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Patient Satisfaction and its Associated Factors in Selected Primary Health Care Facilities of Kono District, Sierra Leone

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Patient satisfaction and its associated factors in selected Primary Health Care facilities of Kono District, Sierra Leone

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Abstract

Objective: To assess patient satisfaction with services and its associated factors across selected primary care facilities in Kono district, Sierra Leone.

Design: Facility-based cross sectional study.

Setting: Five primary healthcare facilities (Wellbody, Sewafe, Kombayendeh, Gandorhun, and Kayima) located in Kono district, Sierra Leone. All five are Community Health Centers (CHC), with two CHCs benefiting from a comprehensive package of support (5-S model) from the non-governmental organization (NGO) Partners In Health (PIH). This support, dubbed as 5-S model will be elaborated in this paper. The other three CHCs were not beneficiaries of the 5-S model.

Participants: The study population comprised all patients and caregivers who attend outpatient services at the selected health facilities. We included adult outpatients over 18 years old and adult caregivers accompanying their children while waiting in the various outpatient departments. This study considered a sample size of 290 and the data was collected from March 3 to March 31, 2021.

Outcomes: Patient satisfaction was measured using an 11-item Likert scale questionnaire. The outcome was categorized as good or poor satisfaction level using the median value. Descriptive statistics were applied to assess satisfaction level and multivariable binary logistic regression analysis was applied to identify factors associated with the outcome variable.

Results: Out of the 290 respondents included for analysis, the overall patient satisfaction level was 63.8% (95%CI: 58.1%-69.0%). Around 69.2% (95%CI: 62.1%-75.4%) of respondents from PIH intervention sites and 53.9% (95%CI: 44.1%- 63.4%) from the non-PIH intervention sites had a good satisfaction level. The multivariable binary logistic regression analysis indicated PIH intervention site status (AOR=2.47, 95%CI: 1.28-4.78), educational status of respondents [AOR=0.53, 95%CI: 0.28-0.98], distance to health facility [AOR=0.40, 95% CI: 0.18-0.87] and waiting time to receive care [AOR=0.41, 95%CI: 0.22-0.76] were the significant factors associated with patient satisfaction.

Conclusion: The overall patient satisfaction was relatively high and PIH supported health facilities have better patient satisfaction as compared to Non-PIH health facilities. In addition, patient's educational status, distance to health facility and waiting time were negatively associated with patient satisfaction level. PIH's philosophy of targeted investment on the 5-S model can be scaled up and the Ministry of Health should implement policies for improving the quality of services provided by primary healthcare facilities.

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Key words: Patient Satisfaction, Partners In Health, Primary Health Care Facilities, Kono, Sierra Leone

Strengths and limitations of this study

- This was a facility-based cross-sectional study conducted in selected health facilities from one district. This might limit generalizability to the national Sierra Leone context.
- The finding of this study might also be subjected to social desirability bias because the respondents were interviewed within the health facilities compound.
- Perceptions and experiences of patients were not captured qualitatively.
- Facilities included in this study are from all the cardinal points of the district and therefore respondents are from all the cardinal points (east, west, north, south, and central) of the district, providing a wide respondent representation of the district.

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Introduction

Patient satisfaction (PS) describes how happy a patient is with the health care they receive from their health care providers. Within the public health literature, there is a growing emphasis on including patients in their care processes and an increasing call for clinicians and health care systems to shift their focus away from diseases and back to the patient needs. To optimize this, the interaction between clinicians and patients should be a collaborative and mutual agreement where the patients' care decisions are shared decisions between clinicians, patients and/or their family members (1,2). Understanding a patient's experience of illness and addressing their needs within an increasingly complex and fragmented health care delivery system can influence patient health-related behaviors, including adherence to treatment and recommendations of healthcare plans (3). In Sierra Leone, Peripheral HealthCare Units (PHU) serve as the foundation of the health care system, and the majority of patient consultations including the management of long-term chronic conditions, and the delivery of preventive services. As a result, PHUs often act as gatekeepers to the other parts of the healthcare delivery system. The United Nations defined provision of quality healthcare that is safe, affordable, and accessible as one of the Sustainable Development Goals of agenda 2030 (4). While many countries and healthcare institutions are making strides towards achieving this goal, there are discrepancies in the perception of patients' expectations and satisfaction between healthcare professions and the patients they serve.

The 2014 Ebola outbreak in Sierra Leone had severely disrupted primary health care programs and the country lost many of the gains from previous health system strengthening efforts. Subsequently, at the end of the Ebola outbreak, the utilization of the primary health care facilities reduces drastically (5). Although we saw increase in service utilization at PHUs years after Ebola due to health strengthening efforts by NGOs especially PIH, little to nothing is known about overall patient satisfaction with the services.

Patient dissatisfaction, as indicated by a study conducted in Ethiopia, is associated with unavailability of drugs and service providers not being polite. (6). Another study in Ethiopia indicated that patient satisfaction at hospital outpatient departments (OPDs) was high with no statistically significant differences between patient satisfaction at the private wing and regular adult OPDs' of public hospitals (7).

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In North India, a study indicated that the majority of patients using outpatients and inpatients services were satisfied with the care received with a notable recommendation to reduce waiting time at registration and laboratory service departments. However, it was also noted that attention should be given to new medicines prescribed for a patient, and that the possible side effects and purpose of giving the medicine should be explained to them (8). With these findings, patients' experiences and satisfaction with their treatment are becoming increasingly important in the context of quality assurance, and patient experiences health care, and reporting this information helps patients to have choices in their health care seeking. (9).

While patient satisfaction is considered one of the desired outcomes of health care and is directly related to utilization of health services, there is scant information on patient satisfaction with services provided in public health facilities in Sierra Leone. In this study, we will assess patients' satisfaction with the level of services offered at both PIH-supported and non-PIH supported Community Health Centers (CHCs) and its associated factors in Kono district, Sierra Leone.

Methods

Study Setting

This study was conducted in 2021 in Kono District in the eastern region with an estimated population of about 600,000, of which 75% of individuals reside in rural areas (10). 5 MoHS health facilities categorized in the Sierra Leone health system as Community Health Centers (CHC) in Kono District, Sierra Leone were included. The 5 CHCs are Wellbody Clinic, Sewafe, Kombayendeh, Gandorhun, and Kayima. These health facilities offer general outpatient services, maternal and child health services, NCDs, HIV, and tuberculosis services, as well as additional services including pharmacy and laboratory as part of the primary health care service package. These facilities are distributed across the district, at the west; Sewafe CHC, east; Kombayendeh CHC, south; Gandorhun, north; Kayima, and central; Wellbody Clinic CHC.

We categorized these facilities into "intervention" (Wellbody Clinic and Sewafe CHC) and "non-intervention" facilities (Kombayendeh, Gandorhun, and Kayima). The "intervention facility" refers to a facility where PIH provides additional support through their "5-S Model".

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Figure 1: PIH 5-S model

The 5-S model was developed through the iterative work of the US based NGO Partners In Health to assure that the poorest and most vulnerable patients have access to high quality health care and achieve equitable health outcomes with richer patients. The model recognizes the supply side limitations of health facilities in impoverished areas—including lack of staff and commodities, dilapidated facilities, and a lack of ability to provide follow up care. Lastly, the model recognizes that social supports is needed to overcome barriers to care for the poor. Thus, the 5-S: includes improvements in Staff (upgraded staffing in number and quality through capacity building, and mentorship), Space (upgraded infrastructure to provide enough space for adequate service provision, but also clean and dignified space with electricity, clean water, etc. conducive for high quality of care), Stuff (ensuring availability of essential drugs and medical commodities, and functional equipment), System (ensuring cohesive mechanism, tools, and standardized protocols and procedures are being followed for the provision of care), and Social support (for a holistic and patient-centered approach considering the socio-economic needs of each beneficiary) (figure 1) on top of the existing Ministry of Health structure. In the non-intervention facilities, these facilities received the regular MoH support.

Study Design

We conducted a health facility-based cross-sectional study among outpatients and caregivers (guardians of patients under five years of age) attending 5 selected health facilities.

Study Population

The study population comprised all patients and caregivers attending outpatient services at Wellbody, Sewafe, Kombayendeh, Gandorhun, and Kayima health facilities in Kono District, Sierra Leone between March 3rd and March 31st of 2021. We included adult outpatients over 18 years old and adult caregivers accompanying their children while waiting in the various outpatient

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departments. Patients or caregivers experiencing mental distress or critical medical conditions were excluded from the study.

Sample size and data collection

This study considered a sample size of 290 individuals and the data was collected from March 3 to March 31, 2021. A structured questionnaire was developed for the purpose of data collection after reviewing relevant literature (9,11,12).

The research team gathered information on non-identifiable demographic characteristics, including age, sex, ethnicity, education, facility location, and role at the facility. This data was electronically collected using a CommCare app programmed by the research team.

Before the start of data collection, the data collectors received training in research ethics, covering respect for study participants, consent procedures, and secure storage and maintenance of data. They also underwent survey-specific training and pre-tested the survey questionnaire. The quality of the collected data was maintained through daily supervision, spot-checking and reviewing the completed questionnaire by trained staff. The principal investigator and supervisors cross-checked the questionnaire for completeness, accuracy and consistency.

Study Variables

Dependent variable: The outcome variable is patient satisfaction, defined as patients' perceived needs and expectations in relation to factors such as the health care provider and amenities. Satisfaction level was assessed using an 11-item Likert scale questionnaire. Patient satisfaction was then categorized as good and poor satisfaction using the median value given that the data distribution was skewed.

Independent variable: The independent variables included sociodemographic factors such as age, sex, education, marital status, reason for choosing the health facility, distance to health facility, waiting time and wealth index score. Wealth index was measured as a composite variable comprising of 11-item questionnaire using Principal Component Analysis (PCA).

Data Analysis

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The collected data were exported into Stata Version 15 for data cleaning and analysis. Both descriptive and analytical statistical procedures were employed. The statistical analysis included descriptive statistics, with data summarized using frequencies, percentages, and graphs. To assess the presence of significant difference in the level of patient satisfaction across health facilities, we applied chi-square tests.

A binary logistic regression model was used to identify factors significantly associated with patient satisfaction. Initially, the association between each independent variable with the outcome variable was assessed using bivariate logistic regression analysis. Subsequently, those variables with p-value less than or equal to 0.2 were included in a multivariable logistic regression model to control for possible confounding variables. Finally, multivariable logistic regression analysis findings were presented using an Adjusted Odds Ratio (AOR) with their corresponding 95% Confidence Interval (CI).

The research team then employed Hosmer and Lemeshow tests in order to assess the final model's fit. Further, a multicollinearity test was performed using Variance Inflation Factor (VIF) to test the presence of correlation among the independent variables included in the final model.

Ethical considerations

Ethical approval was obtained from the Sierra Leone Ethics and Scientific Review Committee (SLESRC), and approval was secured from the health facility management teams before commencing data collection and analysis. Informed consent was obtained from all participants. All data was stored securely and kept anonymous.

Results

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Characteristics of respondents

Overall, 290 patients were included in the analysis. Table 1 reports the baseline characteristics. In total, 123 (42.4%) were in the age range of 21–30 years and about 85% of respondents were females. Pertaining to educational status, half (50%) had secondary education and above while 42.4% had no formal education. 202 (69.7%) of the respondents were married. Three-quarters (76.2%) of respondents reported that they travelled for less than an hour to access the health facilities. 128 (44.1%) of the participants reported that the waiting time to receive care is more than two hours (Table1).

Table1: Socio-demographic characteristics of respondents [N=290]

Characteristics	Total (%)
Age in complete years	
<=20	75 (25.9%)
21-30	123 (42.4%)
31-40	50 (17.2%)
>41	42 (14.5%)
Gender	
Female	246 (84.8%)
Male	44 (15.2%)
Marital status	
Currently not married	88 (30.3%)
Currently married	202 (69.7%)
Educational status	
No formal education	123 (42.4%)
Primary education	23 (7.9%)
Secondary education and above	144 (49.7%)
Wealth index	
Poor	100 (34.5%)
Middle	94 (32.4%)
Rich	96 (33.1%)
Distance to health facility	
<=1 hour	221 (76.2%)
>1 hour and <=2 hours	31 (10.7%)
>2 hours	38 (13.1%)
Waiting time to receive care	
<=1 hour	129 (44.5%)
>1 hour and <=2 hours	33 (11.4%)
>2 hours	128 (44.1%)

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Patient satisfaction

The study showed that the overall patient satisfaction was 63.8% (95%CI: 58.1%-69%). Around 69.2% (95%CI: 62.1%-75.4%) of respondents from PIH intervention sites and 53.9% (95%CI: 44.1%- 63.4%) from the non-PIH intervention sites had a good satisfaction level (Figure 2). The findings also revealed that patient satisfaction was high (76.7%) at Wellbody followed by Gandorhun (58.5%) health facility. Contrastingly, respondents who visited Kayima health facility reported low levels of satisfaction (44.1%). The difference in level of satisfaction among the health facilities was statistically significant (p-value: 0.002) (Table 2).

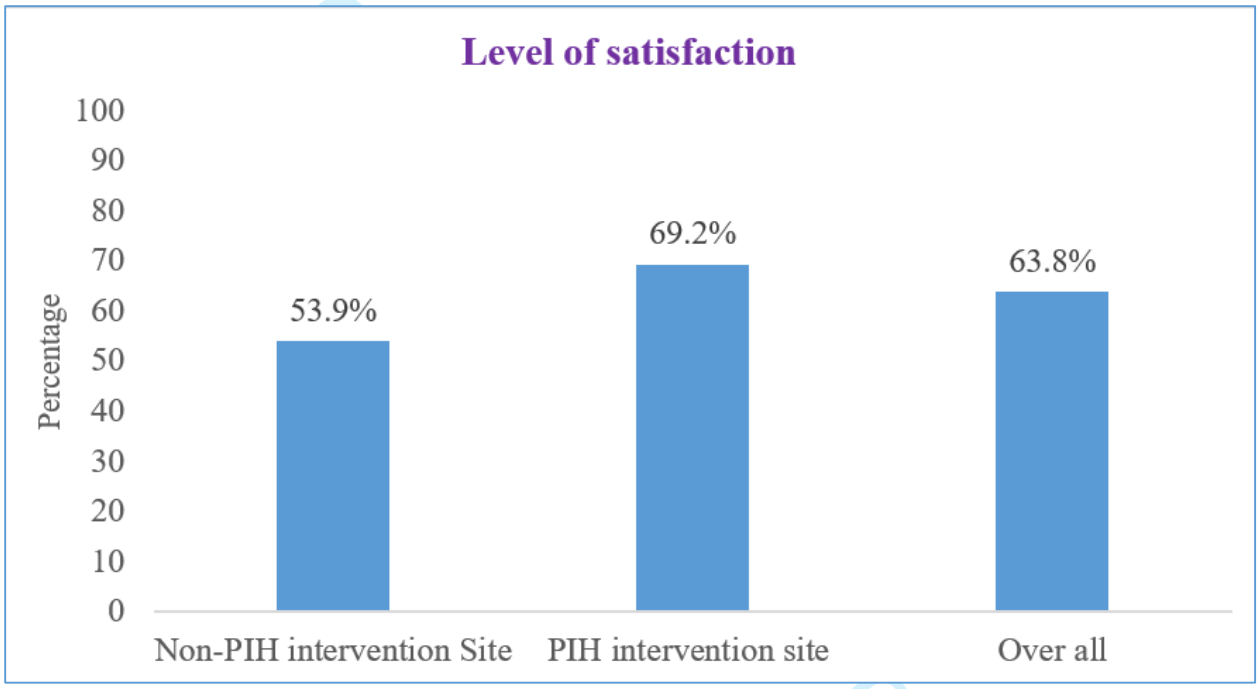

Figure 2: Level of satisfaction among the respondents [N=290]

Table 2: Level of patient satisfaction by health facilities [N=290]

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Health Facility	Level of Satisfaction		p-value
	Poor	Good	
Sewafe	29 (43.3%)	38 (56.7%)	0.002
Gandorhun	17 (41.5%)	24 (58.5%)	
Kayima	19 (55.9%)	15 (44.1%)	
Wellbody	28 (23.3%)	92(76.7%)	
Kombayendeh	12(42.9%)	16 (57.2%)	

Reasons for visiting health facilities

The reasons for visiting health facilities were mentioned by the study's 290 respondents with an option to select multiple responses. The major reasons for visiting the health facilities were availability of medicines (n=191), accessibility (n=125) and good service provision (n=106). Further, availability of friendly, and qualified health workers were reported as a reason to visit these health facilities (Figure 3).

