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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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3 1 **Patient satisfaction and its associated factors in selected Primary Health Care**
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5 2 **facilities of Kono District, Sierra Leone**
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8 3 Yusupha Dibba^{1*}, Foday Boima^{1*}, Jean Gregory Jerome², Samuel Watson³, Lyz Chery⁴, Julia
9 4 Higgins⁵, Vivian Chung², Stefanie Joseph², Mulailwa Papy Kilongo¹, Joia S Mukherjee², Zeleke
10 5 Abebaw Mekonnen¹
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12
13 6 * Equal contribution
14

15 7 **Affiliations**

16 8 ¹Partners In Health, Sierra Leone

17
18 9 ²Partners In Health, Boston, USA

19
20 10 ³Institute of Applied Health Research, University of Birmingham, Birmingham, England

21 11 ⁴Harris School of Public Policy, University of Chicago, Chicago, USA

22
23 12 ⁵Rollins School of Public Health, Emory University, Atlanta, USA
24

25 13

26
27 14 **Correspondence**

28 15 Dr. Yusupha Dibba

29 16 Email: ydibba@pih.org

30 17 Cellphone: +23230821848

31 18 Partners in Health, Sierra Leone
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32 Abstract

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

35 **Design:** Facility-based cross sectional study.

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

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

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

49 **Results:** Out of the 290 respondents included for analysis, the overall patient satisfaction level was
50 63.8% (95%CI: 58.1%-69.0%). Around 69.2% (95%CI: 62.1%-75.4%) of respondents from PIH
51 intervention sites and 53.9% (95%CI: 44.1%- 63.4%) from the non-PIH intervention sites had a
52 good satisfaction level. The multivariable binary logistic regression analysis indicated PIH
53 intervention site status (AOR=2.47, 95%CI: 1.28-4.78), educational status of respondents
54 [AOR=0.53, 95%CI: 0.28-0.98], distance to health facility [AOR=0.40, 95% CI: 0.18-0.87] and
55 waiting time to receive care [AOR=0.41, 95%CI: 0.22-0.76] were the significant factors associated
56 with patient satisfaction.

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

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3 **Key words:** Patient Satisfaction, Partners In Health, Primary Health Care Facilities, Kono, Sierra Leone
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65 **Strengths and limitations of this study**

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

75 Introduction

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

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

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

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3 105 In North India, a study indicated that the majority of patients using outpatients and inpatients
4 106 services were satisfied with the care received with a notable recommendation to reduce waiting
5 107 time at registration and laboratory service departments. However, it was also noted that attention
6 108 should be given to new medicines prescribed for a patient, and that the possible side effects and
7 109 purpose of giving the medicine should be explained to them (8). With these findings, patients'
8 110 experiences and satisfaction with their treatment are becoming increasingly important in the
9 111 context of quality assurance, and patient experiences health care, and reporting this information
10 112 helps patients to have choices in their health care seeking. (9).

11 113 While patient satisfaction is considered one of the desired outcomes of health care and is directly
12 114 related to utilization of health services, there is scant information on patient satisfaction with
13 115 services provided in public health facilities in Sierra Leone. In this study, we will assess patients'
14 116 satisfaction with the level of services offered at both PIH-supported and non-PIH supported
15 117 Community Health Centers (CHCs) and its associated factors in Kono district, Sierra Leone.

118 **Methods**

119 **Study Setting**

120 This study was conducted in 2021 in Kono District in the eastern region with an estimated
121 122 population of about 600,000, of which 75% of individuals reside in rural areas (10). 5 MoHS
123 health facilities categorized in the Sierra Leone health system as Community Health Centers
124 (CHC) in Kono District, Sierra Leone were included. The 5 CHCs are Wellbody Clinic, Sewafe,
125 Kombayendeh, Gandorhun, and Kayima. These health facilities offer general outpatient services,
126 maternal and child health services, NCDs, HIV, and tuberculosis services, as well as additional
127 services including pharmacy and laboratory as part of the primary health care service package.
128 These facilities are distributed across the district, at the west; Sewafe CHC, east; Kombayendeh
129 CHC, south; Gandorhun, north; Kayima, and central; Wellbody Clinic CHC.
130 We categorized these facilities into "intervention" (Wellbody Clinic and Sewafe CHC) and "non-
131 intervention" facilities (Kombayendeh, Gandorhun, and Kayima). The "intervention facility"
refers to a facility where PIH provides additional support through their "5-S Model".

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

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

164

165 **Sample size and data collection**

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

169

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

173 Before the start of data collection, the data collectors received training in research ethics, covering
174 respect for study participants, consent procedures, and secure storage and maintenance of data.

175 They also underwent survey-specific training and pre-tested the survey questionnaire. The quality
176 of the collected data was maintained through daily supervision, spot-checking and reviewing the
177 completed questionnaire by trained staff. The principal investigator and supervisors cross-checked
178 the questionnaire for completeness, accuracy and consistency.

179

180 **Study Variables**

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

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

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191 **Data Analysis**

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3 192 The collected data were exported into Stata Version 15 for data cleaning and analysis. Both
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5 193 descriptive and analytical statistical procedures were employed. The statistical analysis included
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7 194 descriptive statistics, with data summarized using frequencies, percentages, and graphs. To assess
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9 195 the presence of significant difference in the level of patient satisfaction across health facilities, we
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11 196 applied chi-square tests.
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13 198 A binary logistic regression model was used to identify factors significantly associated with patient
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15 199 satisfaction. Initially, the association between each independent variable with the outcome variable
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17 200 was assessed using bivariate logistic regression analysis. Subsequently, those variables with p-
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19 201 value less than or equal to 0.2 were included in a multivariable logistic regression model to control
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21 202 for possible confounding variables. Finally, multivariable logistic regression analysis findings
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23 203 were presented using an Adjusted Odds Ratio (AOR) with their corresponding 95% Confidence
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25 204 Interval (CI).

26 205 The research team then employed Hosmer and Lemeshow tests in order to assess the final model's
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28 206 fit. Further, a multicollinearity test was performed using Variance Inflation Factor (VIF) to test the
29
30 207 presence of correlation among the independent variables included in the final model.

31 208 **Ethical considerations**

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33 209 Ethical approval was obtained from the Sierra Leone Ethics and Scientific Review Committee
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35 210 (SLESRC), and approval was secured from the health facility management teams before
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37 211 commencing data collection and analysis. Informed consent was obtained from all participants.
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39 212 All data was stored securely and kept anonymous.

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48 221 **Results**

222 Characteristics of respondents

223 Overall, 290 patients were included in the analysis. Table 1 reports the baseline characteristics. In
 224 total, 123 (42.4%) were in the age range of 21–30 years and about 85% of respondents were
 225 females. Pertaining to educational status, half (50%) had secondary education and above while
 226 42.4% had no formal education. 202 (69.7%) of the respondents were married. Three-quarters
 227 (76.2%) of respondents reported that they travelled for less than an hour to access the health
 228 facilities. 128 (44.1%) of the participants reported that the waiting time to receive care is more
 229 than two hours (Table1).

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

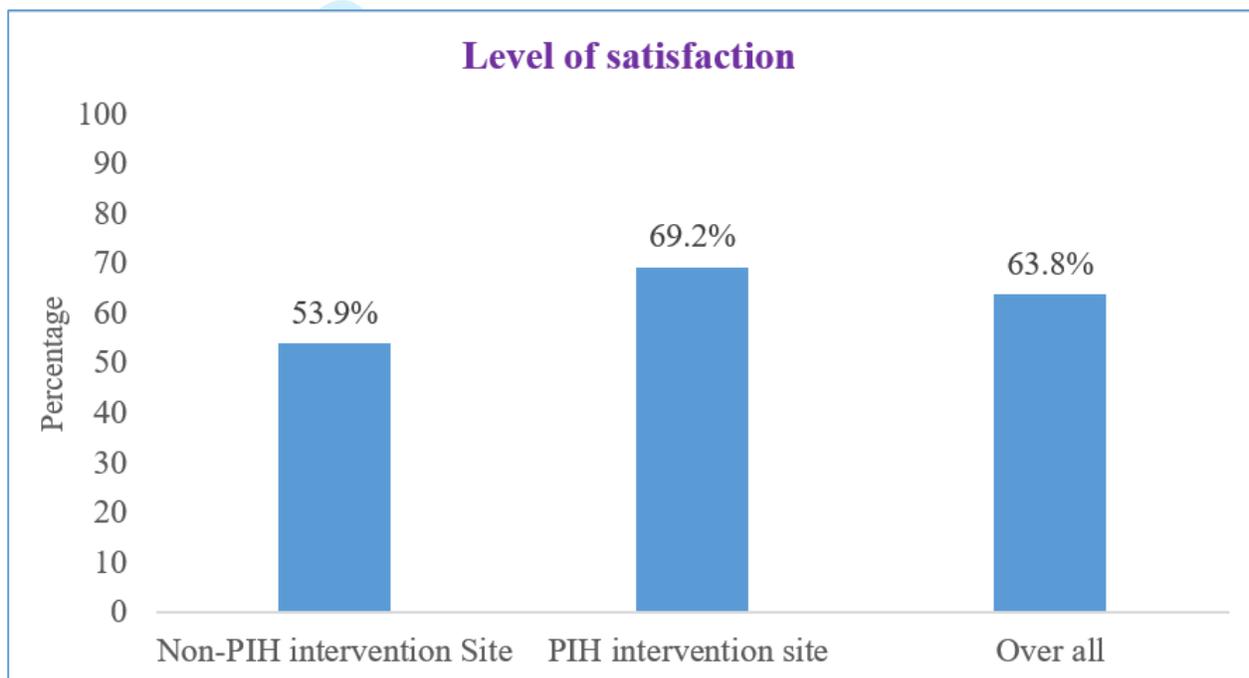
Characteristics	Total (%)
Age in complete years	
<=20	75 (25.9%)
21-30	123 (42.4%)
31-40	50 (17.2%)
>41	42 (14.5%)
Gender	
Female	246 (84.8%)
Male	44 (15.2%)
Marital status	
Currently not married	88 (30.3%)
Currently married	202 (69.7%)
Educational status	
No formal education	123 (42.4%)
Primary education	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%)

231

232

233 Patient satisfaction

234 The study showed that the overall patient satisfaction was 63.8% (95%CI: 58.1%-69%). Around
 235 69.2% (95%CI: 62.1%-75.4%) of respondents from PIH intervention sites and 53.9% (95%CI:
 236 44.1%- 63.4%) from the non-PIH intervention sites had a good satisfaction level (Figure 2). The
 237 findings also revealed that patient satisfaction was high (76.7%) at Wellbody followed by
 238 Gandorhun (58.5%) health facility. Contrastingly, respondents who visited Kayima health facility
 239 reported low levels of satisfaction (44.1%). The difference in level of satisfaction among the health
 240 facilities was statistically significant (p-value: 0.002) (Table 2).



