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Original Article

RELATIONSHIP BETWEEN PEER SUPERVION, EXTERNAL SUPERVISION, AND HEALTH SERVICE DELIVERY IN PAKWACH DISTRICT LOCAL GOVERNMENT.A CROSS-SECTIONAL STUDY.

Esau Opio , Dr. Benard Nuwatuhaire (Phd)
Team University

Abstract

Background

The study aimed to examine the relationship between peer supervision, external supervision, and health service delivery in Pakwach District Local Government.

Methodology

A mixed research approach using a cross-sectional survey design. Quantitative data was coded and summarized using frequency tables. Descriptive statistics, frequencies, and percentages were used to describe quantitative data. Pearson correlation was used to establish the relationships in line with the study objectives.

Results

The least of respondents, 10%, were under 20 years, and those aged 51 years and above accounted for 8%. Most respondents have a Certificate level of education, 56%. The majority of the respondents are married, making up 76%. The correlation between peer supervision and health service delivery (r= 0.463) was moderate and statistically significant (p = 0.002). This implies that when health workers engage in activities such as peer review, case discussions, and collaborative learning, the quality and efficiency of health services improve. Peer supervision appears to foster professional growth. External supervision showed the strongest positive correlation with health service delivery among the three variables assessed. With a Pearson coefficient of 0.532 and a highly significant p-value ($p < 0.001$), the findings suggest a strong and statistically significant relationship. A Senior Nursing Officer said**,** "Peer supervision has helped us build stronger teamwork and improve clinical decision-making.

Conclusion

There was a moderate and statistically significant positive correlation (r= 0.463) between peer supervision and health service delivery, indicating that peer-led approaches such as case discussions, collaborative learning, and routine feedback contribute meaningfully to improved health outcomes. External supervision demonstrated the strongest and most statistically significant correlation with health service delivery among the three forms of oversight assessed.

Recommendations

Pakwach District local government should develop clear guidelines and standard operating procedures (SOPs) for peer supervision to ensure consistency, accountability, and regular practice across all health facilities.

Keywords: *Relationship, Peer supervion, External supervision, Health service delivery, Pakwach District Local Government.*
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Corresponding Author: *Esau Opio*
Email: *opioesau1@gmail.com,*
Team University

Background

Effective supervision is closely tied to staff performance, as supervisors are responsible for providing feedback and continuous professional development opportunities. The work of Morgan and Zhang (2020) indicates that supervisors who engage with healthcare workers in a supportive manner improve job satisfaction and performance, which in turn enhances service delivery. A major aspect of systems theory is the concept of continuous improvement, which is essential for adapting and responding to changing conditions within healthcare systems. This is particularly relevant in the context of supervision, as it requires a dynamic and adaptive approach to monitoring and improving health service delivery. Continuous supervision leads to incremental improvements in healthcare delivery by providing regular feedback and adjustments (Thomas et al., 2024). Supervisors who use data from routine assessments and performance reviews can identify emerging issues and address them proactively. This ongoing process aligns with the systems theory principle of feedback loops, where information is constantly used to adapt and optimize the system. The role of supervision in health service delivery within local government systems is critical for ensuring that healthcare services are delivered efficiently and effectively. Local governments are often responsible for overseeing the management and delivery of primary healthcare services to their communities (Thomas et al, 2024). Supervision, in this context, refers to the process through which local health authorities monitor, guide, and support healthcare workers, ensuring that policies, procedures, and standards are adhered to

World Health Organization (World Health Organisation, 2017).

Several studies highlighted the positive relationship between supervision and workforce performance in local government healthcare systems. According to Adom et al. (2022), regular and supportive supervision helps improve healthcare workers' job satisfaction, enhances their skills, and increases motivation. A key finding was that supervisors who provide constructive feedback and training contribute to better performance, which ultimately translates to improved service delivery. The study by Thompson et al. (2020) found that supervisors in rural local governments often face logistical challenges, such as long distances to health centers and limited communication tools, which further exacerbate the difficulties of providing timely and effective supervision. The impact of supervision on health system outcomes, particularly service delivery, was a major focus in the reviewed studies. In a study conducted by Poku et al. (2021), it was found that districts with robust supervision mechanisms had better health outcomes, including increased immunization rates and reduced maternal mortality. The presence of strong supervisory systems helped ensure that health workers were following protocols, had access to necessary supplies, and were adequately trained to manage complex healthcare cases. Supervision was also linked to higher levels of patient satisfaction due to improved service quality. The purpose of the study was to examine the relationship between peer supervision, external supervision, and health service delivery in Pakwach District Local Government.

METHODOLOGY

Study Design

The researcher employed a mixed research approach using a cross-sectional survey design. A mixed research design involved the combination of both quantitative and qualitative research methods to gain a comprehensive understanding of the research problem. In the study, this approach allowed the researcher to explore the measurable aspects of supervision and its impact on health service delivery, as well as the deeper, contextual factors that influenced the effectiveness of supervision at the local government level.

A cross-sectional research methodology was used, which involved collecting data at a single point in time to provide a snapshot of the current state of supervision and health service delivery in Pakwach District. This was appropriate for studying the relationships between different variables and identifying patterns or trends that could inform future policy and practice.

Study Population

According to the nature of the study, 145 individuals were included in the target population. These individuals included 8 doctors, 66 nurses in various health centers within the district, and 53 patients who were found at the selected health centers within Pakwach District Local Government on the day of data collection. Further, the study included 18 members of the District Health Committee. Doctors often supervise clinical activities and provide leadership within health centers. Understanding their experiences with supervision and how it impacts their ability to deliver quality healthcare was essential for evaluating the effectiveness of the local government's supervision framework. Including doctors in the study provided insights into the higher levels of supervision and clinical decision-making that impact service quality at the district level. Nurses in various health centers across Pakwach represented a diverse group working in different environments (urban vs. rural health centers) and provided a broad perspective on the challenges and benefits of supervision in local government health facilities. Patients in health centers directly observed and experienced the results of effective or ineffective supervision. For example, they noticed long waiting times, the availability of medical supplies, the responsiveness of healthcare workers, and the overall quality of care. The District Health Committee (DHC) was responsible for guiding and supporting healthcare management decisions, allocating resources, ensuring the quality of care, and overseeing the implementation of health policies. Their perspectives on supervision provided a policy-level view of how health services were managed and how the supervisory framework was designed and executed at the local government level.

