

## Health Managers' Utilization of Evidence to Inform Annual Health Sector Planning and Budgeting Process in Bungoma County, Kenya

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### ABSTRACT

*Evidence-based planning and budgeting within the health sector are essential in strengthening the health system building blocks. Decentralization has presented opportunities for collecting local and reliable data to facilitate evidence-based planning and budgeting. Despite the increasing availability of routine health information at all levels of the health system, its effective utilization among health managers in lower and middle-income countries remains inadequate. This study, therefore, aimed to assess the health managers' utilization of evidence to inform the annual planning and budgeting process. The study utilized a descriptive cross-sectional design, incorporating quantitative and qualitative research methods. Quantitative data were collected from 170 health managers, while qualitative data were gathered from three county department of health executives and 83 community health committee members across eight functional community health units. Statistical Package for the Social Sciences (SPSS v. 29.0) was employed for analyzing the quantitative data, while thematic analysis was used for the qualitative data. Only 42.4% of health managers received training in planning, budgeting, and annual performance reviews (APRs). Among the 45.9% who conduct APRs, only 47.4% use the findings to inform the process. A significant association was found between training and conducting of APRs,  $\chi^2 (1, N = 170) = 21.73, p < .001$ , and between training and the utilization of APR findings in decision-making,  $\chi^2 (1, N = 78) = 14.72, p < .001$ . Although 75% of health managers acknowledged the availability of health information, 71% disagreed that they have skills in data use for planning and budgeting and 54% disagreed regarding the reliability of the available data. The health managers who were trained in health sector planning, budgeting, and APRs were more likely to use findings to inform the process. To improve evidence-based planning and budgeting, the county health department should allocate additional funding towards conducting APRs as a critical first step in guiding the identification of priorities. Additionally, there is a need to implement capacity-building initiatives targeting health managers across all tiers of the county health system, focusing on data management and its effective utilization in planning and budgeting.*

**Keywords:** Planning and Budgeting, Health Managers, Devolution, Evidence, Annual Performance Reviews, Kenya

### I. INTRODUCTION

The District Health System (DHS) was endorsed as an effective approach for enhancing planning and resource allocation to ensure the successful implementation of primary health care, as articulated in the World Health Organization (WHO) 1978 Harare Declaration (WHO, 1978). This set the stage for reforms within the health system across African countries key of them being decentralization. Among the goals of the reforms was strengthening the health information system to obtain reliable data to facilitate evidence-based planning and budgeting at the local levels (Chatora & Tumusiime, 2004). Good quality and reliable data from health facilities and community structures are

essential in enhancing the strengthening of the health system. The WHO framework for health system strengthening has designated the Health Management Information System (HMIS) as one of its building blocks (WHO, 2007). The HMIS generates the bulk of its data from routine health service delivery and vital event statistics (WHO, 2008). Despite there being an increasing availability of routine health information repositing in digitized platforms, its utilization for targeted and evidence-informed decision-making is inadequate, especially in LMICs (Lippeveld, 2017).

The data and evidence generated from the HMIS are useful in informing planning and budgetary allocations for health commodities, health financing, governance and leadership, infrastructural development, and investing in human resources for health for improved outcomes (Nabyonga-Orem, 2017; WHO, 2008). In a review of the literature to develop an evaluative framework to guide the priority setting and budgetary allocation exercises within the health sector, the utilization of quality data in the planning and budgeting process emerged as a significant facilitator of the process (Barasa et al., 2015). The incorporation of local data is important in the budgeting process as it reflects the realities of different contexts (WHO, 2016). In addition, health managers in a study in Uganda revealed that the use of verifiable information in planning enabled them to develop comprehensive work plans and improve dialogue among the stakeholders during the planning and budgeting process (Henriksson, 2017).