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

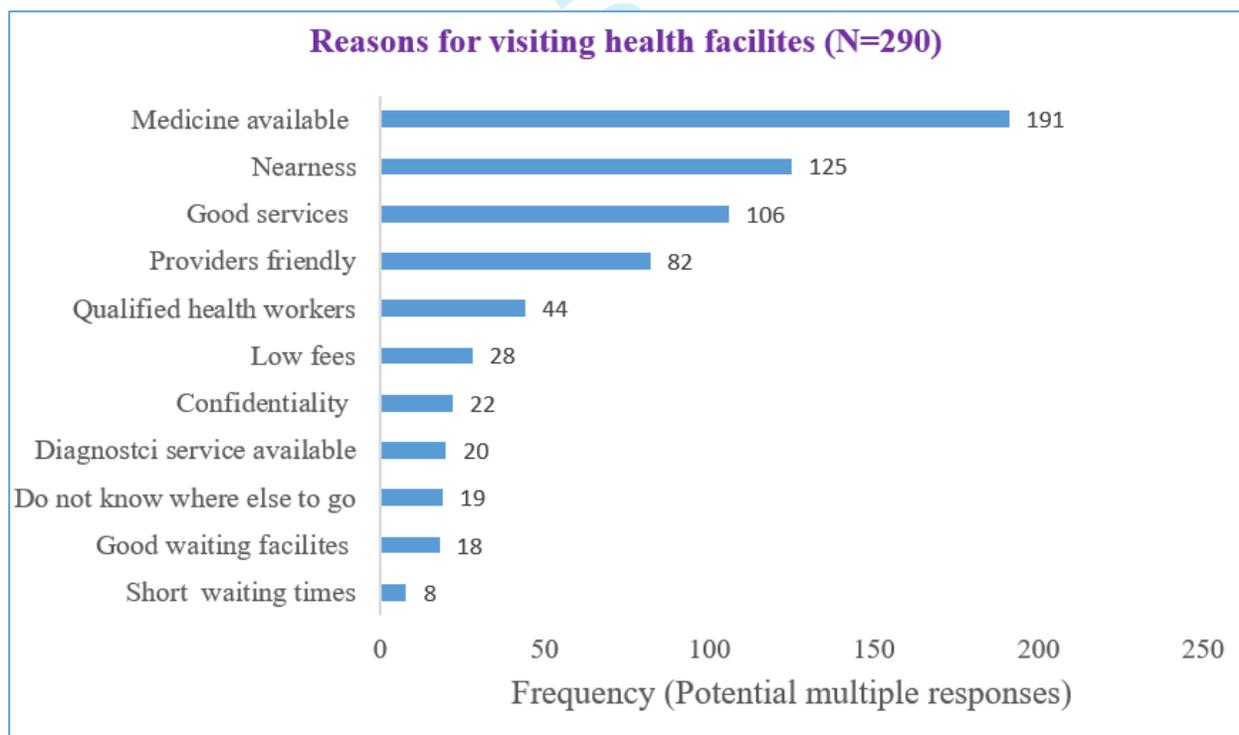
242
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249
250 Table 2: Level of patient satisfaction by health facilities [N=290]

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%)	

251

252 **Reasons for visiting health facilities**

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



258

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

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261

262 **Factors associated with patient satisfaction**

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

273 The multivariable regression analysis indicated that being a PIH intervention site has a positive
274 statistically significant association with patient satisfaction after controlling for other variables.
275 Respondents from PIH intervention sites had 2.5 times higher odds of satisfaction [AOR=2.47,
276 95%CI: 1.28-4.78] as compared to those respondents from the non-PIH sites (Table 3).

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

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

289 Table 3: Bivariable and multivariable binary logistic regression analysis of factors associated
290 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
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.

301 Discussion

302 This study revealed that around two thirds 63.8% (95%CI: 58.1%-69%) of respondents have an
303 impression of good satisfaction in the services provided in the health facilities, and a greater level
304 of satisfaction was felt in the PIH supported health facilities where the patient satisfaction was
305 69%. Respondent's educational level, distance to health facility and waiting time were predictors
306 of patient satisfaction.

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

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

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

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

319 The overall patient satisfaction level is, however, clearly lower than findings of studies conducted
320 in the following LMIC: Ethiopia (77%) (15), Nigeria (94%) (16), Nigeria (78%) (17), Tanzania
321 (72.8%) (18) and India (80%) (8). The difference might be because those studies were conducted
322 in different contexts including referral hospitals, which are equipped very well and have enough
323 diversity of health professionals of different levels that are expected to demonstrate the standard
324 way of patient examination resulting in higher-level satisfaction. Further, the Nigerian study also
325 included private health facilities that might affect the patient satisfaction positively given that these
326 health facilities are profit making (16).

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

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3 329 patient satisfaction decreased with an increase in perceived length of waiting time. This is in
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5 330 agreement with findings from previous studies (14,15,17,19,20). However, increased wait time
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7 331 could be associated with the high patient load that is suggestive of good services including;
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9 332 adequate staffing, and staff capacity building, to provide quality health care (9). The long waiting
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11 333 time could also be attributed to the free service provision at Wellbody Clinic with indirect
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13 334 consequence on the patient satisfaction (21). The predictive finding of short waiting time is
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15 335 expected, as patients do not want to pay much higher economic costs while accessing health
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17 336 services. This is an important opportunity cost in a developing country like Sierra Leone. The
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19 337 finding of cost of services as a predictor of patient satisfaction is in accordance with a report from
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21 338 Nigeria (17) where high cost was found to be a negative determinant of patient satisfaction.

22
23 339 In this study, lower educational status of a patient is significantly associated with higher patient
24
25 340 satisfaction level ($p < 0.05$, CI: 0.28-0.98). Studies in primary care services also indicated that there
26
27 341 were significant differences in satisfaction with health services in terms of educational level
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29 342 (7,14,22). This suggests that the 5-S model has its intended outcome as it was designed to increase
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31 343 access to and quality of care for the poor (who have fewer options for care). It may also be
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33 344 explained by the exaggerated expectations for high standard of care among the educated
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35 345 respondents.

36
37 346 Distance to health facility was associated with patient satisfaction that is consistent with a finding
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39 347 reported from a primary health care facility (22). Similarly, the patient's perceived accessibility of
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41 348 health service was the strongest predictor of general satisfaction reported by a study conducted in
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43 349 Uganda (23). This could be explained by the effect of distance on travel costs, time and
44
45 350 productivity related with inaccessibility of health service. A study by Dibba et al. also reported
46
47 351 that distance to health facility posed a significant challenge for many patients in rural contexts of
48
49 352 Sierra Leone where transportation costs made it difficult for patients to attend health facility
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51 353 appointments (21). The study also emphasized that patients were willing to walk long distances to
52
53 354 the PIH-supported health facilities to obtain free medication (21).

54
55 355 Among the socio-economic variables, a study by Gibru et al., reported that OPD patient
56
57 356 satisfaction was significantly affected by age and gender (7). However, our study reported that the
58
59 357 association was not statistically significant.

1
2
3 358 This study also pointed out that some major reasons of visiting the health facilities were availability
4 359 of medicines, accessibility, good service provision, and availability of friendly and qualified health
5 360 workers. A study from Nigeria also indicated that the ability of the health care provider to offer
6 361 explanations clearly to patients were predictors of patient satisfaction (16). Another study from
7 362 India reported that friendliness of the care provider, explanations the care provider gave about the
8 363 problem and information the care provider gave about medications and follow-up care are among
9 364 the major reasons for good satisfaction after receiving health service (8).

365

366 **Implications for policy and practice**

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

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

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

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

388 **Limitations:** This was a facility-based cross-sectional study conducted in selected health
389 facilities from one district. This might limit generalizability to the national Sierra Leone context.
390 The finding of this study might also be subjected to social desirability bias because the respondents
391 were interviewed within the health facilities compound. Despite this situation, participants still
392 shared important critiques of their experiences at the selected facilities, and services.
393 Further, perceptions and experiences of patients were not captured qualitatively. Future studies
394 should look into these.

395
396 **Conclusions**
397 The overall patient satisfaction level was relatively high and PIH-supported health facilities have
398 better patient satisfaction as compared to non-PIH supported health facilities. Patient's educational
399 status, distance to health facility and waiting time were negatively associated with patient
400 satisfaction level. Therefore, we recommend that adequate attention should be paid to expansion
401 of advanced primary care to improve service accessibility and improving several aspects of service
402 provision such as waiting time and staffing in a way that addresses high patient flow. Moreover,
403 PIH's philosophy of targeted investment can be scaled up and the MoH should implement policies
404 for improving the quality of services provided by primary health care professionals. Further large-
405 scale studies that include qualitative perspectives of health workers and patients are recommended.

407 **List of abbreviations**

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

1
2
3 413 **Declaration**

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428 conduct, reporting or dissemination plans of this study.

429 **Patient consent for publication:** Not applicable.

430 **Data availability statement:** Data are available on reasonable request.

431 **Ethics approval:** The Sierra Leone Ethics and Scientific Review Committee (SLESRC) approved
432 this study. In addition, informed consent was obtained from all participants include for this
433 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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3 1 **Patient Satisfaction and its Associated Factors in Selected Primary Health Care**
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5 2 **Facilities in Kono District, Sierra Leone. A cross-sectional Study.**
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8 3 Yusupha Dibba^{1*}, Foday Boima^{1*}, Jean Gregory Jerome², Samuel Watson³, Lyz Chery⁴, Julia
9 4 Higgins⁵, Vivian Chung², Stefanie Joseph², Mulailwa Papy Kilongo¹, Joia S Mukherjee², Zeleke
10 5 Abebaw Mekonnen¹
11

12
13 6 * Equal contribution
14

15 7 **Affiliations**

16 8 ¹Partners In Health, Sierra Leone

17
18 9 ²Partners In Health, Boston, USA

19
20 10 ³Institute of Applied Health Research, University of Birmingham, Birmingham, England

21 11 ⁴Harris School of Public Policy, University of Chicago, Chicago, USA

22 12 ⁵Rollins School of Public Health, Emory University, Atlanta, USA
23
24
25 13

26
27 14 **Correspondence**

28 15 Dr. Yusupha Dibba

29 16 Email: ydibba@pih.org

30 17 Cellphone: +23230821848

31 18 Partners in Health, Sierra Leone
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38 22 **Abstract**

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40 23 **Objective:** To assess patient satisfaction with services and its associated factors across selected
41
42 24 primary care facilities in Kono district, Sierra Leone.