Selection of Sample Size

The sample size for this investigation was determined using Sloven's formula (1960). The fact that Sloven's formula is the best method for selecting a sample size in a population with which little is known justifies its use.

$$n = \frac{N}{1 + \mathrm{N(a)}^2}$$

Where N=target population
e = 0.05 level of significance
n= sample size

$$\mathrm{n} = \frac{145}{1 + 145(0.0025)}$$

= 106 Respondents

Table 1: Sample Dimensions and Sample Choice

Respondents	Target population	Samples size	Sampling Technique
Doctors	08	08	Purposive sampling
Nurses	66	56	Purposive sampling

District Health Committee members	18	08	Convenience sampling
Patients	53	34	Convenience sampling
Total	**145**	**106**	

Source: *Primary date (2025)*

Therefore, the target population of the study consisted of 8 doctors, 56 nurses, 08 district health committee members, and 34 patients who were willing to participate in the study on the day the researcher visited the selected health facilities.

Sampling Procedure

The researcher used purposive sampling to select doctors and nurses at government-aided health centers as respondents of the study. The method was selected because these were key to the study as they have more knowledge about the study variables.

Also, the researcher used convenience sampling to select members of the District Health Committee and Patients who were accessible and willing to engage in the study to give their opinion on the quality of services provided by government health workers in the District.

Methods for Collecting Data

Various tools were used to collect for this study and these were; questionnaires, interview guide and document inspection checklists as explained below.

Questionnaires

This is a resource for learning facts, viewpoints, views, beliefs, attitudes, and more (MOH, 2017). These were issued to patients and nurses at the selected health centers within the district. These were filled with the help of the appointed research assistant at the selected health centers and collected immediately. This helped the researcher to gain a lot of information about the study variables in a short time.

Interview Guide

This instrument was used to collect more detailed information from doctors, members of the district health committee, as they were more involved in the supervision of health services within the district.

Validity of Instruments

The validity of instruments was established using expert judgment with the Content Validity Index (CVI). To ensure greater chances of data validity, the questionnaires were reviewed with a Research Expert (other than the research supervisor), who assessed that 18 questions were correct out of 20 questions. A Content Validity Index (CVI) of 0.9 was achieved and compared with 0.7 as suggested by Amin (2009). Therefore, the researcher continued and used the questionnaire since the Content Validity Index was greater than 0.7.

Reliability of the Study Tools

The Cronbach Alpha method was used to examine the instrument's reliability concerning the variables, and a Cronbach alpha of 0.85 was obtained and compared with 0.7, which indicated that the instruments were reliable. Using the test-and-retest method, the reliability of the research instrument was evaluated. Test and retest reliability describes the consistency of scores obtained by the same people on the same test across time. This method was chosen because it gave proof that test results were consistent when the test was conducted again at a later date (re-test).

Data Processing

To manage quantitative data, it was coded and summarized using frequency tables within the Statistical Package for Social Sciences (SPSS 26.0)

Data Analysis

Descriptive statistics, frequencies, and percentages were used to describe quantitative data. Additionally, Pearson correlation was used to establish the relationships in line with the study objectives. Regression analysis was used to assess the effect of supervision on health care service delivery in Pakwach District.

A thematic content analysis was used to examine qualitative data. The gathered information was organized to develop frequency, tables, and percentages that were subsequently used methodically; data was divided into themes and sub-themes. To maintain the data's original context and the study's objectivity, this was done gradually. Also employed in the study was general content analysis.

Ethics-Related Matters

The Institutional Research and Ethics Committee (IREC) of Team University was expected to grant the researcher clearance. The research honored the participants' privacy by omitting the use of a name column, which was done to preserve individuals' identities and maintain the confidentiality of their information.

Informed consent was obtained by asking the subjects to sign a consent form before participating in the research. The purpose of obtaining respondents consented to demonstrate that their rights were protected during data collection—such as the right to know the purpose, nature, and procedures of the study, to ask questions, to maintain their privacy, to be aware of any potential personal benefits of the study, to have both the researcher and participants sign a consent form indicating agreement to

the study's terms, and to withdraw from the study at any time.

The researcher used codes to reflect the personal and corporate identities of study participants when interpreting the data and producing the final report. This safeguarded the identities of individuals and institutions both during and after the research. To acknowledge all the authors referenced in the study, the researcher included appropriate citations. To protect participant confidentiality and avoid identifying specific individuals, the study's conclusions were generalized.

Consent

The respondents' informed consent was requested to obtain their permission to participate in the research.

Confidentiality

The purpose of the study was explained in detail during the introductions made by the researcher and the research assistants. Before the data gathering activity began, respondents were given ample opportunity to ask questions. Every respondent was treated equally within accepted social norms, regardless of gender, age, status, or level of education. Respect for respondents' cultures, taboos, and economic standing was strictly observed to avoid any violation of their rights and dignity. All information provided was kept confidential and used solely for academic purposes.

Autonomy

The researcher promoted the respondents' freedom of expression by ensuring that they were free to share their views and to choose whether or not to participate in the study.

RESULTS

Response Rate for the Study

Table 2: Response Rate

Respondents	Questionnaires Issued and Interviews Scheduled	Questionnaires Collected and Interviews Conducted	Response Rate (%)
Doctors	08	05	62.5%
Nurses	56	56	100%
District Health Committee Members	08	05	62.5%
Patients	34	34	100%
Total	**106**	**100**	**94.3%**

Source: *Primary Data (2025)*

Table 2, The study titled "Supervision and Health Service Delivery in Pakwach District Local Government" achieved a high overall response rate of 94.3%, indicating strong participation and reliability of the data collected.

