



Health worker incentives: survey report, Sierra Leone

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**Sophie Witter
Maria Paola Bertone
Haja Wurie
Mohamed Samai
Joseph Edem-Hotah
Rogers Amara**

ReBUILD Team

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Abbreviations

ACC - Anti-Corruption Committee
CHA - Community Health Assistant
CHC - Community Health Centre
CHO - Community Health Officer
CHP - Community Health Post
COMAHS - College of Medicine and Allied Health Sciences
DFiD - Department of Foreign and International Development
DMO - District Medical Officer
DSA - Daily Sustenance Allowance
EDCU - Endemic Disease Control Unit
EHO - Environmental Health Officer
FHCI - Free Health Care Initiative
GF - Global Fund
GNI – Gross National Income
GoSL - Government of Sierra Leone
HRH - Human Resource for Health
HW - Health Worker
IGA - Income Generating Activity
JICA - Japan International Cooperation Association
MCH Aide - Maternal and Child Aide
MCHPs - Maternal and Child Health Posts
MoHS - Ministry of Health and Sanitation
MRC - Medical Research Council
NGO - Non Governmental Organisation
PBF - Performance Based Financing
PHU - Primary Health Unit
PNFP - Private Not for Profit
RAA - Remote Area Allowance
ReBUILD - Research for BUILDing Pro-poor Health systems during recovery from political and social conflict
SECHN - State Enrolled Community Health Nurse
SRN - State Registered Nurse
UN - United Nations
UNICEF - United Nations Children’s Fund
WA - Western Area
WHO – World Health Organisation

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Executive summary

Background

The ReBUILD research programme focuses on health system development in post-conflict countries. Our aim is to develop lessons for governments on how to make, recreate or sustain fair health systems. Sierra Leone is one of the focal countries of the research.

One component of the research looks at how to reach and maintain incentive environments for health workers to support access to affordable, appropriate and equitable health services. One of the research tools is a health worker survey, which is the focus of this report. The aim of the survey was to understand health workers working patterns, sources of remuneration and motivation, and how these had changed in recent years. Findings from this survey are being triangulated with other quantitative and qualitative research tools. To our knowledge, this is the first structured questionnaire of its kind for the health workforce in Sierra Leone.

Methods

A structured questionnaire was administered to 312 health personnel from all of the key professional categories in four districts of Sierra Leone. It is estimated that the respondents covered 12% of the total staffing in these districts. The districts were chosen to be representative of the different regions and so they included urban/rural variations, remote/hard to reach areas, and varying measures of poverty/need. The study sites were: Western Area (Urban/Rural); Kenema District (Eastern Region); Bonthe District (Southern Region); and Koinadugu District (Northern Region). The field work was conducted in December 2012.

The questionnaire probed the following topics: respondents' background and household characteristics; their employment, workload and working hours; training patterns; pay from different sources; motivation; views on how their working life has changed in recent years, factors motivating work in rural areas; and plans for the future. Responses were analysed by profession, district, facility type and gender, using Stata.

Ethical approval was granted by the Sierra Leone Scientific and Ethics Committee and the Liverpool School of Tropical Medicine.

Study limitations included difficulty getting the full planned sample of health workers, especially for doctors and staff based in the Western Area. Some questions were also poorly understood and answered, leading to the need to exclude outliers. Locational data would have been a useful addition to the questionnaire. Finally, the tool relies on self-reporting, whose accuracy is hard to assess.

Findings

Respondent characteristics

Respondent characteristics broadly followed the known national pattern, being dominated by SECHNs (100) and MCH aides (55), with fewer representatives of CHOs/CHAs (44), lab technicians (28), state registered nurses (25), pharmacists and pharmacy technicians (20), EDCU Assistants (16), environmental health officers (14), and doctors (11). Overall, 57% of respondents were female, but with wide variations according to professional categories. Most roles are male-dominated, with the exception of nurses/midwives and MCH aides.

The bulk of doctors and nurses were in Western Area, while other categories such as MCH Aides and CHOs/CHAs were more evenly distributed. This is a reflection of the current national HRH distribution.

Most respondents were in their forties and married with children (67%), though there was a significant difference by cadre, with MCH aides and EDCU assistants being generally younger (the majority of these cadres were in their thirties). Educational qualifications varied according to the different professions. The majority of the sample (62%, with no significant variation across cadres or genders) were working outside of their home district at the time of the survey.