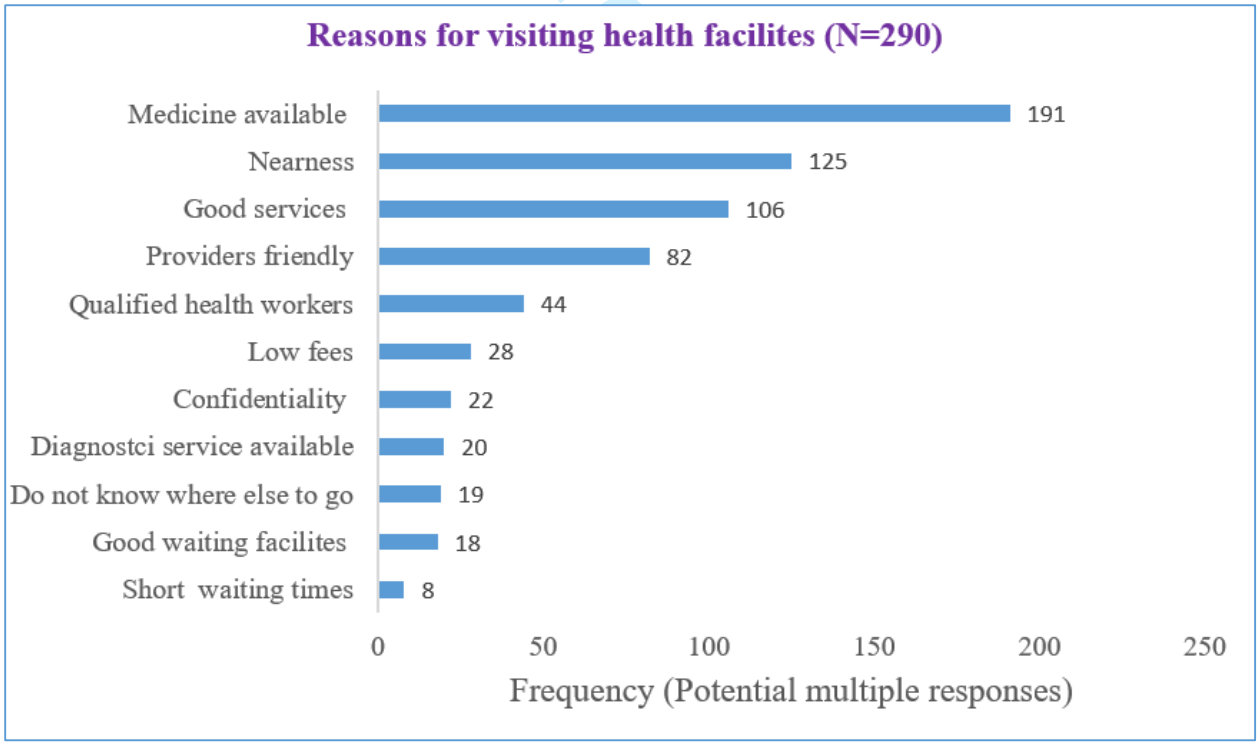

Figure 3: Reasons for choosing the primary health care facilities [N=290]

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Factors associated with patient satisfaction

Bivariable and multivariable binary logistic regression analysis model was fitted to identify the factors associated with patient satisfaction. In the bivariable regression model, the variables age of respondent, marital status, occupation, gender, educational status, wealth index, distance to health facility, waiting time to receive care and being a PIH intervention site were included. With this, marital status, gender, occupation and educational status of respondents were statistically insignificant at the bivariable regression analysis at a p-value of 0.2. However, educational status was frequently reported as a predictor for patient satisfaction in previous literature and considered for the multivariable analysis of this study accordingly. Hence, the variables age of respondent, educational status, wealth index, distance to health facility, waiting time to receive care and PIH intervention site status were included for the multivariable binary logistic regression analysis.

The multivariable regression analysis indicated that being a PIH intervention site has a positive statistically significant association with patient satisfaction after controlling for other variables. Respondents from PIH intervention sites had 2.5 times higher odds of satisfaction [AOR=2.47, 95%CI: 1.28-4.78] as compared to those respondents from the non-PIH sites (Table 3).

This study reported those with a lower educational status have a higher patient satisfaction. After controlling for other confounding factors, respondents who have secondary education and above had 47% lower odds of satisfaction [AOR=0.53, 95%CI: 0.28-0.98] as compared to those who have no formal education.

After controlling for other variables, long distance to health facility was negatively associated with patient satisfaction. Accordingly, those respondents who travelled for more than two hours to access the health facility had 60% lower odds of satisfaction [AOR=0.40, 95% CI: 0.18-0.87] as compared to the reference category (Table 3). Looking at waiting time to receive care, respondents who wait for more than two hours at the health facility had 59% lower odds of satisfaction [AOR=0.41, 95%CI: 0.22-0.76] as compared to those who waited for less than one hour. The multivariable regression analysis also showed that age of respondents and wealth index have no statistically significant association with patient satisfaction (Table 3).

Table 3: Bivariable and multivariable binary logistic regression analysis of factors associated with patient satisfaction [N=290]

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Characteristics	Level of satisfaction (n=290)		COR (95% CI	AOR (95% CI)
	Poor (n)	Good (n)		
Age in complete years				
<=20	33	42	1	1
21-30	41	82	1.57, 0.87-2.84	1.29, 0.68-2.43
31-40	20	30	1.17, 0.57-2.44	0.79, 0.35-1.79
>41	11	31	2.21, 0.97-5.05	1.37, 0.54-3.53
Educational status				
No formal education	40	83	1	1
Primary education	9	14	0.75, 0.29-1.87	0.79, 0.29-2.17
Secondary and above	56	88	0.76, 0.45-1.25	0.53, 0.28-0.98
Wealth index				
Poor	43	57	1	1
Middle	38	56	1.11, 0.63-1.97	0.76, 0.39-1.47
Rich	24	72	2.26, 1.23-4.16	1.54, 0.74-3.18
Distance to health facility				
<=1 hour	69	152	1	1
>1 hour and <=2 hours	15	16	0.48, 0.23-1.04	0.53, 0.22-1.26
>2 hours	21	17	0.37, 0.18-0.74	0.40, 0.18-0.87
Waiting time to receive care				
<=1 hour	39	90	1	1
>1 hour and <=2 hours	11	22	0.87, 0.38-1.95	0.65, 0.27-1.61
>2 hours	55	73	0.58, 0.34-0.96	0.41, 0.22-0.76
PIH intervention site				
No	47	55	1	1
Yes	58	130	1.91, 1.16-3.15	2.47, 1.28-4.78

Multicollinearity

Multi collinearity checks were performed among the independent variables included in the multivariable regression model. The test showed that the mean VIF was 1.92 and all included variables have VIF value of less than 10 with the maximum VIF value of 4.1 showing that there is no multicollinearity among the predictor variables.

Model fitness test

The Hosmer and Lemeshow goodness-of-fit test was statistically insignificant (p-value=0.53) showing that the final model fits the data.

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Discussion

This study revealed that around two thirds 63.8% (95%CI: 58.1%-69%) of respondents have an impression of good satisfaction in the services provided in the health facilities, and a greater level of satisfaction was felt in the PIH supported health facilities where the patient satisfaction was 69%. Respondent's educational level, distance to health facility and waiting time were predictors of patient satisfaction.

This finding corroborates with a finding in Ethiopia and Nigeria which revealed that about 65% and 59.3% of the respondents respectively were satisfied with the health services provided (6,13).

The high level of satisfaction seen in this study could be attributed to the deliberate effort made to strengthen health care systems and quality of care after the Ebola pandemic in Sierra Leone.

The study also showed that respondents from PIH-supported health facilities have reported a higher patient satisfaction level. This relatively higher level of patient satisfaction is enumerated in the survey and relates to PIH's 5-S model of health care delivery under which the staff are augmented, mentored and supported—providing friendly, dignified care, and improved supply chain—resulting in availability of medications and diagnostics at all times, and social support, in the form of expanded accessible health care.

In line with this, in another study, it was also reported that patients seek quick and convenient health services (14, 21).

The overall patient satisfaction level is, however, clearly lower than findings of studies conducted in the following LMIC: Ethiopia (77%) (15), Nigeria (94%) (16), Nigeria (78%) (17), Tanzania (72.8%) (18) and India (80%) (8). The difference might be because those studies were conducted in different contexts including referral hospitals, which are equipped very well and have enough diversity of health professionals of different levels that are expected to demonstrate the standard way of patient examination resulting in higher-level satisfaction. Further, the Nigerian study also included private health facilities that might affect the patient satisfaction positively given that these health facilities are profit making (16).

Timeliness of health care services at the primary health care level impacts positively upon the perception of quality of services rendered to patients. These findings from this study showed that

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patient satisfaction decreased with an increase in perceived length of waiting time. This is in agreement with findings from previous studies (14,15,17,19,20). However, increased wait time could be associated with the high patient load that is suggestive of good services including; adequate staffing, and staff capacity building, to provide quality health care (9). The long waiting time could also be attributed to the free service provision at Wellbody Clinic with indirect consequence on the patient satisfaction (21). The predictive finding of short waiting time is expected, as patients do not want to pay much higher economic costs while accessing health services. This is an important opportunity cost in a developing country like Sierra Leone. The finding of cost of services as a predictor of patient satisfaction is in accordance with a report from Nigeria (17) where high cost was found to be a negative determinant of patient satisfaction.

In this study, lower educational status of a patient is significantly associated with higher patient satisfaction level ($p<0.05$, CI: 0.28-0.98). Studies in primary care services also indicated that there were significant differences in satisfaction with health services in terms of educational level (7,14,22). This suggests that the 5-S model has its intended outcome as it was designed to increase access to and quality of care for the poor (who have fewer options for care). It may also be explained by the exaggerated expectations for high standard of care among the educated respondents.

Distance to health facility was associated with patient satisfaction that is consistent with a finding reported from a primary health care facility (22). Similarly, the patient's perceived accessibility of health service was the strongest predictor of general satisfaction reported by a study conducted in Uganda (23). This could be explained by the effect of distance on travel costs, time and productivity related with inaccessibility of health service. A study by Dibba et al. also reported that distance to health facility posed a significant challenge for many patients in rural contexts of Sierra Leone where transportation costs made it difficult for patients to attend health facility appointments (21). The study also emphasized that patients were willing to walk long distances to the PIH-supported health facilities to obtain free medication (21).

Among the socio-economic variables, a study by Gibru et al., reported that OPD patient satisfaction was significantly affected by age and gender (7). However, our study reported that the association was not statistically significant.

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This study also pointed out that some major reasons of visiting the health facilities were availability of medicines, accessibility, good service provision, and availability of friendly and qualified health workers. A study from Nigeria also indicated that the ability of the health care provider to offer explanations clearly to patients were predictors of patient satisfaction (16). Another study from India reported that friendliness of the care provider, explanations the care provider gave about the problem and information the care provider gave about medications and follow-up care are among the major reasons for good satisfaction after receiving health service (8).

Implications for policy and practice

Patients seek timely and convenient services when utilizing healthcare. Though the findings from this study highlighted relatively better levels of patient satisfaction, this study pointed out the factors that need to be considered to further improve patient satisfaction in primary healthcare facilities. With this, health facilities leadership need to give attention to improve their patient's positive experiences when they utilize their health facilities.

In recent years, there has been a growing interest in patient satisfaction as a measure of outcome and quality of care as it provides information on how well health service providers meet patients' values and expectations. This study pointed out that the major reasons why patients visit health facilities are; availability of medicines, accessibility, good service provision, and availability of friendly and qualified health workers, highlighting the need to improve quality of care and service characteristics to optimize the patient satisfaction level at the PHU level. This implies that patient satisfaction structured interventions should be put in place in a systematic way according to the MoH standards of care. This will improve treatment adherence (3) and by extension health outcomes.

The amount of time spent to see a health worker was also a significant predictor of patient satisfaction. This also demands appropriately addressing the patient flow, staffing and service expansion to improve both accessibility and quality of care. These calls for refocusing to improve the overall patient care in the local context and meet the patient needs at the PHU level.

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Our findings also show that PIH interventions in augmenting MoH health care service delivery by the 5-S model is highly effective in improving patient satisfaction with respect to a healthcare system performance.

Limitations: This was a facility-based cross-sectional study conducted in selected health facilities from one district. This might limit generalizability to the national Sierra Leone context. The finding of this study might also be subjected to social desirability bias because the respondents were interviewed within the health facilities compound. Despite this situation, participants still shared important critiques of their experiences at the selected facilities, and services.

Further, perceptions and experiences of patients were not captured qualitatively. Future studies should look into these.

Conclusions

The overall patient satisfaction level was relatively high and PIH-supported health facilities have better patient satisfaction as compared to non-PIH supported health facilities. Patient's educational status, distance to health facility and waiting time were negatively associated with patient satisfaction level. Therefore, we recommend that adequate attention should be paid to expansion of advanced primary care to improve service accessibility and improving several aspects of service provision such as waiting time and staffing in a way that addresses high patient flow. Moreover, PIH's philosophy of targeted investment can be scaled up and the MoH should implement policies for improving the quality of services provided by primary health care professionals. Further large-scale studies that include qualitative perspectives of health workers and patients are recommended.

List of abbreviations

AOR: Adjusted Odds Ratio; CI: Confidence Interval; COR: Crude Odds Ratio; MoH: Ministry of Health and Sanitation; NCD: Non Communicable Disease; OPD: Out Patient Department; PCA: Principal Component Analysis; PHU: Peripheral Health Unit; PIH: Partners In Health; PS: Patient satisfaction; SLESRC: Sierra Leone Ethics and Scientific Review Committee; USA: United States of America; VIF: Variance Inflation Factor

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Declaration

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Author Contributors: YD, FB, GJ, VC, SJ and ZAM conceived and designed the study. YD, FB, SW, LC, JH, MPK, JSM, and ZAM performed the data analysis, data interpretation and drafting the manuscript. All the coauthors reviewed and approved the final manuscript.

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Data availability statement: Data are available on reasonable request.

Ethics approval: The Sierra Leone Ethics and Scientific Review Committee (SLESRC) approved this study. In addition, informed consent was obtained from all participants include for this particular study.

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Patient Satisfaction and its Associated Factors in Selected Primary Health Care Facilities in Kono District, Sierra Leone. A cross-sectional Study.

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Abstract

Objective: To assess patient satisfaction with services and its associated factors across selected primary care facilities in Kono district, Sierra Leone.

Design: Facility-based cross sectional study.

Setting: Five primary healthcare facilities (Wellbody, Sewafe, Kombayendeh, Gandorhun, and Kayima) located in Kono district, Sierra Leone. All five are Community Health Centers (CHC), with two CHCs benefiting from a comprehensive package of support (5-S model) from the non-governmental organization (NGO) Partners In Health (PIH). This support, dubbed as 5-S model will be elaborated in this paper. The other three CHCs were not beneficiaries of the 5-S model.

Participants: The study population comprised all patients and caregivers who attend outpatient services at the selected health facilities. We included adult outpatients over 18 years old and adult

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caregivers accompanying their children while waiting in the various outpatient departments. This study considered a sample size of 290 and the data was collected from March 3 to March 31, 2021.

Outcomes: Patient satisfaction was measured using an 11-item Likert scale questionnaire. The outcome was categorized as good or poor satisfaction level using the median value. Descriptive statistics were applied to assess satisfaction level and multivariable binary logistic regression analysis was applied to identify factors associated with the outcome variable.

Results: Out of the 290 respondents included for analysis, the overall patient satisfaction level was 63.8% (95%CI: 58.1%-69.0%). Around 69.2% (95%CI: 62.1%-75.4%) of respondents from PIH intervention sites and 53.9% (95%CI: 44.1%- 63.4%) from the non-PIH intervention sites had a good satisfaction level. The multivariable binary logistic regression analysis indicated PIH intervention site status (AOR=2.47, 95%CI: 1.28-4.78), educational status of respondents [AOR=0.53, 95%CI: 0.28-0.98], distance to health facility [AOR=0.40, 95% CI: 0.18-0.87] and waiting time to receive care [AOR=0.41, 95%CI: 0.22-0.76] were the significant factors associated with patient satisfaction.

Conclusion: The overall patient satisfaction was relatively high and PIH supported health facilities show better patient satisfaction as compared to Non-PIH health facilities. In addition, patient's educational status, distance to health facility and waiting time were negatively associated with patient satisfaction level. The findings suggest that PIH's model of health system strengthening with targeted investment on the 5-S model can be scaled up and the Ministry of Health could consider to implement this approach for improving the quality of services provided at primary healthcare facilities.

Key words: Patient Satisfaction, Partners In Health, Primary Health Care Facilities, Kono, Sierra Leone

Strengths and limitations of this study

- Since this was a facility-based cross-sectional study conducted at a point in time, we cannot establish cause-effect relationship and the findings might not be generalizable to the national Sierra Leone context.
- The finding of this study might also be subjected to social desirability bias because the respondents were interviewed within the health facilities compounds.

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- Since the data is self-reported by the patients or caregivers, there might be recall bias from the patients, especially if they had previously different experience from another health facility.
- Perceptions and experiences of patients were not captured qualitatively.
- Facilities included in this study are from all the cardinal points of the district and therefore respondents are from all the cardinal points (east, west, north, south, and central) of the district, providing a wide respondent representation of the district.

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Introduction

Patient satisfaction (PS) describes how happy a patient is with the health care they receive from their health care providers. Within the public health literature, there is a growing emphasis on including patients in their care processes and an increasing call for clinicians and health care systems to shift their focus away from diseases and back to the patient needs. To optimize this, the interaction between clinicians and patients should be a collaborative and mutual agreement where the patients' care decisions are shared decisions between clinicians, patients and/or their family members [1,2]. Understanding a patient's experience of illness and addressing their needs within an increasingly complex and fragmented health care delivery system can influence patient health-related behaviors, including adherence to treatment and recommendations of healthcare plans [3]. In Sierra Leone, Peripheral HealthCare Units (PHU) serve as the foundation of the health care system, and the majority of patient consultations including the management of long-term chronic conditions, and the delivery of preventive services. As a result, PHUs often act as gatekeepers to the other parts of the healthcare delivery system. The United Nations defined provision of quality healthcare that is safe, affordable, and accessible as one of the Sustainable Development Goals of agenda 2030 [4]. While many countries and healthcare institutions are making strides towards achieving this goal, there are discrepancies in the perception of patients' expectations and satisfaction between healthcare professions and the patients they serve.

The 2014 Ebola outbreak in Sierra Leone had severely disrupted primary health care programs and the country lost many of the gains from previous health system strengthening efforts. Subsequently, at the end of the Ebola outbreak, the utilization of the primary health care facilities reduces drastically [5]. Although we saw increase in service utilization at PHUs years after Ebola due to health strengthening efforts by NGOs especially PIH, little to nothing is known about overall patient satisfaction with the services.

Patient dissatisfaction, as indicated by a study conducted in Ethiopia, is associated with unavailability of drugs and service providers not being polite. [6]. Another study in Ethiopia indicated that patient satisfaction at hospital outpatient departments (OPDs) was high with no statistically significant differences between patient satisfaction at the private wing and regular adult OPDs' of public hospitals [7].

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In North India, a study indicated that the majority of patients using outpatients and inpatients services were satisfied with the care received with a notable recommendation to reduce waiting time at registration and laboratory service departments. However, it was also noted that attention should be given to new medicines prescribed for a patient, and that the possible side effects and purpose of giving the medicine should be explained to them [8]. With these findings, patients' experiences and satisfaction with their treatment are becoming increasingly important in the context of quality assurance, and patient experiences health care, and reporting this information helps patients to have choices in their health care seeking. [9].