Out of the 106 questionnaires issued and interviews scheduled across the various respondent groups, 100 were completed. All 56 nurses and all 34 patients responded, reflecting a 100% response rate for these categories. This full participation by nurses was particularly significant, as they represent a major segment of frontline healthcare providers, and their insights were vital for assessing the practical aspects of supervision in health service delivery.

Among the doctors, 5 out of 8 participated, resulting in a 62.5% response rate. This was also the same for District Health Committee members, with 5 out of 8 responding. While slightly lower, this still provided meaningful qualitative data from those in leadership and policy-making roles, offering critical perspectives on how supervision is structured and overseen at the district level. Overall, the 94.3% response rate signifies a successful data collection effort, with responses sufficiently distributed across various stakeholder groups. This strong turnout ensures that the study's findings are credible, balanced, and reflective of the realities within Pakwach District's local government healthcare system.

Socio-Demographic Characteristics of Respondents

Gender of Respondents

Table 3: Gender of Respondents

Gender	Frequency	Percentage
Male	63	63%
Female	37	37%
Total	**100**	**100%**

Table 3 presents the gender distribution of respondents who participated in the study on Supervision and Health Service Delivery in Pakwach District Local Government. Out of the 100 respondents, 63 (63%) were male, while 37 (37%) were female. This distribution indicates a higher representation of male respondents in the study sample. The predominance of male participants may reflect the gender composition within the healthcare workforce and leadership structures in Pakwach District, particularly in roles such as medical officers and district health officials, where men are more represented. However, the inclusion of a substantial proportion of female respondents (37%) ensured that gendered perspectives, especially those of nurses and female patients, were adequately captured in the study.

Understanding the gender composition of respondents is

essential in analyzing how gender dynamics may influence supervision practices and experiences within local government healthcare facilities. For example, differences in supervisory expectations, communication styles, and professional experiences may vary across gender lines and have implications for the effectiveness of health service delivery.

Overall, the gender distribution provided a balanced foundation for analyzing the impact of supervision on healthcare delivery, allowing the study to explore whether gender-related factors played a role in shaping respondents' perceptions and experiences within the local government health system.

Age Group of Respondents

Table 4: Age Group of Respondents

Age Group	Frequency	Percentage
Under 20 years	10	10%
21–30 years	13	13%
31–40 years	43	43%
41–50 years	26	26%
51+ years	8	8%
Total	**100**	**100%**

Table 4 illustrates the age distribution of respondents who participated in the study. The majority of respondents fell within the 31–40 years age group, accounting for 43% of the total sample. This suggests that a significant portion of the respondents were in their prime working years, likely representing active healthcare workers such as nurses and mid-level supervisors who are directly involved in day-to-day service delivery. The second-largest age category was 41–50 years, comprising 26% of the respondents. This group likely included more experienced personnel, such as senior nurses, medical officers, or health committee members, whose insights are critical in understanding the long-term effectiveness and challenges of supervision in healthcare systems. Respondents aged 21–30 years made up 13% of the sample. This group may have included younger healthcare professionals or patients, bringing in fresh perspectives on the supervision mechanisms in place.

A smaller proportion of respondents, 10%, were under 20 years, likely consisting of younger patients or student interns. Meanwhile, those aged 51 years and above accounted for 8%, possibly reflecting retired or senior-level committee members, or long-serving healthcare workers.

Overall, the age distribution suggests that the study gathered data from a broad range of age groups, offering a diverse and representative understanding of how supervision is perceived and experienced across different stages of professional and personal life. This diversity enhances the reliability of the study's findings, especially in understanding how age and experience intersect with supervision practices and health service delivery in Pakwach District.

Education Level of Respondents

Table 5: Education Level of Respondents

Education Level	Frequency	Percentage
Primary	6	6%
Certificate	56	56%
Diploma	32	32%
Degree	4	4%
Masters	2	2%
Total	**100**	**100%**

Table 5: The majority of respondents have a Certificate level of education, accounting for 56% of the sample (56 out of 100 respondents**).** This is followed by those with a Diploma, making up 32% of the respondents**.** A small number of respondents have only completed Primary education (6%), while even fewer hold a Degree (4%) or a Master's degree (2%).

This data indicates that most respondents have mid-level qualifications (Certificate and Diploma), suggesting a fairly skilled population with vocational or technical training. However, the low percentages of those with higher academic qualifications (Degree and Master's) imply limited access to or pursuit of higher education within the sampled group.

Marital Status

Table 6: Marital Status

Marital Status	Frequency	Percentage
Single	15	15%
Married	76	76%
Separated	09	09%
Total	**100**	**100%**

The findings in Table 6 present the marital status distribution of the respondents. A large majority of the respondents are married, making up 76% of the sample (76 out of 100 respondents). Single individuals account for 15%, while separated individuals represent 9% of the respondents. The data suggests that the respondent group is predominantly married, indicating that marital status may play a significant role in the context of the study, potentially influencing perspectives, responsibilities, or decision-making patterns. The smaller proportions of single and separated individuals reflect a more limited representation of other marital statuses within the sample, which might affect how broadly the findings can be generalized to those groups.

Peer supervision of health services in Pakwach District

The researcher used Likert format responses to describe the responses of the study participants where; 1- strongly disagree, 2- disagree, 3- Not sure, 4- Agree, 5-Strongly disagree.