Despite the advantages of using evidence to inform health sector planning and budgeting, health departments continue to experience challenges on this front. A qualitative study conducted in Kenya at the Ministry of Health to analyze the planning and budgeting processes of the 2012/2013 financial year established that impediments to the process included inadequate reliable and objective data to be used in the target setting (Tsofa et al., 2016). These study findings correspond to a critical review conducted by Wickremasinghe et al., (2016) whose purpose was to investigate how district health managers in developing countries use health information to guide decision-making. They experienced challenges such as unreliable data to inform the process. Additionally, a qualitative study on the bottlenecks of evidence-based district health planning that was conducted in Uganda identified inadequate and unreliable district-generated data as a key barrier to effective planning (Henriksson, 2017).

In Kenya, devolution was launched in 2010 following the promulgation of the constitution in 2010 (Government of Kenya, 2010) and the health sector was the largest devolved sector (Kimathi, 2017). As a result, the annual planning and budgeting process for the health sector at the devolved units has gained recognition as a significant phenomenon within the Kenyan health system (Waithaka et al., 2018). This recognition has been demonstrated by the increasing health sector allocation; in the Financial Year (FY) 2019/20, it reached 27.8% (Ksh 127 billion), up from 27.2% (Ksh 121 billion) in the previous fiscal year (FY 2018/19) (Ministry of Health, 2020). This emphasizes the need to examine the responsibilities and capacities of county health systems in planning and budgeting. Moreover, it emphasizes the imperative to appropriately allocate these funds based on emerging evidence to enhance the health outcomes of the population. Notably, one of Kenya's ambitious healthcare goals is to achieve UHC by 2030 (Ministry of Health, 2014) and since the sustainability of UHC lies in relying on domestic sources of revenue (Cashin et al., 2017), it follows that the county health systems must be well-equipped in implementing evidence-based planning and budgeting for the attainment of this goal.

As a means of strengthening the utilization of the routine health information system in Kenya, repositing in Kenya Health Information System (KHIS), the MOH strongly recommends that all tiers of the health system conduct Annual Performance Reviews (APRs) and has developed guidelines for the process (Ministry of Health, 2018). According to the MOH, the APR constitutes an initial and critical step towards a successful evidence-based county health sector planning and budgeting process. It plays a pivotal role in generating valuable evidence regarding the health outcomes performance of the preceding fiscal year, thus serving as an essential resource in guiding the identification of sector priorities in the subsequent financial year (Ministry of Health, 2018). However, the county health system faces challenges in conducting these reviews, thereby impeding the overall process's success (Waithaka et al., 2018). Based on this premise, this study sought to assess health managers' utilization of evidence to inform the annual planning and budgeting process.

## 1.1 Research Objectives

- i. To assess the training of the health managers on MOH planning, budgeting, and performance review process
- ii. To determine the association between the training and conducting of the APRs
- iii. To evaluate the perspectives of health managers on the use of data to inform planning and budgeting

## II. METHODOLOGY

### 2.1 Study Setting and Design

The research was carried out in Bungoma County, which is among the 47 devolved units in Kenya. The study encompassed health managers from all levels of the county health system. Employing a mixed-methods approach, the research combined quantitative and qualitative methods for data collection and analysis. This approach proved advantageous as it capitalized on the respective strengths of each method while mitigating their limitations when employed in isolation.

### 2.2 Study Population

The study sample comprised health managers from all tiers of the county health system who were actively engaged in the annual health sector planning and budgeting process. This encompassed executive members of the county health department, county health managers, sub-county health managers, health facility managers, and members of community health committees (CHCs). County health managers have the principal role in the strategic management and coordination of health services at the county level. Conversely, sub-county health managers bear the responsibility of operational management within their respective sub-counties. Health facility managers, on the other hand, hold leadership positions in level 2, 3, and 4 health facilities, and are tasked with overseeing the day-to-day operations of these facilities. To be eligible for study participation, health managers needed to be actively involved in the HSPB process and affiliated with any level of the county health system. CHC members were selected from functional community health units.

