

Examining the relationship between staff workshops and health service delivery in Kaliro District Local Government. A cross-sectional study.

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Abstract Background

The study aims to assess the relationship between staff workshops and health service delivery in Kaliro District Local Government.

Methodology

This study adopted a descriptive, correlational, and cross-sectional survey design, utilising a mixed-methods approach that integrated both quantitative and qualitative data collection and analysis techniques.

Results

The majority of respondents were female (58%). The statement "The workshops improve my knowledge and skills in health service delivery" received the highest mean score of 4.11 (SD = 0.85), suggesting strong agreement among respondents that the workshops are beneficial in enhancing their competencies in service delivery. A high level of agreement was noted for the statement "I can apply what I learn in workshops to my daily work", which recorded a mean score of 3.97 (SD = 0.90), indicating that the knowledge and skills acquired during the workshops are perceived as practically applicable.

The relevance of workshop content was also rated favorably. The statement "Staff workshops are relevant to my daily roles and responsibilities" yielded a mean of 3.92 (SD = 0.96), while "The workshops are facilitated by knowledgeable and competent trainers" scored 3.84 (SD = 0.89). With regard to workshop logistics and participation, respondents generally agreed that the district regularly organises staff workshops, with this item achieving a mean of 3.70 (SD = 1.02). In summary, the data suggest that staff workshops in Kaliro District are generally well-organised, relevant, and impactful.

Conclusion

Increasing the frequency, relevance, and quality of staff workshops contributes significantly to improved knowledge, skills, and service delivery performance. Staff workshops are a critical driver of effective health service delivery at the local government level.

Recommendations

Local government health authorities should design and implement a structured workshop schedule based on assessed training needs.

Keywords: *Staff workshops, Health service delivery, Kaliro District Local Government.*

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Background

Global health service delivery has evolved from early 20th-century, institution-centred and disease-specific models toward an approach built around primary health care, universal health coverage, and integrated services aimed at improving access, equity, quality, efficiency, and effectiveness (Kiarie et al., 2022). The 1978 Alma-Ata declaration laid the groundwork for "health for all," and more recent reaffirmations like the Astana Declaration (2018) have reiterated these goals. However, according to the 2023 Universal Health Coverage (UHC) Monitoring Report, progress has stalled; service coverage improvements

have stagnated since 2015, and many people still face severe out-of-pocket financial barriers to accessing essential services (WHO & World Bank, 2023). The COVID-19 pandemic exposed system fragilities, causing widespread disruptions to essential health services, particularly immunisation, maternal and child health, and non-communicable disease care, which undermined both access and effectiveness, especially in low- and middle-income countries (Shet et al., 2022). Although efficiency gains and technological innovations (in data systems and telehealth) have been made in some settings, growing inequalities, underfunded health workforces, and weak quality assurance

continue to limit overall effectiveness and threaten gains achieved over prior decades (World Health Organisation, 2018).

Regarding quality, district health facilities show deficits in safety, timeliness, patient-centeredness, and effectiveness. A case study in Hoima District found that national system weaknesses, poor working environment, low budget allocation, and weak coordination between facilities reduced the overall quality of care, including delayed treatments and insufficient adherence to clinical guidelines (Mwesigwa, Wahid, & Sohng, 2021). Reports also highlight issues like absenteeism, unethical behaviours by staff, insufficient training for soft skills, and inadequate infrastructure and supplies, degrading service quality (New Vision, 2023).

In terms of efficiency and effectiveness, Uganda is recognized by the World Bank as having outperformed many peer countries in some health outcomes—such as reductions in under five mortality and stunting, and the drop in the maternal mortality ratio (from ~336 to ~189 per 100,000 live births) over recent years—despite low per capita health expenditure, pointing to relatively good use of resources in some areas (World Bank, 2024). Government initiatives such as decentralisation, the “free health for all” policy, and expansion of health facility levels (HC IIs to IIIs, IIIs to IVs) aim to improve effectiveness and access (State House Uganda, 2023). However, inefficiencies remain from uneven regional resource allocation, facility underutilization, and delays in supply chain and human resources deployment (World Bank, 2024; Dowhaniuk, 2021). The study aims to assess the relationship between staff workshops and health service delivery in Kaliro District Local Government.

METHODOLOGY

Research Design

This study adopted a descriptive, correlational, and cross-sectional survey design, utilising a mixed-methods approach that integrated both quantitative and qualitative data collection and analysis techniques. The descriptive component of the research design was used to systematically outline and document the nature, extent, and types of staff capacity-building initiatives that were in place within the health sector of Kaliro District Local Government. The correlational aspect of the study examined the relationship between staff capacity-building initiatives (independent variables) and health service delivery outcomes (dependent variables). A cross-sectional survey design was employed, involving the collection of data from a sample of

respondents at a single point in time. Quantitative methods involved structured questionnaires administered to health workers and local government officials. Qualitative methods included key informant interviews and focus group discussions with selected stakeholders such as district health officers, facility in-charges, and program coordinators.

Study setting

The study was conducted in Kaliro District Local Government, located in the eastern region of Uganda. Kaliro District was carved out of Kamuli District in 2005 and has its headquarters in Kaliro Town Council. The district is bordered by Kamuli District to the south, Pallisa District to the north, Namutumba District to the east, and Buyende District to the west.

