11.9%	5.4%	48.1%	25.9%	3.7	1.2
Drugs are supplied in required quantities	3.2%	28.1%	3.8%	37.8%	27.0%	3.6	1.2
Patients receive sufficient drugs during their appointments	4.3%	10.8%	10.8%	62.7%	11.4%	3.7	1.0
Patients are satisfied with ART services offered	11.9%	6.5%	7.6%	64.9%	9.2%	3.5	1.1
Facility has adequate stocks of ARVs as per monthly consumption	2.7%	18.4%	2.2%	64.3%	12.4%	3.7	1.0
ARV management process is sustainable in the facility	10.8%	15.1%	3.2%	53.0%	17.8%	3.5	1.3
Aggregate mean						**3.6**	**1.1**

A greater part of the respondents agreed that their facilities had adequate ARV stocks as per monthly consumption (76.7%), patients received sufficient drugs (74%) and that drugs were delivered within the stipulated lead time (74.1%). This implies that the respondents were comfortable with the quantity of ARVs supplied as per their patients' monthly consumption. Additionally, the respondents agreed that their patients are satisfied with the ART services offered (mean 3.5) and that commodity management is sustainable in the health facilities (mean 3.5). The aggregate mean of 3.6, with a standard deviation of 1.1 revealed that majority of the respondents were in agreement with the statements on program performance with minimal deviation from the majority's opinion. The program performance indicators in this study were based on elements like; timeliness as in agreement with Shenhar, Dvir, Levy and Maltz (2010) and Nyaga (2018) and sustainability of commodity management as supported by IBBS and Kwak (2000).

4.2 Correlation Analysis

This study also aimed at determining the correlation between monitoring & evaluation and performance of ARV supply chain program. Table 3 shows correlation of the variables.

Table 3: Correlation Results

		Program Performance	M&E
Program Performance	Pearson Correlation	1.000	
	Sig. (2-tailed)		
M&E	Pearson Correlation	.686**	1.000
	Sig. (2-tailed)	0.000	

** Correlation is significant at the 0.01 level (2-tailed).

The findings presented in Table 3 indicated that the M&E had a positive and significant relationship with program performance. This was supported by correlation coefficient of 0.686 and p value of 0.000 at 5% level of significance.

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4.3 Regression Analysis

The study sought to determine the effect of monitoring and evaluation on performance of ARV supply chain program. Table 4 shows the regression findings.

Table 4: Regression Coefficients

Model		Unstandardized Coefficients			
		B	**Std. Error**	**t**	**Sig.**
1	(Constant)	0.298	0.157	1.896	0.06
	Monitoring & Evaluation	0.257	0.099	2.58	0.011
a. Dependent Variable: Program Performance					

The regression results in Table 4 revealed that monitoring & evaluation had a positive and significant effect on program performance (β=0.257, p=0.011). This implied that an increase in M&E by one unit will lead to increase in program performance by 0.257 units. The findings mirrored those of Jamaal (2018) who concluded that M&E leads to an effective completion of a project in a program. Monitoring & evaluation is a positive and significant determinant of program performance. Improvement in monitoring & evaluation is therefore expected to enhance the ARV supply chain program performance by NASCOP.

5.0 CONCLUSION

The study concluded that monitoring & evaluation had a positive and significant effect on performance of the ARV supply chain program by NASCOP in ART health facilities in Kenya. This implies that increase in monitoring & evaluation will improve performance of the ARV supply chain program by NASCOP in ART health facilities in Kenya.

6.0 RECOMMENDATIONS

Based on the findings, the study recommended that NASCOP should formulate mechanisms of improving M&E as a tool of assessment that enhances tracking, evaluating and monitoring of programs to a success. This can be done through provision of adequate reporting tools to each of the ART sites and regular revision of indicators to ensure that relevant and strategic objectives are being monitored. Allocation of adequate funding in the M&E docket is also mandatory if all M&E activities are to be conducted to achieve set program objectives.

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