### 2.3 Sample Size Determination

The recruitment of executive members from the county health department, county health managers, sub-county health managers, and Level 4 hospital managers employed the census sampling technique because they make up a small fraction of the population of health managers. To identify the in-charges of level 2 and 3 health facilities, a formula recommended by the WHO for service availability and readiness assessments (SARA), was utilized (WHO, 2013).

$$n = \left[ \frac{(z^2 * p * q) + ME^2}{ME^2 + z^2 * p * q / N} \right] * d$$

where: n = sample size, z = confidence level at 95% (1.96), ME = margin of error (0.15), p = the anticipated proportion of health managers with the attribute of interest (0.5), q = 1-p, N = population size and d = design effect (1.0)

The sample size for Level 2 health facilities

$$n = \left[ \frac{(1.96^2 * 0.5 * 0.5) + 0.15^2}{0.15^2 + 1.96^2 * 0.5 * 0.5 / 125} \right] * 1.0 = 32$$

The sample size for level 3 health facilities

$$n = \left[ \frac{(1.96^2 * 0.5 * 0.5) + 0.15^2}{0.15^2 + 1.96^2 * 0.5 * 0.5 / 19} \right] * 1.0 = 13$$

To accommodate for potential non-responses, the sample sizes for levels 2 and 3 were augmented by 10% (WHO, 2013), resulting in 35 and 15 respondents, respectively. Consequently, the cumulative count of health managers enlisted for quantitative data collection reached 170. The distribution of participants was as follows: county health managers (n=10), sub-county health managers (n=100), level 4 health facility managers (n=10), level 3 health facility managers (n=15), and level 2 health facility managers (n=35).

The determination of the sample size for the CHC members was guided by the principle of data saturation, which is achieved when further sampling fails to yield novel perspectives from study participants (Moser & Korstjens, 2018). Given the homogeneous nature of the CHC population, a total of eight focus group discussions were deemed sufficient to attain data saturation (Hennink & Kaiser, 2022).

### 2.4 Sampling Techniques and Data Collection Tools

The leadership team of the county health department, including the county executive committee member for health, chief officer of health, and county director of health, in addition to county health managers, sub-county health managers, and managers of level four facilities, were purposefully recruited for this study. The managers of health centers and dispensaries, as well as community health committees, were selected through simple random sampling. Data collection involved conducting semi-structured interviews with health managers, utilizing a 5-point Likert scale questionnaire whose responses ranged from "1 - strongly disagree" to "5 - strongly agree." Key informant interviews with county executives in the health department were conducted using a key informant guide, while focus group discussions with community health committee members utilized a focus group discussion guide.

## 2.5 Validity and Reliability of the Study Instruments

A pilot study was conducted involving 17 health managers from Trans-Nzoia County to assess the suitability of the data collection tools and the feasibility of the proposed data collection procedures. Furthermore, the pilot study findings were employed to determine the reliability of the scale employed to obtain the perspectives of health managers on the use of evidence to inform planning and budgeting. The scale comprised seven items that were assessed using Cronbach's alpha statistic. The results of the reliability analysis demonstrated that the scale exhibited a high level of internal consistency, with a Cronbach's alpha ( $\alpha$ ) coefficient of 0.90, thereby meeting the acceptable threshold for internal consistency (Taherdoost, 2016). To ensure the content validity of the data collection instruments, an exhaustive literature review was undertaken to identify relevant items for measuring the variables.

## 2.6 Data analysis

The data collected through the semi-structured questionnaires were entered into a Microsoft Office Excel spreadsheet to facilitate data cleaning, coding, and consistency checks. Subsequently, the data were imported into the Statistical Package for Social Sciences (SPSS v. 29.0) for further analysis. Descriptive analysis techniques were applied to summarize the demographic variables, employing measures such as mean, standard deviation, frequencies, and percentages. The association between training of the health managers and the conducting of APRs was examined using the chi-square test of independence. Statistical significance was determined at the 5% level of significance ( $p \leq 0.05$ ), indicating that the differences observed were considered statistically significant. Similarly, responses recorded on the Likert scale were analyzed using frequencies and percentages to gain insights into participants' perspectives on data use. The qualitative data underwent thematic analysis, enabling the identification and exploration of recurring themes and patterns within the dataset.