While patient satisfaction is considered one of the desired outcomes of health care and is directly related to utilization of health services, there is scant information on patient satisfaction with services provided in public health facilities in Sierra Leone. In this study, we will assess patients' satisfaction with the level of services offered at both PIH-supported and non-PIH supported Community Health Centers (CHCs) and its associated factors in Kono district, Sierra Leone.

Methods

Study Setting

This study was conducted in 2021 in Kono District in the eastern region with an estimated population of about 600,000, of which 75% of individuals reside in rural areas [10]. 5 MoH health facilities categorized in the Sierra Leone health system as Community Health Centers (CHC) in Kono District, Sierra Leone were included. The 5 CHCs are Wellbody Clinic, Sewafe, Kombayendeh, Gandorhun, and Kayima. These health facilities offer general outpatient services, maternal and child health services, NCDs, HIV, and tuberculosis services, as well as additional services including pharmacy and laboratory as part of the primary health care service package. These facilities are distributed across the district, at the west; Sewafe CHC, east; Kombayendeh CHC, south; Gandorhun, north; Kayima, and central; Wellbody Clinic CHC.

We categorized these facilities into "intervention" (Wellbody Clinic and Sewafe CHC) and "non-intervention" facilities (Kombayendeh, Gandorhun, and Kayima). The "intervention facility" refers to a facility where PIH provides additional support through their "5-S Model".

The 5-S model was developed through the iterative work of the US based NGO Partners In Health to assure that the poorest and most vulnerable patients have access to high quality health care and achieve equitable health outcomes with richer patients. The model recognizes the supply side

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limitations of health facilities in impoverished areas—including lack of staff and commodities, dilapidated facilities, and a lack of ability to provide follow up care. Lastly, the model recognizes that social supports is needed to overcome barriers to care for the poor. Thus, the 5-S: includes improvements in Staff (upgraded staffing in number and quality through capacity building, and mentorship), Space (upgraded infrastructure to provide enough space for adequate service provision, but also clean and dignified space with electricity, clean water, etc. conducive for high quality of care), Stuff (ensuring availability of essential drugs and medical commodities, and functional equipment), System (ensuring cohesive mechanism, tools, and standardized protocols and procedures are being followed for the provision of care), and Social support (for a holistic and patient-centered approach considering the socio-economic needs of each beneficiary) (figure 1) on top of the existing Ministry of Health structure. In the non-intervention facilities, these facilities received the regular MoH support.

Study Design

We conducted a health facility-based cross-sectional study among outpatients and caregivers (guardians of patients under five years of age) attending 5 selected health facilities.

Study Population

The study population comprised all patients and caregivers attending outpatient services at Wellbody, Sewafe, Kombayendeh, Gandorhun, and Kayima health facilities in Kono District, Sierra Leone between March 3rd and March 31st of 2021. We included adult outpatients over 18 years old and adult caregivers accompanying their children while waiting in the various outpatient departments. Patients or caregivers experiencing mental distress or critical medical conditions were excluded from the study.

Patient and public involvement: Neither patient nor the public were involved in the design, conduct, reporting or dissemination plans of this study.

Sample size and data collection

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This study considered a sample size of 290 individuals and the data was collected from March 3 to March 31, 2021. The sample size comprises the entire population of patients that visited the facilities in study during the study period. A structured questionnaire was developed for the purpose of data collection after reviewing relevant literature [9,11,12].

The research team gathered information on non-identifiable demographic characteristics, including age, sex, ethnicity, education, facility location, and role at the facility. This data was electronically collected using a CommCare app, with the CommCare content (Supplementary material 2) programmed by the research team.

Before the start of data collection, the data collectors received training in research ethics, covering respect for study participants, consent procedures, and secure storage and maintenance of data. They also underwent survey-specific training and pre-tested the survey questionnaire; patient-exit surveys (supplementary material 1). The quality of the collected data was maintained through daily supervision, spot-checking and reviewing the completed questionnaire by trained staff. The principal investigator and supervisors cross-checked the questionnaire for completeness, accuracy and consistency.

Study Variables

Dependent variable: The outcome variable is patient satisfaction, defined as patients' perceived needs and expectations in relation to factors such as the health care provider and amenities. Satisfaction level was assessed using an 11-item Likert scale questionnaire. Patient satisfaction was then categorized as good and poor satisfaction using the median value given that the data distribution was skewed.

Independent variable: The independent variables included sociodemographic factors such as age, sex, education, marital status, reason for choosing the health facility, distance to health facility, waiting time and wealth index score. Wealth index was measured as a composite variable comprising of 11-item questionnaire using Principal Component Analysis (PCA).

Data Analysis

The collected data were exported into Stata Version 15 for data cleaning and analysis. Both descriptive and analytical statistical procedures were employed. The statistical analysis included descriptive statistics, with data summarized using frequencies, percentages, and graphs. To assess

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the presence of significant difference in the level of patient satisfaction across health facilities, we applied chi-square tests.

A binary logistic regression model was used to identify factors significantly associated with patient satisfaction. Initially, the association between each independent variable with the outcome variable was assessed using bivariate logistic regression analysis. Subsequently, those variables with p-value less than or equal to 0.2 were included in a multivariable logistic regression model to control for possible confounding variables. Finally, multivariable logistic regression analysis findings were presented using an Adjusted Odds Ratio (AOR) with their corresponding 95% Confidence Interval (CI).

The research team then employed Hosmer and Lemeshow tests in order to assess the final model's fit. Further, a multicollinearity test was performed using Variance Inflation Factor (VIF) to test the presence of correlation among the independent variables included in the final model.

Ethical considerations

Ethical approval was obtained from the Sierra Leone Ethics and Scientific Review Committee (SLESRC), and approval was secured from the health facility management teams before commencing data collection and analysis. Informed consent was obtained from all participants. All data was stored securely and kept anonymous.

Results

Characteristics of respondents

Overall, 290 patients were included in the analysis. Table 1 reports the baseline characteristics. In total, 123 (42.4%) were in the age range of 21–30 years and about 85% of respondents were females. Pertaining to educational status, half (50%) had secondary education and above while 42.4% had no formal education. 202 (69.7%) of the respondents were married. Three-quarters (76.2%) of respondents reported that they travelled for less than an hour to access the health facilities. 128 (44.1%) of the participants reported that the waiting time to receive care is more than two hours (Table1).

Table1: Socio-demographic characteristics of respondents [N=290]

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Characteristics	Total (%)
Age in complete years	
<=20	75 (25.9%)
21-30	123 (42.4%)
31-40	50 (17.2%)
>41	42 (14.5%)
Gender	
Female	246 (84.8%)
Male	44 (15.2%)
Marital status	
Currently not married	88 (30.3%)
Currently married	202 (69.7%)
Educational status	
No formal education	123 (42.4%)
Primary education	23 (7.9%)
Secondary education and above	144 (49.7%)
Wealth index	
Poor	100 (34.5%)
Middle	94 (32.4%)
Rich	96 (33.1%)
Distance to health facility	
<=1 hour	221 (76.2%)
>1 hour and <=2 hours	31 (10.7%)
>2 hours	38 (13.1%)
Waiting time to receive care	
<=1 hour	129 (44.5%)
>1 hour and <=2 hours	33 (11.4%)
>2 hours	128 (44.1%)

Patient satisfaction

The study showed that the overall patient satisfaction was 63.8% (95%CI: 58.1%-69%). Around 69.2% (95%CI: 62.1%-75.4%) of respondents from PIH intervention sites and 53.9% (95%CI: 44.1%- 63.4%) from the non-PIH intervention sites had a good satisfaction level (Figure 2). The findings also revealed that patient satisfaction was high (76.7%) at Wellbody followed by Gandorhun (58.5%) health facility. Contrastingly, respondents who visited Kayima health facility reported low levels of satisfaction (44.1%). The difference in level of satisfaction among the health facilities was statistically significant (p-value: 0.002) (Table 2).

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Table 2: Level of patient satisfaction by health facilities [N=290]

Health Facility	Level of Satisfaction		p-value
	Poor	Good	
Sewafe	29 (43.3%)	38 (56.7%)	0.002
Gandorhun	17 (41.5%)	24 (58.5%)	
Kayima	19 (55.9%)	15 (44.1%)	
Wellbody	28 (23.3%)	92(76.7%)	
Kombayendeh	12(42.9%)	16 (57.2%)	

KEY: Blue = PIH Implementation sites. Green = PIH Non-implementation sites

Reasons for visiting health facilities

The reasons for visiting health facilities were mentioned by the study's 290 respondents with an option to select multiple responses. The major reasons for visiting the health facilities were availability of medicines (n=191), accessibility (n=125) and good service provision (n=106). Further, availability of friendly, and qualified health workers were reported as a reason to visit these health facilities (Figure 3).

Factors associated with patient satisfaction

Bivariable and multivariable binary logistic regression analysis model was fitted to identify the factors associated with patient satisfaction. In the bivariable regression model, the variables age of respondent, marital status, occupation, gender, educational status, wealth index, distance to health facility, waiting time to receive care and being a PIH intervention site were included. With this, marital status, gender, occupation and educational status of respondents were statistically insignificant at the bivariable regression analysis at a p-value of 0.2. However, educational status was frequently reported as a predictor for patient satisfaction in previous literature and considered for the multivariable analysis of this study accordingly. Hence, the variables age of respondent,

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educational status, wealth index, distance to health facility, waiting time to receive care and PIH intervention site status were included for the multivariable binary logistic regression analysis.

The multivariable regression analysis indicated that being a PIH intervention site has a positive statistically significant association with patient satisfaction after controlling for other variables. Respondents from PIH intervention sites had 2.5 times higher odds of satisfaction [AOR=2.47, 95%CI: 1.28-4.78] as compared to those respondents from the non-PIH sites (Table 3).

This study reported those with a lower educational status have a higher patient satisfaction. After controlling for other confounding factors, respondents who have secondary education and above had 47% lower odds of satisfaction [AOR=0.53, 95%CI: 0.28-0.98] as compared to those who have no formal education.

After controlling for other variables, long distance to health facility was negatively associated with patient satisfaction. Accordingly, those respondents who travelled for more than two hours to access the health facility had 60% lower odds of satisfaction [AOR=0.40, 95% CI: 0.18-0.87] as compared to the reference category (Table 3). Looking at waiting time to receive care, respondents who wait for more than two hours at the health facility had 59% lower odds of satisfaction [AOR=0.41, 95%CI: 0.22-0.76] as compared to those who waited for less than one hour. The multivariable regression analysis also showed that age of respondents and wealth index have no statistically significant association with patient satisfaction (Table 3).

Table 3: Bivariable and multivariable binary logistic regression analysis of factors associated with patient satisfaction [N=290]

Characteristics	Level of satisfaction (n=290)		COR (95% CI	AOR (95% CI)
	Poor (n)	Good (n)		
Age in complete years				
<=20	33	42	1	1
21-30	41	82	1.57, 0.87-2.84	1.29, 0.68-2.43
31-40	20	30	1.17, 0.57-2.44	0.79, 0.35-1.79
>41	11	31	2.21, 0.97-5.05	1.37, 0.54-3.53
Educational status				
No formal education	40	83	1	1
Primary education	9	14	0.75, 0.29-1.87	0.79, 0.29-2.17
Secondary and above	56	88	0.76, 0.45-1.25	0.53, 0.28-0.98

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Wealth index				
Poor	43	57	1	1
Middle	38	56	1.11, 0.63-1.97	0.76, 0.39-1.47
Rich	24	72	2.26, 1.23-4.16	1.54, 0.74-3.18
Distance to health facility				
<=1 hour	69	152	1	1
>1 hour and <=2 hours	15	16	0.48, 0.23-1.04	0.53, 0.22-1.26
>2 hours	21	17	0.37, 0.18-0.74	0.40, 0.18-0.87
Waiting time to receive care				
<=1 hour	39	90	1	1
>1 hour and <=2 hours	11	22	0.87, 0.38-1.95	0.65, 0.27-1.61
>2 hours	55	73	0.58, 0.34-0.96	0.41, 0.22-0.76
PIH intervention site				
No	47	55	1	1
Yes	58	130	1.91, 1.16-3.15	2.47, 1.28-4.78

Multicollinearity

Multi collinearity checks were performed among the independent variables included in the multivariable regression model. The test showed that the mean VIF was 1.92 and all included variables have VIF value of less than 10 with the maximum VIF value of 4.1 showing that there is no multicollinearity among the predictor variables.

Model fitness test

The Hosmer and Lemeshow goodness-of-fit test was statistically insignificant (p-value=0.53) showing that the final model fits the data.

Discussion

This study revealed that around two thirds 63.8% (95%CI: 58.1%-69%) of respondents have an impression of good satisfaction in the services provided in the health facilities, and a greater level of satisfaction was felt in the PIH supported health facilities where the patient satisfaction was 69%. Respondent's educational level, distance to health facility and waiting time were predictors of patient satisfaction.

This finding corroborates with a finding in Ethiopia and Nigeria which revealed that about 65% and 59.3% of the respondents respectively were satisfied with the health services provided [6,13].

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The high level of satisfaction seen in this study could be attributed to the deliberate effort made to strengthen health care systems and quality of care after the Ebola pandemic in Sierra Leone.

The study also showed that respondents from PIH-supported health facilities have reported a higher patient satisfaction level. This relatively higher level of patient satisfaction is enumerated in the survey and relates to PIH's 5-S model of health care delivery under which the staff are augmented, mentored and supported—providing friendly, dignified care, and improved supply chain—resulting in availability of medications and diagnostics at all times, and social support, in the form of expanded accessible health care.

In line with this, in another study, it was also reported that patients seek quick and convenient health services [14, 21].

The overall patient satisfaction level is, however, clearly lower than findings of studies conducted in the following LMIC: Ethiopia (77%) [15], Nigeria (94%) [16], Nigeria (78%) [17], Tanzania (72.8%) [18] and India (80%) [8]. The difference might be because those studies were conducted in different contexts including referral hospitals, which are equipped very well and have enough diversity of health professionals of different levels that are expected to demonstrate the standard way of patient examination resulting in higher-level satisfaction. Further, the Nigerian study also included private health facilities that might affect the patient satisfaction positively given that these health facilities are profit making [16].

Timeliness of health care services at the primary health care level impacts positively upon the perception of quality of services rendered to patients. These findings from this study showed that patient satisfaction decreased with an increase in perceived length of waiting time. This is in agreement with findings from previous studies [14,15,17,19,20]. However, increased wait time could be associated with the high patient load that is suggestive of good services including; adequate staffing, and staff capacity building, to provide quality health care [9]. The long waiting time could also be attributed to the free service provision at Wellbody Clinic with indirect consequence on the patient satisfaction [21]. The predictive finding of short waiting time is expected, as patients do not want to pay much higher economic costs while accessing health services. This is an important opportunity cost in a developing country like Sierra Leone. The finding of cost of services as a predictor of patient satisfaction is in accordance with a report from Nigeria [17] where high cost was found to be a negative determinant of patient satisfaction.

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In this study, lower educational status of a patient is significantly associated with higher patient satisfaction level ($p<0.05$, CI: 0.28-0.98). Studies in primary care services also indicated that there were significant differences in satisfaction with health services in terms of educational level [7,14,22]. This suggests that the 5-S model has its intended outcome as it was designed to increase access to and quality of care for the poor (who have fewer options for care). It may also be explained by the exaggerated expectations for high standard of care among the educated respondents.

Distance to health facility was associated with patient satisfaction that is consistent with a finding reported from a primary health care facility [22]. Similarly, the patient's perceived accessibility of health service was the strongest predictor of general satisfaction reported by a study conducted in Uganda [23]. This could be explained by the effect of distance on travel costs, time and productivity related with inaccessibility of health service. A study by Dibba et al. also reported that distance to health facility posed a significant challenge for many patients in rural contexts of Sierra Leone where transportation costs made it difficult for patients to attend health facility appointments [21]. The study also emphasized that patients were willing to walk long distances to the PIH-supported health facilities to obtain free medication [21].

Among the socio-economic variables, a study by Gibru et al., reported that OPD patient satisfaction was significantly affected by age and gender [7]. However, our study reported that the association was not statistically significant.

This study also pointed out that some major reasons of visiting the health facilities were availability of medicines, accessibility, good service provision, and availability of friendly and qualified health workers. A study from Nigeria also indicated that the ability of the health care provider to offer explanations clearly to patients were predictors of patient satisfaction [16]. Another study from India reported that friendliness of the care provider, explanations the care provider gave about the problem and information the care provider gave about medications and follow-up care are among the major reasons for good satisfaction after receiving health service [8].

Implications for policy and practice

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Patients seek timely and convenient services when utilizing healthcare. Though the findings from this study highlighted relatively better levels of patient satisfaction, this study pointed out the factors that need to be considered to further improve patient satisfaction in primary healthcare facilities. With this, health facilities leadership need to give attention to improve their patient's positive experiences when they utilize their health facilities.

In recent years, there has been a growing interest in patient satisfaction as a measure of outcome and quality of care as it provides information on how well health service providers meet patients' values and expectations. This study pointed out that the major reasons why patients visit health facilities are; availability of medicines, accessibility, good service provision, and availability of friendly and qualified health workers, highlighting the need to improve quality of care and service characteristics to optimize the patient satisfaction level at the PHU level. This implies that patient satisfaction structured interventions should be put in place in a systematic way according to the MoH standards of care. This will improve treatment adherence [3] and by extension health outcomes.

The amount of time spent to see a health worker was also a significant predictor of patient satisfaction. This also demands appropriately addressing the patient flow, staffing and service expansion to improve both accessibility and quality of care. These calls for refocusing to improve the overall patient care in the local context and meet the patient needs at the PHU level.

Our findings also show that PIH interventions in augmenting MoH health care service delivery by the 5-S model is highly effective in improving patient satisfaction with respect to a healthcare system performance.

Limitations: This was a facility-based cross-sectional study conducted in selected health facilities from one district. This might limit generalizability to the national Sierra Leone context. The finding of this study might also be subjected to recall bias, and social desirability bias because the respondents were interviewed within the health facilities compound. Despite this situation, participants still shared important critiques of their experiences at the selected facilities, and services.

Furthermore, perceptions of patients potentially affected by their cultural beliefs and previous experiences were not captured qualitatively. Future studies should look into these.