Household characteristics

The mean number of people in the respondents' household ranged from 6 in doctors' households to 8 for lab technicians (overall range was 1-22). The mean number of dependents was higher, ranging from 6 to 11 across the professional groups (overall range 1-27). Analysis by district indicates that larger households and higher numbers of dependents are found outside the Western Area.

Significant differences were found in overall expenditure, with doctors spending over 3 million Leones per month on average, compared to 792,000 Leones for the EDCU Assistants. However, as a proportion of overall expenditure, the cost of food accounted for close to 50% of total expenditure for most groups. Differing patterns were found across the districts, with higher total expenditure per household in Western Area and Bonthe.

28% of respondents reported having saved money in the previous month, while 43% had received loans, with significant differences across the professions (doctors having the highest savings rates and lowest loan rates of all professions). Health workers outside Western Area were more likely to have borrowed in the previous months, but there were no significant differences by gender.

The most common asset owned by health workers' households was a mobile phone (more than 98% overall), while the least common was a car (just over 10% overall). Across the professions, there were significant differences for electricity, TVs, videos, fridges, motorbikes and cars, with doctors and RNs having higher access to most assets, apart from motorbikes, which are more common for other groups. Less than one third of respondents had access to running water and around 39% had access to a fridge. Across the districts, significant differences were found, with higher access to electricity, TV, videos, fridges, running water and cars in Western Area. Conversely, motorbike ownership is highest in Koinadugu. Across the sexes, there are no significant differences except for motorbikes, which men were more likely to own.

Employment and workload

Respondent's place of employment was closely linked to profession. All doctors were based in hospitals; most CHOs/CHAs were based in the CHCs; 80% of RNs were in the hospitals, while SECHNs and Environmental HOs were more evenly distributed across facility types; the bulk of MCH Aides and EDCU Assistants were based in the MCHPs; laboratory technicians were largely but not exclusively hospital-based, while pharmacists and their assistants were concentrated in the tertiary hospitals. 32% of respondents were based in regional, district and secondary hospitals, and just over 5% were in faith-based facilities. All were public servants (on the MoHS payroll), even those based in faith-based facilities.

On average, the HWs had spent just over 11 years working in the health sector, just under 11 years in the public sector and nearly 4.5 years in their current post. Between the professions, environmental health officers had worked the longest in the sector and in public service (around 19 years), as well as serving longest in their current posts, alongside pharmacists (both over seven years). Nearly 90% of all respondents had worked for the public sector in their previous post.

The average number of hours reported worked per week across all respondents is 54, with significant differences by cadre. CHOs/CHAs report the highest mean (65 hours per week). Some (e.g. the SECHNs) report very high maximums (168 hours per week), which may reflect the fact of being on call and living near facilities. Only 59 respondents (19%) stated that the hours worked per week had changed over the last 3 years. There were significant differences across professions, with MCH aides most likely to report an increase (25%). Of those who stated that their hours of worked had changed, 48 (81%) said their hours had increased, 9 (15%) said that they had decreased and 2 (3%) did not reply.

The average number of patients seen across all the respondents who answered was 116.6 (i.e. about 19 per day in a 6-day week) with SRNs seeing 90 patients per week and lab technicians seeing 190 patients (but clearly less intensive interactions in the latter case).

There is evidence of significantly higher workloads in Western Area, but increases were highest in Bonthe.

Training

85% reported receiving in-service training. Significant differences were found across profession for training at external universities. Doctors, RNs, CHO/CHAs and pharmacists were most likely to have received external training. Differences between districts were also found for local university training, with those in Western Area more likely to have received this. Some differences in access to training were noted between the genders (lower rates for women), though these were not significant.

Respondents were asked what they saw as the benefits of training. Greater knowledge, more confidence, and higher status came top (with 97%, 90% and 64% respectively). 19% reported that training increased private practice earnings. Across the cadres, significant differences are found for some attributes. For example, charging higher in private practice is cited by 45% of doctors, compared to 8% of registered nurses. Seeing more patients is also more frequently cited by doctors (73%).

Income from main work

Respondents were asked about their last month's salary. The difference between doctors' and other cadres' salaries is striking, with doctors earning more than four times the salary of an RN, and RNs being paid almost three times the amount of EDCU assistants. Women are significantly less well paid in general, though this is not significant when broken into different cadres (i.e. reflects the employment mix), except for CHOs/CHAs, where women are paid significantly less. This may reflect different lengths of service.