The choice of Kaliro District as the study area was informed by the visible gaps in service delivery despite ongoing decentralisation and capacity-building efforts. Reports from the Office of the Auditor General and local civil society organisations have highlighted challenges in staff performance, resource utilisation, and implementation of government programs. This made the district an appropriate case for assessing how staff capacity building influences service delivery in a rural local government setting. The study focuses on capacity building initiatives and service delivery data from the last five years (2020–2024) to capture recent trends and impacts, including programs implemented under current national policies and donor-supported projects. The period of investigation was 9 months and covered the period from March to October 2025.

Study Population

The study used health centre workers, facility in-charges, the District Health Officer, and the District Health Educator as its primary respondents. It was conducted among health staff in selected health centres within Kaliro District Local Government. The selected health centres included: Bumanya Health Centre IV, Kaliro Town Council Health Centre III, Budomero Health Centre III, Nawaikoke Health Centre III, Namugongo Health Centre III, Namwiwa Health Centre III, and Buyinda Health Centre III. Accordingly, the target population of the study comprised 150 participants.

Sample Size

The study adopted Krejcie & Morgan's (1970) table of sample determination. Therefore, the sample size of the study was 108 respondents.

Table 1: Target Population, Sample Size, Sampling Technique and Methods of Data Collection

| Participants | Population | Sample Size | Sampling Technique | Methods of Data Collection |
|---------------------------------|------------|-------------|---------------------|----------------------------|
| Health Centre workers | 131 | 94 | Stratified sampling | Questionnaire |
| Facility in charge | 07 | 05 | Purposive sampling | Interview |
| District Health Officer | 01 | 01 | Census sampling | Interview |
| District Health Educator | 01 | 01 | Census sampling | Interview |
| District Health Management Team | 10 | 07 | Purposive sampling | Interview |
| Total | 150 | 108 | | |

Source: Kaliro District Health Department (2024).

Sampling Techniques

This study employed a combination of probability and non-probability sampling techniques to ensure that the selection of participants was both representative and appropriate for the research objectives. The chosen sampling strategies were tailored to the characteristics and roles of the different target groups involved in health service delivery and staff capacity building within Kaliro District Local Government.

Stratified Sampling

Stratified sampling was employed to select respondents from among the health centre workers, who constituted the largest portion of the target population. The health workers were stratified based on their health facility level (Health Centre II, III, IV) and professional cadre (nurses, midwives, clinical officers, laboratory technicians). This approach ensured that all relevant subgroups were proportionately represented in the sample. From a total population of 131 health workers, a sample of 94 was selected. This technique enhanced the representativeness of the sample by accounting for variability across different categories of health workers, thereby improving the validity of the findings.

Purposive Sampling

Purposive sampling was used to select specific individuals who possessed expert knowledge or played key roles in the implementation of capacity-building initiatives and health service management. This technique was suitable for accessing in-depth and context-specific information that would not have been captured through random selection. These participants were chosen based on their responsibilities, experience, and involvement in staff supervision, health service delivery, and training initiatives. Their insights provided qualitative depth to the study.

Census Sampling

Given the small number and central importance of certain district-level officers, census sampling was applied to include all individuals in this category. The study included the District Health Officer (DHO) and the District Health

Educator (DHE) in their entirety. These individuals were selected because they were uniquely positioned to provide comprehensive perspectives on district-wide health workforce development strategies, policy implementation, and service delivery performance.

Data Collection Methods

To obtain comprehensive and reliable data, the study employed a combination of three data collection methods: questionnaires, interviews, and documentary review. This multi-method approach aligned with the mixed-methods research design, allowing for triangulation of data to enhance the validity and depth of the findings. Each method was selected based on its suitability for the type of information required from specific categories of respondents.

Questionnaire Method

Structured questionnaires were administered to health centre workers selected through stratified sampling. The questionnaire consisted of both closed-ended and Likert-scale questions designed to capture quantitative data. This method was appropriate for collecting standardised information from a large group, ensuring comparability across respondents. Questionnaires were self-administered where possible, with research assistants available to provide guidance and clarification to respondents with literacy or comprehension challenges.

Interview Method

Key informant interviews were conducted with selected participants using semi-structured interview guides. This qualitative method was used to gather in-depth, contextual, and experiential information from Facility In-charges, the District Health Officer, the District Health Educator, and members of the District Health Management Team. The interviews explored areas such as the planning, implementation, and challenges of staff capacity-building programs; the institutional support available; and observed outcomes on service delivery. Interviews were conducted face-to-face at times convenient for the participants and,

with their consent, were audio-recorded to ensure accurate transcription and analysis.

Documentary Review Method

The documentary review method was used to supplement primary data by examining relevant documents and records. These included District Health Annual Reports, health facility performance reports, staff training and mentorship records, capacity-building policy documents, and supervision and evaluation reports.

The purpose of this method was to provide secondary data that supported or contrasted with information gathered through questionnaires and interviews. It helped to establish trends, verify claims, and provide a historical or administrative context for the study. Documents were sourced primarily from the Kaliro District Health Department, health facility records, and relevant NGOs operating in the district.

Validity of Instruments

To ensure that the data collection instruments used in this study were valid, appropriate procedures were followed to assess the content validity of the tools. Validity referred to the degree to which an instrument accurately measured what it was intended to measure. This study used two methods to assess instrument validity: expert judgment and the Content Validity Index (CVI).

Experts were requested to assess the relevance, clarity, comprehensiveness, and alignment of each item in relation to the study objectives and research questions. Their feedback guided necessary modifications to ensure that each item contributed meaningfully to the intended constructs (staff capacity building and service delivery dimensions). Following the expert review, the Content Validity Index (CVI) was calculated to quantify the degree of agreement among the experts regarding the relevance of the questionnaire and interview items. A Content Validity Index threshold of 0.7 was used as a benchmark. If the computed CVI was greater than 0.7, the instruments qualified to be used for data collection in the study.