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Conclusions

The overall patient satisfaction level was relatively high and PIH-supported health facilities have better patient satisfaction as compared to non-PIH supported health facilities. Patient's educational status, distance to health facility and waiting time were negatively associated with patient satisfaction level. Therefore, we recommend that adequate attention should be paid to expansion of advanced primary care to improve service accessibility and improving several aspects of service provision such as waiting time and staffing in a way that addresses high patient flow. Moreover, PIH's philosophy of targeted investment can be scaled up and the MoH should implement policies for improving the quality of services provided by primary health care professionals. Further large-scale studies that include qualitative perspectives of health workers and patients are recommended.

List of abbreviations

AOR: Adjusted Odds Ratio; CI: Confidence Interval; COR: Crude Odds Ratio; MoH: Ministry of Health; NCD: Non-Communicable Disease; OPD: Outpatient Department; PCA: Principal Component Analysis; PHU: Peripheral Health Unit; PIH: Partners In Health; PS: Patient Satisfaction; SLESRC: Sierra Leone Ethics and Scientific Review Committee; USA: United States of America; VIF: Variance Inflation Factor

Declaration

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Author Contributors: YD, FB, GJ, VC, SJ and ZAM conceived and designed the study. YD, FB, SW, LC, JH, MPK, JSM, and ZAM performed the data analysis, data interpretation and drafting the manuscript. All the coauthors reviewed and approved the final manuscript. Yusupha Dibba (YD) is the guarantor of this manuscript.

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Competing interests: None to declare.

Patient consent for publication: Not applicable.

Data availability statement: Data are available on reasonable request.

Ethics approval: The Sierra Leone Ethics and Scientific Review Committee (SLESRC) approved this study. In addition, informed consent was obtained from all participants included in this study.

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FIGURE LEGENDS

1. Figure 1: PIH 5-S model
2. Figure 2: Level of satisfaction among the respondents [N=290]
3. Figure 3: Reasons for choosing the primary health care facilities [N=290]

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1. Figure 1: PIH 5-S model

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Figure 2: Level of satisfaction among the respondents [N=290]

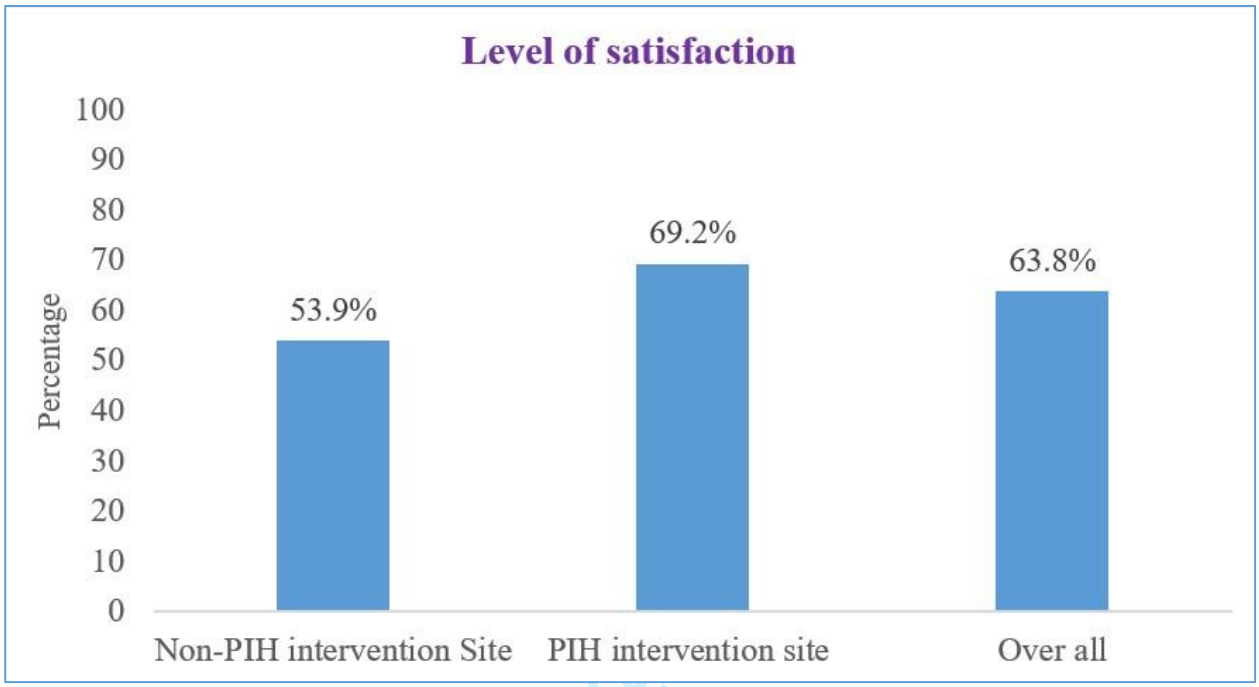

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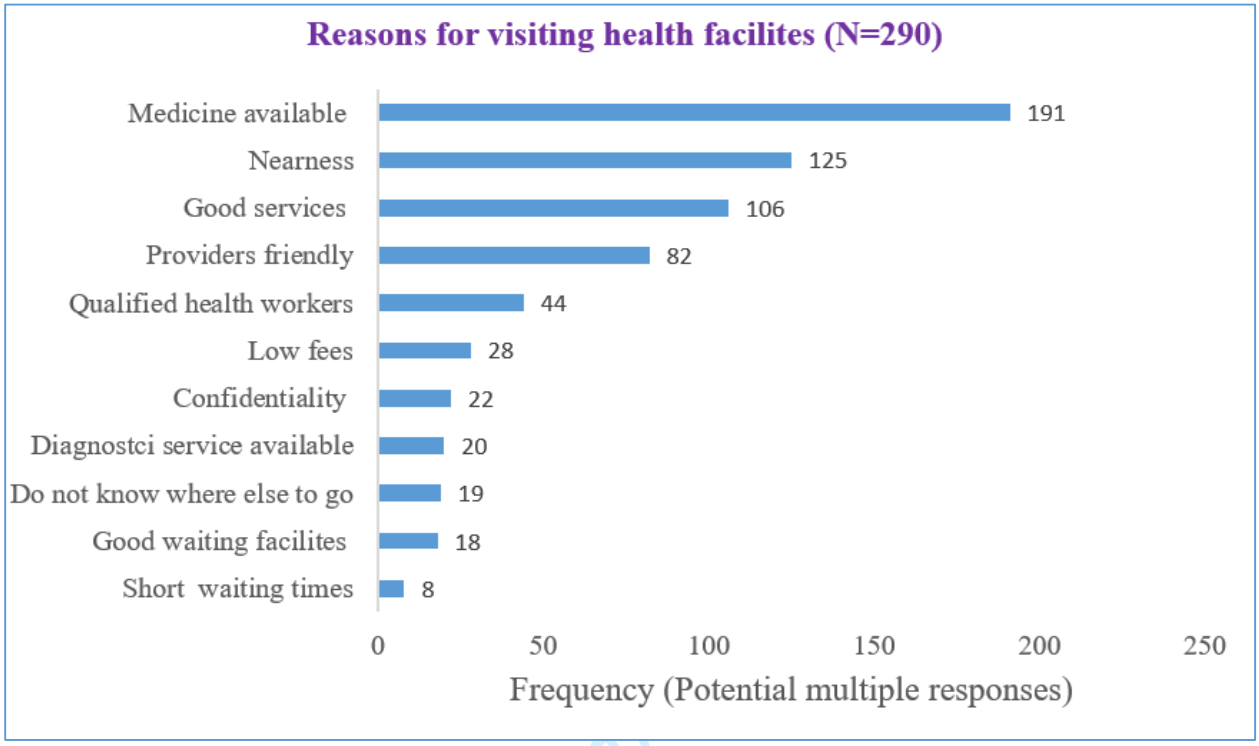
Figure 3: Reasons for choosing the primary health care facilities [N=290]



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PATIENT EXIT SURVEY

FACILITY DETAILS

	Name of facility	[Drop down]	
	District	[Drop down]	
	Chiefdom	[Drop down]	
	Type of facility	National tertiary referral hospital ..... Provincial secondary hospital..... District secondary hospital..... Community health centre (chc) ..... Community health post (chp) ..... Maternal child health post (mchp)..... Other (specify)	
	Managing Authority	Government/public..... Ngo/not-for-profit..... Private-for-profit ..... Mission/faith-based ..... Other (specify)	
	Urban/rural	Urban ..... Rural	
	Geocode		

HEALTH INFORMATION CONSENT FORMS

X: INTERVIEW DETAILS

	Interviewer name	[Drop down list of interviewers]	
	Date of Interview	[Date]	
	Time of Interview	[Time]	
	Health facility unit	OPD MCH (family planning, ANC, and postnatal care) HIV/TB clinic	

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PATIENT (IF CHILD IS THE PATIENT, RESPONDENT) DEMONGRAPHIC INFORMATION

	What is your age?		
	What is your gender?		
	What is your current marital status?	1 Married or living together 2 Divorced/separated 3 Widowed 4 Never married and never lived together	
	Have you ever attended school?	0 No 1 Yes 98 Don't know	
	What is the highest level of school you attended?	Sierra Leone 1 Pre-primary 2 Primary 3 Secondary 3 Tertiary/university 4 Vocational/trade school 5 Madrasa 98 Don't know	
	Are you currently working?	0 No 1 Yes 98 Don't know	
	Has you always lived in this chiefdom?	0 No 1 Yes 98 Don't know	
	Are you visiting the health facility today because of a problem you are having or because of a problem the child is having?	○ Self ○ Child ○ Both	
	If child, how is old is the child?		

HOUSEHOLDS SOCIAL ECONOMIC STATUS

	Does your household have electricity?	0 No 1 Yes	
	Does your house have a television?	0 No 1 Yes	

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	Does your household have a refrigerator?	0 No 1 Yes	
	Does your household have a mobile phone?	0 No 1 Yes	
	Does any member of your household own a watch?	0 No 1 Yes	
	Does any member of your household have a bank account?	0 No 1 Yes	
	What is the main material of the floor?	1 Earth/sand/dung 2 Cement 3 Other	
	What is the main material of the exterior walls?	1 Cane/palm/trunks/dirt 2 Cement 3 Other	
	What is the main material of the roof?	1 Metallic sheets 2 Other	
	What type of fuel does your household mainly use for cooking?	1 Charcoal 2 Wood 3 Other	
	In the last month, approximately what was the total income for this household?	1 Less than Le 150,000 2 150,000 – 299,999 3 300,000 – 449,999 4 450,000 – 599,999 5 600,000 – 749,999 6 750,000 – 999,999 7 1,000,000 – 2,000,000 8 Above 2,000,000	
	How much in total has your household spent on the following items IN THE LAST MONTH? [Autofill with 0, enter 98 for Don't know]	LD [Integer] response for all A Food B Energy (Paraffin, charcoal) C Water D Electricity E Rent F Health care G Everything else	

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	[Calculate sum of expenditures above] In the last month, your household has spent a total of [TOTAL]. Is this right? [IF INCORRECT GO BACK TO 313 AND REVISE]		
	Are you visiting the clinic because of acute or routine or TB/HIV visits	1. Acutely sick 2. Routine visits (Family Planning, ANC and Post-natal care 3. Chronic care services (HIV and TB services)	

HEALTH CARE UTILIZATION (ACUTE)

	Are you here because you are acutely sick	Yes No	If acutely sick, ask the below questions
	Are you here suffering from any of the following conditions?	1 Diarrhea 2 Fever 3 Difficulty breathing/coughing 4 Serious injury 5 Pain 6 Skin problem (ulcers/sores/rashes etc) 7 Anxiety/depression/difficulty sleeping 8 Nausea/dizziness/light-headed 9 Appetite problems 10 Fatigue 96 Other (please specify	
	If other, please specify		
	How much did the illness affect your day-to-day life?	1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all	
	How concerned were you about the illness?	1 Extremely 2 A lot 3 Moderately	

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		4 Slightly 5 Not at all	
	What was the nature of the injury?	1 Road traffic accident 2 Fall or other blunt force 3 Poisoning 4 Burn 96 Other (please specify)	
	Who managed you at this clinic during your visit today?	1 Medical doctor 2 Nurse 3 Midwife 4 Clinical officer 5 Dentist 6 Traditional practitioner 96 Other	
	During this illness, Did you seek care somewhere before coming to this hospital ?	Yes No	If yes, answer question below
	Where did you seek care?	Sierra Leone 1 Hospital or clinic 2 Drug store 3 Drug peddler 4 Traditional doctor 5 CHW 6 Church yard 7 At home 96 Other (please specify)	
	Please specify		
	If hospital, Please name the hospital/clinic		
	About how long did it take you to get there?	[Integer] Hours [Integer] Minutes [Autofill 0]	
	How did you get hear? [SELECT ALL THAT APPLY]	1 Private vehicle 2 Public transportation 3 Taxicab 4 Ambulance or emergency vehicle 5 Bicycle	

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		6 Motorbike 7 Walked 96 Other	
	During this visits, how long did it take to be managed by the health facility team? [Including waiting times for consultation and treatment]	[Integer] Days [Integer] Hours [Integer] Minutes [Autofill 0]	
	Why did you choose this health facility?	1 Nearness of the facility 2 Service providers are nice/friendly 3 Good services are available 4 Short waiting times 5 Qualified doctors are available 6 Low fees/low treatment cost 7 Good waiting arrangements 8 Confidentiality is maintained 9 Do not know where else to go 10 Medicine is also available 11 Availability of diagnostic service 12 Recommendation from someone 96 Other (please specify)	
	If others, please specify		
	Were there any problems with the service during this visit? [SELECT ALL THAT APPLY]	1 Waited too long 2 Inadequate explanations about the problem or treatment 3 Lack of privacy from having other see or hear the examination or visit 4 Lack of medicines 5 Opening hours are inconvenient 6 Opening days are inconvenient 7 Facility is not clean 8 Poor treatment from staff 9 High cost for services or treatments	
	How do you answer the following questions		
	Health facility staff are compassionate towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree	

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		4 agree 5 strongly agree	
	Health facility staff are disrespectful towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff do not have much time to spend with the people they care for	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	I find it easy to talk to health facility staff	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are knowledgeable about my condition	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are unkind to patients	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is always clean and well maintained	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility has proper medical equipment	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	

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	The health facility often runs out of medication and supplies	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is well staffed	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Waiting line this health facility is too long	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Overall, I am satisfied with the care provided to and my family by health facility staff	1 Very satisfied 2 Satisfied 3 Neither satisfied nor dissatisfied 4 Dissatisfied 5 Very dissatisfied	
	Health care spending		
	Registration and consultation fees for this illness?	1. [Integer] Leones 2. Free 3. Don't know	
	Diagnostic and laboratory tests, such as x-rays or blood tests?		
	Medications or drugs	1. [Integer] Leones 2. Free 3. Don't know	
	Any other health care products or services that were not included above? Please specify:	1. [Integer] Leones 2. Free 3. Don't know	

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Tuberculosis/HIV services

	Are you here for routine HIV/tuberculosis services?	0 No I Yes	
	If yes, which services are you receiving here today?	1 tuberculosis services 2 HIV services 3 Both	
	How much did this illness (tuberculosis or HIV) affect your day-to-day life?	1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all	
	How concerned are you about the illness?	1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all	
	Who managed you at this clinic during your visit today?	1 Medical doctor 2 Nurse 3 Midwife 4 Clinical officer 5 Dentist 6 Traditional practitioner 96 Other	
	In the past 3 months (or since the diagnosis of this disease if it was diagnosed less than 3 months ago), did you seek care somewhere before coming to this hospital ?	Yes No	If yes, answer question below
	Where did you seek care?	Sierra Leone 1 Hospital or clinic 2 Drug store 3 Drug peddler 4 Traditional doctor 5 CHW 6 Church yard 7 At home	

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		96 Other (please specify)	
	Please specify		
	If hospital, Please name the hospital/clinic		
	About how long did it take you to get this clinic today?	[Integer] Hours [Integer] Minutes [Autofill 0]	
	How did you get here? [SELECT ALL THAT APPLY]	1 Private vehicle 2 Public transportation 3 Taxicab 4 Ambulance or emergency vehicle 5 Bicycle 6 Motorbike 7 Walked 96 Other	
	During this visits, how long did it take to be managed by the health facility team? [Including waiting times for consultation and treatment]	[Integer] Days [Integer] Hours [Integer] Minutes [Autofill 0]	
	Why did you choose this health facility?	1 Nearness of the facility 2 Service providers are nice/friendly 3 Good services are available 4 Short waiting times 5 Qualified doctors are available 6 Low fees/low treatment cost 7 Good waiting arrangements 8 Confidentiality is maintained 9 Do not know where else to go 10 Medicine is also available 11 Availability of diagnostic service 12 Recommendation from someone 96 Other (please specify)	
	If others, please specify		
	Were there any problems with the service during this visit? [SELECT ALL THAT APPLY]	1 Waited too long 2 Inadequate explanations about the problem or treatment	

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		3 Lack of privacy from having other see or hear the examination or visit 4 Lack of medicines 5 Opening hours are inconvenient 6 Opening days are inconvenient 7 Facility is not clean 8 Poor treatment from staff 9 High cost for services or treatments	
	How do you answer the following questions		
	Health facility staff are compassionate towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are disrespectful towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff do not have much time to spend with the people they care for	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	I find it easy to talk to health facility staff	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are knowledgeable about my condition	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are unkind to patients	1 strongly disagree	

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		2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is always clean and well maintained	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility has proper medical equipment	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility often runs out of medication and supplies	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is well staffed	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Waiting line this health facility is too long	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Overall, I am satisfied with the care provided to and my family by health facility staff	1 Very satisfied 2 Satisfied 3 Neither satisfied nor dissatisfied 4 Dissatisfied 5 Very dissatisfied	
	Health care spending		

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	Registration and consultation fees for this visit?	1. [Integer] Leones 2. Free 3. Don't know	
	Diagnostic and laboratory tests, such as x-rays or blood tests?		
	Medications or drugs	1. [Integer] Leones 2. Free 3. Don't know	
	Any other health care products or services that were not included above? Please specify:	1. [Integer] Leones 2. Free 3. Don't know	