Table 7: Peer Supervision of Health Services in Pakwach District

Statement	Scale	Frequency	Percentage (%)	N	Mean	Std. Deviation
Health workers make review on activities at health centers	Strongly Agree	6	6%	100	3.71	0.67
	Agree	65	65%			
	Not Sure	23	23%			
	Disagree	6	6%			
	Strongly Disagree	0	0%			
Health workers share knowledge on best practices	Strongly Agree	23	23%	100	4.18	0.48
	Agree	72	72%			
	Not Sure	5	5%			
	Disagree	0	0%			
	Strongly Disagree	0	0%			
Health workers provide feedback to one another	Strongly Agree	4	4%	100	3.10	1.07
	Agree	46	46%			
	Not Sure	12	12%			
	Disagree	32	32%			
	Strongly Disagree	6	6%			
Health workers use case-based learning to discuss challenging cases	Strongly Agree	16	16%	100	3.47	0.91
	Agree	25	25%			
	Not Sure	49	49%			
	Disagree	10	10%			
	Strongly Disagree	0	0%			
Health workers routinely engage in case discussions as peers	Strongly Agree	45	45%	100	4.40	0.55
	Agree	50	50%			
	Not Sure	5	5%			
	Disagree	0	0%			
	Strongly Disagree	0	0%			
Health workers hold performance assessment meetings	Strongly Agree	10	10%	100	3.79	0.75
	Agree	69	69%			
	Not Sure	11	11%			
	Disagree	10	10%			
	Strongly Disagree	0	0%			
There is direct observation by in-charge at health centers	Strongly Agree	34	34%	100	4.31	0.49
	Agree	63	63%			
	Not Sure	3	3%			

	Disagree	0	0%			
	Strongly Disagree	0	0%			
Health centers have short-term peer exchange visits to observe practices	Strongly Agree	0	0%	100	2.28	0.45
	Agree	0	0%			
	Not Sure	9	9%			
	Disagree	81	81%			
	Strongly Disagree	10	10%			

Table 7, This section presents the findings on the extent and nature of peer supervision among health workers in health centers within Pakwach District. The responses were collected using a five-point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree. The findings highlight key aspects of peer-to-peer interaction, collaboration, and performance support practices.

A majority of respondents (65%) agreed that health workers conduct reviews on activities at their health centers, while 6% strongly agreed. A smaller portion (23%) was unsure, and only 6% disagreed. None strongly disagreed. This item had a mean of 3.71 and a standard deviation of 0.67, indicating a moderately strong consensus that peer review practices are in place. The relatively low standard deviation suggests consistency in respondents' perceptions across the district. An overwhelming majority of 72% agreed and 23% strongly agreed that health workers share knowledge on best practices. Only 5% were uncertain, and no respondents disagreed. This item had a high mean of 4.18 with a low standard deviation of 0.48, indicating strong and consistent agreement. This suggests that peer learning and the exchange of good practices are well-established and positively received by health workers.

On whether health workers provide feedback to each other, 46% agreed and 4% strongly agreed, while 12% were unsure. However, a considerable 32% disagreed, and 6% strongly disagreed. The mean score was 3.10 and the standard deviation was 1.07**,** reflecting a mixed level of engagement and relatively high variability in responses. This implies inconsistency in how feedback is given or received among peers, possibly due to interpersonal dynamics or a lack of formalized feedback mechanisms.

Only 25% of respondents agreed, and 16% strongly agreed, that health workers use case-based learning to discuss challenging cases. However, nearly half (49%) were unsure, and 10% disagreed. The mean score was 3.47, and the standard deviation was 0.91, indicating moderate support for this practice but also substantial uncertainty. This could suggest that while case-based learning occurs, it is not formalized or uniformly applied across all facilities.

A high percentage of respondents, 45% strongly agreed and 50% agreed, reported that health workers routinely engage in peer case discussions. Only 5% were unsure, and none disagreed. This statement had one of the highest mean scores at 4.40, with a low standard deviation of 0.55, indicating a strong and shared understanding that peer discussion is a regular part of clinical practice. This finding suggests a positive culture of collaborative problem-solving and clinical consultation.

On the holding of performance assessment meetings, 69% agreed and 10% strongly agreed, while 11% were unsure, and 10% disagreed. The mean score of 3.79 and standard deviation of 0.75 reflect a generally favorable view with some variation. This implies that performance assessments do occur, but they may not be uniformly or regularly conducted in every health facility.

A large majority of respondents (63% agreed and 34% strongly agreed) confirmed that there is direct observation by the in-charge officers at health centers. Only 3% were unsure, and no respondents disagreed. With a mean score of 4.31 and a very low standard deviation of 0.49, this finding demonstrates strong and consistent supervision by senior staff or facility in-charges, indicating a well-established hierarchical oversight structure that complements peer supervision.

On whether health centers organize short-term peer exchange visits to observe practices, 81% disagreed, and 10% strongly disagreed. Only 9% were unsure, while no respondents agreed. This item recorded the lowest mean score at 2.28, with a standard deviation of 0.45, reflecting a clear consensus that peer exchange visits are largely absent. This indicates a missed opportunity for cross-learning and inter-facility collaboration that could enhance peer supervision.

Also, during the interview with the District Health Officer, he said**,** "Peer supervision in Pakwach District is happening, but it's not yet at the level we would like it to be. We've seen good practices like internal case discussions and some peer reviews within facilities, especially at Health Centre IV and III levels. However, the challenge is that these efforts are not standardized or regularly documented. There's also a lack of peer exchange visits between facilities, which could promote cross-learning. As a district, we are working on guidelines to formalize and support peer supervision structures moving forward."

Also, a Senior Nursing Officer said**,** "We have regular informal peer supervision activities here discussing cases, helping each other with clinical decisions, and occasionally reviewing patient files together. But we lack time and resources to make it more structured. There's also no formal feedback system in place, so much of what we do relies on goodwill and initiative. Training on peer review processes and some form of recognition or support would encourage more consistent participation."

Another Senior Nursing Officer said**,** "Peer supervision has helped us build stronger teamwork and improve

clinical decision-making. We have morning briefs and peer case reviews, which are quite helpful. However, these are mostly confined within our facility. There's a limited opportunity to interact with staff from other facilities, which could broaden our perspective and allow us to learn from their challenges and solutions. I think introducing structured peer exchange programs and mentorship networks would be a step in the right direction."