43 25 **Design:** Facility-based cross sectional study.

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45 26 **Setting:** Five primary healthcare facilities (Wellbody, Sewafe, Kombayendeh, Gandorhun, and
46
47 27 Kayima) located in Kono district, Sierra Leone. All five are Community Health Centers (CHC),
48
49 28 with two CHCs benefiting from a comprehensive package of support (5-S model) from the non-
50
51 29 governmental organization (NGO) Partners In Health (PIH). This support, dubbed as 5-S model
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53 30 will be elaborated in this paper. The other three CHCs were not beneficiaries of the 5-S model.

54 31 **Participants:** The study population comprised all patients and caregivers who attend outpatient
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56 32 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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3 62 - Since the data is self-reported by the patients or caregivers, there might be recall bias
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5 63 from the patients, especially if they had previously different experience from another
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7 64 health facility.
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9 65 - Perceptions and experiences of patients were not captured qualitatively.
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11 66 - Facilities included in this study are from all the cardinal points of the district and
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13 67 therefore respondents are from all the cardinal points (east, west, north, south, and
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15 68 central) of the district, providing a wide respondent representation of the district.
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For peer review only

70 Introduction

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

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

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

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3 100 In North India, a study indicated that the majority of patients using outpatients and inpatients
4 101 services were satisfied with the care received with a notable recommendation to reduce waiting
5 102 time at registration and laboratory service departments. However, it was also noted that attention
6 103 should be given to new medicines prescribed for a patient, and that the possible side effects and
7 104 purpose of giving the medicine should be explained to them [8]. With these findings, patients'
8 105 experiences and satisfaction with their treatment are becoming increasingly important in the
9 106 context of quality assurance, and patient experiences health care, and reporting this information
10 107 helps patients to have choices in their health care seeking. [9].

11 108 While patient satisfaction is considered one of the desired outcomes of health care and is directly
12 109 related to utilization of health services, there is scant information on patient satisfaction with
13 110 services provided in public health facilities in Sierra Leone. In this study, we will assess patients'
14 111 satisfaction with the level of services offered at both PIH-supported and non-PIH supported
15 112 Community Health Centers (CHCs) and its associated factors in Kono district, Sierra Leone.

113 **Methods**

114 **Study Setting**

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

122 These facilities are distributed across the district, at the west; Sewafe CHC, east; Kombayendeh
123 CHC, south; Gandorhun, north; Kayima, and central; Wellbody Clinic CHC.

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

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

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

144 Study Design

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

147 Study Population

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

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

158 Sample size and data collection

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3 159 This study considered a sample size of 290 individuals and the data was collected from March 3
4 160 to March 31, 2021. The sample size comprises the entire population of patients that visited the
5 161 facilities in study during the study period. A structured questionnaire was developed for the
6 162 purpose of data collection after reviewing relevant literature [9,11,12].
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10 163 The research team gathered information on non-identifiable demographic characteristics,
11 164 including age, sex, ethnicity, education, facility location, and role at the facility. This data was
12 165 electronically collected using a CommCare app, with the CommCare content (Supplementary
13 166 material 2) programmed by the research team.

14 167 Before the start of data collection, the data collectors received training in research ethics, covering
15 168 respect for study participants, consent procedures, and secure storage and maintenance of data.
16 169 They also underwent survey-specific training and pre-tested the survey questionnaire; patient-exit
17 170 surveys (supplementary material 1). The quality of the collected data was maintained through daily
18 171 supervision, spot-checking and reviewing the completed questionnaire by trained staff. The
19 172 principal investigator and supervisors cross-checked the questionnaire for completeness, accuracy
20 173 and consistency.
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30 175 **Study Variables**

31 176 **Dependent variable:** The outcome variable is patient satisfaction, defined as patients' perceived
32 177 needs and expectations in relation to factors such as the health care provider and amenities.
33 178 Satisfaction level was assessed using an 11-item Likert scale questionnaire. Patient satisfaction
34 179 was then categorized as good and poor satisfaction using the median value given that the data
35 180 distribution was skewed.

36 181 **Independent variable:** The independent variables included sociodemographic factors such as age,
37 182 sex, education, marital status, reason for choosing the health facility, distance to health facility,
38 183 waiting time and wealth index score. Wealth index was measured as a composite variable
39 184 comprising of 11-item questionnaire using Principal Component Analysis (PCA).
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43 186 **Data Analysis**

44 187 The collected data were exported into Stata Version 15 for data cleaning and analysis. Both
45 188 descriptive and analytical statistical procedures were employed. The statistical analysis included
46 189 descriptive statistics, with data summarized using frequencies, percentages, and graphs. To assess
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190 the presence of significant difference in the level of patient satisfaction across health facilities, we
191 applied chi-square tests.

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

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

203 **Ethical considerations**

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

209 **Results**

210 **Characteristics of respondents**

211 Overall, 290 patients were included in the analysis. Table 1 reports the baseline characteristics. In
212 total, 123 (42.4%) were in the age range of 21–30 years and about 85% of respondents were
213 females. Pertaining to educational status, half (50%) had secondary education and above while
214 42.4% had no formal education. 202 (69.7%) of the respondents were married. Three-quarters
215 (76.2%) of respondents reported that they travelled for less than an hour to access the health
216 facilities. 128 (44.1%) of the participants reported that the waiting time to receive care is more
217 than two hours (Table1).

218 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%)

221 Patient satisfaction

222 The study showed that the overall patient satisfaction was 63.8% (95%CI: 58.1%-69%). Around
 223 69.2% (95%CI: 62.1%-75.4%) of respondents from PIH intervention sites and 53.9% (95%CI:
 224 44.1%- 63.4%) from the non-PIH intervention sites had a good satisfaction level (Figure 2). The
 225 findings also revealed that patient satisfaction was high (76.7%) at Wellbody followed by
 226 Gandorhun (58.5%) health facility. Contrastingly, respondents who visited Kayima health facility
 227 reported low levels of satisfaction (44.1%). The difference in level of satisfaction among the health
 228 facilities was statistically significant (p-value: 0.002) (Table 2).

230

231

232 **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%)	

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

234

235 **Reasons for visiting health facilities**

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

241

242

243 **Factors associated with patient satisfaction**

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

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

254 The multivariable regression analysis indicated that being a PIH intervention site has a positive
255 statistically significant association with patient satisfaction after controlling for other variables.
256 Respondents from PIH intervention sites had 2.5 times higher odds of satisfaction [AOR=2.47,
257 95%CI: 1.28-4.78] as compared to those respondents from the non-PIH sites (Table 3).

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

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

270

271 **Table 3: Bivariable and multivariable binary logistic regression analysis of factors**
272 **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

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

273

274 Multicollinearity

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

279 Model fitness test

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

282

283 Discussion

284 This study revealed that around two thirds 63.8% (95%CI: 58.1%-69%) of respondents have an
 285 impression of good satisfaction in the services provided in the health facilities, and a greater level
 286 of satisfaction was felt in the PIH supported health facilities where the patient satisfaction was
 287 69%. Respondent's educational level, distance to health facility and waiting time were predictors
 288 of patient satisfaction.

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

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

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

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

301 The overall patient satisfaction level is, however, clearly lower than findings of studies conducted
302 in the following LMIC: Ethiopia (77%) [15], Nigeria (94%) [16], Nigeria (78%) [17], Tanzania
303 (72.8%) [18] and India (80%) [8]. The difference might be because those studies were conducted
304 in different contexts including referral hospitals, which are equipped very well and have enough
305 diversity of health professionals of different levels that are expected to demonstrate the standard
306 way of patient examination resulting in higher-level satisfaction. Further, the Nigerian study also
307 included private health facilities that might affect the patient satisfaction positively given that these
308 health facilities are profit making [16].

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

321 In this study, lower educational status of a patient is significantly associated with higher patient
322 satisfaction level ($p < 0.05$, CI: 0.28-0.98). Studies in primary care services also indicated that there
323 were significant differences in satisfaction with health services in terms of educational level
324 [7,14,22]. This suggests that the 5-S model has its intended outcome as it was designed to increase
325 access to and quality of care for the poor (who have fewer options for care). It may also be
326 explained by the exaggerated expectations for high standard of care among the educated
327 respondents.

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

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

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

347

348 **Implications for policy and practice**

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2
3 349 Patients seek timely and convenient services when utilizing healthcare. Though the findings from
4
5 350 this study highlighted relatively better levels of patient satisfaction, this study pointed out the
6
7 351 factors that need to be considered to further improve patient satisfaction in primary healthcare
8
9 352 facilities. With this, health facilities leadership need to give attention to improve their patient's
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11 353 positive experiences when they utilize their health facilities.

12
13 354 In recent years, there has been a growing interest in patient satisfaction as a measure of outcome
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15 355 and quality of care as it provides information on how well health service providers meet patients'
16
17 356 values and expectations. This study pointed out that the major reasons why patients visit health
18
19 357 facilities are; availability of medicines, accessibility, good service provision, and availability of
20
21 358 friendly and qualified health workers, highlighting the need to improve quality of care and service
22
23 359 characteristics to optimize the patient satisfaction level at the PHU level. This implies that patient
24
25 360 satisfaction structured interventions should be put in place in a systematic way according to the
26
27 361 MoH standards of care. This will improve treatment adherence [3] and by extension health
28
29 362 outcomes.

30
31 363 The amount of time spent to see a health worker was also a significant predictor of patient
32
33 364 satisfaction. This also demands appropriately addressing the patient flow, staffing and service
34
35 365 expansion to improve both accessibility and quality of care. These calls for refocusing to improve
36
37 366 the overall patient care in the local context and meet the patient needs at the PHU level.

38
39 367 Our findings also show that PIH interventions in augmenting MoH health care service delivery by
40
41 368 the 5-S model is highly effective in improving patient satisfaction with respect to a healthcare
42
43 369 system performance.