Only 31% (96) of the respondents stated that their salary changed in the last 3 years. This was unexpected. However, a number of the health workers were volunteers before the salary uplift in 2010, and were only put on the MOHS payroll afterwards. They are therefore unable to report on changes related to the start of the Free Health Care Initiative itself.

Only 16% of respondents mentioned that they received a Remote Area Allowance (RAA). It seems that the majority of health workers are not aware that they are eligible and do not receive the payment. 71% of those who received the RAA did not do so regularly, and even those in receipt did not have a clear understanding of the nature of the RAA.

Salary supplementation was more popular prior to the FHCI for health workers attached to health programmes. Post-FHCI, this was minimised due to the salary uplift associated with the FHCI, so it is not surprising that less than 10% reported being in receipt of this. They were more common outside Western Area and came from donors and NGOs.

Only 4% of respondents stated that they received any payment from user fees in the last month. The low number of observations may be due to the fact that sharing user fees revenues is now not accepted by the Anti Corruption Commission (ACC) since the introduction of its Service Delivery Charter in September 2010, which is meant to encourage and support public institutions to become more transparent in their dealings with the public. All fees should now go to the consolidated fund of the facility. 5% reported other payments, such as gifts from patients.

At the time of the survey, 7 PBF payments should have been received by facilities and staff. A quarter of respondents in PHUs (which are eligible for payments) had received no PBF payments, while a third had received 3, with no significant difference by type of PHU but significant differences by cadre and district (with the highest payments being in Koinadugu). The pattern across districts is either linked to variable performance or problems of disbursement in certain districts.

Of the 310 respondents, 42% received a per diem/DSA in the last month. There was a significant difference by profession, with MCH aides most commonly receiving them in the past month (65%), followed by environmental health officers (57%), CHOs/CHAs (56%) and doctors (55%). Differences are also evident across the districts and facility types. Koinadugu and Bonthe report the highest frequency of per diems. The paying of per diems seems to be more concentrated in primary facilities. The maximum number of per diems received was 4 and the overall mean was 1.5 per diems per month for those reporting receipt. 34% of these were provided by the MoHS, 30% by NGOs and 27% by the UN. Significant differences are found across the cadres, with the largest amounts received by SRNs and doctors.

Overall, 28% of respondents declared in-kind benefits. The most common was housing, reported by 14% overall, but most common for doctors and nurses. 5% report receiving in-kind gifts from patients.

Overall totals show the difference in scale income from main job for doctors, as well as the dominance of the salary element. Apart from additional funds from per diems, other sources constitute a small proportion of total income from main job for public sector staff. Salary constitutes from 63% of main income for MCH aides to 92% for pharmacists. RAA ranges from 0% (for most cadres) to 8% for MCH Aides. PBF payments range from 0% (for doctors, RNs and pharmacists) to 16% for MCH Aides, user fees from 0% to 3%, per diems from 3% to 21%, top ups from 0% - 8%, and other sources from 0% to 2%.

Considering the total public pay per hour worked, doctors are paid 20,245 Leones, compared to 4,215 Leones for CHOs/CHAs. Pay per patient seen is even more differentiated, with a 30-fold difference between RNs and doctors, compared to a four-fold difference in pay per hour,

suggesting that RNs are seeing a higher volume of patients in their hours of work. Across the districts, there was no significant difference in payments per hour worked or per patient.

Private practice

Only 6% of respondents reported doing private practice. There was significant variation across the professions, with the highest rates reported for pharmacists (45%), followed by doctors (18%). As would be expected, there was also significant variation across the districts, with Western Area and Koinadugu reporting more private practice, which is almost entirely absent in Kenema and Bonthe. Men and those in tertiary facilities were significantly more likely to report private practice. Those who did report working in private practice did so for a relatively high number of hours per week, ranging from 9.5 for the doctors to 42 for one nurse. Private clinics and private pharmacies were the most common locations given for private practice, and were most commonly owned by someone else. Only 13 out of 19 disclosed their monthly income from private practice (no doctors disclosed).

Other income-generation

84 respondents (27%) stated that they have some income-generating activities (IGA) outside of the health sector, with differences which were not statistically significant across the professions. For the 53 who provided estimates of hours spent in other IGA, the range was from 3 hours per week as a mean for doctors to 12 per week for SECHNs. Trading and selling is the most common type of IGA reported by the group (65% of all IGA reported), followed by farming (29%). Lecturing is also an additional source of income for the doctors. Income generated from IGA per week shows a familiar gradient across the professions, though with the EDCU Assistants reporting relatively higher sums than, for example, nurses.