## 2.7 Ethical Approval

Ethics approval for this study was obtained from the Masinde Muliro University of Science and Technology Ethics and Review Committee (MMUST/IERC/095/2022). The research license was granted by the National Council for Science and Technology (NACOSTI/P/22/19784). Before their involvement in the research, all participants provided written informed consent by signing a consent form, thus affirming their voluntary participation and understanding of the study's purpose and potential implications. Furthermore, rigorous ethical considerations were upheld throughout the data management process, including the assurance of confidentiality and the secure preservation of collected data at every stage.

## III. RESULTS

### 3.1 Demographic results

A total of 170 health managers were included in the quantitative data analysis, comprising 51.8% males and 48.2% females. Notably, nearly half of the health managers (47.6%) fell within the age range of 35-44 years, with a mean age of  $42 \pm 6.76$ . The educational attainment of the majority of health managers was at the diploma level, accounting for 48.2% of the sample. Furthermore, a substantial proportion of health managers (62.9%) had a wealth of managerial experience, exceeding five years as shown in Table 1.

**Table 1**

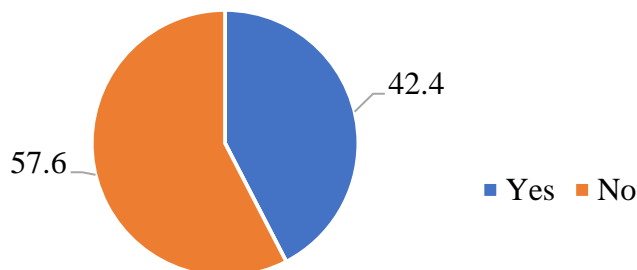
*Demographic profile of the respondents*

| Sample characteristics | Frequency (n=170)             | Percent (%) | Sample characteristics                     | Frequency (n=170) | Percent (%) |
|------------------------|-------------------------------|-------------|--|-------------------|-------------|
| <b>Sex</b>             |                               |             | <b>Level of education</b>                  |                   |             |
| Male                   | 88                            | 51.8        | Diploma                                    | 82                | 48.2        |
| Female                 | 82                            | 48.2        | Degree                                     | 76                | 44.7        |
| <b>Age</b>             | <b>Mean age =<br/>42±6.76</b> |             | Masters                                    | 11                | 6.5         |
| 25-34                  | 18                            | 10.6        | Ph. D                                      | 1                 | 0.6         |
| 35-44                  | 81                            | 47.6        | <b>Experience in a management position</b> |                   |             |
| 45-54                  | 63                            | 37.1        | < 5 years                                  | 63                | 37.1        |
| 55-64                  | 8                             | 4.7         | ≥ 5 years                                  | 107               | 62.9        |

The results obtained from the semi-structured interview were strengthened through a triangulation process, involving key informant interviews with three executives from the county department of health. Additionally, eight focused group discussions (FGDs) were conducted with members of the CHCs. These FGDs included a total of 83 CHC members, comprising 75 females and 8 males, all of whom had basic literacy skills. The CHCs were selected from eight fully functional community health units, each of which had been in operation for over a decade since their establishment in 2010.

### 3.2 Training of health managers on the MOH planning, budgeting, and performance review process

According to the findings, a significant proportion of health managers, comprising 57.6%, reported that they had not received training on the MOH planning, budgeting, and performance review process while only 42.4% had undergone the training. (Figure 1).



