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Community Factors and Utilization of Monitoring and Evaluation Results: Evidence from Malaria Control Programs' Implementation in Mukono District.

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Abstract

The study aim was to investigate the community factors affecting utilization of monitoring and evaluation findings in implementation of malaria control programs in Mukono district, central Uganda.

The study adopted a cross-sectional design in which questionnaires were administered to 120 project personnel from 6 organizations that were implementing malaria control programs.

Results showed that attitude towards malaria control as a community factor had no significant effect on utilization of monitoring and evaluation results in implementation of malaria control programs ($\beta = .116$, $p = 0.146 > 0.05$). It however found beliefs about malaria ($\beta = .116$, $p = 0.000 < 0.05$) and decision-making issues ($\beta = .232$, $p = 0.004 < 0.05$) as the community factors that independently influenced utilization of monitoring & evaluation results.

It was concluded that though the utilization of monitoring & evaluation results is crucial in guiding improvements in interventions, it is less integrated into the implementation of malaria control programs. The community members' beliefs and decision making about malaria are pertinent in propelling utilization. The study recommended the need for government to sensitize communities about malaria control to overcome negative beliefs and as well be informed in supporting better decision making about malaria control programs. In order to promote the learning of positive health behaviors amongst social media users in Sub-Saharan Africa, Self-Regulation and External Locus of Control should be enhanced.

Key words
monitoring and evaluation, utilisation of findings, evaluation results, malaria control programs, implementation, community factors

Introduction
In the malaria-endemic countries, implementing evaluation of the malaria eradication program provides useful lessons for the prevailing elimination initiatives by the health sector players (Najera, 2011). Such activities contribute directly to one of the sustainable development goals that in at least 35 countries and specifically by 2030, malaria case incidences need to have reduced by at least 90%, malaria mortality rates need to have reduced by at least 90% and resurgence of malaria need to have been prevented to enable all countries to become malaria-free (UN General Assembly, 2015).

Indeed, thanks to the elimination efforts, countries worldwide have witnessed a decline in the malaria incidence rate from 71 cases per every 1000 population in 2010 to 57 cases per every 1000 population in the year 2018 though with some dramatically slow changes in some years such as between 2014 to 2018 then similar levels were maintained all through to the year 2018 (World Health Organization, 2019). Such contributions would however be more possible if the results from the monitoring and evaluation function are put to use for efficiency and effectiveness as such results enable tracking of performance and measurement of the impacts of management actions while providing feedback on progress towards goals of the program interventions (Failing and Gregory, 2003).

In as much as several countries have shown positive initiatives about a movement towards best practices in public sector administration reforms specifically monitoring and evaluation, many issues about the utilization of results remain unresolved (Porter and Goldman, 2013). The utilization of monitoring and evaluation findings remains poor and is not only attributed to the gaps in skills and personnel capacity in designing and implementing monitoring and evaluation activities (Zogo, 2015) but more pertinently community factors in the varied contextual environments of operation which if well understood would guide the utilization of such results (Bamberger, Mackay, and Ooi 2004).

In Sub Saharan Africa, success stories are similarly evidenced in Uganda at 5% but less than the 25% decline reported in Nigeria and 12% witnessed in the Democratic Republic of the Congo of the 6 countries that accounted for more than 50% of the decline in the malaria cases globally (World Health Organization, 2018). Such lower decline rates compared to the other African countries in the region is illustrative of the fact that Uganda has more to be done in seeing commensurate declines towards the elimination of malaria. The issue utilization of findings from the monitoring and evaluation through providing relevant information and lessons to the players in the prevention efforts remains critical in supporting and supplementing program performance exertions (Carvil and Sohail, 2007). It is in light of such situations that this study investigated the community factors that influenced the utilization of monitoring and evaluation findings in the implementation of malaria control programs in Mukono district with the intention of generating information for guiding improvement efforts by the district health teams.