44
45 370 **Limitations:** This was a facility-based cross-sectional study conducted in selected health
46
47 371 facilities from one district. This might limit generalizability to the national Sierra Leone context.
48
49 372 The finding of this study might also be subjected to recall bias, and social desirability bias because
50
51 373 the respondents were interviewed within the health facilities compound. Despite this situation,
52
53 374 participants still shared important critiques of their experiences at the selected facilities, and
54
55 375 services.

56
57 376 Furthermore, perceptions of patients potentially affected by their cultural beliefs and previous
58
59 377 experiences were not captured qualitatively. Future studies should look into these.

378

379 Conclusions

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

389

390 List of abbreviations

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

396 Declaration

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407
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412 **Patient consent for publication:** Not applicable.

413 **Data availability statement:** Data are available on reasonable request.

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

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2
3 478 **FIGURE LEGENDS**
4

- 5 479 1. Figure 1: PIH 5-S model
6
7 480 2. Figure 2: Level of satisfaction among the respondents [N=290]
8 481 3. Figure 3: Reasons for choosing the primary health care facilities [N=290]
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1. Figure 1: PIH 5-S model



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

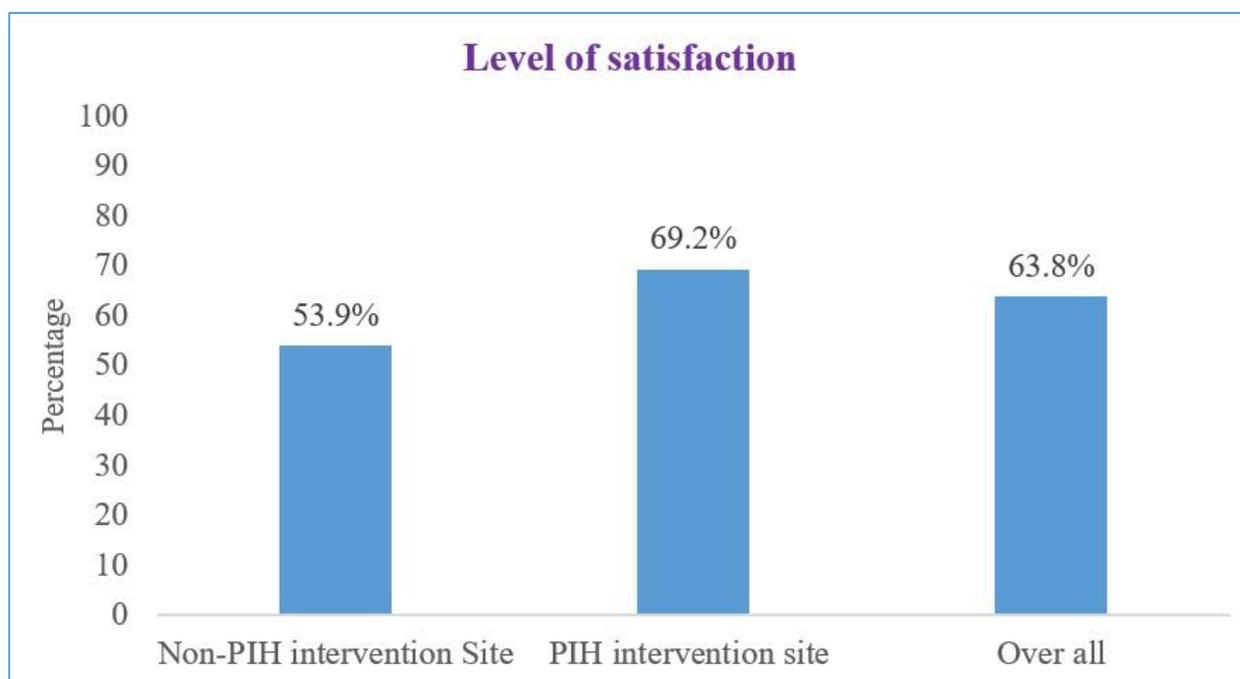
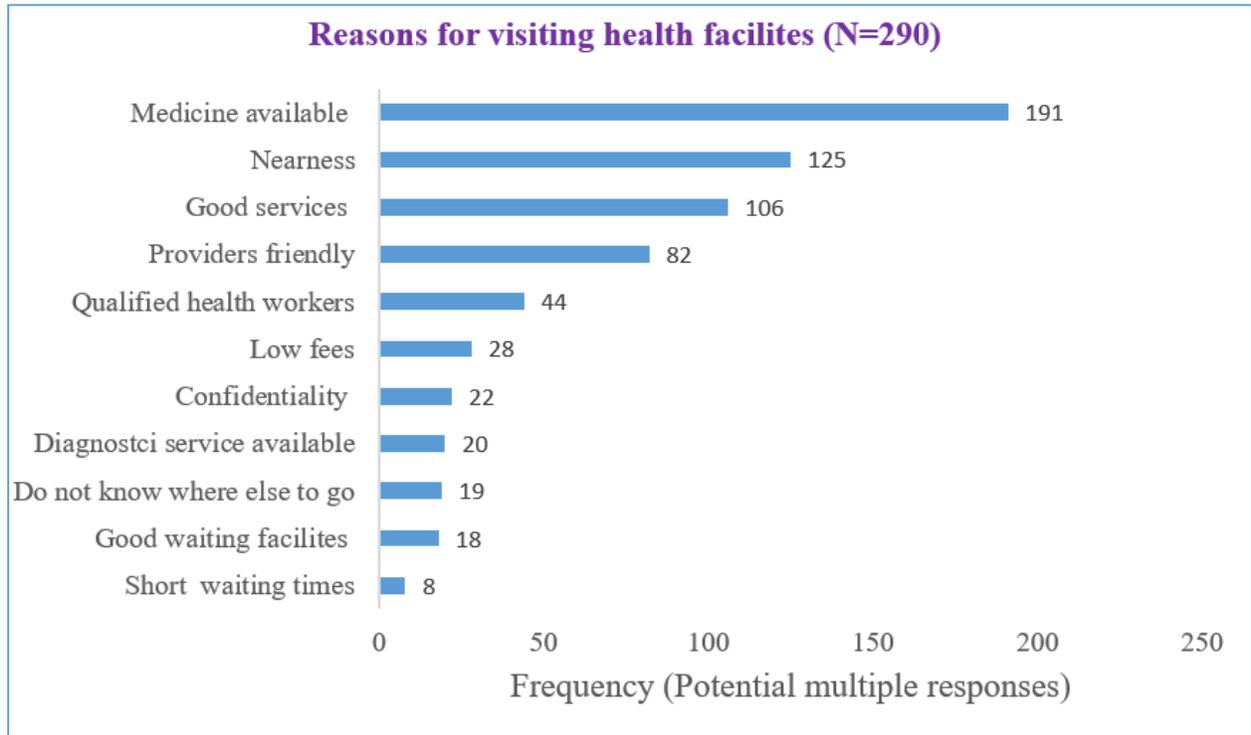


Figure 3: Reasons for choosing the primary health care facilities [N=290]



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Review only

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) DEMOGRAPHIC INFORMATION

11	What is your age?		
12	What is your gender?		
13	What is your current marital status?	1 Married or living together 2 Divorced/separated 3 Widowed 4 Never married and never lived together	
14	Have you ever attended school?	0 No 1 Yes 98 Don't know	
15	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	
16	Are you currently working?	0 No 1 Yes 98 Don't know	
17	Has you always lived in this chiefdom?	0 No 1 Yes 98 Don't know	
18	Are you visiting the health facility today because of a problem you are having or because of a problem the child is having?	<input type="radio"/> Self <input type="radio"/> Child <input type="radio"/> Both	
19	If child, how is old is the child?		

HOUSEHOLDS SOCIAL ECONOMIC STATUS

20	Does your household have electricity?	0 No 1 Yes	
21	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	<ol style="list-style-type: none"> 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?	<ol style="list-style-type: none"> 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?	<ol style="list-style-type: none"> 1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all 	
	How concerned were you about the illness?	<ol style="list-style-type: none"> 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	<p>1 strongly disagree</p> <p>2 disagree</p> <p>3 Neither agree nor disagree</p> <p>4 agree</p> <p>5 strongly agree</p>	
	The health facility is well staffed	<p>1 strongly disagree</p> <p>2 disagree</p> <p>3 Neither agree nor disagree</p> <p>4 agree</p> <p>5 strongly agree</p>	
	Waiting line this health facility is too long	<p>1 strongly disagree</p> <p>2 disagree</p> <p>3 Neither agree nor disagree</p> <p>4 agree</p> <p>5 strongly agree</p>	
	Overall, I am satisfied with the care provided to and my family by health facility staff	<p>1 Very satisfied</p> <p>2 Satisfied</p> <p>3 Neither satisfied nor dissatisfied</p> <p>4 Dissatisfied</p> <p>5 Very dissatisfied</p>	
	Health care spending		
	Registration and consultation fees for this illness?	<p>1. [Integer] Leones</p> <p>2. Free</p> <p>3. Don't know</p>	
	Diagnostic and laboratory tests, such as x-rays or blood tests?		
	Medications or drugs	<p>1. [Integer] Leones</p> <p>2. Free</p> <p>3. Don't know</p>	
	Any other health care products or services that were not included above? Please specify:	<p>1. [Integer] Leones</p> <p>2. Free</p> <p>3. Don't know</p>	

Tuberculosis/HIV services

<p>Are you here for routine HIV/tuberculosis services?</p>	<p>0 No 1 Yes</p>	
<p>If yes, which services are you receiving here today?</p>	<p>1 tuberculosis services 2 HIV services 3 Both</p>	
<p>How much did this illness (tuberculosis or HIV) affect your day-to-day life?</p>	<p>1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all</p>	
<p>How concerned are you about the illness?</p>	<p>1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all</p>	
<p>Who managed you at this clinic during your visit today?</p>	<p>1 Medical doctor 2 Nurse 3 Midwife 4 Clinical officer 5 Dentist 6 Traditional practitioner 96 Other</p>	
<p>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 ?</p>	<p>Yes No</p>	<p>If yes, answer question below</p>
<p>Where did you seek care?</p>	<p>Sierra Leone 1 Hospital or clinic 2 Drug store 3 Drug peddler 4 Traditional doctor 5 CHW 6 Church yard 7 At home</p>	

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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 visit, 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	