**Figure 1**

*Training of the health managers on planning, budgeting, and performance reviews.*

The KII and FGD participants expressed concerns regarding the insufficient training of health managers in the planning, budgeting, and performance review process, along with the accompanying challenges:

*“We are expected to participate in the development of annual plans and budgets however, we have not been trained on the annual health sector planning and budgeting process and how to complete the template.”* FGD-3

*“Because of insufficient funds, most of the health managers throughout the tiers of the county health system have not been trained on the MOH planning, budgeting, and performance review process.”* KII-2.

### 3.3 Conducting Annual Performance Reviews

A significant proportion of health managers (54.1%) indicated that they do not conduct annual performance reviews. Moreover, among those who do conduct the reviews, only 47.4% reported utilizing the findings to inform the development of the annual health sector plan and budget. To explore the relationship between trained health managers, conducting APRs, and the utilization of the findings in the planning process, an additional analysis employing the Chi-square test of independence was performed. The threshold of significance used in the testing of the associations was 0.05. The results revealed a significant association between individuals who had received training and the practice of conducting APRs ( $\chi^2(1, N=170) = 21.73, p < .001$ ). Similarly, a significant association was observed between trained health managers and the utilization of APR findings in the development of annual health sector plans and budgets ( $\chi^2(1, N=78) = 14.72, p < .001$ ). The findings suggest that trained health managers are more likely to conduct APRs and utilize the findings to inform planning and budgeting (Table 2).

**Table 2**

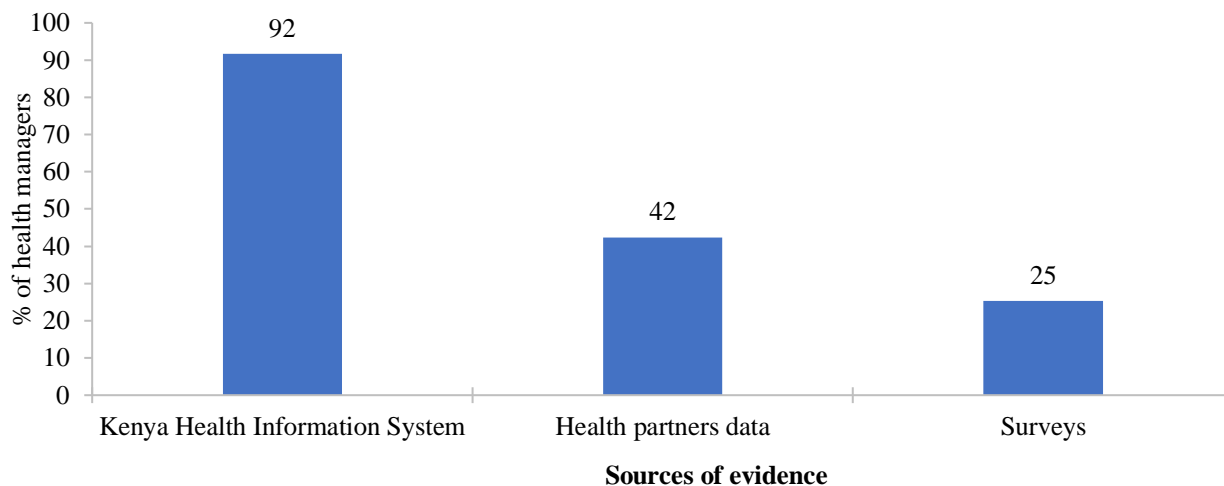
*Association between trained health managers and annual performance reviews*

| Variable            | Grouping     | Trained Health Managers |                   | Total              | p-value            |
|---------------------|--------------|-------------------------|-------------------|--------------------|--------------------|
|                     |              | Yes                     | No                |                    |                    |
| Conducting APRs     | Yes          | 48 (66.7)               | 30 (30.6)         | 78 (45.9)          | <.001 <sup>a</sup> |
|                     | No           | 24 (33.3)               | 68 (69.4)         | 92 (54.1)          |                    |
|                     | <b>Total</b> | <b>72 (100.0)</b>       | <b>98 (100.0)</b> | <b>170 (100.0)</b> |                    |
| Use of APR findings | Yes          | 31 (64.6)               | 6 (20.0)          | 37 (47.4)          | <.001 <sup>b</sup> |
|                     | No           | 17 (35.4)               | 24 (80.0)         | 41 (52.6)          |                    |
|                     | <b>Total</b> | <b>48 (100.0)</b>       | <b>30 (100.0)</b> | <b>78 (100.0)</b>  |                    |

