

Hospital-related factors contributing to delayed healthcare service delivery among health workers at the outpatient department, Luweero Hospital, Luweero district. A cross-sectional study.

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ABSTRACT

Background:

Delayed health care service delivery often arises from health-facility-related challenges such as staff shortages, long waiting times, inadequate infrastructure, and poor coordination, among others. The study aimed to assess hospital-related factors contributing to Delayed HealthCare Service Delivery among Health Workers at the Outpatient department of Luweero Hospital, Luweero District.

Methodology:

A cross-sectional quantitative descriptive study was conducted among 40 health workers at the Outpatient Department of Luweero Hospital, selected from a population of 45 staff using Krejcie and Morgan's table. Data were collected using structured self-administered questionnaires and analyzed using frequencies and percentages in Microsoft Excel 2016. Purposive sampling was used. Validity was ensured through expert review, reliability through pretesting with 10 respondents, and ethical approval and informed consent were obtained.

Results:

Among the 40 respondents, most respondents had certificate-level education (45%), while 35% held diplomas and 20% had bachelor's degrees or higher. Nurses constituted the largest cadre (47.5%), followed by midwives (27.5%), doctors (17.5%), and laboratory clinicians (7.5%). Half of the respondents (50%) reported never receiving refresher training, while only 12.5% received training regularly. Regarding hospital-related factors, 65% indicated that medicines and supplies were not enough. Staffing levels were reported as very low by 70% of respondents. Additionally, 55% reported that most hospital machines were not working. Management support was never provided, according to 45% of respondents, and 60% rated interdepartmental communication as poor across departments within the hospital setting during service delivery processes.

Conclusion:

Hospital-related issues such as persistent stock-outs of medicines, non-functional equipment, and weak managerial support further contributed to delays in patient care.

Recommendation:

The hospital should strengthen supply chain management and adopt supportive, participatory leadership with improved communication to ensure adequate resources and timely healthcare service delivery.

Keywords: Hospital-related factors, Management support, interdepartmental communication, Luweero District.

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BACKGROUND OF THE STUDY

Delayed health care service delivery often arises from health-facility-related challenges such as staff shortages, long waiting times, inadequate infrastructure, poor coordination, and frequent stock-outs of essential medicines (Mesic et al., 2022). Globally, 48% of patients report long waiting times, 22% cite financial barriers within health systems, and 18% attribute delays to health worker shortages (Masutha et al., 2024).

In the United States, health-facility-related delays are largely due to insurance challenges (30%), long queues in

public facilities (20%), and poor health system coordination (15%) (Caraballo et al., 2022). In Asia's rural parts, limited health workers (25%), transport barriers (40%), and essential drug stock-outs (20%) remain major contributors to delayed service delivery (Verma & Dash, 2021).

In Sub-Saharan Africa, inadequate staffing (32%), stock-outs of essential medicines (28%), transport challenges (25%), and long waiting times (15%) significantly hinder timely service delivery (Yenet et al., 2023). In Malawi, health facility challenges such as drug shortages (30%), insufficient health workers (28%), and long distances to

health facilities (25%) have been reported as major causes of delayed care (Kaimba & Umar, 2025).

In Kenya, poor health worker attitudes (24%), transport barriers (26%), and long waiting hours (20%) contribute to delayed service delivery (Seif et al., 2025). In Tanzania, inadequate drug supply (30%), low staff motivation (27%), and limited infrastructure (18%) continue to affect timely access to health services (Mollet & Mwanswila, 2024). In Uganda, long waiting hours, frequent drug stock-outs, and an inadequate health workforce remain key facility-related barriers to timely health care service delivery (Kibudde et al., 2022). In Luweero District, these challenges persist, as documented in the District Annual Health Report (2024).

The study aimed to assess hospital-related factors contributing to Delayed HealthCare Service Delivery among Health Workers at the Outpatient department of Luweero Hospital, Luwero District.

METHODOLOGY

Study Design and Rationale

A cross-sectional study design employing a quantitative research method was used to obtain data. The study was descriptive because it assessed the factors contributing to health care service delivery among health workers at the outpatient. The study was cross-sectional because it was carried out at one point in time without further follow-up. Then, quantitative methods involved the use of structured questionnaires to gather numerical data. The design was chosen because it was cost-saving, easier to carry out, and carried out in a shorter time.