Reliability of Instruments

While validity ensured that the research instruments measured what they were intended to measure, reliability referred to the consistency or stability of the instrument in producing similar results under consistent conditions. In this study, the reliability of the questionnaire was assessed using the Cronbach's Alpha coefficient, a widely used measure for internal

consistency reliability.

The questionnaire was pre-tested through a pilot study involving at least 10% of the sample size (approximately 9–10 health workers) drawn from a health sub-district outside

the main study area but with characteristics similar to those in Kaliro District. The purpose of the pilot test was to identify and correct any ambiguities, unclear instructions, or inconsistencies in the items before the actual data collection. After the pilot responses were collected, Cronbach's Alpha (α) was computed using statistical software such as SPSS to determine the internal consistency of the instrument. Cronbach's Alpha measured how closely related a set of items was as a group and was considered a measure of scale reliability.

A Cronbach's Alpha value of at least 0.70 was considered acceptable for this study. If any subscale or item was found to significantly lower the reliability coefficient, it was reviewed and either modified or excluded to improve the internal consistency of the instrument.

Data Analysis

The study adopted a mixed-methods approach to data analysis, corresponding to the two primary types of data collected: quantitative (through questionnaires) and qualitative (through interviews and document review). The analysis was guided by the study objectives and research questions to ensure that the findings meaningfully addressed the research problem.

Quantitative data collected from structured questionnaires administered to health centre workers were coded, entered, and analysed using the Statistical Package for the Social Sciences (SPSS) version 25.

Descriptive Statistics: These were used to summarise and describe the characteristics of the respondents and key study variables. Measures such as frequencies, percentages, means, and standard deviations were computed to present data on staff capacity-building initiatives and perceived health service delivery outcomes.

Inferential Statistics: To examine relationships between staff capacity-building initiatives (such as training, mentorship, workshops, and job rotation) and health service delivery outcomes (such as timeliness, quality, access, and responsiveness), the study employed correlational analysis. Specifically:

Pearson's correlation coefficient (r) was used to determine the strength and direction of relationships between variables measured on an interval or ratio scale.

Where applicable, linear regression analysis was employed to assess the predictive strength of capacity-building initiatives on service delivery outcomes.

A significance level of $p < 0.05$ was used to determine statistical significance.

Qualitative data were collected through semi-structured interviews with facility in-charges, the District Health Officer, District Health Educator, and members of the District Health Management Team (DHMT). The interview responses were audio-recorded (with consent), transcribed verbatim, and then analysed using thematic analysis.

Ethical Considerations

Ethical integrity was a cornerstone of this academic research, particularly because human participants were involved. The study adhered strictly to ethical principles to protect the rights, safety, and dignity of all respondents. The following ethical measures were observed throughout the research process:

Ethical Approval: Before data collection, the study obtained ethical clearance from the relevant University Research Ethics Committee (UREC). In addition, a formal research permit was sought from the Office of the Chief Administrative Officer (CAO) in Kaliro District Local Government, as well as clearance from the District Health Officer (DHO). These approvals authorised the study to access health workers, facilities, and official documents.

Informed Consent: Participation in the study was entirely voluntary. All participants received a clear explanation of the purpose, procedures, potential risks, and benefits of the study. Informed consent was obtained through signed consent forms before administering questionnaires or conducting interviews. Respondents were informed of their right to decline or withdraw from the study at any point without any consequences.

Anonymity and Confidentiality: All data collected was treated with strict confidentiality. Respondents' identities were not disclosed in any part of the thesis or resulting publications. Names and identifiers were replaced with codes, and any recorded interviews were stored securely and destroyed after transcription and analysis. Only the research assistant and, where necessary, the supervisor had access to the raw data.

Avoidance of Harm: The study did not pose any physical, psychological, or social harm to participants. Questions and interview topics were designed to avoid discomfort, and participants were free to skip any questions they were not comfortable answering. Care was taken to ensure a respectful and non-judgmental atmosphere throughout data collection.

Data Integrity and Use: Data collected were used solely for academic purposes and for the completion of this research study. Findings were presented objectively, without misrepresentation or manipulation. Feedback and a summary of the research findings were made available to interested stakeholders in Kaliro District upon request.

Results

Table 2: Response Rate of the Study

| Participants | Interviews Scheduled and Questionnaires to be Issued | Interviews Conducted and Questionnaires Issued | Response Rate (%) |
|--|--|--|-------------------|
| Health Centre Workers | 94 | 88 | 93.6% |
| Facility In-charges | 05 | 04 | 80.0% |
| District Health Officer (DHO) | 01 | 01 | 100.0% |
| District Health Educator (DHE) | 01 | 01 | 100.0% |
| District Health Management Team (DHMT) | 07 | 06 | 85.7% |
| Total | 108 | 100 | 92.6% |

Source: Primary data (2025)

Table 2: Out of the 108 individuals sampled, a total of 100 participants successfully took part in the study, resulting in an overall response rate of 92.6%.

The highest response rate (100%) was observed among the District Health Officer (DHO) and the District Health Educator (DHE), reflecting full participation among senior district-level officers. This is attributed to their direct involvement in health policy implementation and oversight, which may have increased their willingness to contribute to the study.