Total income

The difference in the total income from all sources between doctors and other professions is highly significant, ranging from 471,583 Leones as mean monthly income for EDCU assistants to 4,741,300 for doctors. There are no statistically significant differences in the income from the main employment by facility. However, there are significant differences between districts, with higher incomes in Koinadugu and Western Area, and by gender, with women earning less than men across cadres.

Looking at the composition of overall income, salary is dominant for all groups, especially for doctors, for whom it provides more than 80% of total income. For EHOs, the proportion is 55%. Pharmacists derive an important proportion of their income from private practice (around 18%). Per diems for workshops provide between 2% of income for pharmacists and 21% for Environmental Health Officers – 12% of income across all groups. For the staff in PHUs, the PBF component contributes about 10% for CHOs, SECHNs, EHOs and MCH Aides. RAA is only reported by CHOs, SECHNs, EHOs and MCH Aides and is limited in amount (about 6% of total income for these cadres).

Motivation to stay in post

When asked about what motivated respondents to stay in their job, opportunities to serve the community were most frequently cited (90%), followed by good relationships with colleagues (79%), the security of work (71%), opportunities for training (70%), social status (65%) and salaries (63%). When asked to rank them in order of importance, salary emerges as the most highly ranked, followed by opportunities for training and additional allowances/opportunities to serve the community.

By profession, when ranked, additional allowances came top for doctors and pharmacists, whereas salaries are first for most other groups (CHOs/CHAs, SECHNs, EHOs, MCH Aides, ECDU Assistants). RNs put opportunities for training as most important, while lab assistants put serving the community as their most highly ranked factor.

Perceived changes

Participants were asked how their life had changed in the last decade. Very few negative changes were reported – the main one being an increased workload, which was reported by 12.5% of respondents. The largest group (46%) reported personal benefits (such as greater confidence, peace of mind, self respect), followed by educational improvements (33%), and improvements to salary and living conditions (24%). 18% feel more able to care for their families. Relatively few (8%) think that working conditions have improved, while less than 2% report improvements in their ability to serve the community, and 6% report no change. Across the professions, significant differences in responses can be noted. Doctors, RNs, SECHNs, EHOs and pharmacists particularly highlight personal benefits, while CHOs/CHAs and MCH Aides are more aware of educational changes, and EDCU assistants reported improvements to salary and living conditions.

Willingness to work in rural areas

When asked an open question about what would motivate staff to serve in rural areas, the main themes which emerged were the following:

- Accommodation (housing, etc.)
- Financial incentives (salary increase, remote and/or risk allowance, incentives, etc.)
- Support to family (school fees, scholarships for children, family and children facilities, etc.)
- Communication support (airtime, communication allowances)
- Transport support (transport allowance, mobility, motorbike, vehicle, fuel, etc.)
- Access to basic amenities (water, electricity, toilet, food, basic facilities)
- Training (more education and training for the health workers)
- Improved living conditions (improvement of social opportunities, social amenities, relationship with communities, etc.)
- Promotions (linked to rural posting)

- Investment in working conditions (improvement of working conditions, relationship with colleagues, support and supervision, more staff, equipment and drug availability, etc.)
- Provision of healthcare for health workers

Of these, financial incentives are cited the most as being important (80%), followed by better accommodation (64%), transport support (56%), improved working conditions (18%) and access to basic amenities (14%). All other factors are cited by less than 10% of the group.

Future plans

When asked an open question about plans for their future, 77% of respondents planned to develop their career or pursue their education, compared to 28% who were focussing on providing for their family, 13% who wanted to start a private business and 5% were approaching retirement.

Conclusions

To our knowledge, this is the first quantitative survey of its kind to be done in Sierra Leone, investigating how the main public sector health professionals live and work, how they earn their living (including from private practice and additional income-generating activities) and seeking their views on changes to their working lives, what motivates them and what would motivate them to work in rural areas. The survey provides policy-relevant evidence for the MoHS and its partners, particularly as they face the challenge of rebuilding the sector post-Ebola.

The findings of the survey can be triangulated with some of the other research tools which ReBUILD has used, which include key informant interviews, a document review, routine HRH data analysis and life history interviews with health workers. In general, the findings cohere across the different tools. For example, in the life histories work, health workers report that access to training opportunities are biased in favour of those in urban areas, which is supported by the survey findings that those in Western Area are more likely to have received university training and that doctors, RNs, CHOs and pharmacists were most likely to have received external training.