External Supervision of Health Services in Pakwach District

The researcher used Likert format responses to describe the responses of the study participants where; 1- strongly disagree, 2- disagree, 3- Not sure, 4- Agree, 5-Strongly disagree

Table 8: External Supervision of Health Services in Pakwach District

Statement	Scale	Frequency	Percentage (%)	N	Mean	Std. Deviation
The Ministry of Health officials visit the health centers severally	Strongly Agree	61	61%	100	4.61	0.49
	Agree	39	39%			
	Not Sure	0	0%			
	Disagree	0	0%			
	Strongly Disagree	0	0%			
External supervisors assess the performance of health centers in various areas	Strongly Agree	83	83%	100	4.83	0.38
	Agree	17	17%			
	Not Sure	0	0%			
	Disagree	0	0%			
	Strongly Disagree	0	0%			
External supervisors evaluate the performance of healthcare workers	Strongly Agree	23	23%	100	3.90	0.78
	Agree	46	46%			
	Not Sure	29	29%			
	Disagree	2	2%			
	Strongly Disagree	0	0%			
External supervisors monitor ongoing health programs	Strongly Agree	38	38%	100	4.21	0.71
	Agree	45	45%			
	Not Sure	17	17%			
	Disagree	0	0%			
	Strongly Disagree	0	0%			
External supervisors help identify gaps in healthcare	Strongly Agree	49	49%	100	4.38	0.66
	Agree	40	40%			
	Not Sure	11	11%			
	Disagree	0	0%			
	Strongly Disagree	0	0%			
External supervisors typically provide feedback to the health facility managers after visits	Strongly Agree	56	56%	100	4.46	0.65
	Agree	34	34%			
	Not Sure	10	10%			
	Disagree	0	0%			
	Strongly Disagree	0	0%			

Table 8. This section presents the findings on the extent and effectiveness of external supervision of health services in Pakwach District. External supervision involves oversight provided by officials or stakeholders outside the facility, such as the Ministry of Health (MoH), district health officers, or implementing partners. Respondents were asked to rate their agreement with several statements on a five-point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, and 5 = Strongly Agree. The results are summarized and interpreted below.

A total of 61% of respondents strongly agreed and 39% agreed that Ministry of Health officials visit health centers on several occasions. No respondents were unsure or disagreed with the statement. The mean score was 4.61, with a low standard deviation of 0.49, indicating strong and consistent agreement among respondents. These findings suggest that MoH officials are actively and visibly involved in the routine supervision of health centers in the district, reinforcing accountability and external oversight.

An overwhelming 83% of respondents strongly agreed and 17% agreed that external supervisors assess the performance of health centers across various areas. There were no neutral or negative responses. This yielded a high mean score of 4.83 and a standard deviation of 0.38, showing near-universal agreement. These results indicate that comprehensive performance assessments are a key component of external supervision in the district, likely contributing to improved standards of care. Responses to the statement regarding the evaluation of healthcare workers by external supervisors were more varied. While 23% strongly agreed and 46% agreed, 29% were not sure, and 2% disagreed. The mean score was 3.90, with a standard deviation of 0.78, reflecting a generally positive view but with moderate variability. This suggests that while evaluations do occur, their frequency or clarity may not be consistent across all facilities, resulting in some uncertainty among staff. When asked whether external supervisors monitor ongoing health programs, 38% strongly agreed and 45% agreed. A further 17% were not sure. The resulting mean was 4.21, with a standard deviation of 0.71. This indicates a high level of agreement overall, though some respondents may not have direct exposure to program monitoring activities. The findings suggest that monitoring is a routine part of external supervision, though more visibility or involvement of staff in the process may enhance clarity. A majority of respondents (49%) strongly agreed and 40% agreed, that external supervisors help identify gaps in health care delivery. Eleven percent were unsure, and none disagreed. The mean score was 4.38, with a standard deviation of 0.66, signifying a high level of agreement and relatively consistent responses. This finding underscores the diagnostic role of external supervision in recognizing service delivery weaknesses and recommending improvements.

Regarding whether external supervisors provide feedback to health facility managers after their visits, 56% strongly agreed and 34% agreed, while 10% were unsure. The mean score was 4.46, and the standard deviation was 0.65, indicating a positive consensus with slight variability. This suggests that feedback mechanisms are commonly practiced, though there may be occasional lapses or a lack of structured follow-up in some cases.

During the interview, the District Health Officer said**,** "Due to logistical and resource constraints, our external supervision efforts have been limited. Ideally, every health facility should receive comprehensive supervision at least quarterly, but in reality, we can only manage a few visits per year, mainly to higher-level centers. Fuel, transport, and staffing shortages all contribute to these limitations. Despite this, whenever we do conduct supervision, we ensure it includes performance assessment, data review, and feedback. But the follow-up on recommendations is often weak due to time and capacity constraints."

A Nurse said**,** "We rarely receive visits from the district health team, maybe once or twice a year. When they come, it's mostly about checking records and data. We appreciate the guidance, but there's limited time for actual mentoring or helping us solve practical problems. Sometimes we feel forgotten, especially those of us at lower-level facilities. More regular visits, even if brief, would make a big difference—especially if they included feedback and support on clinical and administrative issues."

Health Service Delivery in Pakwach District

The researcher used Likert format responses to describe the responses of the study participants where; 1- strongly disagree, 2- disagree, 3- Not sure, 4- Agree, 5-Strongly disagree

Table 9: Health Service Delivery in Pakwach District

Statement	Scale	Frequency	Percentage (%)	N	Mean	Std. Deviation
Tasks are streamlined for patient flow within health facilities	Strongly Agree	26	26%	100	4.14	0.58
	Agree	62	62%			
	Not Sure	12	12%			
	Disagree	0	0%			
	Strongly Disagree	0	0%			
Health care services are easily accessed	Strongly Agree	2	2%	100	2.17	1.09
	Agree	3	3%			
	Not Sure	7	7%			
	Disagree	56	56%			
	Strongly Disagree	32	32%			
There is no waiting time for patients at	Strongly	0	0%	100	1.92	0.70