Health Centre Workers, who represented the largest subgroup, had a response rate of 93.6%, with 88 out of 94 targeted individuals completing the questionnaire. This high rate can be attributed to the structured distribution of

questionnaires during working hours and the presence of research assistants who facilitated the data collection process.

The District Health Management Team (DHMT) recorded a response rate of 85.7%, with 6 out of 7 targeted members participating. Facility In-charges recorded the lowest response rate at 80.0%, with only 4 out of 5 sampled individuals responding. This may be due to competing administrative duties and limited availability.

Overall, the response rate of 92.6% exceeded the generally acceptable threshold of 70% for survey research, thereby enhancing the credibility, representativeness, and generalizability of the findings.

Socio-Demographic Characteristics of Respondents

Table 3: Demographic Characteristics of Respondents (N = 100)

| Variable | Category | Frequency (n) | Percentage (%) |
|---------------------------|---------------------------|---------------|----------------|
| Gender | Male | 42 | 42.0% |
| | Female | 58 | 58.0% |
| Age | 20–29 years | 21 | 21.0% |
| | 30–39 years | 38 | 38.0% |
| | 40–49 years | 28 | 28.0% |
| | 50 years and above | 13 | 13.0% |
| Level of Education | Certificate | 26 | 26.0% |
| | Diploma | 45 | 45.0% |
| | Bachelor's Degree | 25 | 25.0% |
| | Master's Degree and above | 4 | 4.0% |
| Length of Service | Less than 5 years | 24 | 24.0% |
| | 5–10 years | 36 | 36.0% |
| | 11–15 years | 22 | 22.0% |
| | Over 15 years | 18 | 18.0% |

Source: Primary data (2025)

Table 3, Gender of Respondents: The findings revealed that the majority of respondents were female, accounting for 58% of the sample, while 42% were male. This distribution suggests that females constituted a larger proportion of the health workforce in the selected health facilities within Kaliro District.

Age Distribution of Respondents: The age distribution of respondents showed that 38% were aged 30–39 years, making this the largest age group in the sample. This was followed by 28% aged 40–49 years, 21% aged 20–29 years, and 13% who were 50 years and above. These findings indicate that the workforce is largely composed of early- to mid-career professionals, with a relatively smaller proportion nearing retirement age.

Level of Education: In terms of educational qualifications, 45% of respondents held a Diploma, making it the most common level of education among the participants. 26% had a Certificate, while 25% held a Bachelor's degree. Only 4% had attained a Master's degree or higher. This distribution reflects the minimum professional requirements for most technical and clinical positions in lower-level health facilities, while also highlighting a moderate level of academic advancement within the health sector in the district.

Length of Service: Regarding work experience, 36% of respondents had served for 5–10 years, while 24% had less

than 5 years of service. 22% had worked for 11–15 years, and 18% had over 15 years of experience. These results suggest a balanced distribution between relatively new entrants and more experienced health personnel, which may influence how staff perceive and benefit from capacity-building initiatives.

Overall, the demographic profile of the respondents reflects a gender-diverse, moderately educated, and professionally experienced health workforce. These characteristics provide valuable context for interpreting the relationships explored between staff capacity-building initiatives and health service delivery in the subsequent sections of the study.

Staff Workshops in Kaliro District Local Government

Descriptive Findings on Staff Workshops in Kaliro District Local Government

Data for this section were obtained through a structured questionnaire administered to 100 respondents across health facilities in Kaliro District. The questionnaire utilised a five-point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. Descriptive statistics were computed for each item to assess respondents' perceptions regarding the organisation and effectiveness of staff workshops conducted by the district.

Table 4: Staff Workshops in Kaliro District Local Government (N = 100)

| Statement | 1 | 2 | 3 | 4 | 5 | Mean | Std |
|--|---|----|----|----|----|------|------|
| The district regularly organises staff workshops for health workers. | 5 | 10 | 20 | 40 | 25 | 3.7 | 1.02 |
| Staff workshops are relevant to my daily roles and responsibilities. | 3 | 7 | 15 | 45 | 30 | 3.92 | 0.96 |
| The workshops are facilitated by knowledgeable and competent trainers. | 2 | 6 | 20 | 50 | 22 | 3.84 | 0.89 |
| Workshop content is up-to-date with current public health practices and policies. | 4 | 8 | 25 | 40 | 23 | 3.7 | 0.98 |
| The workshops improve my knowledge and skills in health service delivery. | 1 | 5 | 10 | 50 | 34 | 4.11 | 0.85 |
| There is adequate time allocated for practical sessions and discussions during workshops. | 6 | 12 | 25 | 35 | 22 | 3.55 | 1.07 |
| I receive timely communication and invitations to attend workshops. | 8 | 15 | 20 | 37 | 20 | 3.46 | 1.13 |
| The workshops are inclusive and allow participation from staff at all levels. | 4 | 9 | 22 | 38 | 27 | 3.75 | 1.00 |
| I can apply what I learn in workshops to my daily work. | 2 | 5 | 15 | 50 | 28 | 3.97 | 0.90 |
| Workshops have contributed to improvements in health service delivery at my facility. | 3 | 7 | 18 | 45 | 27 | 3.86 | 0.94 |
| Feedback from participants is collected and used to improve future workshops. | 7 | 10 | 25 | 38 | 20 | 3.54 | 1.05 |
| I am satisfied with the frequency and quality of staff workshops provided by the district. | 5 | 12 | 20 | 40 | 23 | 3.64 | 1.01 |

Source: Primary data (2025)

Table 4, Overall, the findings indicate a generally positive perception of the staff workshops organised by Kaliro District Local Government. The statement "The workshops improve my knowledge and skills in health service delivery" received the highest mean score of 4.11 (SD = 0.85), suggesting strong agreement among respondents that the workshops are beneficial in enhancing their competencies in service delivery. Similarly, a high level of agreement was noted for the statement "I can apply what I learn in workshops to my daily work", which recorded a mean score of 3.97 (SD = 0.90), indicating that the knowledge and skills acquired during the workshops are perceived as practically applicable.