Literature Review
Some studies report attitude towards an intervention to have a bearing on the utilization of the results. For instance, a study done in Northern Swaziland by Hlongwana et al. (2009) found that 99.7% of respondents correctly associated malaria with mosquito bites and 90% of those reported that they would seek treatment within 24 hours of seeing the first symptoms of malaria. Hlongwana and his colleagues found that such information helped in guiding facility improvement initiatives. The authors also found indoor residual spraying (IRS) at 87.2%, while bed net ownership was reported at 38.8%. In agreement, Mazigo et al., (2010) established that the communities were more than ready to hear about malaria, which they described as a good foundation onto which other activities such as implementing what they know into prevention and control

built. To Mazigo and his colleagues, such readiness points to the fact that the communities had a positive attitude towards malaria control. The former study however remained silent about attitudes and their bearing on the utilisation of monitoring and evaluation results which knowledge gap the current study implored.

About beliefs, Hausmann-Muela et al., (2003) found that though there is a high prevalence and awareness of malaria in rural communities, there are still some misconceptions about its transmission and prevention. This was in a clinical study conducted in 20 post-conflict IDP camps of Gulu district in which pregnant women who were interviewed had a relatively high knowledge about malaria transmission, signs, symptoms, and consequences during pregnancy but had misconceptions about its cause and transmission. In agreement with the foregoing result, Obol et al. (2011) found that several of the women erroneously believed that malaria was a sign of pregnancy and most of whom had resorted to using traditional herbs as a remedy for both malaria and other pregnancy ailments. Knowledge gaps existed as none of the studies reviewed was able to link such beliefs to the utilization of the findings from the monitoring and evaluation activities.

Other studies highlighting community roles in decision making such as one by Gallup and Sachs (2001), established that community participation enables members to influence the decisions and resources that directly affect them. Gallup and Sachs found that such participation resulted in making good use of the monitoring and evaluation results; given that the introduction of interventions into communities took into account all actors, their roles, competences and experiences, as well as their environment. William (2010) however reported that interaction between community members and healthcare facility staff during the implementation of an intervention within units where the intervention is received affected treatment choices. Williams and his colleagues found that fear of disapproval from healthcare workers in non-emergency contexts and community members of ill children in Africa were reluctant to discuss self-treatment sought from traditional healers. However, there was need to explore how fear merited in the utilization of monitoring and evaluation results in the latter study which was of interest in the current study.

Methodology

Study design and setting

The study adopted a cross-sectional research design that employed both quantitative and qualitative approaches that were descriptive in ascertaining the community factors that affected the utilization of monitoring and evaluation findings in the implementation of Malaria Control programs in Mukono district. It involved the use of varied methodologies and data sources to help ensure more accurate and stronger research outcomes by triangulating data from different methods.

The primary method was a quantitative survey of the community factors and the utilization of monitoring and evaluation findings amongst the six organizations that implemented malaria control programs in Mukono district. To complement the survey, Key Informant Interviews (KII) were also conducted. These helped in clarifying complex phenomena such as behaviours and motivations that emerged during the survey. A descriptive survey was used to establish the association between variables at given points in time without attempting to change their behaviour or conditions.

Sample size

The study population was 171 employees from the monitoring and evaluation departments. The employees belonged to six organizations that at the time implemented malaria control programs in the district (Mukono DPP, 2010-2015). The sample determination formula by Yammane (1967) was adopted to get a target random sample size of 120 employees.

Data Analysis

Data analysis involved the process of categorizing, ordering, manipulating and summarizing data to obtain answers to the research questions. Data was collected, entered and analysed in SPSS Version 20.0.

Quantitative data was analysed using descriptive statistics where responses from questionnaires were tallied and analysed using frequency distribution, percentage, mean, and standard deviation. Qualitative data was analysed using a thematic approach. In particular, the data from interview schedules were sifted through, sorted into themes, categories, and patterned. These were then illustrated using quotations from the interviewees.

The following is the specification of the Multiple Regression Model that was fitted;

The quantitative data collected was entered in SPSS Version 20.0 then later analysed in the same statistical application. The Multiple Regression Model that was fitted is written as;

$$Y = \mathrm{b0} + b1x1 + b2x2 + \ldots b_n + \varepsilon$$

Where;

x_i = Community Factors (Independent Variables)

Y = Extent of use of M&E findings (Dependent Variable)

b_0 = Intercept

ε= Error Term

During the fitting of the above-specified model, community factors were considered significant if the *p-value* was less than 5% as a level of significance.