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health centers	Agree					
	Agree	4	4%			
	Not Sure	9	9%			
	Disagree	62	62%			
	Strongly Disagree	25	25%			
Health centers provide 24/7 emergency services	Strongly Agree	0	0%	100	1.92	0.72
	Agree	4	4%			
	Not Sure	34	34%			
	Disagree	52	52%			
	Strongly Disagree	10	10%			
Continuous medical education is provided to maintain competency	Strongly Agree	0	0%	100	1.71	0.56
	Agree	0	0%			
	Not Sure	6	6%			
	Disagree	65	65%			
	Strongly Disagree	29	29%			
There is patient-centered care at health centers	Strongly Agree	0	0%	100	1.90	0.66
	Agree	5	5%			
	Not Sure	8	8%			
	Disagree	59	59%			
	Strongly Disagree	28	28%			
Consistent supply of medical commodities	Strongly Agree	3	3%	100	2.39	0.86
	Agree	5	5%			
	Not Sure	20	20%			
	Disagree	72	72%			
	Strongly Disagree	0	0%			
Health workers follow standardized treatment protocols	Strongly Agree	6	6%	100	3.09	0.84
	Agree	23	23%			
	Not Sure	45	45%			
	Disagree	26	26%			
	Strongly Disagree	0	0%			
Timely services extended through outreach/mobile units	Strongly Agree	0	0%	100	1.31	0.47
	Agree	0	0%			
	Not Sure	0	0%			
	Disagree	69	69%			
	Strongly Disagree	31	31%			
Resources are optimally utilized at facilities	Strongly Agree	3	3%	100	2.00	0.72
	Agree	6	6%			
	Not Sure	0	0%			
	Disagree	73	73%			
	Strongly Disagree	15	15%			
Facilities accurately collect and record health data	Strongly Agree	34	34%	100	4.16	0.68
	Agree	48	48%			
	Not Sure	18	18%			
	Disagree	0	0%			
	Strongly	0	0%			

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Health centers have follow-up and referral systems	Disagree Strongly Agree	2	2%	100	2.20	0.74
	Agree	8	8%			
	Not Sure	45	45%			
	Disagree	45	45%			
	Strongly Disagree	0	0%			

Table 9. This section presents the perceptions of respondents regarding the quality and organization of health service delivery in Pakwach District. The assessment was based on several indicators such as task organization, accessibility, emergency services, education of staff, supply consistency, and patient-centered care. Respondents provided their views using a five-point Likert scale where: 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, 5 = Strongly Agree. The results are summarized and discussed below:

The majority of respondents agreed (62%) or strongly agreed (26%) that tasks are streamlined to promote efficient patient flow within health facilities. The mean score was 4.14, and the standard deviation was 0.58, indicating strong consensus and confidence in the organization of clinical tasks. This suggests that most health facilities have implemented internal systems to reduce patient congestion and manage workflow effectively.

Despite streamlined patient flow, only 5% of respondents agreed or strongly agreed that health care services are easily accessible. A significant proportion (56%) disagreed, and 32% strongly disagreed. The mean score was 2.17, reflecting a low level of agreement. This suggests that geographic, financial, or infrastructural barriers may limit access to services in the district.

Responses on patient waiting times revealed significant concern: 62% disagreed and 25% strongly disagreed that there is no waiting time at health centers. Only 4% agreed, and none strongly agreed. The mean score was 1.92, indicating that long queues and delays are a common experience in these facilities. This may be attributed to staff shortages or high patient-to-health worker ratios.

Only 4% of respondents agreed that health centers provide 24/7 emergency services. More than half (52%) disagreed, and 10% strongly disagreed, with 34% uncertain. The mean of 1.92 suggests that continuous emergency service provision is either limited or absent in most health centers. This raises concern for maternal, neonatal, and other critical care cases, which require round-the-clock attention.

A vast majority of respondents expressed dissatisfaction with ongoing training opportunities for health workers. A total of 65% disagreed and 29% strongly disagreed that there is continuous medical education in their facilities. The mean score was 1.71, indicating very limited in-service training, which may compromise the competency and up-to-date knowledge of health staff.

Patient-centered care was also rated poorly. A combined 87% of respondents disagreed or strongly disagreed that such care is practiced. The mean was 1.90, suggesting that most patients are not actively engaged in decisions about their health or that respectful, dignified care may not be consistently provided.

Only 3% strongly agreed and 5% agreed that there is a consistent supply of medical commodities. In contrast, 72% disagreed, and 20% were not sure. The mean of 2.39 reflects inadequate supply chains and stock-outs, which negatively impact service quality and reliability.

A relatively more balanced view was observed regarding adherence to clinical guidelines. While 29% of respondents agreed or strongly agreed that standardized protocols are followed, 45% were unsure, and 26% disagreed. The mean of 3.09 reflects moderate confidence in protocol adherence, but the high level of uncertainty indicates a need for greater clarity and training on standard procedures.

The statement about outreach clinics and mobile units received the lowest score. All respondents either disagreed (69%) or strongly disagreed (31%) that such services are extended to communities. The mean score was 1.31, showing that outreach services are virtually non-existent. This limits access for remote and marginalized populations and undermines the district's efforts to reach universal health coverage.

Respondents also expressed concern over how resources are utilized. Only 9% agreed or strongly agreed that resources are used optimally, while 73% disagreed and 15% strongly disagreed. The mean was 2.00, reflecting inefficiencies in the allocation and use of physical, financial, and human resources.

Unlike other areas, health data management received a positive rating. A majority of respondents (34% strongly agreed and 48% agreed) confirmed that health-related data is accurately recorded. The mean was 4.16, indicating confidence in the effectiveness of the Health Management Information System (HMIS) and routine data practices in the district.

Opinions on follow-up and referral systems were split. While 10% agreed or strongly agreed that such systems exist, 45% disagreed, and another 45% were not sure. The mean score of 2.20 reflects limited development of referral networks, which are crucial for continuity of care, especially for patients needing specialized services.

During an interview, one nurse said**, "**One of our biggest challenges is access; many patients travel long distances, often on foot, just to reach the health facility. By the time they arrive, they're exhausted, and sometimes we can't even help them adequately because we lack essential drugs or equipment. It's heartbreaking to send a mother away without antibiotics or to tell a patient we can't run basic lab tests because the equipment is broken or missing."

Another nurse said, "We have very limited staff here. Sometimes it's just me and one nursing assistant handling everything from maternity to outpatient to immunization. This leads to long queues and frustrated patients. They wait for hours, and some even leave without being attended to. We do our best, but without more qualified staff and better resources, we are simply overwhelmed."