The relevance of workshop content was also rated favorably. The statement "Staff workshops are relevant to my daily roles and responsibilities" yielded a mean of 3.92 (SD = 0.96), while "The workshops are facilitated by knowledgeable and competent trainers" scored 3.84 (SD = 0.89). These findings suggest that the workshops are both content-appropriate and delivered by qualified facilitators. In terms of content alignment with national or global standards, the item "Workshop content is up-to-date with current public health practices and policies" scored a mean of 3.70 (SD = 0.98), indicating moderate agreement among respondents that the workshops are aligned with prevailing health sector guidelines.

With regard to workshop logistics and participation, respondents generally agreed that the district regularly organises staff workshops, with this item achieving a mean of 3.70 (SD = 1.02). Furthermore, the workshops were considered inclusive, as reflected by a mean score of 3.75

(SD = 1.00) for the item "The workshops are inclusive and allow participation from staff at all levels".

However, some areas received slightly lower ratings. The statement "I receive timely communication and invitations to attend workshops" had a mean of 3.46 (SD = 1.13), suggesting room for improvement in communication and scheduling. Similarly, the adequacy of time for practical sessions and discussions during workshops received a mean of 3.55 (SD = 1.07), indicating that not all participants felt there was sufficient time allocated for interactive components.

The perception of workshops contributing to overall improvements in health service delivery was positive, with the item "Workshops have contributed to improvements in health service delivery at my facility" scoring a mean of 3.86 (SD = 0.94). Feedback mechanisms also received moderate agreement, with "Feedback from participants is collected and used to improve future workshops" receiving a mean of 3.54 (SD = 1.05).

Finally, the general satisfaction with the workshops was also reasonably high. The statement "I am satisfied with the frequency and quality of staff workshops provided by the district" scored a mean of 3.64 (SD = 1.01), indicating that most respondents appreciated the current approach but may expect improvements in frequency or quality.

In summary, the data suggest that staff workshops in Kaliro District are generally well-organised, relevant, and impactful. While most respondents viewed the workshops positively, particularly in terms of skill development and applicability, there is a need for improvement in areas such

as communication, scheduling, and time allocation for interactive learning.

Interview Findings from Key Informants Frequency and Organisation of Staff Workshops

The District Health Officer (DHO) acknowledged that staff workshops are a critical component of continuing professional development in the district. According to the DHO:

“We try to conduct staff capacity-building workshops at least once every quarter, depending on the availability of funds and support from the Ministry of Health or development partners.”

This assertion aligns with the quantitative data, which showed a moderate level of agreement (mean = 3.7) among health workers regarding the regular organisation of workshops. However, the DHO also noted that some planned workshops are occasionally postponed due to logistical or budgetary constraints.

Relevance and Impact of Workshops

The District Health Educator (DHE) emphasised the relevance of workshop content to health workers’ roles:

“We tailor the training content to address the gaps we observe during supervision visits. Topics often include maternal health, disease surveillance, health promotion, and emerging public health concerns like non-communicable diseases.”

This view supports the findings that workshop content is generally seen as relevant (mean = 3.92) and up-to-date with public health practices (mean = 3.70). The DHE further explained that recent workshops had a strong focus on COVID-19 response, malaria control, and community engagement.

Trainer Competence and Delivery Methods

A DHMT member responsible for training and capacity building remarked:

“We usually invite experts from the Ministry of Health, universities, or partner organisations to facilitate workshops. We prioritise facilitators with hands-on experience and practical skills.”

This aligns with the positive rating given to the competence of facilitators (mean = 3.84). The same official also mentioned that workshops now include more interactive methods such as group work, role-playing, and case discussions, though time constraints sometimes limit these sessions.

Communication and Workshop Invitations

On the issue of communication, the DHO acknowledged challenges in disseminating timely invitations to staff, especially in remote health centres:

“We use multiple channels like emails, WhatsApp, and printed memos, but sometimes the messages don’t reach everyone in time. We’re working on improving this with the help of facility in-charges.”

This is consistent with the relatively lower rating (mean = 3.46) on timely communication.

Participation and Inclusiveness

The DHE noted that inclusiveness has improved over the years:

“We now ensure that lower-level health workers like enrolled nurses and VHT coordinators are included in training programs, not just clinical officers and in-charges.”

This echoes the perception captured in the survey that workshops are inclusive (mean = 3.75). However, it was also mentioned that staff shortages at some facilities sometimes prevent full participation, as some health workers must remain on duty.

Health Service Delivery in Kaliro District Local Government

Descriptive Findings on Health Service Delivery in Kaliro District Local Government

Data on health service delivery in Kaliro District Local Government were collected using a structured questionnaire employing a five-point Likert scale, where 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly Disagree. The study sought to assess respondents’ perceptions of the availability, accessibility, quality, and effectiveness of health services within the district. A total of 100 respondents participated, and their responses were analysed using descriptive statistics.