Data collection method and procedure

The data was collected using an interview and a self-administered questionnaire issued to the respondents by the researcher with the help of research assistants who were trained on data collection and ethical considerations in research to focus the study on the intended objectives. In an instance where it proved difficult for the respondents to complete the questionnaire immediately, the researcher left them with the research assistant who picked them at a later date. In the course of piloting, the researcher visited the area and administered the instruments. The researcher conducted interviews with health facility heads, which gave insight about the required information for the objectives of the study on the utilization of monitoring and evaluation in the implementation of malaria control programs. The researcher also reviewed relevant documents related to the study as a source of secondary data.

Data collection instruments

The data for this study was collected using a questionnaire and interview guide. The questionnaire contained closed-ended items and the interview guide contained open-ended questions useful in collecting in-depth answers from respondents.

Results and Discussion

Table 1: The study response rate

Category of targeted employees	Targeted (n)	Response (n)	Response rate (%)	Overall (%)
Global Fund Support to Malaria	20	17	85	
Neighbourhood and good governance watch	20	20	100	**93.3**
Kyetume CBHC program	20	20	100	

Uganda Red Cross Mukono branch	20	20	100
Good Shepherd Support Action Centre	20	17	85
Namulaba CBO Network	20	18	90
Total	**120**	**112**	

Source: Primary

Table 1 indicates that the study targeted 120 employees of the monitoring and evaluation department within the different organizations that were implementing malaria control programs. It however received responses from 112 employees implying a 93.3% response rate. As presented in Table 1 above, this response rate constituted of employees from the different organizations that were implementing malaria control program in Mukono district.

Table 2: The demographic characteristics of the respondents

Demographics		Frequency (N = 112)	Per centage (%)
Age (years)	18 -25	43	38.4
	26 – 35	43	38.4
	35 – 45	23	20.5
	45+	3	2.7
Gender	Male	45	40.2
	Female	67	59.8
Marital status	Single	37	33.0
	Married	67	59.8
	Divorced/Separated	8	7.1
Religious affiliation	Christian	80	71.4
	Muslim	25	22.3
	Others specify	7	6.3
Education level	Diploma	35	31.3
	Undergraduate degree	66	58.9
	Postgraduate	11	9.8
Experience in the M & E department	Less than 3	34	30.4
	3 – 5	56	50.0
	More than 5	22	19.6

Source: Primary

The information in **Table 2** above was captured from a total of 112 employees who were by then working within the monitoring and evaluation department of the different malaria control program implementing organizations. Most of these employees were aged either between 18 to 25 or 26 to 35 years of age. This implies the majority of the respondents were young adults who were active and energetic which is good for the program. The results also show that the majority of the respondent employees were female (59.8%), married (59.8%) and Christians by religious faith (71.4%). Findings also show that most of the employees who participated had up to an undergraduate level of education (58.9%) and had spent from between 3 to 5 years in the monitoring and evaluation department which was experience enough to be conversant with the

monitoring and evaluation activities of the malaria control programs implementing organizations and utilisation of the findings. This implied that in terms of sex and marital status, the findings were representative of the study.

Table 3: Community factors surrounding the implementation of MCP in Mukono District