Study Setting and Rationale

The study was conducted at the outpatient department of Luweero Hospital, a public health facility located in Luweero Town Council, Luweero District in the Central Region of Uganda. The hospital lies approximately 75 kilometers north of Kampala along the Kampala–Gulu highway and serves as the main referral facility for lower-level health centers within the district. Its geographical coordinates are approximately 0°49'00.0"N, 32°29'30.0"E (Latitude: 0.816667; Longitude: 32.491667). Luweero Hospital is a government-owned facility operating under the Ministry of Health (MoH) and supervised by the Luweero District Health Office. It provides a wide range of medical services, including outpatient and inpatient care, maternal and child health services (ANC and PNC), emergency obstetric and surgical care, HIV/AIDS prevention and treatment, laboratory, and timeliness of healthcare service delivery among health workers, including heavy workloads, limited resources, and infrastructural constraints. The hospital is well-structured with several functional wards, including the Outpatient Department (OPD), Medical Ward, Surgical Ward, Maternity Ward, Pediatric Ward, and Emergency Unit, all offering both inpatient and outpatient

care. Additionally, it has specialized units such as the HIV/ART Clinic, Laboratory Department, and Pharmacy to support comprehensive service delivery. The hospital serves a catchment population of over 250,000 people and handles an average of 3,500 outpatient visits per month. This site was selected for the study because of the persistent challenges affecting the quality.

Study Population

The study targeted health workers at the outpatient department of Luweero Hospital, including nurses, midwives, clinical officers, doctors, and laboratory personnel. These health workers were directly involved in outpatient care and played a central role in determining the quality, efficiency, and timeliness of healthcare service delivery.

Sample Size Determination

The sample size for the study was determined using Krejcie and Morgan's (1970) table, which provides a definite value for estimating sample sizes based on a known population. Luweero hospital at outpatient department has a team of 45 trained health workers providing daily health care services to patients in the Outpatient Department (OPD), Medical Ward, Surgical Ward, Maternity Ward, Pediatric Ward and Emergency Unit, all offering both inpatient and outpatient care as well as the HIV/ART Clinic, Laboratory Department, and Pharmacy to support comprehensive service delivery. According to Krejcie and Morgan's table, for a known population of 45, a sample size of 40 respondents is recommended to achieve a 95% confidence level and a 5% margin of error. This sample size was considered sufficient to provide reliable and representative data in line with the study topic. Therefore, a sample of 40 respondents was used.

Sampling Procedure

The purposive sampling technique was used because it was appropriate for selecting respondents who possess specific knowledge and experience relevant to the study. At Luweero Hospital, health workers were purposively selected from outpatient departments, including consultation rooms, treatment rooms, radiology, pharmacy, laboratory, and administration. This method allowed the inclusion of health professionals such as nurses, midwives, clinical officers, doctors, and laboratory personnel who were directly involved in healthcare service delivery. The selection was based on their roles, availability, and willingness to participate, ensuring that the sample represents various cadres and levels of experience within the hospital. A total of 40 health workers were targeted to provide diverse insights into the factors affecting healthcare service delivery at Luweero Hospital. This approach ensured that only those with relevant experience and understanding of hospital

operations contributed to the study, enhancing the validity and relevance of the findings.

Inclusion Criteria

The study included health workers at the outpatient department of Luweero hospital who were willing to participate, both male and female, and provided informed consent.

Exclusion Criteria

The study excluded health workers at the outpatient department of Luweero hospital who had consented but later withdrew at the time of data collection, and those who consented but later got very busy in the wards due to emergencies.

Study Variables

Dependent Variable

The outcome variable in this study referred to the main aspect being affected, which was not directly manipulated. In this case, it was health care service delivery.

Independent Variable

The independent variables were the factors that contributed to the outcome and could be analyzed: Health worker-related factors such as level of training, workload, motivation, supervision, communication, teamwork, job satisfaction, and availability of support systems.

Research Instrument and Rationale

The self-administered questionnaire was used for this study, and it was written in English. This questionnaire consisted of three sections. Section (A) on socio-demographic data, Section (B) on hospital-related factors. Each section contained closed-ended questions to capture respondents' views in line with the study objectives.

Data Collection Procedure

After approval of the proposal by the Institutional Research Committee, an introductory letter was obtained from the Dean, School of Nursing and Midwifery, Mildmay, Uganda. This letter was presented to the Hospital Director of Luweero Hospital, where the purpose of the study was explained. Upon receiving permission, an introduction was made to the health workers, and interaction with respondents commenced for data collection.

Data was collected over four days by sampling 10 respondents per day to reach the required sample size of 40 participants. Verbal permission and written informed consent were obtained after explaining the purpose of the

study and assuring confidentiality. Each respondent was given a questionnaire to complete independently in a separate area within the facility premises to ensure privacy during the process.

Data Management

At the end of each day of data collection, all completed questionnaires were reviewed to ensure accuracy and completeness. The questionnaires were coded and stored in a locked cabinet with restricted access. Electronic records were saved on a password-protected computer to maintain confidentiality and data security.

Data Analysis

Collected data was first checked, sorted, and coded, then entered into Microsoft Excel (2016 version) for analysis, and findings were summarized using descriptive statistics such as frequencies and percentages, and presented in tables, bar graphs, and pie charts for easy interpretation.