Table 5: Health Service Delivery in Kaliro District Local Government

| Statement | 1 | 2 | 3 | 4 | 5 | Mean | Std |
|--|----|----|----|----|----|------|------|
| Family planning services are available and accessible in health facilities | 30 | 35 | 20 | 10 | 5 | 2.10 | 1.10 |
| Outreach immunisation programs effectively cover remote areas in Kaliro District | 25 | 40 | 20 | 10 | 5 | 2.20 | 1.05 |
| Patients are treated with respect and dignity in health facilities | 20 | 30 | 25 | 15 | 10 | 2.70 | 1.15 |

| | | | | | | | |
|--|----|----|----|----|----|------|------|
| The health facilities have adequate equipment and supplies to provide quality services | 35 | 40 | 15 | 5 | 5 | 1.95 | 1.00 |
| Most children under one year in this area receive all the recommended vaccines | 28 | 38 | 20 | 8 | 6 | 2.15 | 1.07 |
| Health facilities are located within a reasonable distance (2 km) for most patients | 30 | 37 | 18 | 10 | 5 | 2.05 | 1.08 |
| Services are available to all, regardless of gender, age, or income | 25 | 35 | 25 | 10 | 5 | 2.25 | 1.11 |
| The operating hours of health facilities are convenient for the public | 32 | 33 | 20 | 10 | 5 | 2.05 | 1.09 |
| Patients are attended to promptly, and waiting time is minimal | 35 | 40 | 15 | 5 | 5 | 1.95 | 1.00 |
| There is proper coordination and communication among the health staff and the community on health programs | 28 | 37 | 20 | 10 | 5 | 2.10 | 1.07 |
| Available resources (staff, drugs, equipment) are well-managed to serve the public effectively | 32 | 38 | 15 | 8 | 7 | 2.00 | 1.08 |
| The health system responds quickly to emergencies and outbreaks | 40 | 35 | 15 | 5 | 5 | 1.85 | 1.00 |
| Pregnant women in this district attend at least four Antenatal Care (ANC) visits | 28 | 37 | 20 | 8 | 7 | 2.15 | 1.07 |
| Distance or transport is a barrier for many women accessing ANC services | 10 | 12 | 20 | 30 | 28 | 3.80 | 1.15 |
| Most births in this community are attended by skilled health professionals | 30 | 35 | 20 | 10 | 5 | 2.10 | 1.10 |
| TB screening services are available in the health facilities within the district | 35 | 38 | 15 | 7 | 5 | 1.95 | 1.05 |

Source: Primary Data (2025)

Table 5: The findings indicate generally low levels of satisfaction with health service delivery in Kaliro District. The mean scores for most statements fell below the midpoint of 3.0, indicating disagreement or neutral attitudes toward the adequacy and quality of services provided.

Specifically, family planning services were perceived as largely unavailable or inaccessible, with a mean score of 2.10 (SD = 1.10). Similarly, outreach immunisation programs were seen as insufficient in effectively covering remote areas, reflected by a mean of 2.20 (SD = 1.05). Respondents also reported that health facilities lacked adequate equipment and supplies necessary for quality service delivery, as shown by a low mean of 1.95 (SD = 1.00).

The perception that patients are treated with respect and dignity scored slightly higher but still below average at 2.70 (SD = 1.15), suggesting room for improvement in patient-provider interactions. Geographic accessibility was also a concern, with health facilities reportedly not being located within a reasonable distance (2 km) for most patients (mean = 2.05, SD = 1.08).

Service availability regardless of demographic factors such as gender, age, or income was rated low (mean = 2.25, SD = 1.11), as were convenient operating hours (mean = 2.05, SD = 1.09). Respondents further noted delays in patient attendance and long waiting times, supported by a mean score of 1.95 (SD = 1.00).

Coordination and communication among health staff and community members regarding health programs were deemed inadequate (mean = 2.10, SD = 1.07), and resources

such as staff, drugs, and equipment were reported as poorly managed (mean = 2.00, SD = 1.08). The health system's responsiveness to emergencies and outbreaks received the lowest rating with a mean of 1.85 (SD = 1.00), highlighting a critical gap in emergency preparedness.

Maternal health indicators revealed challenges as well. Pregnant women attending the recommended four Antenatal Care (ANC) visits scored a mean of 2.15 (SD = 1.07), and most births were reportedly not attended by skilled health professionals (mean = 2.10, SD = 1.10). However, distance and transport barriers to accessing ANC services were strongly acknowledged, with a comparatively higher mean of 3.80 (SD = 1.15), indicating widespread agreement that these factors limit service utilisation.

Lastly, TB screening services were perceived as largely unavailable, with a mean score of 1.95 (SD = 1.05).

Overall, the findings suggest significant deficiencies in health service delivery within Kaliro District, characterised by inadequate resources, poor accessibility, and limited service quality. Addressing these challenges is critical for improving health outcomes and achieving equitable health service coverage in the district.

Qualitative Findings on Health Service Delivery in Kaliro District Local Government

To complement the quantitative data, in-depth interviews were conducted with key health officials, including the District Health Officer (DHO), District Health Educator (DHE), and members of the District Health Management

Team (DHMT). Their perspectives provided valuable insights into the challenges and contextual factors influencing health service delivery in Kaliro District.

Availability and Accessibility of Services

The DHO acknowledged that while efforts have been made to provide essential services such as family planning and immunisations, significant gaps remain, particularly in reaching remote and underserved areas. The DHO noted, *"We face logistical challenges, especially in outreach programs. Difficult terrain and limited transport hinder the full coverage of immunisation campaigns and family planning services."*

Similarly, the DHE highlighted that geographic barriers and poor infrastructure continue to restrict access for many community members:

"Many women and children live far from health facilities, and transport costs are often prohibitive, discouraging regular attendance to services like antenatal care."