Community aspects	Mean	Std. Deviation
Attitude towards malaria control		
The communities believe that sleeping under a mosquito net during the night is one way to prevent Malaria infection	3.60	0.61
The community members are more than ready to recommend other members of the community to prevent themselves from malaria	3.21	1.42
The communities where MCP is implemented feel they need to be more involved in the implementation of M&E and MCP	3.66	0.61
The community members report misuse of the ITNS provided under MCP to the implementing organization	4.29	1.06
The community think that malaria is a serious disease and can result in loss of life if not attended to on time	3.44	0.79
Sub Mean & Standard Deviation	**3.64**	**0.898**
Beliefs about Malaria Control		
The community in which the Malaria Control Program is implemented believes that malaria cannot be prevented.	2.54	0.50
There is a general belief within the community that the ITNs and indoor Residual spraying as provided under the MCP reduce their life span.	2.29	0.51
The communities have got this belief that traditional malaria control approaches are better than MCP approaches	2.50	0.57
Sub Mean & Standard Deviation	**2.44**	**0.53**
Decision making		
The decisions involving the use of the items and services provided under MCP is undertaken by a versed majority of the community and stakeholders	2.71	0.49
The communities served under the Malaria Control Program are highly involved in the decision-making process of MCP monitoring and evaluation activities	3.12	0.37
The views of the community are always incorporated in the decision-making process by both the MCP implementing teams and the key stakeholders	3.05	0.40
Sub Mean & Standard Deviation	**2.96**	**0.42**
Pooled Mean & Standard Deviation	**3.13**	**0.67**

Legend: 4.20-5.00 Very Good, 3.40-4.19 Good, 2.60-3.39 Fair, 1.80-2.59 Poor, 1.00-1.79 Very Poor
Source: Primary

Table 3 indicates the community factors as fairly surrounding the implementation of malaria control programs in Mukono district given the average scores (Mean = 3.13, SD = 0.67). The results further show good attitudes towards the control of malaria (Mean = 3.64) but fair community beliefs about malaria control (Mean = 2.44). Results in addition show fair scores in as far as decision making about community factors surrounding the implementation of malaria control programs in Mukono district (Mean = 2.96).

Table 4: *Descriptive Findings on the Utilization Level of Monitoring and Evaluation Findings*

M &E Findings Utilization	Mean	Std. Deviation
The results from monitoring and evaluation of MCPs have been used to inform the current ways we manage risks during program implementation	2.41	0.49
The M&E findings have been used in the planning and designing of the malaria control program being implemented	2.41	0.56
The M&E results are always used as a learning point for the implementation of MCP	2.32	0.56
The preceding M&E findings have always been utilized for making decisions about the implementation of the malaria control program	2.32	0.49
The formulation of policies about the implementation of MCP has always been based on the successful use of the preceding from M&E results	2.07	0.67
The results from M&E have also been explicitly used in undertaking MCP impact assessment	2.32	0.54
The improvements in the implementation of MCP have been based on the successful utilization of the M&E findings	2.65	0.63
Pooled Mean & Standard Deviation	**2.36**	**0.56**

Key: 4.20-5.00 Very High, 3.40-4.19 High, 2.60-3.39 Average, 1.80-2.59 Low, 1.00-1.79 Very Low
Source: Primary

Table 4 shows that overall, there was a low level of utilization of the monitoring and evaluation results during the implementation of the malaria control programs within Mukono district (Mean = 2.36, SD = 0.56). The monitoring and evaluation results are rarely utilised in informing the current ways of risk management during program implementation, in the planning and designing of the malaria control programs and also as a learning point for the implementation of malaria control programs. The results from monitoring and evaluation activities are in addition rarely utilised in making decisions concerning the implementation of malaria control programs, the formulation of policies in addition to impact assessment on the malaria control programs.

Table 5: *Pearson's correlation results of the factors that influence utilization of M&E results*

Community factors	Pearson Correlation(r)	*p-value*
Attitude towards malaria control	0.132	0.083
Beliefs about malaria	0.524	**0.000****
Decision making	0.281	**0.001****

Significant at 5%

Table 5 findings indicate an insignificant positive correlation between the community's attitude towards malaria control and the level of utilization of monitoring and evaluation findings in implementing the malaria control programs within Mukono district (r = 0.132, p = 0.083). However, there is a positive significant correlation between the state of community beliefs about malaria and the level of utilization of monitoring and evaluation findings in implementing the malaria control programs within Mukono district (r = 0.524, p = 0.000). The findings in Table 3 also show a positive significant correlation between the state of decision

making and utilization of the monitoring and evaluation findings in implementing the malaria control programs in the district (r = 0.281, p = 0.001).