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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2	/patient/highest_level_of_school	Multiple Choice
3	/patient/highest_level_of_school-vocational_trade_school	Choice
4	/patient/highest_level_of_school-pre-primary	Choice
5	/patient/highest_level_of_school-primary	Choice
6	/patient/highest_level_of_school-secondary	Choice
7	/patient/highest_level_of_school-tertiary_university	Choice
8	/patient/highest_level_of_school-tertiary_university	Choice
9	/patient/are_you_currently_working	Multiple Choice
10	/patient/are_you_currently_working-yes	Choice
11	/patient/are_you_currently_working-no	Choice
12	/patient/always_lived_in_this_district	Multiple Choice
13	/patient/always_lived_in_this_district-yes	Choice
14	/patient/always_lived_in_this_district-no	Choice
15	/patient/always_lived_in_this_district-no	Choice
16	/household_items	Question List
17	/household_items/label_does_your_house_have	Multiple Choice
18	/household_items/label_does_your_house_have-yes	Choice
19	/household_items/label_does_your_house_have-no	Choice
20	/household_items/electricity	Multiple Choice
21	/household_items/electricity	Multiple Choice
22	/household_items/electricity-yes	Choice
23	/household_items/electricity-no	Choice
24	/household_items/television	Multiple Choice
25	/household_items/television-yes	Choice
26	/household_items/television-no	Choice
27	/household_items/refrigerator	Multiple Choice
28	/household_items/refrigerator	Multiple Choice
29	/household_items/refrigerator-yes	Choice
30	/household_items/refrigerator-no	Choice
31	/household_items/mobile_phone	Multiple Choice
32	/household_items/mobile_phone-yes	Choice
33	/household_items/mobile_phone-no	Choice
34	/household_items/mobile_phone-no	Choice
35	/household_items/watch	Multiple Choice
36	/household_items/watch-yes	Choice
37	/household_items/watch-no	Choice
38	/household_items/bank_account	Multiple Choice
39	/household_items/bank_account-yes	Choice
40	/household_items/bank_account-no	Choice
41	/household_items/bank_account-no	Choice
42	/house_materials	Question List
43	/house_materials/main_material_of_the_floor	Multiple Choice
44	/house_materials/main_material_of_the_floor-earth_sand_dung	Choice
45	/house_materials/main_material_of_the_floor-cement	Choice
46	/house_materials/main_material_of_the_floor-other	Choice
47	/house_materials/main_material_of_the_floor-other	Choice
48	/house_materials/main_material_of_exterior_walls	Multiple Choice
49	/house_materials/main_material_of_exterior_walls-cane_palm	Choice
50	/house_materials/main_material_of_exterior_walls-cement	Choice
51	/house_materials/main_material_of_exterior_walls-other	Choice
52	/house_materials/main_material_of_exterior_walls-other	Choice
53	/house_materials/main_material_of_the_roof	Multiple Choice
54	/house_materials/main_material_of_the_roof-metallic_sheets	Choice
55	/house_materials/main_material_of_the_roof-other	Choice
56	/house_materials/main_material_of_the_roof-other	Choice
57	/house_materials/cooking_fuel_type	Multiple Choice
58	/house_materials/cooking_fuel_type-charcoal	Choice
59	/house_materials/cooking_fuel_type-wood	Choice
60	/house_materials/cooking_fuel_type-wood	Choice
61	/house_materials/cooking_fuel_type-other	Choice
62	/house_materials/cooking_fuel_type-other	Choice
63	/household_expenditures	Question List
64	/household_expenditures	Question List
65	/household_expenditures/total_income_last_month	Multiple Choice

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2	/household_expenditures/total_income_last_month-1_1999	Choice
3	/household_expenditures/total_income_last_month-2000_3499	Choice
4	/household_expenditures/total_income_last_month-3500_5999	Choice
5	/household_expenditures/total_income_last_month-6000_9999	Choice
6	/household_expenditures/total_income_last_month-10000_14999	Choice
7	/household_expenditures/total_income_last_month-15000_19999	Choice
8	/household_expenditures/total_income_last_month-20000_29999	Choice
9	/household_expenditures/total_income_last_month-30000_plus	Choice
10	/household_expenditures/total_income_last_month-no_income	Choice
11	/household_expenditures/total_income_last_month-unknown	Choice
12	/household_expenditures/label_total_spent_last_month	Label
13	/household_expenditures/expenditure_food	Integer
14	/household_expenditures/expenditure_food_dont_know	Checkbox
15	/household_expenditures/expenditure_food_dont_know-dont_know	Choice
16	/household_expenditures/expenditure_energy	Integer
17	/household_expenditures/expenditure_energy_dont_know	Checkbox
18	/household_expenditures/expenditure_energy_dont_know-dont_know	Choice
19	/household_expenditures/expenditure_water	Integer
20	/household_expenditures/expenditure_water_dont_know	Checkbox
21	/household_expenditures/expenditure_water_dont_know-dont_know	Choice
22	/household_expenditures/expenditure_electricity	Integer
23	/household_expenditures/expenditure_electricity_dont_know	Checkbox
24	/household_expenditures/expenditure_electricity_dont_know-dont_know	Choice
25	/household_expenditures/expenditure_rent	Integer
26	/household_expenditures/expenditure_rent_dont_know	Checkbox
27	/household_expenditures/expenditure_rent_dont_know-dont_know	Choice
28	/household_expenditures/expenditure_health_care	Integer
29	/household_expenditures/expenditure_healthcare_dont_know	Checkbox
30	/household_expenditures/expenditure_healthcare_dont_know-dont_know	Choice
31	/household_expenditures/expenditure_everything_else	Integer
32	/household_expenditures/expenditure_everything_else_dont_know	Checkbox
33	/household_expenditures/expenditure_everything_else_dont_know-dont_know	Choice
34	/household_expenditures/expenditure_total	Hidden Value
35	/household_expenditures/label_total_expenditure	Label
36	/utilization	Question List
37	/utilization/visit_for_self_or_child	Multiple Choice
38	/utilization/visit_for_self_or_child-self	Choice
39	/utilization/visit_for_self_or_child-child	Choice
40	/utilization/visit_for_self_or_child-both_self_and_child	Choice
41	/utilization/age_of_child	Integer
42	/utilization/reason_for_visit	Multiple Choice
43	/utilization/reason_for_visit-acutely_sick	Choice
44	/utilization/reason_for_visit-routine_care	Choice
45	/utilization/reason_for_visit-chronic_care	Choice
46	/utilization/reason_for_visit-prefer_not_to_say	Choice
47	/utilization/acute_illness_specify	Checkbox
48	/utilization/acute_illness_specify-diarrhea	Choice
49	/utilization/acute_illness_specify-fever	Choice
50	/utilization/acute_illness_specify-difficulty_breathing_coughing	Choice
51	/utilization/acute_illness_specify-serious_injury	Choice
52	/utilization/acute_illness_specify-pain	Choice
53	/utilization/acute_illness_specify-skin_problems	Choice

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2	/utilization/acute_illness_specify-anxiety_depression_difficulty_	Choice
3	/utilization/acute_illness_specify-nausea_dizziness_light-headed	Choice
4	/utilization/acute_illness_specify-appetite_problems	Choice
5	/utilization/acute_illness_specify-fatigue	Choice
6	/utilization/acute_illness_specify-other_please_specify	Choice
7	/utilization/acute_illness_specify-prefer_not_to_say	Choice
8	/utilization/other_acute_conditions	Text
9		
10	/utilization/nature_of_injury	Multiple Choice
11	/utilization/nature_of_injury-road_traffic_accident	Choice
12	/utilization/nature_of_injury-fall_or_other_blunt_force	Choice
13	/utilization/nature_of_injury-poisoning	Choice
14	/utilization/nature_of_injury-burn	Choice
15	/utilization/nature_of_injury-other_please_specify	Choice
16	/utilization/nature_of_injury-prefer_not_to_say	Choice
17	/utilization/other_nature_of_injury	Text
18		
19	/utilization/chronic_care_services_specify	Checkbox
20	/utilization/chronic_care_services_specify-hiv	Choice
21	/utilization/chronic_care_services_specify-tb	Choice
22	/utilization/chronic_care_services_specify-ncd	Choice
23	/utilization/chronic_care_services_specify-prefer_not_to_say	Choice
24	/utilization/routine_services_specify	Multiple Choice
25	/utilization/routine_services_specify-fp	Choice
26	/utilization/routine_services_specify-anc	Choice
27	/utilization/routine_services_specify-pnc	Choice
28	/utilization/routine_services_specify-prefer_not_to_say	Choice
29		
30	/utilization/how_much_illness_affects_day_to_day_life	Multiple Choice
31	/utilization/how_much_illness_affects_day_to_day_life-extreme	Choice
32	/utilization/how_much_illness_affects_day_to_day_life-a_lot	Choice
33	/utilization/how_much_illness_affects_day_to_day_life-moderat	Choice
34	/utilization/how_much_illness_affects_day_to_day_life-slightly	Choice
35	/utilization/how_much_illness_affects_day_to_day_life-not_at_a	Choice
36		
37	/utilization/how_concerned_about_illness	Multiple Choice
38	/utilization/how_concerned_about_illness-extremely	Choice
39	/utilization/how_concerned_about_illness-a_lot	Choice
40	/utilization/how_concerned_about_illness-moderately	Choice
41	/utilization/how_concerned_about_illness-slightly	Choice
42	/utilization/how_concerned_about_illness-not_at_all	Choice
43		
44	/utilization/who_managed_care_during_visit	Multiple Choice
45	/utilization/who_managed_care_during_visit-medical_doctor	Choice
46	/utilization/who_managed_care_during_visit-nurse	Choice
47	/utilization/who_managed_care_during_visit-midwife	Choice
48	/utilization/who_managed_care_during_visit-clinical_officer	Choice
49	/utilization/who_managed_care_during_visit-dentist	Choice
50	/utilization/who_managed_care_during_visit-other	Choice
51	/utilization/other_health_provider	Text
52		
53	/utilization/seek_previous_care	Multiple Choice
54	/utilization/seek_previous_care-yes	Choice
55	/utilization/seek_previous_care-no	Choice
56		
57	/utilization/where_seek_previous_care	Multiple Choice
58	/utilization/where_seek_previous_care-hospital_or_clinic	Choice
59	/utilization/where_seek_previous_care-drug_store	Choice
60	/utilization/where_seek_previous_care-drug_peddlar	Choice