Quality Assurance

Validity

The questionnaire was designed according to the study objectives and reviewed by the research supervisor to ensure that it measures the contributing factors to delayed healthcare service delivery.

Reliability

The tool was first pre-tested with 10 health workers at the outpatient department, Luweero hospital. Adjustments were made to refine unclear questions, as this ensured consistency and reliability before using the tool in the main study.

Ethical Considerations

After approval of the proposal by the Institutional Research Committee, an introductory letter was obtained from the Dean, School of Nursing and Midwifery, Mildmay, Uganda. The letter was presented to the Hospital Director to seek permission to conduct the study. Confidentiality was ensured through the use of numeric codes instead of participants' names, and participants were reminded of their right to withdraw at any time without penalty. Anonymity was maintained throughout the data analysis process, and written informed consent was obtained after providing a full explanation of the study. The study registration number is NSIN No: Jul24/U080/DME/009.

RESULTS

Demographic information of respondents.

Table 1 shows the demographic information of respondents n=40

Variable	Response	Frequency(n)	Percentage (%)
Age	18-28 years	10	25
	39-39 years	17	42.5
	40 years and above	13	32.5
level of education	Certificate	18	45
	Diploma	14	35
	Bachelor's and above	8	20
cadre	Nurse	19	47.5
	Midwife	11	27.5
	Doctor	7	17.5
	Lab clinician	3	7.5
How often do you receive refresher training for your work	Regularly	5	12.5
	Sometimes	15	37.5
	Never	20	50

Table 1 shows that nearly half 17 (42.5%) of the respondents were aged 29–39 years, while the least 10 (25%) were aged 18–28 years. The majority, 18 (45%) of the respondents had attained a certificate level of education, whereas the least 8 (20%) had bachelor’s and above qualifications. In terms of cadre, most 19 (47.5%) of the respondents were nurses,

followed by 11 (27.5%) who were midwives, and the least 3 (7.5%) were lab clinicians. Regarding refresher training, the majority of 20 (50%) of the respondents reported that they never receive refresher training for their work, while only 5 (12.5%) reported receiving it regularly.

Hospital-related Factors Contributing to Delayed Health Care Service Delivery among Health Workers at Luweero Hospital, Luweero District

Figure 1 shows whether medicines and supplies are always enough in the hospital.

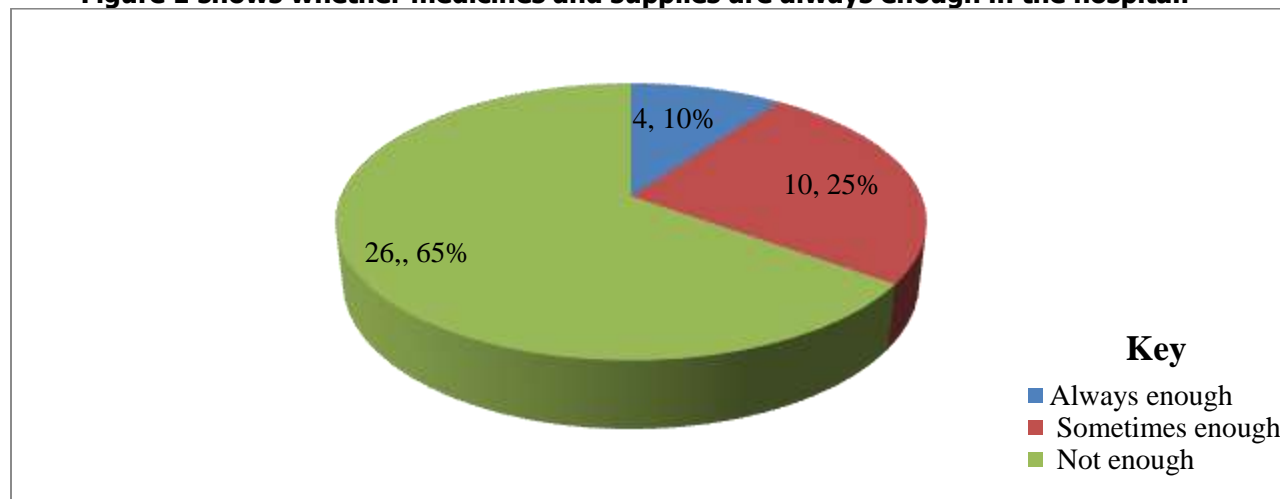


Figure 1 shows that 26(65%) of the respondents said that medicines and supplies were not enough in the hospital, while at least 4(10%) said they were always enough.

Table 2 shows other Hospital-related Factors Contributing to Delayed HealthCare Service Delivery among health workers at Luweero Hospital, Luweero District.