Reproductive, Maternal and child health services

3201	Please indicate which services the patient has received today	1 Family planning 2 Antenatal Care 3 Postnatal care	
	Who managed you at this clinic during your visit today?	1 Medical doctor 2 Nurse 3 Midwife 4 Clinical officer 5 Dentist 6 Traditional practitioner 96 Other	
	About how long did it take you to get there?	[Integer] Hours [Integer] Minutes [Autofill 0]	
	How did you get here? [SELECT ALL THAT APPLY]	1 Private vehicle 2 Public transportation 3 Taxicab 4 Ambulance or emergency vehicle 5 Bicycle 6 Motorbike 7 Walked	

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		96 Other	
	During this visist, how long did it take to be managed by the health facility team? [Including waiting times for consultation and treatment]	[Integer] Days [Integer] Hours [Integer] Minutes [Autofill 0]	
	Why did you choose this health facility?	1 Nearness of the facility 2 Service providers are nice/friendly 3 Good services are available 4 Short waiting times 5 Qualified doctors are available 6 Low fees/low treatment cost 7 Good waiting arrangements 8 Confidentiality is maintained 9 Do not know where else to go 10 Medicine is also available 11 Availability of diagnostic service 12 Recommendation from someone 96 Other (please specify)	
	If others, please specify		
	Were there any problems with the service during this visit? [SELECT ALL THAT APPLY]	1 Waited too long 2 Inadequate explanations about the problem or treatment 3 Lack of privacy from having other see or hear the examination or visit 4 Lack of medicines 5 Opening hours are inconvenient 6 Opening days are inconvenient 7 Facility is not clean 8 Poor treatment from staff 9 High cost for services or treatments	
	How do you answer the following questions		
	Health facility staff are compassionate towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	

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	Health facility staff are disrespectful towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff do not have much time to spend with the people they care for	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	I find it easy to talk to health facility staff	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are knowledgeable about my condition	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are unkind to patients	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is always clean and well maintained	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility has proper medical equipment	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	

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	The health facility often runs out of medication and supplies	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is well staffed	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Waiting line this health facility is too long	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Overall, I am satisfied with the care provided to and my family by health facility staff	1 Very satisfied 2 Satisfied 3 Neither satisfied nor dissatisfied 4 Dissatisfied 5 Very dissatisfied	
	Health care spending		
	Registration and consultation fees for this illness?	1. [Integer] Leones 2. Free 3. Don't know	
	Diagnostic and laboratory tests, such as x-rays or blood tests?		
	Medications or drugs	1. [Integer] Leones 2. Free 3. Don't know	
	Any other health care products or services that were not included above? Please specify:	1. [Integer] Leones 2. Free 3. Don't know	

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Question	Type
/name_of_facility	Multiple Choice
/name_of_facility-jjd	Choice
/name_of_facility-phc	Choice
/name_of_facility-edwh	Choice
/name_of_facility-boniken	Choice
/consent	Question List
/consent/note_consent	Text
/consent/rec_questions	Text
/consent/consent	Multiple Choice
/consent/consent-1	Choice
/consent/consent-0	Choice
/consent/dissent	Multiple Choice
/consent/dissent-1	Choice
/consent/dissent-2	Choice
/consent/dissent-3	Choice
/consent/dissent-4	Choice
/consent/dissent-96	Choice
/consent/dissent_other_reason	Text
/interview	Question List
/interview/time_of_interview	Time
/interview/date_of_interview	Date
/interview/interviewer_name	Text
/patient	Question List
/patient/age	Integer
/patient/gender	Multiple Choice
/patient/gender-m	Choice
/patient/gender-f	Choice
/patient/marital_status	Multiple Choice
/patient/marital_status-married_or_living_together	Choice
/patient/marital_status-divorced_separated	Choice
/patient/marital_status-widowed	Choice
/patient/marital_status-never_married_never_lived_together	Choice
/patient/attended_school	Multiple Choice
/patient/attended_school-yes	Choice
/patient/attended_school-no	Choice

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/patient/highest_level_of_school	Multiple Choice
/patient/highest_level_of_school-vocational_trade_school	Choice
/patient/highest_level_of_school-pre-primary	Choice
/patient/highest_level_of_school-primary	Choice
/patient/highest_level_of_school-secondary	Choice
/patient/highest_level_of_school-tertiary_university	Choice
/patient/are_you_currently_working	Multiple Choice
/patient/are_you_currently_working-yes	Choice
/patient/are_you_currently_working-no	Choice
/patient/always_lived_in_this_district	Multiple Choice
/patient/always_lived_in_this_district-yes	Choice
/patient/always_lived_in_this_district-no	Choice
/household_items	Question List
/household_items/label_does_your_house_have	Multiple Choice
/household_items/label_does_your_house_have-yes	Choice
/household_items/label_does_your_house_have-no	Choice
/household_items/electricity	Multiple Choice
/household_items/electricity-yes	Choice
/household_items/electricity-no	Choice
/household_items/television	Multiple Choice
/household_items/television-yes	Choice
/household_items/television-no	Choice
/household_items/refrigerator	Multiple Choice
/household_items/refrigerator-yes	Choice
/household_items/refrigerator-no	Choice
/household_items/mobile_phone	Multiple Choice
/household_items/mobile_phone-yes	Choice
/household_items/mobile_phone-no	Choice
/household_items/watch	Multiple Choice
/household_items/watch-yes	Choice
/household_items/watch-no	Choice
/household_items/bank_account	Multiple Choice
/household_items/bank_account-yes	Choice
/household_items/bank_account-no	Choice
/house_materials	Question List
/house_materials/main_material_of_the_floor	Multiple Choice
/house_materials/main_material_of_the_floor-earth_sand_dung	Choice
/house_materials/main_material_of_the_floor-cement	Choice
/house_materials/main_material_of_the_floor-other	Choice
/house_materials/main_material_of_exterior_walls	Multiple Choice
/house_materials/main_material_of_exterior_walls-cane_palm_	Choice
/house_materials/main_material_of_exterior_walls-cement	Choice
/house_materials/main_material_of_exterior_walls-other	Choice
/house_materials/main_material_of_the_roof	Multiple Choice
/house_materials/main_material_of_the_roof-metallic_sheets	Choice
/house_materials/main_material_of_the_roof-other	Choice
/house_materials/cooking_fuel_type	Multiple Choice
/house_materials/cooking_fuel_type-charcoal	Choice
/house_materials/cooking_fuel_type-wood	Choice
/house_materials/cooking_fuel_type-other	Choice
/household_expenditures	Question List
/household_expenditures/total_income_last_month	Multiple Choice

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/household_expenditures/total_income_last_month-1_1999	Choice
/household_expenditures/total_income_last_month-2000_3499	Choice
/household_expenditures/total_income_last_month-3500_5999	Choice
/household_expenditures/total_income_last_month-6000_9999	Choice
/household_expenditures/total_income_last_month-10000_149	Choice
/household_expenditures/total_income_last_month-15000_199	Choice
/household_expenditures/total_income_last_month-20000_299	Choice
/household_expenditures/total_income_last_month-30000_plus	Choice
/household_expenditures/total_income_last_month-no_income	Choice
/household_expenditures/total_income_last_month-unknown	Choice
/household_expenditures/label_total_spent_last_month	Label
/household_expenditures/expenditure_food	Integer
/household_expenditures/expenditure_food_dont_know	Checkbox
/household_expenditures/expenditure_food_dont_know-dont_k	Choice
/household_expenditures/expenditure_energy	Integer
/household_expenditures/expenditure_energy_dont_know	Checkbox
/household_expenditures/expenditure_energy_dont_know-dont	Choice
/household_expenditures/expenditure_water	Integer
/household_expenditures/expenditure_water_dont_know	Checkbox
/household_expenditures/expenditure_water_dont_know-dont_	Choice
/household_expenditures/expenditure_electricity	Integer
/household_expenditures/expenditure_electricity_dont_know	Checkbox
/household_expenditures/expenditure_electricity_dont_know-d	Choice
/household_expenditures/expenditure_rent	Integer
/household_expenditures/expenditure_rent_dont_know	Checkbox
/household_expenditures/expenditure_rent_dont_know-dont_k	Choice
/household_expenditures/expenditure_health_care	Integer
/household_expenditures/expenditure_healthcare_dont_know	Checkbox
/household_expenditures/expenditure_healthcare_dont_know-c	Choice
/household_expenditures/expenditure_everything_else	Integer
/household_expenditures/expenditure_everything_else_dont_kr	Checkbox
/household_expenditures/expenditure_everything_else_dont_kr	Choice
/household_expenditures/expenditure_total	Hidden Value
/household_expenditures/label_total_expenditure	Label
/utilization	Question List
/utilization/visit_for_self_or_child	Multiple Choice
/utilization/visit_for_self_or_child-self	Choice
/utilization/visit_for_self_or_child-child	Choice
/utilization/visit_for_self_or_child-both_self_and_child	Choice
/utilization/age_of_child	Integer
/utilization/reason_for_visit	Multiple Choice
/utilization/reason_for_visit-acutely_sick	Choice
/utilization/reason_for_visit-routine_care	Choice
/utilization/reason_for_visit-chronic_care	Choice
/utilization/reason_for_visit-prefer_not_to_say	Choice
/utilization/acute_illness_specify	Checkbox
/utilization/acute_illness_specify-diarrhea	Choice
/utilization/acute_illness_specify-fever	Choice
/utilization/acute_illness_specify-difficulty_breathing_coughing	Choice
/utilization/acute_illness_specify-serious_injury	Choice
/utilization/acute_illness_specify-pain	Choice
/utilization/acute_illness_specify-skin_problems	Choice

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/utilization/acute_illness_specify-anxiety_depression_difficulty_s	Choice
/utilization/acute_illness_specify-nausea_dizziness_light-headed	Choice
/utilization/acute_illness_specify-appetite_problems	Choice
/utilization/acute_illness_specify-fatigue	Choice
/utilization/acute_illness_specify-other_please_specify	Choice
/utilization/acute_illness_specify-prefer_not_to_say	Choice
/utilization/other_acute_conditions	Text
/utilization/nature_of_injury	Multiple Choice
/utilization/nature_of_injury-road_traffic_accident	Choice
/utilization/nature_of_injury-fall_or_other_blunt_force	Choice
/utilization/nature_of_injury-poisoning	Choice
/utilization/nature_of_injury-burn	Choice
/utilization/nature_of_injury-other_please_specify	Choice
/utilization/nature_of_injury-prefer_not_to_say	Choice
/utilization/other_nature_of_injury	Text
/utilization/chronic_care_services_specify	Checkbox
/utilization/chronic_care_services_specify-hiv	Choice
/utilization/chronic_care_services_specify-tb	Choice
/utilization/chronic_care_services_specify-ncd	Choice
/utilization/chronic_care_services_specify-prefer_not_to_say	Choice
/utilization/routine_services_specify	Multiple Choice
/utilization/routine_services_specify-fp	Choice
/utilization/routine_services_specify-anc	Choice
/utilization/routine_services_specify-pnc	Choice
/utilization/routine_services_specify-prefer_not_to_say	Choice
/utilization/how_much_illness_affects_day_to_day_life	Multiple Choice
/utilization/how_much_illness_affects_day_to_day_life-extreme	Choice
/utilization/how_much_illness_affects_day_to_day_life-a_lot	Choice
/utilization/how_much_illness_affects_day_to_day_life-moderat	Choice
/utilization/how_much_illness_affects_day_to_day_life-slightly	Choice
/utilization/how_much_illness_affects_day_to_day_life-not_at_a	Choice
/utilization/how_concerned_about_illness	Multiple Choice
/utilization/how_concerned_about_illness-extremely	Choice
/utilization/how_concerned_about_illness-a_lot	Choice
/utilization/how_concerned_about_illness-moderately	Choice
/utilization/how_concerned_about_illness-slightly	Choice
/utilization/how_concerned_about_illness-not_at_all	Choice
/utilization/who_managed_care_during_visit	Multiple Choice
/utilization/who_managed_care_during_visit-medical_doctor	Choice
/utilization/who_managed_care_during_visit-nurse	Choice
/utilization/who_managed_care_during_visit-midwife	Choice
/utilization/who_managed_care_during_visit-clinical_officer	Choice
/utilization/who_managed_care_during_visit-dentist	Choice
/utilization/who_managed_care_during_visit-other	Choice
/utilization/other_health_provider	Text
/utilization/seek_previous_care	Multiple Choice
/utilization/seek_previous_care-yes	Choice
/utilization/seek_previous_care-no	Choice
/utilization/where_seek_previous_care	Multiple Choice
/utilization/where_seek_previous_care-hospital_or_clinic	Choice
/utilization/where_seek_previous_care-drug_store	Choice
/utilization/where_seek_previous_care-drug_peddler	Choice

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/utilization/where_seek_previous_care-traditional_doctor	Choice
/utilization/where_seek_previous_care-chw	Choice
/utilization/where_seek_previous_care-church_yard	Choice
/utilization/where_seek_previous_care-at_home	Choice
/utilization/where_seek_previous_care-other	Choice
/utilization/name_of_previous_care_hospital_or_clinic	Text
/utilization/other_location_of_previous_care	Text
/utilization/transportation_method_to_care	Checkbox
/utilization/transportation_method_to_care-private_vehicle	Choice
/utilization/transportation_method_to_care-public_transportatic	Choice
/utilization/transportation_method_to_care-taxicab	Choice
/utilization/transportation_method_to_care-ambulance_or_eme	Choice
/utilization/transportation_method_to_care-bicycle	Choice
/utilization/transportation_method_to_care-motorbike	Choice
/utilization/transportation_method_to_care-walked	Choice
/utilization/transportation_method_to_care-other	Choice
/utilization/other_transportation_method	Text
/utilization/label_how_long_to_care	Label
/utilization/hours_to_care	Integer
/utilization/minutes_to_care	Integer
/utilization/dont_know_how_long	Multiple Choice
/utilization/dont_know_how_long-dont_know	Choice
/utilization/label_how_long_to_receive_treatment	Label
/utilization/hours_to_receive_treatment	Integer
/utilization/minutes_to_receive_treatment	Integer
/utilization/why_choose_this_health_facility	Checkbox
/utilization/why_choose_this_health_facility-nearness	Choice
/utilization/why_choose_this_health_facility-providers_friendly	Choice
/utilization/why_choose_this_health_facility-good_services	Choice
/utilization/why_choose_this_health_facility-short_waiting_time	Choice
/utilization/why_choose_this_health_facility-qualified_doctors	Choice
/utilization/why_choose_this_health_facility-low_fees	Choice
/utilization/why_choose_this_health_facility-good_waiting_facili	Choice
/utilization/why_choose_this_health_facility-confidentiality	Choice
/utilization/why_choose_this_health_facility-do_not_know_whe	Choice
/utilization/why_choose_this_health_facility-medicine_available	Choice
/utilization/why_choose_this_health_facility-diagnostic_service_	Choice
/utilization/why_choose_this_health_facility-recommendation	Choice
/utilization/why_choose_this_health_facility-other	Choice
/utilization/other_reason_to_choose_this_facility	Text
/utilization/problems_with_service	Checkbox
/utilization/problems_with_service-waited_too_long	Choice
/utilization/problems_with_service-inadequate_explanations	Choice
/utilization/problems_with_service-lack_of_privacy	Choice
/utilization/problems_with_service-lack_of_medicines	Choice
/utilization/problems_with_service-hours_inconvenient	Choice
/utilization/problems_with_service-days_inconvenient	Choice
/utilization/problems_with_service-facility_not_clean	Choice
/utilization/problems_with_service-poor_treatment_from_staff	Choice
/utilization/problems_with_service-high_cost	Choice
/satisfaction	Question List
/satisfaction/how_would_you_answer_the_following_questions	Multiple Choice

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/satisfaction/how_would_you_answer_the_following_questions	Choice
/satisfaction/how_would_you_answer_the_following_questions	Choice
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/satisfaction/how_would_you_answer_the_following_questions	Choice
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/satisfaction/staff_compassionate-1	Choice
/satisfaction/staff_compassionate-2	Choice
/satisfaction/staff_compassionate-3	Choice
/satisfaction/staff_compassionate-4	Choice
/satisfaction/staff_compassionate-5	Choice
/satisfaction/staff_disrespectful	Multiple Choice
/satisfaction/staff_disrespectful-1	Choice
/satisfaction/staff_disrespectful-2	Choice
/satisfaction/staff_disrespectful-3	Choice
/satisfaction/staff_disrespectful-4	Choice
/satisfaction/staff_disrespectful-5	Choice
/satisfaction/staff_do_not_have_time	Multiple Choice
/satisfaction/staff_do_not_have_time-1	Choice
/satisfaction/staff_do_not_have_time-2	Choice
/satisfaction/staff_do_not_have_time-3	Choice
/satisfaction/staff_do_not_have_time-4	Choice
/satisfaction/staff_do_not_have_time-5	Choice
/satisfaction/easy_to_talk_to_staff	Multiple Choice
/satisfaction/easy_to_talk_to_staff-1	Choice
/satisfaction/easy_to_talk_to_staff-2	Choice
/satisfaction/easy_to_talk_to_staff-3	Choice
/satisfaction/easy_to_talk_to_staff-4	Choice
/satisfaction/easy_to_talk_to_staff-5	Choice
/satisfaction/knowledgeable_staff	Multiple Choice
/satisfaction/knowledgeable_staff-1	Choice
/satisfaction/knowledgeable_staff-2	Choice
/satisfaction/knowledgeable_staff-3	Choice
/satisfaction/knowledgeable_staff-4	Choice
/satisfaction/knowledgeable_staff-5	Choice
/satisfaction/staff_unkind	Multiple Choice
/satisfaction/staff_unkind-1	Choice
/satisfaction/staff_unkind-2	Choice
/satisfaction/staff_unkind-3	Choice
/satisfaction/staff_unkind-4	Choice
/satisfaction/staff_unkind-5	Choice
/satisfaction/facility_clean	Multiple Choice
/satisfaction/facility_clean-1	Choice
/satisfaction/facility_clean-2	Choice
/satisfaction/facility_clean-3	Choice
/satisfaction/facility_clean-4	Choice
/satisfaction/facility_clean-5	Choice
/satisfaction/proper_medical_equipment	Multiple Choice
/satisfaction/proper_medical_equipment-1	Choice
/satisfaction/proper_medical_equipment-2	Choice
/satisfaction/proper_medical_equipment-3	Choice
/satisfaction/proper_medical_equipment-4	Choice