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2	/utilization/where_seek_previous_care-traditional_doctor	Choice
3	/utilization/where_seek_previous_care-chw	Choice
4	/utilization/where_seek_previous_care-church_yard	Choice
5	/utilization/where_seek_previous_care-at_home	Choice
6	/utilization/where_seek_previous_care-other	Choice
7		
8	/utilization/name_of_previous_care_hospital_or_clinic	Text
9	/utilization/other_location_of_previous_care	Text
10	/utilization/transportation_method_to_care	Checkbox
11	/utilization/transportation_method_to_care-private_vehicle	Choice
12	/utilization/transportation_method_to_care-public_transportation	Choice
13	/utilization/transportation_method_to_care-taxicab	Choice
14		
15	/utilization/transportation_method_to_care-ambulance_or_emer	Choice
16	/utilization/transportation_method_to_care-bicycle	Choice
17	/utilization/transportation_method_to_care-motorbike	Choice
18	/utilization/transportation_method_to_care-walked	Choice
19	/utilization/transportation_method_to_care-other	Choice
20	/utilization/other_transportation_method	Text
21		
22	/utilization/label_how_long_to_care	Label
23	/utilization/hours_to_care	Integer
24	/utilization/minutes_to_care	Integer
25	/utilization/dont_know_how_long	Multiple Choice
26	/utilization/dont_know_how_long-dont_know	Choice
27	/utilization/label_how_long_to_receive_treatment	Label
28	/utilization/hours_to_receive_treatment	Integer
29	/utilization/minutes_to_receive_treatment	Integer
30	/utilization/why_choose_this_health_facility	Checkbox
31		
32	/utilization/why_choose_this_health_facility-nearness	Choice
33	/utilization/why_choose_this_health_facility-providers_friendly	Choice
34	/utilization/why_choose_this_health_facility-good_services	Choice
35	/utilization/why_choose_this_health_facility-short_waiting_time	Choice
36	/utilization/why_choose_this_health_facility-qualified_doctors	Choice
37	/utilization/why_choose_this_health_facility-low_fees	Choice
38	/utilization/why_choose_this_health_facility-good_waiting_facili	Choice
39	/utilization/why_choose_this_health_facility-confidentiality	Choice
40	/utilization/why_choose_this_health_facility-do_not_know_whe	Choice
41	/utilization/why_choose_this_health_facility-medicine_available	Choice
42	/utilization/why_choose_this_health_facility-diagnostic_service	Choice
43	/utilization/why_choose_this_health_facility-recommendation	Choice
44	/utilization/why_choose_this_health_facility-other	Choice
45	/utilization/other_reason_to_choose_this_facility	Text
46		
47	/utilization/problems_with_service	Checkbox
48	/utilization/problems_with_service-waited_too_long	Choice
49	/utilization/problems_with_service-inadequate_explanations	Choice
50	/utilization/problems_with_service-lack_of_privacy	Choice
51	/utilization/problems_with_service-lack_of_medicines	Choice
52	/utilization/problems_with_service-hours_inconvenient	Choice
53	/utilization/problems_with_service-days_inconvenient	Choice
54	/utilization/problems_with_service-facility_not_clean	Choice
55	/utilization/problems_with_service-poor_treatment_from_staff	Choice
56	/utilization/problems_with_service-high_cost	Choice
57		
58	/satisfaction	Question List
59		
60	/satisfaction/how_would_you_answer_the_following_questions	Multiple Choice

1		
2	/satisfaction/how_would_you_answer_the_following_questions	Choice
3	/satisfaction/how_would_you_answer_the_following_questions	Choice
4	/satisfaction/how_would_you_answer_the_following_questions	Choice
5	/satisfaction/how_would_you_answer_the_following_questions	Choice
6	/satisfaction/how_would_you_answer_the_following_questions	Choice
7	/satisfaction/how_would_you_answer_the_following_questions	Choice
8	/satisfaction/staff_compassionate	Multiple Choice
9	/satisfaction/staff_compassionate-1	Choice
10	/satisfaction/staff_compassionate-2	Choice
11	/satisfaction/staff_compassionate-3	Choice
12	/satisfaction/staff_compassionate-4	Choice
13	/satisfaction/staff_compassionate-5	Choice
14	/satisfaction/staff_disrespectful	Multiple Choice
15	/satisfaction/staff_disrespectful-1	Choice
16	/satisfaction/staff_disrespectful-2	Choice
17	/satisfaction/staff_disrespectful-3	Choice
18	/satisfaction/staff_disrespectful-4	Choice
19	/satisfaction/staff_disrespectful-5	Choice
20	/satisfaction/staff_do_not_have_time	Multiple Choice
21	/satisfaction/staff_do_not_have_time-1	Choice
22	/satisfaction/staff_do_not_have_time-2	Choice
23	/satisfaction/staff_do_not_have_time-3	Choice
24	/satisfaction/staff_do_not_have_time-4	Choice
25	/satisfaction/staff_do_not_have_time-5	Choice
26	/satisfaction/easy_to_talk_to_staff	Multiple Choice
27	/satisfaction/easy_to_talk_to_staff-1	Choice
28	/satisfaction/easy_to_talk_to_staff-2	Choice
29	/satisfaction/easy_to_talk_to_staff-3	Choice
30	/satisfaction/easy_to_talk_to_staff-4	Choice
31	/satisfaction/easy_to_talk_to_staff-5	Choice
32	/satisfaction/knowledgeable_staff	Multiple Choice
33	/satisfaction/knowledgeable_staff-1	Choice
34	/satisfaction/knowledgeable_staff-2	Choice
35	/satisfaction/knowledgeable_staff-3	Choice
36	/satisfaction/knowledgeable_staff-4	Choice
37	/satisfaction/knowledgeable_staff-5	Choice
38	/satisfaction/staff_unkind	Multiple Choice
39	/satisfaction/staff_unkind-1	Choice
40	/satisfaction/staff_unkind-2	Choice
41	/satisfaction/staff_unkind-3	Choice
42	/satisfaction/staff_unkind-4	Choice
43	/satisfaction/staff_unkind-5	Choice
44	/satisfaction/facility_clean	Multiple Choice
45	/satisfaction/facility_clean-1	Choice
46	/satisfaction/facility_clean-2	Choice
47	/satisfaction/facility_clean-3	Choice
48	/satisfaction/facility_clean-4	Choice
49	/satisfaction/facility_clean-5	Choice
50	/satisfaction/proper_medical_equipment	Multiple Choice
51	/satisfaction/proper_medical_equipment-1	Choice
52	/satisfaction/proper_medical_equipment-2	Choice
53	/satisfaction/proper_medical_equipment-3	Choice
54	/satisfaction/proper_medical_equipment-4	Choice

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2	/satisfaction/proper_medical_equipment-5	Choice
3	/satisfaction/runs_out_of_medication_and_supplies	Multiple Choice
4	/satisfaction/runs_out_of_medication_and_supplies-1	Choice
5	/satisfaction/runs_out_of_medication_and_supplies-2	Choice
6	/satisfaction/runs_out_of_medication_and_supplies-3	Choice
7	/satisfaction/runs_out_of_medication_and_supplies-4	Choice
8	/satisfaction/runs_out_of_medication_and_supplies-5	Choice
9		
10	/satisfaction/well_staffed	Multiple Choice
11	/satisfaction/well_staffed-1	Choice
12	/satisfaction/well_staffed-2	Choice
13	/satisfaction/well_staffed-3	Choice
14	/satisfaction/well_staffed-4	Choice
15	/satisfaction/well_staffed-5	Choice
16		
17	/satisfaction/wait_line_too_long	Multiple Choice
18	/satisfaction/wait_line_too_long-1	Choice
19	/satisfaction/wait_line_too_long-2	Choice
20	/satisfaction/wait_line_too_long-3	Choice
21	/satisfaction/wait_line_too_long-4	Choice
22	/satisfaction/wait_line_too_long-5	Choice
23		
24	/satisfaction/overall_satisfied	Multiple Choice
25	/satisfaction/overall_satisfied-1	Choice
26	/satisfaction/overall_satisfied-2	Choice
27	/satisfaction/overall_satisfied-3	Choice
28	/satisfaction/overall_satisfied-4	Choice
29	/satisfaction/overall_satisfied-5	Choice
30		
31	/spending	Question List
32	/spending/registration_consultation_fee_type	Multiple Choice
33	/spending/registration_consultation_fee_type-not_free	Choice
34	/spending/registration_consultation_fee_type-free	Choice
35	/spending/registration_consultation_fee_type-dont_know	Choice
36	/spending/registration_consultation_fee	Integer
37		
38	/spending/diagnostic_lab_test_fee_type	Multiple Choice
39	/spending/diagnostic_lab_test_fee_type-not_free	Choice
40	/spending/diagnostic_lab_test_fee_type-free	Choice
41	/spending/diagnostic_lab_test_fee_type-dont_know	Choice
42	/spending/diagnostic_lab_test_fee	Integer
43		
44	/spending/medication_fee_type	Multiple Choice
45	/spending/medication_fee_type-not_free	Choice
46	/spending/medication_fee_type-free	Choice
47	/spending/medication_fee_type-dont_know	Choice
48	/spending/medication_fee	Integer
49		
50	/spending/other_healthcare_fee_type	Multiple Choice
51	/spending/other_healthcare_fee_type-not_free	Choice
52	/spending/other_healthcare_fee_type-free	Choice
53	/spending/other_healthcare_fee_type-dont_know	Choice
54	/spending/other_healthcare_fee_type_specify	Text
55	/spending/other_healthcare_fee	Integer
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Text (en)
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

Audio (en) Image (en) Video (en) Video Inlin

view only

1	What is the highest level of school you attended?
2	Vocational/Trade School
3	Pre-primary
4	Primary
5	Secondary
6	Tertiary/University
7	Are you currently working?
8	Yes
9	No
10	Have you always lived in this District?
11	Yes
12	No
13	Household items
14	Does your household have:
15	Yes
16	No
17	Electricity
18	Yes
19	No
20	Television
21	Yes
22	No
23	Refrigerator
24	Yes
25	No
26	Mobile Phone
27	Yes
28	No
29	A watch
30	Yes
31	No
32	A Bank Account?
33	Yes
34	No
35	House materials
36	What is the main material of the floor?
37	Earth/ sand/ dung
38	Cement
39	Other
40	What is the main material of the exterior walls?
41	Cane/ palm/ trunks/ dirt
42	Cement
43	Other
44	What is the main material of the roof?
45	Metallic sheets
46	Other
47	What type of fuel does your household mainly use for cooking?
48	Charcoal
49	Wood
50	Other
51	Expenditures
52	In the last month, approximately what was the total income for this household.