Variables	Response	Frequency(n=40)	Percentage (%)
The number of health workers in their hospital	Yes, enough	2	5
	Sometimes few	10	25
	Very few	28	70
Are hospital machines and facilities working	Yes, well	6	15
	Some not working	12	30
	Most not working	22	55
Whether hospital management supports staff during work	Always	9	22.5
	Sometimes	13	32.5
	Never	18	45
Communication between hospital departments is good.	Very good	5	12.5
	Fair	11	27.5
	Poor	24	60

Table 2 shows that the majority, 28 (70%) of the respondents reported that there are very few health workers in their hospital to deliver health care services, while only 2 (5%) stated that there were enough health workers. Most 22 (55%) of the respondents indicated that most hospital machines and facilities were not working, whereas the least 6 (15%) reported that they were working well. The majority, 18 (45%) of the respondents said that hospital management never supported staff during work, while 9 (22.5%) noted that they always supported. Regarding communication, 24 (60%) of the respondents rated communication between hospital departments as poor, whereas only 5 (12.5%) described it as very good.

DISCUSSION

The purpose of this study was to identify the hospital-related factors contributing to delayed healthcare service delivery among health workers at Luweero Hospital, Luweero District. The results were as discussed below: The researcher found out that 26 (65%) of the respondents said medicines and supplies were not enough in the hospital. This aligns with the problem statement and was due to irregular supply chains or inadequate government funding for medical supplies. This points that stockouts of essential drugs and materials force delays in treatment and patient management. This is in contrast with a study in Saudi Arabia by Almutairi et al. (2020) revealed that hospitals with

reliable supply chains recorded 62% higher service efficiency among health workers compared to those frequently affected by stock-outs.

Findings in the study showed that the majority, 28 (70%) of the respondents reported that there were few health workers in their hospital to deliver health care services. This was due to limited staffing budgets and high turnover rates, which supports the study objective that contributes to delays in service delivery, which implies that staff shortages increase patient waiting time and compromise the quality of care. This is similar to a study in Malaysia by Kamaruzaman et al. (2020) on hospital staffing levels showed that inadequate staffing resulted in excessive workloads and reduced efficiency, with 65% of health workers reporting fatigue and burnout.

The research found that over half, 22 (55%) of the respondents indicated that most hospital machines and facilities were not working, which was due to poor maintenance, lack of spare parts, or old equipment. This hints that non-functional equipment hinders timely diagnosis and treatment, thus causing delays in healthcare service delivery. This is in line with a study in Pakistan by Urooba et al. (2024), where lack of functional equipment contributed to delayed procedures, with 57% of health workers reporting interruptions in service delivery due to power outages and limited space.

Furthermore, the findings revealed that nearly half, 18 (45%) of the respondents said that hospital management never supported staff during work and attributed this to weak leadership, lack of staff welfare programs, or poor communication between management and workers. This means that limited managerial support demoralizes staff, reducing their efficiency and causing service delays. The findings disagree with a study done in Nigeria by Nass et al. (2019) which showed that hospitals with supportive supervision and strong leadership reported 68% better staff motivation and timely service provision.

In conclusion, these results strongly align with the study purpose and support the problem statement, which highlighted persistent delays in patient care at the facility. Overall, the study confirms that both human resource challenges and hospital system weaknesses significantly contribute to slow and inefficient healthcare service delivery at Luweero Hospital. The findings of the study showed that hospital-related factors contributed to the delayed healthcare service delivery among health workers at the outpatient department of Luweero Hospital.

CONCLUSION

Hospital-related issues such as persistent stock-outs of medicines, non-functional equipment, and weak managerial support further contributed to delays in patient care. These findings indicate that improving both human resource management and hospital systems is essential for enhancing timely and effective healthcare delivery.

RECOMMENDATION

The hospital should work with supply chain managers to ensure timely procurement, maintenance, and replacement of essential supplies and medical equipment to avoid treatment delays.

Hospital leaders should adopt participatory leadership strategies, offer continuous professional support, and improve communication with staff to promote a positive working environment that supports timely service provision.

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List of abbreviations

AIDS:	Acquired Immune Deficiency Syndrome
OPD	Outpatient Department
ANC:	Antenatal Care
ART:	Antiretroviral Therapy
EOC:	Emergency Obstetric Care
HIV:	Human Immunodeficiency Virus
HMIS:	Health Management Information System
MCH:	Maternal and Child Health
MOH:	Ministry of Health
PNC:	Postnatal Services
DHCSD:	Delayed health care service delivery
UHPAB:	Uganda Health Professions Assessment Board

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Conflict of interest

The authors declare no conflict of interest.

Data availability

Data is available upon request from the author.

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Author contributions

LJM: Collected data

HM: supervised the study.

IM: supervised the study.

JFN: supervised the study.

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