Table 6: Multiple Regression results for Community factors that independently influence M&E results utilisation

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7.556	1.363		5.546	.000
Attitude towards malaria control	.041	.028	.116	1.465	.146
Beliefs about malaria	.648	.097	.520	6.699	.000
Decision making	.388	.132	.232	2.934	.004
R	.594[a]				
R Square	.353				
Adjusted R Square	.335				
F	19.672				
Sig.	.000[b]				

a. Dependent Variable: Utilization of M&E results

Table 6 results show the effect of community factors on the utilisation of the monitoring and evaluation results in the implementation of malaria control programs in Mukono district. The findings in particular show community factors as jointly influencing utilization of monitoring and evaluation findings (F =19.672, p < 0.001). The community factors that's the attitude towards malaria control, beliefs about malaria and decision making are responsible for 33.5% of the variation in the level of utilization of monitoring and evaluation results in the implementation of malaria control programs in Mukono district.

As can be seen in Table 4, attitude towards malaria control has got an insignificant positive effect on the level of utilization of monitoring and evaluation results in the implementation of malaria control programs (β = .116, p = 0.146 > 0.05). The study results indicate a significant positive influence of beliefs about malaria (β = .116, p = 0.000< 0.05) and decision making (β = .232, p = 0.004 < 0.05) as community factors that independently influence monitoring and evaluation results utilization.

Discussion of Findings

Table 5 results show a fit of the community factors constituting attitude towards malaria control, beliefs about malaria and decision making about the level of utilization of monitoring and evaluation findings in a multiple regression model. Result based on the F-test with a value of 19.672 alongside a respective p-value of 0.000 results in a rejection of the null hypothesis that, community factors do not influence the level of utilization of the monitoring and evaluation results. This implies that adequate evidence existed that community factors have got a significant influence on the level of utilization of monitoring and evaluation result in the implementation of malaria control programs. Such findings are much similar to earlier findings by Gallup and Sachs (2001) that community participation enabled members to not only influence the decisions and resources that directly affect them but most importantly resulted in making good use of the monitoring and evaluation results.

About the different components of the community factors, the current study found that the attitude towards malaria control had no significant effect on the level of utilization of monitoring and evaluation results in the

implementation of malaria control programs. This finding fails to compare well with what Mazigo, et al., (2010) established that community readiness points to the fact that the communities had a positive attitude towards malaria control. The finding is quite different from what was earlier established by Hlongwana et al. (2009) that most respondents correctly associated malaria with mosquito bites and would seek treatment within 24 hours of seeing the first symptoms of malaria which information was based on to improve facilities. Such inconsistences point to the need for further investigations involving perhaps more personnel and community interventions.

The current study found beliefs about malaria alongside decision making as the community factors that independently influenced the level of monitoring and evaluation results utilization. Such results are consistent with what was earlier found by Mazigo, et al., (2010) that the communities were more than ready to hear about malaria which formed a good foundation for utilization of results onto which other activities such as prevention and control. This result is illustrative of the need for intervention implementers to consider the important contributions borne of community beliefs and decision-making powers in the successful utilisation of results from monitoring and evaluation systems.

Contribution of the Study

The study raised awareness to both the malaria program implementers, the Mukono district health team and the community at large on the relevance and benefits of Utilizing monitoring and evaluation. All the malaria control programs that were being implemented in the district adopted a top-down approach. This implied that there was little or no involvement of all stakeholders right from Planning the malaria control programs through their implementation and reporting. This study, therefore, emphasized the need for stakeholder involvement. This study has also contributed to the body of knowledge for both academicians and professionals whose focus is on malaria control programs and monitoring and evaluation because Monitoring and Evaluation is still a new concept to most.

Conclusion and Recommendations

The utilization of monitoring and evaluation results remains crucial in guiding improvements in interventions but remains less integrated into the implementation of malaria control programs. The beliefs the community members hold about malaria and community decision making about malaria control are pertinent in propelling utilization. As a recommendation, the government through the line ministry of health needs to sensitize communities about the control of malaria so as to overcome negative beliefs about it and as well support better decision making about malaria control within their respective households.

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