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/satisfaction/proper_medical_equipment-5	Choice
/satisfaction/runs_out_of_medication_and_supplies	Multiple Choice
/satisfaction/runs_out_of_medication_and_supplies-1	Choice
/satisfaction/runs_out_of_medication_and_supplies-2	Choice
/satisfaction/runs_out_of_medication_and_supplies-3	Choice
/satisfaction/runs_out_of_medication_and_supplies-4	Choice
/satisfaction/runs_out_of_medication_and_supplies-5	Choice
/satisfaction/well_staffed	Multiple Choice
/satisfaction/well_staffed-1	Choice
/satisfaction/well_staffed-2	Choice
/satisfaction/well_staffed-3	Choice
/satisfaction/well_staffed-4	Choice
/satisfaction/well_staffed-5	Choice
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/satisfaction/wait_line_too_long-1	Choice
/satisfaction/wait_line_too_long-2	Choice
/satisfaction/wait_line_too_long-3	Choice
/satisfaction/wait_line_too_long-4	Choice
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/satisfaction/overall_satisfied-2	Choice
/satisfaction/overall_satisfied-3	Choice
/satisfaction/overall_satisfied-4	Choice
/satisfaction/overall_satisfied-5	Choice
/spending	Question List
/spending/registration_consultation_fee_type	Multiple Choice
/spending/registration_consultation_fee_type-not_free	Choice
/spending/registration_consultation_fee_type-free	Choice
/spending/registration_consultation_fee_type-dont_know	Choice
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/spending/diagnostic_lab_test_fee_type-free	Choice
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/spending/medication_fee_type-not_free	Choice
/spending/medication_fee_type-free	Choice
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/spending/other_healthcare_fee	Integer

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Text (en)	Audio (en)	Image (en)	Video (en)	Video Inlin
Name of Facility				
JJD				
PHC				
EDWH				
Boniken				
Consent				
PARTICIPANT CONSENT Hello. My name is _____. I am working with PIH. We are conducting a survey about health and other topics all over the district. The information we collect will help the government and PIH to plan health services. I would like to ask you some questions about your care at this facility. The questions usually take about 15 to 30 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.				
Do you have any questions at this time? Record if any:				
May I begin the interview now?				
Yes				
No				
Why don't you consent to be interviewed?				
Too busy/do not have time				
Tired of research				
Research not beneficial				
Not interested				
Other (Specify)				
Other reason specify				
Interview				
Time of Interview				
Date of Interview				
Interviewer Name				
Patient				
What is your age?				
What is your gender?				
M				
F				
What is your current marital status?				
Married or living together				
Divorced/separated				
Widow/widower				
Never married, never lived together				
Have you ever attended school?				
Yes				
No				

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What is the highest level of school you attended?
Vocational/Trade School
Pre-primary
Primary
Secondary
Tertiary/University
Are you currently working?
Yes
No
Have you always lived in this District?
Yes
No
Household items
Does your household have:
Yes
No
Electricity
Yes
No
Television
Yes
No
Refrigerator
Yes
No
Mobile Phone
Yes
No
A watch
Yes
No
A Bank Account?
Yes
No
House materials
What is the main material of the floor?
Earth/ sand/ dung
Cement
Other
What is the main material of the exterior walls?
Cane/ palm/ trunks/ dirt
Cement
Other
What is the main material of the roof?
Metallic sheets
Other
What type of fuel does your household mainly use for cooking?
Charcoal
Wood
Other
Expenditures
In the last month, approximately what was the total income for this household.

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Less than LD 2,000
LD 2,000 - 3,499
LD 3,500 - 5,999
LD 6,000 - 9,999
LD 10,000 - 14,999
LD 15,000 - 19,999
LD 20,000 - 29,999
LD 30,000 +
No Income
Unknown

How much in total has your household spend on the following items IN THE LAST MONTH?

Food
Don't know
Don't know
Energy (Paraffin, charcoal)
Don't know
Don't know
Water
Don't know
Don't know
Electricity
Don't know
Don't know
Rent
Don't know
Don't know
Health care
Don't know
Don't know
Everything else
Don't know
Don't know

In the last month, your household has spent a total of <output value="#form/household_expenditures/ex

Health care utilization
Is this visit for yourself, your child or both?
Self Only
Child Only
Both Self and Child
How old is child?
Reason for visit
Acutely Sick
Routine visits (Family planning, ANC, and post-natal care)
Chronic care services (HIV, TB and/or NCD services)
Prefer not to say

Are you and/ or your child suffering from any of the following conditions?

Diarrhea
Fever
Difficulty breathing/ coughing
Serious injury
Pain
Skin problems (ulcers/ sores/ rashes)

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Anxiety/ depression/ difficulty sleeping
Nausea/ dizziness/ light-headed
Appetite problems
Fatigue
Other (please specify)
Prefer not to say
Please specify
What was the nature of the injury
Road traffic accident
Fall or other blunt force
Poisoning
Burn
Other (please specify)
Prefer not to say
Please specify
Which chronic care services are you and/or your child receiving today
HIV
TB
NCD
Prefer not to say
Please indicate which routine services the patient is receiving today
family planning
Antenatal care
Postnatal care
Prefer not to say
How much does this illness affect your and/or your child's day-to-day life?
Extremely
A lot
Moderately
Slightly
Not at all
How concerned are you about the illness?
Extremely
A lot
Moderately
Slightly
Not at all
Who managed you at this clinic during your visit today?
Medical doctor
Nurse
Midwife
Clinical officer
Dentist
Other (please specify)
Please specify
In the past 3 months, did you seek care somewhere for this same illness, before coming to this health facil
Yes
No
Where did you seek care?
Hospital or clinic
Drug store
Drug peddler

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Traditional doctor
CHW
Church yard
At home
Other (please specify)
Name of hospital or clinic
Other, location of care
How did you get here? (select all that apply)
Private vehicle
Public transportation
Taxicab
Ambulance or emergency vehicle
Bicycle
Motorbike
Walked
Other (please specify)
Other transportation method
About how long did it take you to get here?
Hours to care
Minutes to care
Don't know how long
Don't know
During the visits how long did it take to be managed by the health facility team? (including waiting times f
Hours to receive treatment
Minutes to receive treatment
Why did you choose this health facility? (Select all that apply)
Nearness of the facility
Service providers are nice/friendly
Good services are available
Short waiting times
Qualified doctors are available
Low fees/ low treatment cost
Good waiting facilities
Confidentiality is maintained
Do not know where else to go
Medicine is available
Diagnostic service available
Recommendation from someone
Other please specify
Other reason to choose this facility
Where there any problems with the service during this visit? (Select all that apply)
Waited too long
Inadequate explanations about the problem or treatment
Lack of privacy from having other see or hear the examination or visit
Lack of medicines
Opening hours are inconvenient
Opening days are inconvenient
Facility is not clean
Poor treatment from staff
High cost for services or treatments
Patient satisfaction
How would you answer the following questions?

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Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
Health facility staff are compassionate towards my children and myself
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
Health facility staff are disrespectful towards my children and myself
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
Health facility staff do not have much time to spend with the people they care for
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
I find it easy to talk to health facility staff
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
Health facility staff are knowledgeable about my condition
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
Health facility staff are unkind to patients
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
The health facility is always clean and well maintained
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
The health facility has proper medical equipment
Strongly disagree
Disagree
Neither agree nor disagree
Agree

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Strongly agree
The health facility often runs out of medication and supplies
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
The health facility is well staffed
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
Waiting line in this health facility is too long
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
Overall, I am satisfied with the care provided to and my family by health facility staff
Strongly disagree
Disagree
Neither agree nor disagree
Agree
Strongly agree
Healthcare spending
Registration and consultation fee type
Not free
Free
Don't know
Registration and consultation fee (Liberian Dollars)
Diagnostic and laboratory tests, such as x-rays or blood tests fee type
Not free
Free
Don't know
Diagnostic and laboratory tests, such as x-rays or blood tests (Liberian Dollars)
Medication or drugs fee type
Not free
Free
Don't know
Medication or drugs (Liberian Dollars)
Any other health care products or services that were not included above? Please specify:
Not free
Free
Don't know
Other care product or service specify
Other health care product or services (Liberian Dollars)

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Display Cor	Validation	Validation	Calculate C	Required	Hint Text	Help Text	Comment
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				no			
				no			
				yes			
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				no			
				no			
				no			

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	no
	no
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	no
	no
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	no
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	no
#form/hou	no
penditure_total" />. Is that right? [IF INCORRE	no
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	no
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	no
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#form/utilization/reason_for_visit = 'acutely_	no
	no
#form/utilization/who_managed_care_during	no
lity?	no
#form/utilization/seek_previous_care = 'yes'	no

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selected(#form/utilization/transportation_me	no
	no
	no
	no
	no
or consultation and treatment)	no
	no
	no
	no
selected(#form/utilization/why_choose_this_	no
	no
#form/consent/consent = '1'	no
	no

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no

no

no

no

no

no

no

no

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	no
	no
	no
	no
#form/consent/consent = '1'	no
	no
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	no
#form/spending/diagnostic_lab_test_fee_typ	no
	no
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	no
	no
#form/spending/other_healthcare_fee_type =	no

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BMJ Open

Patient Satisfaction and its Associated Factors in Selected Primary Health Care Facilities in Kono District, Sierra Leone. A Cross-sectional Study.

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Keywords:	Patient-Centered Care, Patient Satisfaction, Primary Care < Primary Health Care

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Patient Satisfaction and its Associated Factors in Selected Primary Health Care Facilities in Kono District, Sierra Leone. A cross-sectional Study.

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Abstract

Objective: To assess patient satisfaction with services and its associated factors across selected primary care facilities in Kono district, Sierra Leone.

Design: Facility-based cross sectional study.

Setting: Five primary healthcare facilities (Wellbody, Sewafe, Kombayendeh, Gandorhun, and Kayima) located in Kono district, Sierra Leone. All five are Community Health Centers (CHC), with two CHCs benefiting from a comprehensive package of support (5-S model) from the non-governmental organization (NGO) Partners In Health (PIH). This support, dubbed as 5-S model will be elaborated in this paper. The other three CHCs were not beneficiaries of the 5-S model.

Participants: The study population comprised all patients and caregivers who attend outpatient services at the selected health facilities. We included adult outpatients over 18 years old and adult

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caregivers accompanying their children while waiting in the various outpatient departments. This study considered a sample size of 290 and the data was collected from March 3 to March 31, 2021.

Outcomes: Patient satisfaction was measured using an 11-item Likert scale questionnaire. The outcome was categorized as good or poor satisfaction level using the median value. Descriptive statistics were applied to assess satisfaction level and multivariable binary logistic regression analysis was applied to identify factors associated with the outcome variable.

Results: Out of the 290 respondents included for analysis, the overall patient satisfaction level was 63.8% (95%CI: 58.1%-69.0%). Around 69.2% (95%CI: 62.1%-75.4%) of respondents from PIH intervention sites and 53.9% (95%CI: 44.1%- 63.4%) from the non-PIH intervention sites had a good satisfaction level. The multivariable binary logistic regression analysis indicated PIH intervention site status (AOR=2.47, 95%CI: 1.28-4.78), educational status of respondents [AOR=0.53, 95%CI: 0.28-0.98], distance to health facility [AOR=0.40, 95% CI: 0.18-0.87] and waiting time to receive care [AOR=0.41, 95%CI: 0.22-0.76] were the significant factors associated with patient satisfaction.

Conclusion: The overall patient satisfaction was relatively high and PIH supported health facilities show better patient satisfaction as compared to Non-PIH health facilities. In addition, patient's educational status, distance to health facility and waiting time were negatively associated with patient satisfaction level. The findings suggest that PIH's model of health system strengthening with targeted investment on the 5-S model can be scaled up and the Ministry of Health could consider to implement this approach for improving the quality of services provided at primary healthcare facilities.

Key words: Patient Satisfaction, Partners In Health, Primary Health Care Facilities, Kono, Sierra Leone

Strengths and limitations of this study

- Since this was a facility-based cross-sectional study conducted at a point in time, we cannot establish cause-effect relationship and the findings might not be generalizable to the national Sierra Leone context.
- The finding of this study might also be subjected to social desirability bias because the respondents were interviewed within the health facilities compounds.

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- Since the data is self-reported by the patients or caregivers, there might be recall bias from the patients, especially if they had previously different experience from another health facility.
- Perceptions and experiences of patients were not captured qualitatively.
- Facilities included in this study are from all the cardinal points of the district and therefore respondents are from all the cardinal points (east, west, north, south, and central) of the district, providing a wide respondent representation of the district.

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Introduction

Patient satisfaction (PS) describes how happy a patient is with the health care they receive from their health care providers. Within the public health literature, there is a growing emphasis on including patients in their care processes and an increasing call for clinicians and health care systems to shift their focus away from diseases and back to the patient needs. To optimize this, the interaction between clinicians and patients should be a collaborative and mutual agreement where the patients' care decisions are shared decisions between clinicians, patients and/or their family members [1,2]. Understanding a patient's experience of illness and addressing their needs within an increasingly complex and fragmented health care delivery system can influence patient health-related behaviors, including adherence to treatment and recommendations of healthcare plans [3]. In Sierra Leone, Peripheral HealthCare Units (PHU) serve as the foundation of the health care system, and the majority of patient consultations including the management of long-term chronic conditions, and the delivery of preventive services. As a result, PHUs often act as gatekeepers to the other parts of the healthcare delivery system. The United Nations defined provision of quality healthcare that is safe, affordable, and accessible as one of the Sustainable Development Goals of agenda 2030 [4]. While many countries and healthcare institutions are making strides towards achieving this goal, there are discrepancies in the perception of patients' expectations and satisfaction between healthcare professions and the patients they serve.

The 2014 Ebola outbreak in Sierra Leone had severely disrupted primary health care programs and the country lost many of the gains from previous health system strengthening efforts. Subsequently, at the end of the Ebola outbreak, the utilization of the primary health care facilities reduces drastically [5]. Although we saw increase in service utilization at PHUs years after Ebola due to health strengthening efforts by NGOs especially PIH, little to nothing is known about overall patient satisfaction with the services.

Patient dissatisfaction, as indicated by a study conducted in Ethiopia, is associated with unavailability of drugs and service providers not being polite. [6]. Another study in Ethiopia indicated that patient satisfaction at hospital outpatient departments (OPDs) was high with no statistically significant differences between patient satisfaction at the private wing and regular adult OPDs' of public hospitals [7].

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In North India, a study indicated that the majority of patients using outpatients and inpatients services were satisfied with the care received with a notable recommendation to reduce waiting time at registration and laboratory service departments. However, it was also noted that attention should be given to new medicines prescribed for a patient, and that the possible side effects and purpose of giving the medicine should be explained to them [8]. With these findings, patients' experiences and satisfaction with their treatment are becoming increasingly important in the context of quality assurance, and patient experiences health care, and reporting this information helps patients to have choices in their health care seeking. [9].

While patient satisfaction is considered one of the desired outcomes of health care and is directly related to utilization of health services, there is scant information on patient satisfaction with services provided in public health facilities in Sierra Leone. In this study, we will assess patients' satisfaction with the level of services offered at both PIH-supported and non-PIH supported Community Health Centers (CHCs) and its associated factors in Kono district, Sierra Leone.

Methods

Study Setting

This study was conducted in 2021 in Kono District in the eastern region with an estimated population of about 600,000, of which 75% of individuals reside in rural areas [10]. 5 MoH health facilities categorized in the Sierra Leone health system as Community Health Centers (CHC) in Kono District, Sierra Leone were included. The 5 CHCs are Wellbody Clinic, Sewafe, Kombayendeh, Gandorhun, and Kayima. These health facilities offer general outpatient services, maternal and child health services, NCDs, HIV, and tuberculosis services, as well as additional services including pharmacy and laboratory as part of the primary health care service package. These facilities are distributed across the district, at the west; Sewafe CHC, east; Kombayendeh CHC, south; Gandorhun, north; Kayima, and central; Wellbody Clinic CHC.

We categorized these facilities into "intervention" (Wellbody Clinic and Sewafe CHC) and "non-intervention" facilities (Kombayendeh, Gandorhun, and Kayima). The "intervention facility" refers to a facility where PIH provides additional support through their "5-S Model".

The 5-S model was developed through the iterative work of the US based NGO Partners In Health to assure that the poorest and most vulnerable patients have access to high quality health care and achieve equitable health outcomes with richer patients. The model recognizes the supply side

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limitations of health facilities in impoverished areas—including lack of staff and commodities, dilapidated facilities, and a lack of ability to provide follow up care. Lastly, the model recognizes that social supports is needed to overcome barriers to care for the poor. Thus, the 5-S: includes improvements in Staff (upgraded staffing in number and quality through capacity building, and mentorship), Space (upgraded infrastructure to provide enough space for adequate service provision, but also clean and dignified space with electricity, clean water, etc. conducive for high quality of care), Stuff (ensuring availability of essential drugs and medical commodities, and functional equipment), System (ensuring cohesive mechanism, tools, and standardized protocols and procedures are being followed for the provision of care), and Social support (for a holistic and patient-centered approach considering the socio-economic needs of each beneficiary) (figure 1) on top of the existing Ministry of Health structure. In the non-intervention facilities, these facilities received the regular MoH support.

Study Design

We conducted a health facility-based cross-sectional study among outpatients and caregivers (guardians of patients under five years of age) attending 5 selected health facilities.

Study Population

The study population comprised all patients and caregivers attending outpatient services at Wellbody, Sewafe, Kombayendeh, Gandorhun, and Kayima health facilities in Kono District, Sierra Leone between March 3rd and March 31st of 2021. We included adult outpatients over 18 years old and adult caregivers accompanying their children while waiting in the various outpatient departments. Patients or caregivers experiencing mental distress or critical medical conditions were excluded from the study. We used subjective judgement by the data collectors or the patient or care givers self-report on current or previous mental health conditions.