View only

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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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1	
2	Anxiety/ depression/ difficulty sleeping
3	Nausea/ dizziness/ light-headed
4	Appetite problems
5	Fatigue
6	Other (please specify)
7	Prefer not to say
8	Please specify
9	
10	What was the nature of the injury
11	Road traffic accident
12	Fall or other blunt force
13	Poisoning
14	Burn
15	Other (please specify)
16	Prefer not to say
17	Please specify
18	
19	Which chronic care services are you and/or your child receiving today
20	HIV
21	TB
22	NCD
23	Prefer not to say
24	
25	Please indicate which routine services the patient is receiving today
26	family planning
27	Antenatal care
28	Postnatal care
29	Prefer not to say
30	
31	How much does this illness affect your and/or your child's day-to-day life?
32	Extremely
33	A lot
34	Moderately
35	Slightly
36	Not at all
37	
38	How concerned are you about the illness?
39	Extremely
40	A lot
41	Moderately
42	Slightly
43	Not at all
44	
45	Who managed you at this clinic during your visit today?
46	Medical doctor
47	Nurse
48	Midwife
49	Clinical officer
50	Dentist
51	Other (please specify)
52	Please specify
53	
54	In the past 3 months, did you seek care somewhere for this same illness, before coming to this health facility?
55	Yes
56	No
57	
58	Where did you seek care?
59	Hospital or clinic
60	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?

During the visits how long did it take to be managed by the health facility team? (including waiting times f

Where there any problems with the service during this visit? (Select all that apply)

Lack of privacy from having other see or hear the examination or visit

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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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2	no
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9	no
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12	no
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16	no
17	no
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21	no
22	
23	
24	no
25	
26	
27	
28	no
29	
30	
31	no
32	
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34	
35	no
36	
37	
38	
39	no
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41	
42	#form/consent/consent = '1' no
43	no
44	
45	
46	
47	
48	no
49	
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51	
52	no
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54	
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56	no
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59	
60	#form/consent/consent = '1' no
	no

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#form/utilization/acute_illness_specify = 'other' no

#form/utilization/acute_illness_specify = 'serious' no

#form/utilization/nature_of_injury = 'other' no

#form/utilization/reason_for_visit = 'chronic' no

#form/utilization/reason_for_visit = 'routine' no

#form/utilization/reason_for_visit = 'acutely' no

#form/utilization/reason_for_visit = 'acutely' no

no

#form/utilization/who_managed_care_during
lity? no

#form/utilization/seek_previous_care = 'yes' no

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7 #form/utilization/where_seek_previous_care no
8 #form/utilization/where_seek_previous_care no
9 no
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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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3 **1 Patient Satisfaction and its Associated Factors in Selected Primary Health Care**
4 **2 Facilities in Kono District, Sierra Leone. A cross-sectional Study.**
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8 3 Yusupha Dibba^{1*}, Foday Boima^{1*}, Jean Gregory Jerome², Samuel Watson³, Lyz Chery⁴, Julia
9 4 Higgins⁵, Vivian Chung², Stefanie Joseph², Mulailwa Papy Kilongo¹, Joia S Mukherjee², Zeleke
10 5 Abebaw Mekonnen¹
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13 * Equal contribution
14

15 **7 Affiliations**

16 8 ¹Partners In Health, Sierra Leone

17
18 9 ²Partners In Health, Boston, USA

19
20 10 ³Institute of Applied Health Research, University of Birmingham, Birmingham, England

21 11 ⁴Harris School of Public Policy, University of Chicago, Chicago, USA

22 12 ⁵Rollins School of Public Health, Emory University, Atlanta, USA
23
24
25
26

27 14 **Correspondence**

28 15 Dr. Yusupha Dibba

29 16 Email: ydibba@pih.org

30 17 Cellphone: +23230821848

31 18 Partners in Health, Sierra Leone
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40 22 **Abstract**

41 23 **Objective:** To assess patient satisfaction with services and its associated factors across selected
42 24 primary care facilities in Kono district, Sierra Leone.

43 25 **Design:** Facility-based cross sectional study.

44 26 **Setting:** Five primary healthcare facilities (Wellbody, Sewafe, Kombayendeh, Gandorhun, and
45 27 Kayima) located in Kono district, Sierra Leone. All five are Community Health Centers (CHC),
46 28 with two CHCs benefiting from a comprehensive package of support (5-S model) from the non-
47 29 governmental organization (NGO) Partners In Health (PIH). This support, dubbed as 5-S model
48 30 will be elaborated in this paper. The other three CHCs were not beneficiaries of the 5-S model.
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50 32 **Participants:** The study population comprised all patients and caregivers who attend outpatient
51 33 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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3 62 - Since the data is self-reported by the patients or caregivers, there might be recall bias
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5 63 from the patients, especially if they had previously different experience from another
6
7 64 health facility.
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9 65 - Perceptions and experiences of patients were not captured qualitatively.
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11 66 - Facilities included in this study are from all the cardinal points of the district and
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13 67 therefore respondents are from all the cardinal points (east, west, north, south, and
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15 68 central) of the district, providing a wide respondent representation of the district.
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70 Introduction

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

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

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

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3 100 In North India, a study indicated that the majority of patients using outpatients and inpatients
4 101 services were satisfied with the care received with a notable recommendation to reduce waiting
5 102 time at registration and laboratory service departments. However, it was also noted that attention
6 103 should be given to new medicines prescribed for a patient, and that the possible side effects and
7 104 purpose of giving the medicine should be explained to them [8]. With these findings, patients'
8 105 experiences and satisfaction with their treatment are becoming increasingly important in the
9 106 context of quality assurance, and patient experiences health care, and reporting this information
10 107 helps patients to have choices in their health care seeking. [9].

11 108 While patient satisfaction is considered one of the desired outcomes of health care and is directly
12 109 related to utilization of health services, there is scant information on patient satisfaction with
13 110 services provided in public health facilities in Sierra Leone. In this study, we will assess patients'
14 111 satisfaction with the level of services offered at both PIH-supported and non-PIH supported
15 112 Community Health Centers (CHCs) and its associated factors in Kono district, Sierra Leone.

113 **Methods**

114 **Study Setting**

115 This study was conducted in 2021 in Kono District in the eastern region with an estimated
116 population of about 600,000, of which 75% of individuals reside in rural areas [10]. 5 MoH
117 health facilities categorized in the Sierra Leone health system as Community Health Centers
118 (CHC) in Kono District, Sierra Leone were included. The 5 CHCs are Wellbody Clinic, Sewafe,
119 Kombayendeh, Gandorhun, and Kayima. These health facilities offer general outpatient services,
120 maternal and child health services, NCDs, HIV, and tuberculosis services, as well as additional
121 services including pharmacy and laboratory as part of the primary health care service package.
122 These facilities are distributed across the district, at the west; Sewafe CHC, east; Kombayendeh
123 CHC, south; Gandorhun, north; Kayima, and central; Wellbody Clinic CHC.
124 We categorized these facilities into "intervention" (Wellbody Clinic and Sewafe CHC) and "non-
125 intervention" facilities (Kombayendeh, Gandorhun, and Kayima). The "intervention facility"
126 refers to a facility where PIH provides additional support through their "5-S Model".
127 The 5-S model was developed through the iterative work of the US based NGO Partners In Health
128 to assure that the poorest and most vulnerable patients have access to high quality health care and
129 achieve equitable health outcomes with richer patients. The model recognizes the supply side

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

144 Study Design

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

147 Study Population

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

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

160 **Sample size and data collection**

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

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

169 Before the start of data collection, the data collectors received training in research ethics, covering
170 respect for study participants, consent procedures, and secure storage and maintenance of data.

171 They also underwent survey-specific training and pre-tested the survey questionnaire; patient-exit
172 surveys (supplementary material 1). The quality of the collected data was maintained through daily
173 supervision, spot-checking and reviewing the completed questionnaire by trained staff. The
174 principal investigator and supervisors cross-checked the questionnaire for completeness, accuracy
175 and consistency.

177 **Study Variables**

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

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

188 **Data Analysis**

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

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

194
195 A binary logistic regression model was used to identify factors significantly associated with patient
196 satisfaction. Initially, the association between each independent variable with the outcome variable
197 was assessed using bivariate logistic regression analysis. Subsequently, those variables with p-
198 value less than or equal to 0.2 were included in a multivariable logistic regression model to control
199 for possible confounding variables. Finally, multivariable logistic regression analysis findings
200 were presented using an Adjusted Odds Ratio (AOR) with their corresponding 95% Confidence
201 Interval (CI).

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

205 **Ethical considerations**

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

211 **Results**

212 **Characteristics of respondents**

213 Overall, 290 patients were included in the analysis. Table 1 reports the baseline characteristics. In
214 total, 123 (42.4%) were in the age range of 21–30 years and about 85% of respondents were
215 females. Pertaining to educational status, half (50%) had secondary education and above while
216 42.4% had no formal education. 202 (69.7%) of the respondents were married. Three-quarters
217 (76.2%) of respondents reported that they travelled for less than an hour to access the health
218 facilities. 128 (44.1%) of the participants reported that the waiting time to receive care is more
219 than two hours (Table1).

220 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%)

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).

232

233

234 **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%)	

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

236

237 **Reasons for visiting health facilities**

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

243

244

245 **Factors associated with patient satisfaction**

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

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

256 The multivariable regression analysis indicated that being a PIH intervention site has a positive
257 statistically significant association with patient satisfaction after controlling for other variables.
258 Respondents from PIH intervention sites had 2.5 times higher odds of satisfaction [AOR=2.47,
259 95%CI: 1.28-4.78] as compared to those respondents from the non-PIH sites (Table 3).

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

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

272

273 **Table 3: Bivariable and multivariable binary logistic regression analysis of factors**
274 **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

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

275

276 Multicollinearity

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

281 Model fitness test

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

284

285 Discussion

286 This study revealed that around two thirds 63.8% (95%CI: 58.1%-69%) of respondents have an
 287 impression of good satisfaction in the services provided in the health facilities, and a greater level
 288 of satisfaction was felt in the PIH supported health facilities where the patient satisfaction was
 289 69%. Respondent's educational level, distance to health facility and waiting time were predictors
 290 of patient satisfaction.