A further analysis was undertaken using a Chi-square Test of independence to determine the correlation between the demographic characteristics of the health managers and conducting APRs. A *p*-value lower than 0.05 was considered indicative of statistical significance. The results revealed no significant association between the level of education ( $\chi^2$  (1, N=170) = 2.31, *p* = 0.129), age ( $\chi^2$  (1, N=170) = 0.49, *p* = 0.484), sex ( $\chi^2$  (1, N=170) = 0.44, *p* = 0.508), length of managerial experience ( $\chi^2$  (1, N=170) = 0.12, *p* = 0.732), and conducting APRs. This implies that demographic characteristics do not influence the likelihood of health managers conducting APRs.

### 3.4 Other Sources of Evidence Used by the Health Managers

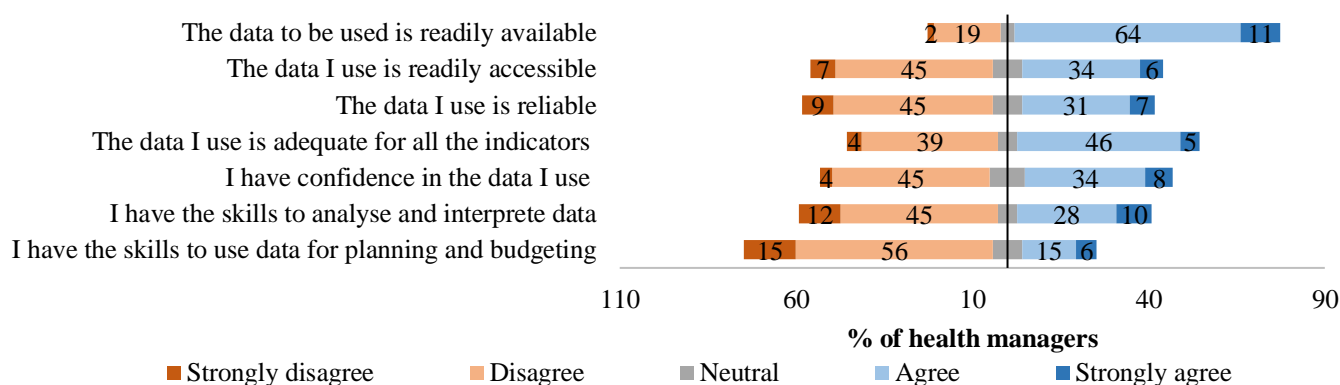
When asked about the sources of data that the health managers use to inform the annual planning and budgeting process besides the APR findings, the majority of them (92%) reported that the KHIS is largely used whereas only 25% of them use survey findings. (Figure 2).



**Figure 2**  
*Other sources of Evidence Used to Inform Planning and Budgeting*

### 3.5 Perspectives of Health Managers on the Use of Evidence to Inform Planning and Budgeting

To further evaluate the perspectives of health managers regarding the utilization of evidence to inform the annual planning and budgeting process, a 5-point Likert scale encompassing seven items, ranging from 1 (strongly disagree) to 5 (strongly agree), was employed. The findings revealed that a substantial majority of health managers (75%) agreed with the statement that the necessary data for informing the annual planning and budgeting process is readily available. However, a significant proportion of health managers tended to disagree that they have skills in data use for planning and budgeting (71%), data analysis and interpretation (57%), as well as the reliability of the data they use (54%). (Figure 3).