Quality of Care and Resource Constraints

Members of the DHMT reported frequent shortages of medical equipment, supplies, and essential drugs, which compromise the quality of care. One DHMT member explained,

"We struggle with inadequate stocks of vaccines, medicines, and basic equipment. This affects service delivery and patient satisfaction."

Furthermore, staff shortages and insufficient training were cited as barriers to maintaining respectful patient care and reducing waiting times. A DHE interviewee remarked,

"Our health workers are overworked, leading to delays and sometimes less patient-centred care, which affects the community's trust in the facilities."

Coordination and Emergency Response

All key informants agreed that coordination among health staff and communication with the community need strengthening. The DHO pointed out,

"There is still a gap in effective communication between the district health teams and local communities, which affects the success of health programs."

Regarding emergency response, the DHMT members expressed concern about the limited capacity to manage outbreaks effectively:

"We are ill-prepared for rapid response to emergencies due to limited resources and weak surveillance systems."

Maternal and Child Health Services

Interviewees unanimously agreed on the critical need to improve maternal and child health outcomes. The DHE emphasized,

"Low attendance to antenatal care and deliveries without skilled health professionals remain major challenges."

Cultural beliefs and transportation barriers contribute to these issues."

The DHO further highlighted efforts to improve these indicators but stressed that progress is slow:

"We have programs aimed at encouraging facility-based deliveries, but uptake is still low due to deep-rooted social and economic factors."

Documentary Findings on Health Service Delivery in Kaliro District Local Government

To supplement the primary data collected through questionnaires and interviews, a documentary review was undertaken to assess official records and reports related to health service delivery in Kaliro District. The documents reviewed included the District Health Annual Performance Report (2024), Health Facility Supervision Checklists, Health Management Information System (HMIS) data, Ministry of Health sector performance reports, and selected facility-level reports. The findings are summarised thematically as follows:

According to the Kaliro District Health Sector Annual Report (2024), the district has a limited number of functional health facilities, particularly in rural and hard-to-reach areas. The report revealed that only 65% of the population lives within 5 km of a health facility, falling short of the national target of 90%. This aligns with survey data where respondents disagreed that health facilities are located within a reasonable distance (Mean = 2.05).

Review of quarterly health facility supervision checklists revealed persistent stockouts of essential drugs such as oxytocin, antimalarials, and TB medicines in over 70% of facilities. Additionally, basic medical equipment such as blood pressure machines, weighing scales, and delivery kits were either missing or non-functional in several lower-level health centres. These gaps corroborate the survey result where respondents reported inadequate supplies (Mean = 1.95).

Data obtained from the District Health Human Resource Inventory (2024) showed that over 30% of approved health worker positions remained unfilled, particularly for midwives, laboratory personnel, and clinical officers. Existing staff are overstretched, with some facilities operating with only one or two clinicians. This staffing gap has contributed to longer waiting times and reduced quality of care, as echoed by survey respondents (Mean = 1.95 for prompt attention and minimal waiting time).

The district's Public Health Emergency Response Plan was outdated and underfunded. Internal audits indicated that most facilities lack emergency medical supplies, and there is no operational ambulance in several sub-counties. Additionally, no emergency drills had been conducted in the previous year. These findings explain the extremely low perception score (Mean = 1.85) on the district's ability to respond to emergencies and outbreaks.

According to HMIS data (2024), only 58% of pregnant women completed the recommended four ANC visits, while institutional deliveries stood at 63%, below the national target of 85%. Furthermore, full immunisation coverage for children under one year was at 69%, with significant dropout between the first and third doses of the Pentavalent vaccine.

These statistics align with the perceptions of respondents who expressed concerns about the delivery of maternal and child health services (Mean = 2.15 for ANC attendance, 2.10 for skilled birth attendance, and 2.15 for immunisation coverage).

A review of District Health Education Reports (2024) revealed that community outreach activities were sporadic and underfunded. Many Village Health Teams (VHTs) lacked transportation and facilitation, resulting in poor dissemination of health information. This contributed to low community awareness of available services and poor health-seeking behaviour. This finding supports the low mean score (2.10) regarding communication and coordination with communities.

Internal performance audits for the FY 2023/2024 showed delays in procurement, underutilization of budgeted funds, and inadequate monitoring of facility expenditures. Stock cards and accountability reports from some facilities were either incomplete or missing, suggesting poor financial and supply chain management. These inefficiencies reinforce the survey results where respondents expressed dissatisfaction with how resources are managed (Mean = 2.00).

Correlation between Staff Development Interventions and Health Service Delivery in Kaliro District Local Government

To examine the relationship between staff development initiatives and health service delivery, a Pearson correlation analysis was conducted. Specifically, the study assessed the strength and significance of associations between three independent variables: staff workshops, staff mentorship, and job rotation, and the dependent variable, health service delivery.