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

12

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

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

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

303 The overall patient satisfaction level is, however, clearly lower than findings of studies conducted
304 in the following LMIC: Ethiopia (77%) [15], Nigeria (94%) [16], Nigeria (78%) [17], Tanzania
305 (72.8%) [18] and India (80%) [8]. The difference might be because those studies were conducted
306 in different contexts including referral hospitals, which are equipped very well and have enough
307 diversity of health professionals of different levels that are expected to demonstrate the standard
308 way of patient examination resulting in higher-level satisfaction. Further, the Nigerian study also
309 included private health facilities that might affect the patient satisfaction positively given that these
310 health facilities are profit making [16].

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

323 In this study, lower educational status of a patient is significantly associated with higher patient
324 satisfaction level ($p < 0.05$, CI: 0.28-0.98). Studies in primary care services also indicated that there
325 were significant differences in satisfaction with health services in terms of educational level
326 [7,14,22]. This suggests that the 5-S model has its intended outcome as it was designed to increase
327 access to and quality of care for the poor (who have fewer options for care). It may also be
328 explained by the exaggerated expectations for high standard of care among the educated
329 respondents.

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

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

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

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350 **Implications for policy and practice**

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3 351 Patients seek timely and convenient services when utilizing healthcare. Though the findings from
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5 352 this study highlighted relatively better levels of patient satisfaction, this study pointed out the
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7 353 factors that need to be considered to further improve patient satisfaction in primary healthcare
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9 354 facilities. With this, health facilities leadership need to give attention to improve their patient's
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11 355 positive experiences when they utilize their health facilities.

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13 356 In recent years, there has been a growing interest in patient satisfaction as a measure of outcome
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15 357 and quality of care as it provides information on how well health service providers meet patients'
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17 358 values and expectations. This study pointed out that the major reasons why patients visit health
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19 359 facilities are; availability of medicines, accessibility, good service provision, and availability of
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21 360 friendly and qualified health workers, highlighting the need to improve quality of care and service
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23 361 characteristics to optimize the patient satisfaction level at the PHU level. This implies that patient
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25 362 satisfaction structured interventions should be put in place in a systematic way according to the
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27 363 MoH standards of care. This will improve treatment adherence [3] and by extension health
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29 364 outcomes.

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31 365 The amount of time spent to see a health worker was also a significant predictor of patient
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33 366 satisfaction. This also demands appropriately addressing the patient flow, staffing and service
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35 367 expansion to improve both accessibility and quality of care. These calls for refocusing to improve
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37 368 the overall patient care in the local context and meet the patient needs at the PHU level.

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39 369 Our findings also show that PIH interventions in augmenting MoH health care service delivery by
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41 370 the 5-S model is highly effective in improving patient satisfaction with respect to a healthcare
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43 371 system performance.

44
45 372 **Limitations:** This was a facility-based cross-sectional study conducted in selected health
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47 373 facilities from one district. This might limit generalizability to the national Sierra Leone context.
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49 374 The finding of this study might also be subjected to recall bias, and social desirability bias
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51 375 because the respondents were interviewed within the health facilities compound. Despite this
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53 376 situation, participants still shared important critiques of their experiences at the selected
54
55 377 facilities, and services. Even though the sample size included all patients who visited the five
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57 378 facilities during the study period, we acknowledge that the characteristics as well as the findings
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59 379 from these patients might not be representative of the general population.

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

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

390

391

392 **Conclusions**

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

402

403 **List of abbreviations**

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

409 Declaration

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417 SW, LC, JH, MPK, JSM, and ZAM performed the data analysis, data interpretation and drafting
418 the manuscript. All the coauthors reviewed and approved the final manuscript. Yusupha Dibba
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420

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425 **Patient consent for publication:** Not applicable.

426 **Data availability statement:** Data are available upon reasonable request.

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

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20 488 satisfaction with services in outpatient clinics at Mulago hospital, Uganda. *Int J Qual Heal Care.*
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25 491 **FIGURE LEGENDS**

- 27 492 1. Figure 1: PIH 5-S model
- 29 493 2. Figure 2: Level of satisfaction among the respondents [N=290]
- 31 494 3. Figure 3: Motivational factors for choosing the primary health care facilities [N=290]
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- 33 496

1. Figure 1: PIH 5-S model



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

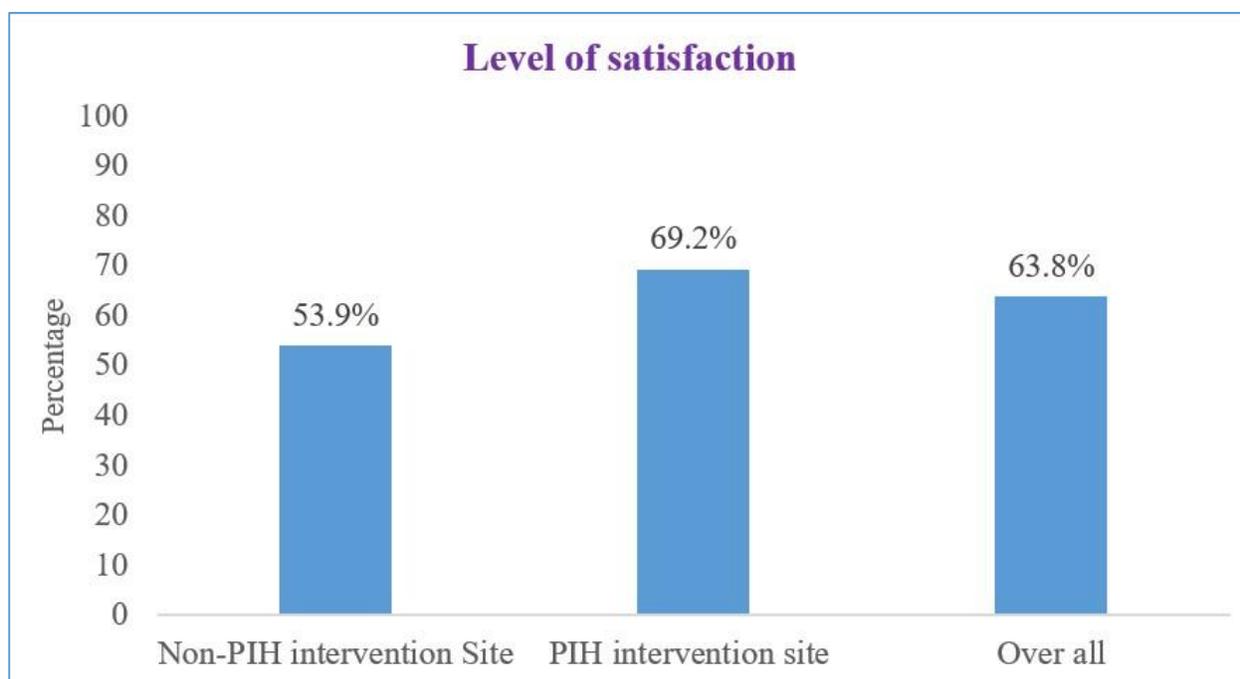
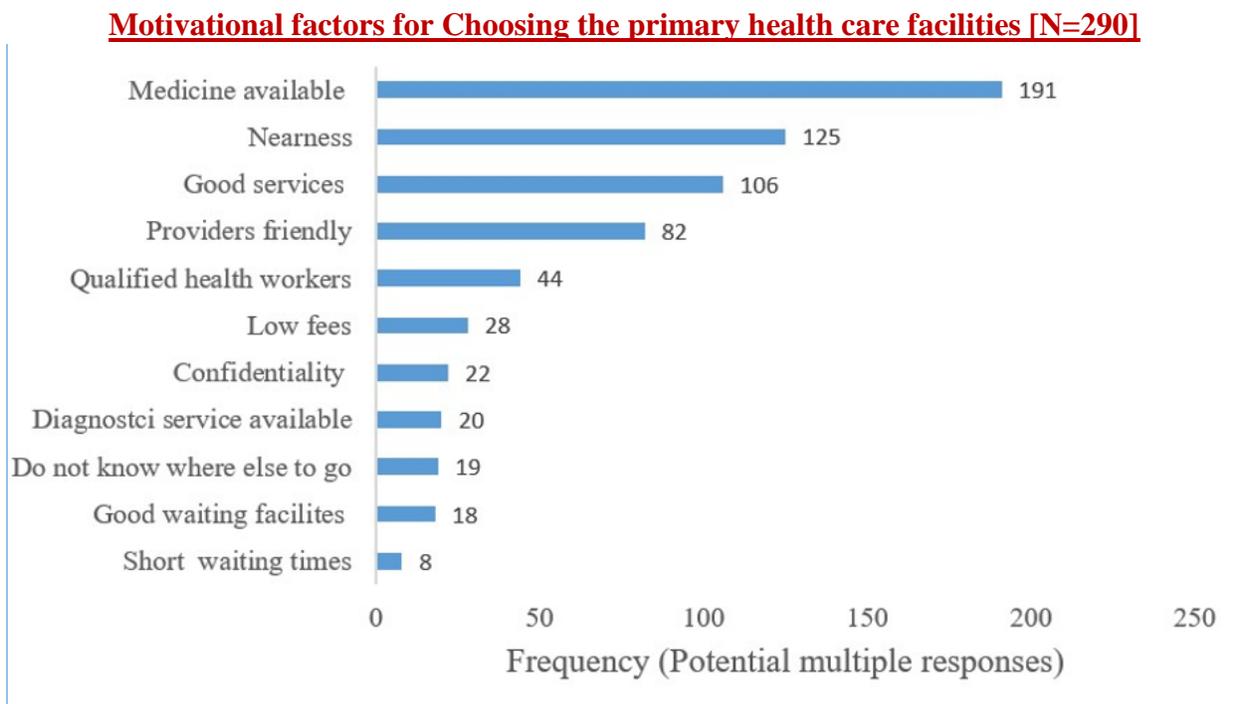


Figure 3: Motivational factors for choosing the primary health care facilities [N=290]



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Review only

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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9 PATIENT (IF CHILD IS THE PATIENT, RESPONDENT) DEMOGRAPHIC INFORMATION

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	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?	<input type="radio"/> Self <input type="radio"/> Child <input type="radio"/> Both	
	If child, how is old is the child?		

48 HOUSEHOLDS SOCIAL ECONOMIC STATUS

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	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	<ol style="list-style-type: none"> 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?	<ol style="list-style-type: none"> 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?	<ol style="list-style-type: none"> 1 Extremely 2 A lot 3 Moderately 4 Slightly 5 Not at all 	
	How concerned were you about the illness?	<ol style="list-style-type: none"> 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 1 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 visit, 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	