**Figure 3**  
*Perspectives of Health Managers on the Use of Data to Inform Planning and Budgeting*

The qualitative findings corroborated the responses provided by the health managers, as evidenced by the following quotations extracted from the interviews:

*“We hear that some of the reporting tools we use have been revised but we have not been oriented on them and neither have they been issued. We need regular refresher training on the use of these tools to improve the quality of the data we collect and use.”* FGD-5

*“Oftentimes, available data is not reliable and therefore not used to inform the development of plans and budgets thus we opt to do historical budgeting.”* KII-1

*“As much as there is a lot of data generated from routine health service delivery, many of the health managers have minimal skills on data analysis, interpretation, and use of data to make decision making during planning and budgeting.”* KII-3

#### IV. DISCUSSION

This study aimed to assess health managers' utilization of evidence to inform the annual planning and budgeting process. By focusing on key aspects such as the training of health managers on MOH planning, budgeting, and performance review processes, the association between this training and the conducting of (APRs), and the perspectives of health managers on the use of data to inform planning and budgeting, the findings offer valuable insights into the dynamics of evidence-based planning and budgeting within the county health system.

The study findings revealed that demographic characteristics of health managers (specifically level of education, age, sex, and length of managerial experience) are not significantly associated with conducting APRs. This suggests that these demographic factors do not influence the likelihood of health managers conducting APRs. These findings are consistent with a prior study that showed that hospital managers who were meaningfully engaged and supported in the planning and budgeting process demonstrated a better understanding of the process, irrespective of their level of managerial experience (Barasa et al., 2017). Consequently, this highlights the presence of other factors that need to be focused on to enhance evidence-based planning, such as the training of health managers, as revealed in this present study.

The results of the study showed that more than half of the health managers are not trained in the MOH planning, budgeting, and performance review process. However, the health managers who were trained were more likely to conduct APRs and use the findings to facilitate informed decision-making during planning and budgeting. This finding resonates with the findings from a previous study (Dagnew et al., 2018). A possible explanation for this result could be that health managers equipped with knowledge of health sector priority setting including data analysis and utilization are empowered to interrogate and make meaning out of the routine health information as opposed to just filling it and submitting it to the next level. Consequently, this form of data processing enables health managers to go a critical step further and utilize the information for targeted and evidence-based planning and budgeting. This requires the county health systems to allocate resources toward training health managers in the processes of planning, budgeting, and performance reviews.

Further, the study showed that although 54.1% of health managers conduct performance reviews based on routine health information, only 47.4% of them use the findings to inform the subsequent planning and budgeting cycle. Likewise, low utilization of health information to inform planning has also been reported in other Sub-Saharan countries for instance, 35% in Zanzibar (Ally, 2019), and 45.8% in Ethiopia (Shiferaw et al., 2017). Additionally, studies carried out in Peru (Dale et al., 2020) and Gabon (Aboubacar et al., 2020) show that despite the performance reviews being carried out routinely and the findings published, the information obtained is hardly used in the identification of health priorities and to guide resource allocation. This suggests that the majority of health managers have focused on data collection and submission to the next level foregoing its use in decision-making as is widespread, especially in LMICs (Mboera et al., 2021). Overall, findings from other studies in this area similarly strengthen the evidence of minimal use of information by health managers to inform prioritization of needs and budgetary allocations to improve health outcomes (Bendavid & Bhattacharya, 2014; Bhattacharyya et al., 2020; Henriksson et al., 2017; Waithaka et al., 2018). However, this finding is contrary to a study that was carried out in Ethiopia which indicated that 89% of healthcare professionals utilized data for planning (Dagnew et al., 2018). A possible explanation for this stark difference might be due to the high percentage of health professionals with data analysis skills reported to be 88.8% compared to 38% in this study.