Another nurse said, "We face daily struggles with shortages, especially drugs. Common medicines like paracetamol and amoxicillin run out quickly, and when patients are told to buy from private pharmacies, many can't afford them. Also, we lack diagnostic equipment, so we rely on symptoms to treat conditions that should really be confirmed with lab tests. These gaps lower the quality of care and patient trust in the health system. We also need more trained staff, especially clinical officers and midwives, to reduce the workload and improve services."

Correlation Findings of the Study

Table 10: Summary of Correlation Results

Variables	Pearson Correlation (r)	Sig. (2-tailed)	Health service delivery in Pakwach District Local Government
Peer supervion	0.463	0.002	
External supervision	0.532	0.000	

Table 10, To examine the relationship between different types of supervision and health service delivery in Pakwach District Local Government, a Pearson correlation analysis was conducted. This statistical method is used to determine the strength and direction of the linear relationship between two variables. In this study, the dependent variable was health service delivery, while the independent variables included community-based supervision, peer supervision, and external supervision. The correlation between peer supervision and health service delivery (r= 0.463) was moderate and statistically significant (p = 0.002). This implies that when health workers engage in activities such as peer review, case discussions, and collaborative learning, the quality and efficiency of health services improve. Peer supervision appears to foster professional growth, accountability, and better coordination among staff, which in turn enhances service delivery outcomes.

External supervision showed the strongest positive correlation with health service delivery among the three variables assessed. With a Pearson coefficient of 0.532 and a highly significant p-value ($p < 0.001$), the findings suggest a strong and statistically significant relationship. This means that oversight from entities such as the Ministry of Health, district health officers, or partner organizations contributes substantially to improvements in service delivery. External supervisors often play a key role in assessing performance, providing feedback, identifying gaps, and enforcing standards, all of which are critical for quality assurance.

These outcomes highlight the dual advantage of peer supervision: it enhances both efficiency and sustainability.

Findings from Bagonza et al. (2020) in Luuka District emphasize that peer supervision fosters confidence and competence, especially among informal health workers like private drug sellers. The supportive peer environment enhances diagnostic and treatment skills, which are critical in rural settings where formal medical oversight is limited. This is echoed in other studies that found peer support leads to improved treatment practices and better service delivery.

While peer supervision shows promise, several studies (e.g., Bagonza et al., 2020) emphasize the need for integration into formal supervisory systems, such as drug shop associations or district health offices. This ensures legitimacy, oversight, and access to resources. Without this anchoring, the peer model may lack consistency and accountability—issues also reflected in studies on support supervision challenges (e.g., Wamani et al., 2021 in Mitooma District).

Several studies, particularly Wamani et al. (2021) and Ludwick et al. (2018), shed light on structural weaknesses in traditional supervisory systems, including irregular support, absentee supervisors, and unclear job roles. Peer supervision can partially fill these gaps by fostering regular peer engagement and process-oriented

DISCUSSION

Peer Supervision and Health Service Delivery in Pakwach District

The findings offer a strong endorsement of peer supervision as an effective and sustainable strategy for improving health service delivery in local government systems, particularly in resource-constrained contexts like Pakwach District. The reported moderate positive correlation ($r = 0.463$, $p = 0.002$) between peer supervision and health service delivery is both statistically significant and practically meaningful. This implies a clear and beneficial relationship: as peer supervision activities such as peer review, collaborative case discussions, and mutual learning increase, the quality and efficiency of health services improve. This correlation validates findings from McCarthy et al. (2021) and Ludwick et al. (2018), which demonstrate that peer models strengthen accountability, coordination, and team dynamics.

Multiple studies, including those by Nakibaala et al. (2022) and Ludwick et al. (2018), consistently report that peer-supervised CHWs perform better on key indicators than those under standard supervision. The repeated findings of a 36% cost saving per CHW annually and lower attrition rates (10% vs. 17%) strongly support peer supervision as a financially viable model for LMICs.

performance assessments, but it also requires institutional support to be effective in the long term.

The emphasis by Ludwick et al. (2018) on developing qualitative and process-oriented evaluation frameworks is especially relevant. Peer supervision's benefits, such as improved teamwork, morale, and local problem-solving, are often difficult to capture through standard metrics. A more nuanced assessment framework can better reveal the mechanisms through which peer supervision drives improvements in health service delivery.

External Supervision and Health Service Delivery in Pakwach District

The findings in section 2.5 strongly affirm the value of external supervision as a crucial driver of improved health service delivery in local government settings. The reported strong positive correlation ($r = 0.532$, $p < 0.001$) between external supervision and service delivery reflects a significant and meaningful impact, suggesting that when local health systems are externally monitored and guided by entities such as District Health Officers (DHOs), the Ministry of Health, NGOs, or donor partners both accountability and performance improve.

The strong correlation ($r = 0.532$) between external supervision and health service delivery is the highest among the three supervisory models (compared to community-based and peer supervision). This implies that external supervision has the most substantial direct influence on service outcomes. This finding is supported by the iCCM institutionalization study, where effective external oversight by District Health Teams was linked to successful program implementation, particularly through policy enforcement and resource alignment.

External supervision often includes policy-level oversight, standardization, and performance audits, as emphasized in studies like Ssennyonjo et al. (2020) and Oketcho (2020). In Mpigi District, M&E systems and contract monitoring (both forms of external oversight) were linked to improved service quality and accountability. These studies support the idea that external supervision, especially when systematized, can fill critical gaps in quality control and compliance with national health protocols.

However, the literature also highlights significant barriers that limit the effectiveness of external supervision. Studies from South Sudan (Bagonza et al., 2020), Mukono (Nakibaala et al., 2022), and Mitooma (Wamani et al., 2021) point to common obstacles such as: inadequate funding, Lack of clear supervisory guidelines, Infrequent and irregular visits, Poor infrastructure, or insecure environments. These findings temper the optimism about external supervision by showing that its effectiveness is highly dependent on operational capacity, including financial and logistical support.

The South African study (Musinguzi & Ayesiga, 2020) illustrates a widespread issue: the failure to translate national-level guidance into effective district-level supervision. This gap often results in inconsistent implementation, undermining service delivery. It reflects a common issue in LMICs where decentralization exists in theory but is not adequately resourced or supported in practice.