Patient and public involvement: Neither patient nor the public were involved in the design, conduct, reporting or dissemination plans of this study.

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Sample size and data collection

This study considered a sample size of 290 individuals and the data was collected from March 3 to March 31, 2021. The sample size comprises the entire population of patients that visited the facilities in study during the study period. A structured questionnaire was developed for the purpose of data collection after reviewing relevant literature [9,11,12].

The research team gathered information on non-identifiable demographic characteristics, including age, sex, ethnicity, education, facility location, and role at the facility. This data was electronically collected using a CommCare app, with the CommCare content programmed by the research team.

Before the start of data collection, the data collectors received training in research ethics, covering respect for study participants, consent procedures, and secure storage and maintenance of data. They also underwent survey-specific training and pre-tested the survey questionnaire; patient-exit surveys (supplementary material 1). The quality of the collected data was maintained through daily supervision, spot-checking and reviewing the completed questionnaire by trained staff. The principal investigator and supervisors cross-checked the questionnaire for completeness, accuracy and consistency.

Study Variables

Dependent variable: The outcome variable is patient satisfaction, defined as patients' perceived needs and expectations in relation to factors such as the health care provider and amenities. Satisfaction level was assessed using an 11-item Likert scale questionnaire. Patient satisfaction was then categorized as good and poor satisfaction using the median value given that the data distribution was skewed.

Independent variable: The independent variables included sociodemographic factors such as age, sex, education, marital status, reason for choosing the health facility, distance to health facility, waiting time and wealth index score. Wealth index was measured as a composite variable comprising of 11-item questionnaire using Principal Component Analysis (PCA).

Data Analysis

The collected data were exported into Stata Version 15 for data cleaning and analysis. Both descriptive and analytical statistical procedures were employed. The statistical analysis included

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descriptive statistics, with data summarized using frequencies, percentages, and graphs. To assess the presence of significant difference in the level of patient satisfaction across health facilities, we applied chi-square tests.

A binary logistic regression model was used to identify factors significantly associated with patient satisfaction. Initially, the association between each independent variable with the outcome variable was assessed using bivariate logistic regression analysis. Subsequently, those variables with p-value less than or equal to 0.2 were included in a multivariable logistic regression model to control for possible confounding variables. Finally, multivariable logistic regression analysis findings were presented using an Adjusted Odds Ratio (AOR) with their corresponding 95% Confidence Interval (CI).

The research team then employed Hosmer and Lemeshow tests in order to assess the final model's fit. Further, a multicollinearity test was performed using Variance Inflation Factor (VIF) to test the presence of correlation among the independent variables included in the final model.

Ethical considerations

Ethical approval was obtained from the Sierra Leone Ethics and Scientific Review Committee (SLESRC), and approval was secured from the health facility management teams before commencing data collection and analysis. Informed consent was obtained from all participants. All data was stored securely and kept anonymous.

Results

Characteristics of respondents

Overall, 290 patients were included in the analysis. Table 1 reports the baseline characteristics. In total, 123 (42.4%) were in the age range of 21–30 years and about 85% of respondents were females. Pertaining to educational status, half (50%) had secondary education and above while 42.4% had no formal education. 202 (69.7%) of the respondents were married. Three-quarters (76.2%) of respondents reported that they travelled for less than an hour to access the health facilities. 128 (44.1%) of the participants reported that the waiting time to receive care is more than two hours (Table1).

Table1: Socio-demographic characteristics of respondents [N=290]

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Characteristics	Total (%)
Age in complete years	
<=20	75 (25.9%)
21-30	123 (42.4%)
31-40	50 (17.2%)
>41	42 (14.5%)
Gender	
Female	246 (84.8%)
Male	44 (15.2%)
Marital status	
Currently not married	88 (30.3%)
Currently married	202 (69.7%)
Educational status	
No formal education	123 (42.4%)
Primary education	23 (7.9%)
Secondary education and above	144 (49.7%)
Wealth index	
Poor	100 (34.5%)
Middle	94 (32.4%)
Rich	96 (33.1%)
Distance to health facility	
<=1 hour	221 (76.2%)
>1 hour and <=2 hours	31 (10.7%)
>2 hours	38 (13.1%)
Waiting time to receive care	
<=1 hour	129 (44.5%)
>1 hour and <=2 hours	33 (11.4%)
>2 hours	128 (44.1%)

Patient satisfaction

The study showed that the overall patient satisfaction was 63.8% (95%CI: 58.1%-69%). Around 69.2% (95%CI: 62.1%-75.4%) of respondents from PIH intervention sites and 53.9% (95%CI: 44.1%- 63.4%) from the non-PIH intervention sites had a good satisfaction level (Figure 2). The findings also revealed that patient satisfaction was high (76.7%) at Wellbody followed by Gandorhun (58.5%) health facility. Contrastingly, respondents who visited Kayima health facility reported low levels of satisfaction (44.1%). The difference in level of satisfaction among the health facilities was statistically significant (p-value: 0.002) (Table 2).

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Table 2: Level of patient satisfaction by health facilities [N=290]

Health Facility	Level of Satisfaction		p-value
	Poor	Good	
Sewafe	29 (43.3%)	38 (56.7%)	0.002
Gandorhun	17 (41.5%)	24 (58.5%)	
Kayima	19 (55.9%)	15 (44.1%)	
Wellbody	28 (23.3%)	92(76.7%)	
Kombayendeh	12(42.9%)	16 (57.2%)	

KEY: Blue = PIH Implementation sites. Green = PIH Non-implementation sites

Reasons for visiting health facilities

The reasons for visiting health facilities were mentioned by the study's 290 respondents with an option to select multiple responses. The major reasons for visiting the health facilities were availability of medicines (n=191), accessibility (n=125) and good service provision (n=106). Further, availability of friendly, and qualified health workers were reported as a reason to visit these health facilities (Figure 3).

Factors associated with patient satisfaction

Bivariable and multivariable binary logistic regression analysis model was fitted to identify the factors associated with patient satisfaction. In the bivariable regression model, the variables age of respondent, marital status, occupation, gender, educational status, wealth index, distance to health facility, waiting time to receive care and being a PIH intervention site were included. With this, marital status, gender, occupation and educational status of respondents were statistically insignificant at the bivariable regression analysis at a p-value of 0.2. However, educational status was frequently reported as a predictor for patient satisfaction in previous literature and considered for the multivariable analysis of this study accordingly. Hence, the variables age of respondent,

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educational status, wealth index, distance to health facility, waiting time to receive care and PIH intervention site status were included for the multivariable binary logistic regression analysis.

The multivariable regression analysis indicated that being a PIH intervention site has a positive statistically significant association with patient satisfaction after controlling for other variables. Respondents from PIH intervention sites had 2.5 times higher odds of satisfaction [AOR=2.47, 95%CI: 1.28-4.78] as compared to those respondents from the non-PIH sites (Table 3).

This study reported those with a lower educational status have a higher patient satisfaction. After controlling for other confounding factors, respondents who have secondary education and above had 47% lower odds of satisfaction [AOR=0.53, 95%CI: 0.28-0.98] as compared to those who have no formal education.

After controlling for other variables, long distance to health facility was negatively associated with patient satisfaction. Accordingly, those respondents who travelled for more than two hours to access the health facility had 60% lower odds of satisfaction [AOR=0.40, 95% CI: 0.18-0.87] as compared to the reference category (Table 3). Looking at waiting time to receive care, respondents who wait for more than two hours at the health facility had 59% lower odds of satisfaction [AOR=0.41, 95%CI: 0.22-0.76] as compared to those who waited for less than one hour. The multivariable regression analysis also showed that age of respondents and wealth index have no statistically significant association with patient satisfaction (Table 3).

Table 3: Bivariable and multivariable binary logistic regression analysis of factors associated with patient satisfaction [N=290]

Characteristics	Level of satisfaction (n=290)		COR (95% CI	AOR (95% CI)
	Poor (n)	Good (n)		
Age in complete years				
<=20	33	42	1	1
21-30	41	82	1.57, 0.87-2.84	1.29, 0.68-2.43
31-40	20	30	1.17, 0.57-2.44	0.79, 0.35-1.79
>41	11	31	2.21, 0.97-5.05	1.37, 0.54-3.53
Educational status				
No formal education	40	83	1	1
Primary education	9	14	0.75, 0.29-1.87	0.79, 0.29-2.17
Secondary and above	56	88	0.76, 0.45-1.25	0.53, 0.28-0.98

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Wealth index				
Poor	43	57	1	1
Middle	38	56	1.11, 0.63-1.97	0.76, 0.39-1.47
Rich	24	72	2.26, 1.23-4.16	1.54, 0.74-3.18
Distance to health facility				
<=1 hour	69	152	1	1
>1 hour and <=2 hours	15	16	0.48, 0.23-1.04	0.53, 0.22-1.26
>2 hours	21	17	0.37, 0.18-0.74	0.40, 0.18-0.87
Waiting time to receive care				
<=1 hour	39	90	1	1
>1 hour and <=2 hours	11	22	0.87, 0.38-1.95	0.65, 0.27-1.61
>2 hours	55	73	0.58, 0.34-0.96	0.41, 0.22-0.76
PIH intervention site				
No	47	55	1	1
Yes	58	130	1.91, 1.16-3.15	2.47, 1.28-4.78

Multicollinearity

Multi collinearity checks were performed among the independent variables included in the multivariable regression model. The test showed that the mean VIF was 1.92 and all included variables have VIF value of less than 10 with the maximum VIF value of 4.1 showing that there is no multicollinearity among the predictor variables.

Model fitness test

The Hosmer and Lemeshow goodness-of-fit test was statistically insignificant (p-value=0.53) showing that the final model fits the data.

Discussion

This study revealed that around two thirds 63.8% (95%CI: 58.1%-69%) of respondents have an impression of good satisfaction in the services provided in the health facilities, and a greater level of satisfaction was felt in the PIH supported health facilities where the patient satisfaction was 69%. Respondent's educational level, distance to health facility and waiting time were predictors of patient satisfaction.

This finding corroborates with a finding in Ethiopia and Nigeria which revealed that about 65% and 59.3% of the respondents respectively were satisfied with the health services provided [6,13].

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The high level of satisfaction seen in this study could be attributed to the deliberate effort made to strengthen health care systems and quality of care after the Ebola pandemic in Sierra Leone.

The study also showed that respondents from PIH-supported health facilities have reported a higher patient satisfaction level. This relatively higher level of patient satisfaction is enumerated in the survey and relates to PIH's 5-S model of health care delivery under which the staff are augmented, mentored and supported—providing friendly, dignified care, and improved supply chain—resulting in availability of medications and diagnostics at all times, and social support, in the form of expanded accessible health care.

In line with this, in another study, it was also reported that patients seek quick and convenient health services [14, 21].

The overall patient satisfaction level is, however, clearly lower than findings of studies conducted in the following LMIC: Ethiopia (77%) [15], Nigeria (94%) [16], Nigeria (78%) [17], Tanzania (72.8%) [18] and India (80%) [8]. The difference might be because those studies were conducted in different contexts including referral hospitals, which are equipped very well and have enough diversity of health professionals of different levels that are expected to demonstrate the standard way of patient examination resulting in higher-level satisfaction. Further, the Nigerian study also included private health facilities that might affect the patient satisfaction positively given that these health facilities are profit making [16].

Timeliness of health care services at the primary health care level impacts positively upon the perception of quality of services rendered to patients. These findings from this study showed that patient satisfaction decreased with an increase in perceived length of waiting time. This is in agreement with findings from previous studies [14,15,17,19,20]. However, increased wait time could be associated with the high patient load that is suggestive of good services including; adequate staffing, and staff capacity building, to provide quality health care [9]. The long waiting time could also be attributed to the free service provision at Wellbody Clinic with indirect consequence on the patient satisfaction [21]. The predictive finding of short waiting time is expected, as patients do not want to pay much higher economic costs while accessing health services. This is an important opportunity cost in a developing country like Sierra Leone. The finding of cost of services as a predictor of patient satisfaction is in accordance with a report from Nigeria [17] where high cost was found to be a negative determinant of patient satisfaction.

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In this study, lower educational status of a patient is significantly associated with higher patient satisfaction level ($p<0.05$, CI: 0.28-0.98). Studies in primary care services also indicated that there were significant differences in satisfaction with health services in terms of educational level [7,14,22]. This suggests that the 5-S model has its intended outcome as it was designed to increase access to and quality of care for the poor (who have fewer options for care). It may also be explained by the exaggerated expectations for high standard of care among the educated respondents.

Distance to health facility was associated with patient satisfaction that is consistent with a finding reported from a primary health care facility [22]. Similarly, the patient's perceived accessibility of health service was the strongest predictor of general satisfaction reported by a study conducted in Uganda [23]. This could be explained by the effect of distance on travel costs, time and productivity related with inaccessibility of health service. A study by Dibba et al. also reported that distance to health facility posed a significant challenge for many patients in rural contexts of Sierra Leone where transportation costs made it difficult for patients to attend health facility appointments [21]. The study also emphasized that patients were willing to walk long distances to the PIH-supported health facilities to obtain free medication [21].

Among the socio-economic variables, a study by Gibru et al., reported that OPD patient satisfaction was significantly affected by age and gender [7]. However, our study reported that the association was not statistically significant.

This study also pointed out that some major reasons of visiting the health facilities were availability of medicines, accessibility, good service provision, and availability of friendly and qualified health workers. A study from Nigeria also indicated that the ability of the health care provider to offer explanations clearly to patients were predictors of patient satisfaction [16]. Another study from India reported that friendliness of the care provider, explanations the care provider gave about the problem and information the care provider gave about medications and follow-up care are among the major reasons for good satisfaction after receiving health service [8].

Implications for policy and practice

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Patients seek timely and convenient services when utilizing healthcare. Though the findings from this study highlighted relatively better levels of patient satisfaction, this study pointed out the factors that need to be considered to further improve patient satisfaction in primary healthcare facilities. With this, health facilities leadership need to give attention to improve their patient's positive experiences when they utilize their health facilities.

In recent years, there has been a growing interest in patient satisfaction as a measure of outcome and quality of care as it provides information on how well health service providers meet patients' values and expectations. This study pointed out that the major reasons why patients visit health facilities are; availability of medicines, accessibility, good service provision, and availability of friendly and qualified health workers, highlighting the need to improve quality of care and service characteristics to optimize the patient satisfaction level at the PHU level. This implies that patient satisfaction structured interventions should be put in place in a systematic way according to the MoH standards of care. This will improve treatment adherence [3] and by extension health outcomes.

The amount of time spent to see a health worker was also a significant predictor of patient satisfaction. This also demands appropriately addressing the patient flow, staffing and service expansion to improve both accessibility and quality of care. These calls for refocusing to improve the overall patient care in the local context and meet the patient needs at the PHU level.

Our findings also show that PIH interventions in augmenting MoH health care service delivery by the 5-S model is highly effective in improving patient satisfaction with respect to a healthcare system performance.

Limitations: This was a facility-based cross-sectional study conducted in selected health facilities from one district. This might limit generalizability to the national Sierra Leone context. The finding of this study might also be subjected to recall bias, and social desirability bias because the respondents were interviewed within the health facilities compound. Despite this situation, participants still shared important critiques of their experiences at the selected facilities, and services. Even though the sample size included all patients who visited the five facilities during the study period, we acknowledge that the characteristics as well as the findings from these patients might not be representative of the general population.

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Furthermore, perceptions of patients potentially affected by their cultural beliefs and previous experiences were not captured qualitatively. Future studies should look into these. We used multivariable logistic regression model to control for confounding but we also acknowledge that it cannot control for residual confounding and other uncaptured risk factors.

Finally, we chose dichotomization of the outcome variable (satisfaction level) to provide a clear and interpretable division of satisfaction levels, particularly to give more insightful information in a clinical context where clear thresholds can aid in decision-making. However, we acknowledge that patient satisfaction may not be fully captured by a binary categorization, and also, dichotomizing the outcome variable can cause information lost

Conclusions

The overall patient satisfaction level was relatively high and PIH-supported health facilities have better patient satisfaction as compared to non-PIH supported health facilities. Patient's educational status, distance to health facility and waiting time were negatively associated with patient satisfaction level. Therefore, we recommend that adequate attention should be paid to expansion of advanced primary care to improve service accessibility and improving several aspects of service provision such as waiting time and staffing in a way that addresses high patient flow. Moreover, PIH's philosophy of targeted investment can be scaled up and the MoH should implement policies for improving the quality of services provided by primary health care professionals. Further large-scale studies that include qualitative perspectives of health workers and patients are recommended.

List of abbreviations

AOR: Adjusted Odds Ratio; CI: Confidence Interval; COR: Crude Odds Ratio; MoH: Ministry of Health; NCD: Non-Communicable Disease; OPD: Outpatient Department; PCA: Principal Component Analysis; PHU: Peripheral Health Unit; PIH: Partners In Health; PS: Patient Satisfaction; SLESRC: Sierra Leone Ethics and Scientific Review Committee; USA: United States of America; VIF: Variance Inflation Factor

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Declaration

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Author Contributors: YD, FB, GJ, VC, SJ and ZAM conceived and designed the study. YD, FB, SW, LC, JH, MPK, JSM, and ZAM performed the data analysis, data interpretation and drafting the manuscript. All the coauthors reviewed and approved the final manuscript. Yusupha Dibba (YD) is the guarantor of this manuscript.

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Ethics approval: The Sierra Leone Ethics and Scientific Review Committee (SLESRC) approved this study. In addition, informed consent was obtained from all participants included in this study.