The most commonly used source of data to inform the process is the KHIS and 75% of the health managers affirmed that this data is readily available. The availability of a lot of routine health information is in tandem with the findings of Akaco et al., (2015) and Lippeveld (2017) who reported that over the years health systems have strengthened

efforts to generate information giving rise to a lot of routine health service delivery data. This information is collected from all tiers of the health system through the filling of registers then aggregated and submitted for uploading to a health management information system. Data generation is an initial stage within the data management continuum whose end goal is to translate it into meaningful information for use in strategic planning, resource allocation, and decision-making to enhance health service provision and outcomes. The essence of conducting APRs is to facilitate the health managers in taking an additional step to interrogate and analyze the KHIS data. This analysis forms the foundation of evidence-based planning and budgeting for the upcoming financial year. Unfortunately, as also demonstrated in this study, many health systems, particularly those in LMICs, tend to stall at the data collection stage and face challenges progressing to the critical phase of analysis and utilizing data for strategic health sector planning and resource allocation (Lippeveld, 2017).

The minimal utilization of health information in planning and resource allocation could be attributed to a multitude of challenges faced by health managers, as highlighted in their perspectives of data use. Among the challenges they encountered were inadequate skills for data analysis and unreliable data. Notably, 57% of them disagreed with possessing the skills to analyze data, while 71% disagreed with having the skills to utilize data for evidence-based planning and budgeting. In line with this finding, previous studies have demonstrated that health managers have minimal technical capacity in data analysis impeding the generation of reliable information, analysis, and its utilization in informing health sector planning and budgeting (Akaco et al., 2015; Henriksson, 2017; Waithaka et al., 2018). One of the ways of mitigating these challenges is through capacity building of the health managers on data management which is an enabler in enhancing the use of health information (Barasa et al., 2015; Henriksson et al., 2017).

The limited utilization of data to inform health sector planning and budgeting has consequential implications, as health managers are compelled to resort to historical budgeting practices. This refers to resource allocation that primarily relies on the previous year's budget with the costs slightly increased to cater for inflation (WHO, 2016). In keeping with the literature, (Seixas et al., 2021; Waithaka et al., 2018), this study similarly found that due to inadequate reliable data, health managers opt to use historical budgeting to develop annual plans and budgets as expressed by the key informants. Although historical budgeting is also an approach to resource allocation, it has some drawbacks for instance, it is less robust and does not allow for a shift towards recently identified priorities as well as emergencies that necessitate revisions of the budget. Consequently, it has been advised that the use of historical budgeting in the health sector should be rigorously considered and instead focus on using more nuanced approaches such as explicit bottom-up costing methodologies (WHO, 2016).

## V. CONCLUSION & RECOMMENDATIONS

### 5.1 Conclusion

The KHIS is the primary data source employed to inform annual health sector planning and budgeting. Despite the availability of routine health service delivery information, many managers lack data management skills. Additionally, reported data unreliability and the absence of annual performance reviews hinder informed planning and budgeting.

### 5.2 Recommendations

It is recommended that the county health department prioritize investing in capacity-building initiatives on comprehensive data management for all health managers across the various tiers of the county health system. This endeavor should involve conducting training sessions that encompass proficient data collection, rigorous analysis, accurate interpretation, and effective utilization of data for planning and budgeting. There is a need for the county health department to allocate funds for conducting APRs across all the tiers of the health system to enhance evidence generation and its utilization for effective planning and budgeting.

### 5.3 Limitations

This research specifically targeted the utilization of evidence to inform annual health sector planning and budgeting among health managers in only one county. To address this limitation, the research incorporated health managers from various levels of the county health system, aiming to enhance the diversity of perspectives. Additionally, the study used a cross-sectional design, capturing data at a single time point, which may exhibit temporal variations. As a result, the generalizability and applicability of the study findings to different settings could be constrained. Nevertheless, the findings from this study will prove invaluable in improving evidence-based health sector planning and budgeting process within similar settings.



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