The study in Bushenyi-Ishaka Municipality (Ngabirano & Igwe, 2024) adds another dimension to external supervision, which is not only about compliance but also about enhancing workforce motivation. Elements like salary adjustments and flexible schedules, often influenced by external reviews or partner support, can improve job satisfaction and, in turn, service delivery. This underscores that supervision must address both technical performance and human resource needs to be truly effective.

Conclusions

Peer Supervision and Health Service Delivery Pakwach District

The findings demonstrate a moderate and statistically significant positive correlation ($r= 0.463$) between peer supervision and health service delivery, indicating that peer-led approaches such as case discussions, collaborative learning, and routine feedback contribute meaningfully to improved health outcomes. In Pakwach District, peer supervision is actively practiced through knowledge sharing and internal review processes, supported by oversight from in-charge staff. However, inconsistencies in feedback practices and the absence of structured peer exchange visits highlight gaps in communication and inter-facility collaboration.

External Supervision and Health Service Delivery in Pakwach District

External supervision demonstrated the strongest and most statistically significant correlation with health service delivery among the three forms of oversight assessed. The robust engagement of external actors such as Ministry of Health officials and district health teams has proven instrumental in enhancing service quality through regular performance assessments, constructive feedback, and the enforcement of standards. However, despite these strengths, gaps remain in staff involvement, communication, and individual performance evaluation during supervisory processes. Additionally, critical challenges persist in areas such as emergency services, supply chains, continuous training, and outreach.

Recommendations

Peer Supervision and Health Service Delivery Pakwach District

Develop clear guidelines and standard operating procedures (SOPs) for peer supervision to ensure consistency, accountability, and regular practice across all health facilities.

Provide training for health workers on effective communication, constructive feedback, and peer mentoring to promote a positive feedback culture and strengthen professional relationships.

Establish and fund regular inter-facility peer exchange visits to encourage learning from best practices, foster collaboration, and enhance practical problem-solving across health centers.

Make peer supervision a routine part of health worker schedules, with designated times for case discussions, team learning sessions, and peer reviews to reinforce continuous professional development.
Use digital platforms such as WhatsApp groups, online forums, or mobile learning apps to facilitate real-time case discussions, information sharing, and remote peer support.
Train facility heads to actively support and facilitate peer learning activities, provide mentorship, and ensure that peer supervision outcomes are used to inform facility-level improvements.
Facilitate peer supervision activities that involve various cadres of health workers (e.g., nurses, midwives, clinical officers) to promote team-based learning and strengthen coordination across roles.
Develop indicators to track the frequency, quality, and impact of peer supervision activities on health service delivery, and use the findings to refine and improve peer supervision strategies.

External Supervision and Health Service Delivery in Pakwach District

Enhance Staff Involvement in Supervision Processes: Ensure that all health workers are actively engaged during external supervision visits through inclusive meetings, one-on-one feedback sessions, and shared action planning to foster ownership and accountability.
Improve Communication and Feedback Mechanisms: Standardize and streamline communication between external supervisors and facility staff. Use written feedback reports, summary briefs, and follow-up meetings to ensure that recommendations are clearly understood and acted upon. Strengthen Individual Performance Evaluation: Integrate structured performance appraisal tools into supervision visits to provide clear, objective assessments of individual health worker performance and guide personalized professional development. Support Capacity Building through Continuous Training: Align external supervision with ongoing capacity-building initiatives by identifying training needs during visits and linking them to targeted refresher courses, mentorship, and skills-building workshops. Address Service Delivery Gaps Identified During Supervision: Use findings from supervision reports to inform targeted interventions in underperforming areas such as emergency services, supply chain management, and community outreach programs. Promote Joint Supervision and Cross-Sectoral Collaboration: Encourage joint supervision visits involving district health teams, local government officials, and development partners to foster shared responsibility and coordination in addressing service delivery challenges. Ensure Regular and Predictable Supervision Schedules: Develop and adhere to a regular external supervision calendar to ensure consistency, build trust with facility staff, and allow for timely identification and resolution of performance issues. Monitor Implementation of Supervision Recommendations: Create a mechanism to track the implementation status of recommendations from supervision visits, including timelines, responsible parties, and follow-up actions to ensure accountability and continuous improvement.

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LIST OF ABBREVIATIONS

AIDS: Acquired Immunodeficiency Syndrome /
DLGs: Local District Government
DV: Dependent variables
FHI: Family Health International
HC: Health Centre
HIV: Human Immunodeficiency Virus
HMIS: Health Management Information System
HSDP: Health Sector Development Programme
LG: Local Government
MDGs: Millennium Development Goals
MMR: Maternal Mortality Ratio
MOH: Department of Health
MoLG: Ministry of Local Government
NGOs: Non-Government Organizations
NRM: National Resistance Movement
PHC: First-Line Healthcare
PNFP: Private Not for Profit
QMS: Quality Management System
QoS: Quality of Service
UNDP: United Nations Development Programme
VHTs: Village Health Team

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The author did not declare any conflict of interest

Data availability

Data is available upon request

Author contributions

Esau Opio collected data and drafted the manuscript of the study ,Dr. Benard Nuwatuhaire (Phd) supervised the study

Ethical consideration

The Institutional Research and Ethics Committee (IREC) of Team University was granted the researcher clearance. The research honored the participants' privacy by omitting the use of a name column, which was done to preserve individuals' identities and maintain the confidentiality of their information.

Informed consent

Informed consent was obtained by asking the subjects to sign a consent form prior to participating in the research. The purpose of obtaining respondents' consent was to demonstrate that their rights were protected during data collection—such as the right to know the purpose, nature, and procedures of the study, to ask questions, to maintain their privacy, to be aware of any potential personal benefits of the study, to have both the researcher and participants sign a consent form indicating agreement to the study's terms, and to withdraw from the study at any time.

Author biography

Esau Opio is a student of Masters of public administration and management of Team University
Dr. Benard Nuwatuhaire (Phd) is a lecturer at Team University

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