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FIGURE LEGENDS

1. Figure 1: PIH 5-S model
2. Figure 2: Level of satisfaction among the respondents [N=290]
3. Figure 3: Motivational factors for choosing the primary health care facilities [N=290]

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1. Figure 1: PIH 5-S model

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Figure 2: Level of satisfaction among the respondents [N=290]

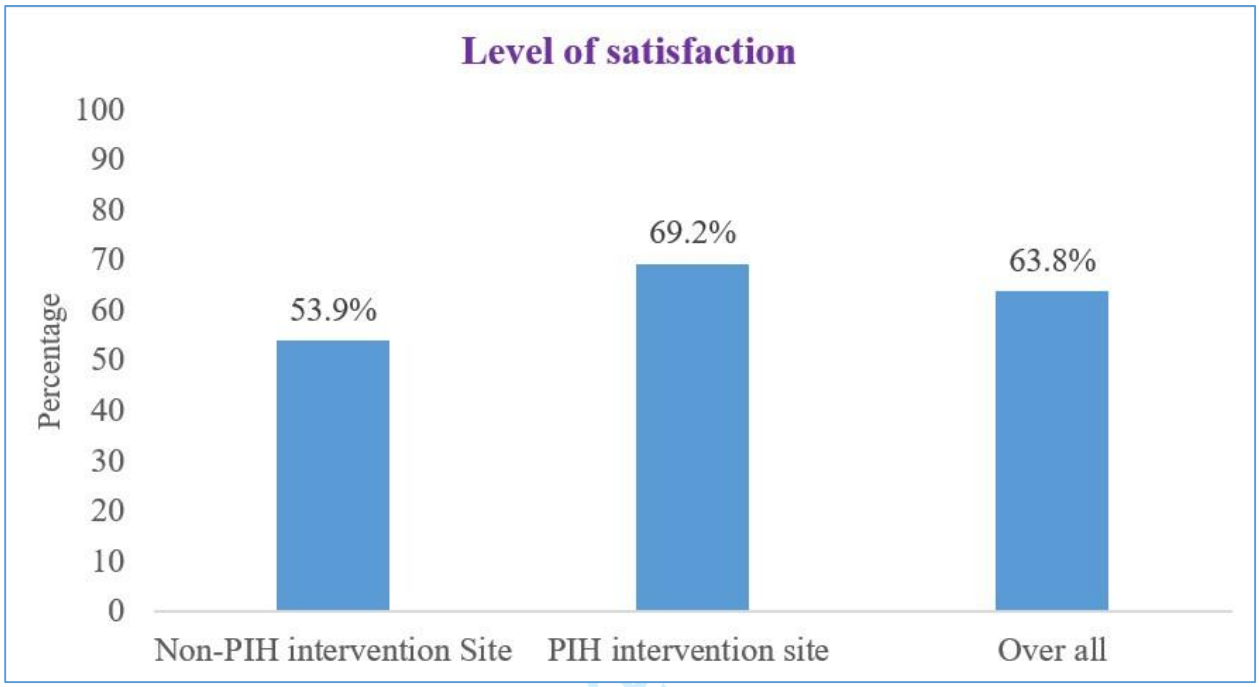

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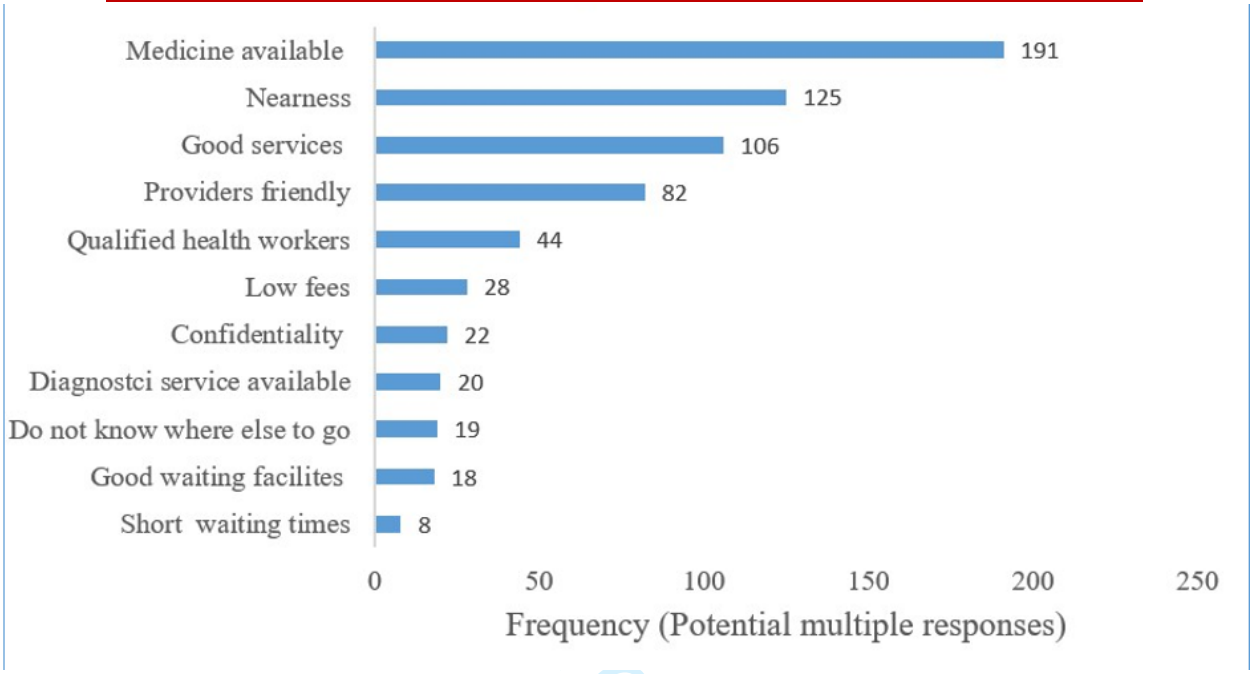
Figure 3: Motivational factors for choosing the primary health care facilities [N=290]



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PATIENT EXIT SURVEY

FACILITY DETAILS

	Name of facility	[Drop down]	
	District	[Drop down]	
	Chiefdom	[Drop down]	
	Type of facility	National tertiary referral hospital ..... Provincial secondary hospital..... District secondary hospital..... Community health centre (chc) ..... Community health post (chp) ..... Maternal child health post (mchp)..... Other (specify)	
	Managing Authority	Government/public..... Ngo/not-for-profit..... Private-for-profit ..... Mission/faith-based ..... Other (specify)	
	Urban/rural	Urban ..... Rural	
	Geocode		

HEALTH INFORMATION CONSENT FORMS

X: INTERVIEW DETAILS

	Interviewer name	[Drop down list of interviewers]	
	Date of Interview	[Date]	
	Time of Interview	[Time]	
	Health facility unit	OPD MCH (family planning, ANC, and postnatal care) HIV/TB clinic	

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PATIENT (IF CHILD IS THE PATIENT, RESPONDENT) DEMONGRAPHIC INFORMATION

	What is your age?		
	What is your gender?		
	What is your current marital status?	1 Married or living together 2 Divorced/separated 3 Widowed 4 Never married and never lived together	
	Have you ever attended school?	0 No 1 Yes 98 Don't know	
	What is the highest level of school you attended?	Sierra Leone 1 Pre-primary 2 Primary 3 Secondary 3 Tertiary/university 4 Vocational/trade school 5 Madrasa 98 Don't know	
	Are you currently working?	0 No 1 Yes 98 Don't know	
	Has you always lived in this chiefdom?	0 No 1 Yes 98 Don't know	
	Are you visiting the health facility today because of a problem you are having or because of a problem the child is having?	○ Self ○ Child ○ Both	
	If child, how is old is the child?		

HOUSEHOLDS SOCIAL ECONOMIC STATUS

	Does your household have electricity?	0 No 1 Yes	
	Does your house have a television?	0 No 1 Yes	

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	Does your household have a refrigerator?	0 No 1 Yes	
	Does your household have a mobile phone?	0 No 1 Yes	
	Does any member of your household own a watch?	0 No 1 Yes	
	Does any member of your household have a bank account?	0 No 1 Yes	
	What is the main material of the floor?	1 Earth/sand/dung 2 Cement 3 Other	
	What is the main material of the exterior walls?	1 Cane/palm/trunks/dirt 2 Cement 3 Other	
	What is the main material of the roof?	1 Metallic sheets 2 Other	
	What type of fuel does your household mainly use for cooking?	1 Charcoal 2 Wood 3 Other	
	In the last month, approximately what was the total income for this household?	1 Less than Le 150,000 2 150,000 – 299,999 3 300,000 – 449,999 4 450,000 – 599,999 5 600,000 – 749,999 6 750,000 – 999,999 7 1,000,000 – 2,000,000 8 Above 2,000,000	
	How much in total has your household spent on the following items IN THE LAST MONTH? [Autofill with 0, enter 98 for Don't know]	LD [Integer] response for all A Food B Energy (Paraffin, charcoal) C Water D Electricity E Rent F Health care G Everything else	

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	[Calculate sum of expenditures above] In the last month, your household has spent a total of [TOTAL]. Is this right? [IF INCORRECT GO BACK TO 313 AND REVISE]		
	Are you visiting the clinic because of acute or routine or TB/HIV visits	1. Acutely sick 2. Routine visits (Family Planning, ANC and Post-natal care 3. Chronic care services (HIV and TB services)	

HEALTH CARE UTILIZATION (ACUTE)

	Are you here because you are acutely sick	Yes No	If acutely sick, ask the below questions
	Are you here suffering from any of the following conditions?	1 Diarrhea 2 Fever 3 Difficulty breathing/coughing 4 Serious injury 5 Pain 6 Skin problem (ulcers/sores/rashes etc) 7 Anxiety/depression/difficulty sleeping 8 Nausea/dizziness/light-headed 9 Appetite problems 10 Fatigue 96 Other (please specify	
	If other, please specify		
	How much did the illness affect your day-to-day life?	1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all	
	How concerned were you about the illness?	1 Extremely 2 A lot 3 Moderately	

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		4 Slightly 5 Not at all	
	What was the nature of the injury?	1 Road traffic accident 2 Fall or other blunt force 3 Poisoning 4 Burn 96 Other (please specify)	
	Who managed you at this clinic during your visit today?	1 Medical doctor 2 Nurse 3 Midwife 4 Clinical officer 5 Dentist 6 Traditional practitioner 96 Other	
	During this illness, Did you seek care somewhere before coming to this hospital ?	Yes No	If yes, answer question below
	Where did you seek care?	Sierra Leone 1 Hospital or clinic 2 Drug store 3 Drug peddler 4 Traditional doctor 5 CHW 6 Church yard 7 At home 96 Other (please specify)	
	Please specify		
	If hospital, Please name the hospital/clinic		
	About how long did it take you to get there?	[Integer] Hours [Integer] Minutes [Autofill 0]	
	How did you get hear? [SELECT ALL THAT APPLY]	1 Private vehicle 2 Public transportation 3 Taxicab 4 Ambulance or emergency vehicle 5 Bicycle	

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		6 Motorbike 7 Walked 96 Other	
	During this visits, how long did it take to be managed by the health facility team? [Including waiting times for consultation and treatment]	[Integer] Days [Integer] Hours [Integer] Minutes [Autofill 0]	
	Why did you choose this health facility?	1 Nearness of the facility 2 Service providers are nice/friendly 3 Good services are available 4 Short waiting times 5 Qualified doctors are available 6 Low fees/low treatment cost 7 Good waiting arrangements 8 Confidentiality is maintained 9 Do not know where else to go 10 Medicine is also available 11 Availability of diagnostic service 12 Recommendation from someone 96 Other (please specify)	
	If others, please specify		
	Were there any problems with the service during this visit? [SELECT ALL THAT APPLY]	1 Waited too long 2 Inadequate explanations about the problem or treatment 3 Lack of privacy from having other see or hear the examination or visit 4 Lack of medicines 5 Opening hours are inconvenient 6 Opening days are inconvenient 7 Facility is not clean 8 Poor treatment from staff 9 High cost for services or treatments	
	How do you answer the following questions		
	Health facility staff are compassionate towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree	

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		4 agree 5 strongly agree	
	Health facility staff are disrespectful towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff do not have much time to spend with the people they care for	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	I find it easy to talk to health facility staff	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are knowledgeable about my condition	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are unkind to patients	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is always clean and well maintained	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility has proper medical equipment	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	

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	The health facility often runs out of medication and supplies	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is well staffed	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Waiting line this health facility is too long	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Overall, I am satisfied with the care provided to and my family by health facility staff	1 Very satisfied 2 Satisfied 3 Neither satisfied nor dissatisfied 4 Dissatisfied 5 Very dissatisfied	
	Health care spending		
	Registration and consultation fees for this illness?	1. [Integer] Leones 2. Free 3. Don't know	
	Diagnostic and laboratory tests, such as x-rays or blood tests?		
	Medications or drugs	1. [Integer] Leones 2. Free 3. Don't know	
	Any other health care products or services that were not included above? Please specify:	1. [Integer] Leones 2. Free 3. Don't know	

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Tuberculosis/HIV services

	Are you here for routine HIV/tuberculosis services?	0 No I Yes	
	If yes, which services are you receiving here today?	1 tuberculosis services 2 HIV services 3 Both	
	How much did this illness (tuberculosis or HIV) affect your day-to-day life?	1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all	
	How concerned are you about the illness?	1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all	
	Who managed you at this clinic during your visit today?	1 Medical doctor 2 Nurse 3 Midwife 4 Clinical officer 5 Dentist 6 Traditional practitioner 96 Other	
	In the past 3 months (or since the diagnosis of this disease if it was diagnosed less than 3 months ago), did you seek care somewhere before coming to this hospital ?	Yes No	If yes, answer question below
	Where did you seek care?	Sierra Leone 1 Hospital or clinic 2 Drug store 3 Drug peddler 4 Traditional doctor 5 CHW 6 Church yard 7 At home	

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		96 Other (please specify)	
	Please specify		
	If hospital, Please name the hospital/clinic		
	About how long did it take you to get this clinic today?	[Integer] Hours [Integer] Minutes [Autofill 0]	
	How did you get here? [SELECT ALL THAT APPLY]	1 Private vehicle 2 Public transportation 3 Taxicab 4 Ambulance or emergency vehicle 5 Bicycle 6 Motorbike 7 Walked 96 Other	
	During this visits, how long did it take to be managed by the health facility team? [Including waiting times for consultation and treatment]	[Integer] Days [Integer] Hours [Integer] Minutes [Autofill 0]	
	Why did you choose this health facility?	1 Nearness of the facility 2 Service providers are nice/friendly 3 Good services are available 4 Short waiting times 5 Qualified doctors are available 6 Low fees/low treatment cost 7 Good waiting arrangements 8 Confidentiality is maintained 9 Do not know where else to go 10 Medicine is also available 11 Availability of diagnostic service 12 Recommendation from someone 96 Other (please specify)	
	If others, please specify		
	Were there any problems with the service during this visit? [SELECT ALL THAT APPLY]	1 Waited too long 2 Inadequate explanations about the problem or treatment	

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		3 Lack of privacy from having other see or hear the examination or visit 4 Lack of medicines 5 Opening hours are inconvenient 6 Opening days are inconvenient 7 Facility is not clean 8 Poor treatment from staff 9 High cost for services or treatments	
	How do you answer the following questions		
	Health facility staff are compassionate towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
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	Health facility staff do not have much time to spend with the people they care for	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	I find it easy to talk to health facility staff	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are knowledgeable about my condition	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Health facility staff are unkind to patients	1 strongly disagree	

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		2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is always clean and well maintained	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility has proper medical equipment	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
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	The health facility is well staffed	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
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	Overall, I am satisfied with the care provided to and my family by health facility staff	1 Very satisfied 2 Satisfied 3 Neither satisfied nor dissatisfied 4 Dissatisfied 5 Very dissatisfied	
	Health care spending		

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	Registration and consultation fees for this visit?	1. [Integer] Leones 2. Free 3. Don't know	
	Diagnostic and laboratory tests, such as x-rays or blood tests?		
	Medications or drugs	1. [Integer] Leones 2. Free 3. Don't know	
	Any other health care products or services that were not included above? Please specify:	1. [Integer] Leones 2. Free 3. Don't know	

Reproductive, Maternal and child health services

3201	Please indicate which services the patient has received today	1 Family planning 2 Antenatal Care 3 Postnatal care	
	Who managed you at this clinic during your visit today?	1 Medical doctor 2 Nurse 3 Midwife 4 Clinical officer 5 Dentist 6 Traditional practitioner 96 Other	
	About how long did it take you to get there?	[Integer] Hours [Integer] Minutes [Autofill 0]	
	How did you get here? [SELECT ALL THAT APPLY]	1 Private vehicle 2 Public transportation 3 Taxicab 4 Ambulance or emergency vehicle 5 Bicycle 6 Motorbike 7 Walked	

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		96 Other	
	During this visist, how long did it take to be managed by the health facility team? [Including waiting times for consultation and treatment]	[Integer] Days [Integer] Hours [Integer] Minutes [Autofill 0]	
	Why did you choose this health facility?	1 Nearness of the facility 2 Service providers are nice/friendly 3 Good services are available 4 Short waiting times 5 Qualified doctors are available 6 Low fees/low treatment cost 7 Good waiting arrangements 8 Confidentiality is maintained 9 Do not know where else to go 10 Medicine is also available 11 Availability of diagnostic service 12 Recommendation from someone 96 Other (please specify)	
	If others, please specify		
	Were there any problems with the service during this visit? [SELECT ALL THAT APPLY]	1 Waited too long 2 Inadequate explanations about the problem or treatment 3 Lack of privacy from having other see or hear the examination or visit 4 Lack of medicines 5 Opening hours are inconvenient 6 Opening days are inconvenient 7 Facility is not clean 8 Poor treatment from staff 9 High cost for services or treatments	
	How do you answer the following questions		
	Health facility staff are compassionate towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	

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	Health facility staff are disrespectful towards my children and myself	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
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	The health facility has proper medical equipment	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	

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	The health facility often runs out of medication and supplies	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	The health facility is well staffed	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Waiting line this health facility is too long	1 strongly disagree 2 disagree 3 Neither agree nor disagree 4 agree 5 strongly agree	
	Overall, I am satisfied with the care provided to and my family by health facility staff	1 Very satisfied 2 Satisfied 3 Neither satisfied nor dissatisfied 4 Dissatisfied 5 Very dissatisfied	
	Health care spending		
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	Diagnostic and laboratory tests, such as x-rays or blood tests?		
	Medications or drugs	1. [Integer] Leones 2. Free 3. Don't know	
	Any other health care products or services that were not included above? Please specify:	1. [Integer] Leones 2. Free 3. Don't know	

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