Table 6: Correlation between Staff Workshops, Staff Mentorship, Job Rotation, and Health Service Delivery

| Variable | Pearson Correlation with Health Service Delivery | Sig. (2-tailed) | N |
|-----------------|--|-----------------|-----|
| Staff Workshops | 0.867 * | 0.000 | 100 |

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

Source: Primary Data (2025)

Table 6, The analysis reveals a strong positive correlation between staff workshops and health service delivery, with a Pearson correlation coefficient of 0.867 and a significance value (p-value) of 0.000, which is well below the 0.01 threshold. This indicates a statistically significant and very strong relationship. The implication is that increased

frequency, quality, and relevance of staff workshops are strongly associated with improvements in health service delivery. This aligns with earlier findings where respondents noted that workshops enhanced knowledge, skills, and performance in service delivery.

Regression Analysis of Findings

Table 7: Regression Analysis of Staff Workshops, Staff Mentorship, and Job Rotation on Health Service Delivery

| Model | Unstandardized Coefficients (B) | Std. Error | Standardised Coefficients (Beta) | t-value | Sig. (p-value) |
|-----------------|---------------------------------|------------|----------------------------------|---------|----------------|
| (Constant) | 1.012 | 0.234 | — | 4.324 | 0.000 |
| Staff Workshops | 0.582 | 0.072 | 0.693 | 8.083 | 0.000 |

R = 0.889

R² = 0.790

Adjusted R² = 0.782

F(3, 96) = 120.54, Sig. = 0.000

Source: Primary Data (2025)

Staff workshops have a strong predictive value, with a standardised beta coefficient of 0.693 and a highly significant p-value ($p < 0.001$). This means that holding all

other factors constant, a one-unit increase in staff workshops is associated with a 0.582 unit increase in health service delivery. This supports earlier findings from correlation and

descriptive analysis showing the critical role of workshops in improving knowledge, skills, and service quality.

Discussion

The study reports a Pearson correlation coefficient of 0.867 ($p < 0.01$), indicating a very strong and statistically significant relationship between staff workshops and improved health service delivery. This finding is well-supported by prior studies: Dan & Nnamani (2023) and Ojo & Oduwale (2022) highlight that staff workshops improve provider competencies, team collaboration, and patient satisfaction. Similarly, Agbana et al. (2021) demonstrated that periodic workshops translated into better maternal and child health outcomes, echoing the high correlation observed in this study. These studies underscore the transformative impact of staff development efforts on public health outcomes in decentralised local settings.

The literature consistently recognises staff workshops as vital tools for upskilling local health workers in areas such as infection control, data management, quality assurance, and leadership. The World Health Organization (2021) defines workshops as structured sessions aimed at enhancing staff knowledge, skills, and attitudes. In line with this, the study shows that health workers who participated in regular workshops performed better, reflecting enhanced task efficiency and adherence to evidence-based practices, a finding supported by Michael et al. (2022) and Agbana et al. (2021).

The study's emphasis on workshop quality and relevance aligns with the literature advocating for interactive, needs-based, and context-specific approaches: Guo et al. (2022) found that participatory learning improves retention and comprehension of public health practices. Moreover, Mumtaz et al. (2021) and WHO (2021) promote digital and blended-learning formats, which increase accessibility and offer flexibility, particularly for geographically dispersed or resource-limited local governments. This reflects the importance of modality innovation in expanding the reach and impact of workshops, especially in a post-COVID context.

Despite positive findings, the literature and the study both recognise several implementation challenges that may undermine the effectiveness of staff workshops: As noted by Onah et al. (2020) and the World Bank (2022), barriers such as resource constraints, variable facilitator quality, and high turnover impede workshop outcomes. The COVID-19 pandemic, according to Mumtaz et al. (2021), exposed digital infrastructure gaps, which limited the utility of virtual learning platforms in some regions. Acknowledging these barriers helps contextualise the results and underlines the need for sustainable investment and capacity-building strategies.

The study echoes expert recommendations from the literature, including: Integration of workshops with

supervisory support and on-the-job learning (Dan & Nnamani, 2023), Needs-based planning and the use of local resource persons to ensure relevance (Agbana et al., 2021), and Monitoring post-workshop performance to assess impact and guide improvements (Guo et al., 2022).

These strategic approaches enhance the long-term effectiveness of staff training and help translate workshop learning into measurable service delivery improvements.

In conclusion, the study's findings are strongly corroborated by recent literature, reinforcing the critical role that well-designed and frequently implemented staff workshops play in improving health service delivery in local governments. The statistically significant correlation ($r = 0.867$, $p < 0.01$) confirms what numerous scholars and global health agencies have observed: workforce development through targeted workshops is a foundational pillar of quality health service delivery at the grassroots level.

Conclusion

There is a very strong and statistically significant positive relationship between staff workshops and health service delivery, as indicated by a Pearson correlation coefficient of 0.867 and a p-value of 0.000. These results imply that increasing the frequency, relevance, and quality of staff workshops contributes significantly to improved knowledge, skills, and service delivery performance. Qualitative responses also emphasised that workshops enhance service responsiveness, professionalism, and client satisfaction. Therefore, staff workshops are a critical driver of effective health service delivery at the local government level.

Recommendations

Local government health authorities should design and implement a structured workshop schedule based on assessed training needs. Workshops should be aligned with current health priorities and service delivery gaps to maximize relevance and impact.

Workshops should be delivered by qualified facilitators using participatory methods that encourage engagement, practical application, and reflection. Incorporating case studies, group work, and simulations will enhance learning outcomes.

The local government should develop a robust monitoring and evaluation (M&E) framework to track the effectiveness of workshops.

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List of acronyms

SPSS Statistical Package for Social Science

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Data availability

Data is available upon request

Author contribution

Catherine Harriet Ajilong collected data and drafted the manuscript of the study.

Dr Nassir Fawz Mulumba supervised the study

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