It is encouraging in general that, according to this survey, life for health workers has improved in general over the past few years (noting that the field work was done before the current Ebola crisis). This fits with documented changes in HRH policies since the introduction of the Free Health Care Initiative, which have improved conditions for health staff. However, dangers are also highlighted by the increase in salaries, especially for higher cadres, which must be combined with continued efforts to improve the accountability and performance of staff. Comparisons with other studies in the region suggest that doctors in

particular are well paid in Sierra Leone and that the overall working hours and workload of staff remains reasonable.

Introduction

ReBUILD is a research project funded by the UK Department for International Development. It aims to understand how to strengthen policy and practice related to health financing and how different health financing strategies affect the poorest households. It also seeks to understand how different innovations in human resource management and opportunities for reallocating roles among health professionals can lead to improved access to health care.

The ReBUILD research programme is focusing on health system development in post-conflict countries, to develop lessons for governments on how to make or recreate and sustain fair health systems. Countries of study include Sierra Leone, Uganda, Cambodia and Zimbabwe

During the inception phase in 2011, the ReBUILD team in Sierra Leone conducted a situational analysis to assist with the prioritization of research questions. This led to proposals for research being developed on three main areas:

- (1) Health financing i.e. care and consequences of health care charges for poor households
- (2) Health worker incentives
- (3) Decentralisation and contracting.

These studies are being conducted by the ReBUILD Team based at College of Medicine and Allied Health Sciences (COMAHS), with support from Queen Margaret University in Edinburgh and the Liverpool School of Tropical Medicine.

The main goal of the health workers' incentives project is to understand the post-conflict dynamics for these workers – and ultimately how to reach and maintain incentive environments for them to support access to affordable, appropriate and equitable health services. One of the research tools is a health worker survey, which is the focus of this report.

Research methods

Objectives

The objective of the survey was to understand the incentive environment facing key kinds of health workers in Sierra Leone, their characteristics and the factors which motivate and demotivate them.

Approach used

A structured questionnaire was used to collect data from all cadres of health workers through face-to-face interviews.

Study sites

These consisted of two or three study sites in each of four districts. The districts were chosen to be representative of the different regions, urban/rural variations, remoteness/hard to reach areas, and measures of poverty/need. The study sites were:

1. Western Area (Urban/Rural)
2. Kenema District (Eastern Region)
3. Bonthe District (Southern Region)
4. Koinadugu District (Northern Region)

Sierra Leone has a population of approximately 6 million people and is located on the west coast of Africa. It has an estimated surface area of 72,000 square kilometers (i.e. 28,000 square miles). Administratively, it is divided into 4 regions, each region is subdivided into districts and each district into chiefdoms. In total, there are 14 districts and 149 chiefdoms. Among the 14 districts, there are 6 city councils, including the capital Freetown; and 13 district councils, making 19 local councils. Bonthe district is found in the southern region, Kenema in the eastern region, and Koinadugu in the northern region and Western Area in the western region.

The populations of the selected districts are: Kenema 606,894, Koinadugu 310,954, Bonthe 156,025 and Western area 1,214,929. Bonthe and Koinadugu districts have very difficult terrains (riverine for Bonthe and mountainous for Koinadugu) and their population is among the most impoverished in Sierra Leone. Social amenities, electricity and piped water supply are lacking in Bonthe and Koinadugu. Thus, HWs are usually unwilling to work in these districts. Kenema and Western area have large urban and rural populations and referral hospitals.

Sample size and sampling methodology

The study population aimed to include all cadres of public sector health workers such as Maternal and Child Health Aide (MCH Aide), State Enrolled Community Health Nurse (SECHN), Environmental Health Officer (EHO), Community Health Assistant (CHA), Community Health Officer (CHO), State Registered Nurse (SRN), Midwives, Pharmacists, Laboratory Technicians and Doctors. The different cadres of health professionals mentioned in this study and a brief description of their job role is given in table 1 in the appendix. All low level cadres of health professionals (grades 4 and below) have the additional duty of record keeping.

The sample size was based on the total number of workers in each category, with a smaller proportion chosen for larger groups. The rule adopted was as follows: where the group in the district had fewer than 50 people, according to payroll data obtained in 2012, we aimed to sample 50%; 50-100 people, 20%; 100-200 people, 10%; and over 200, we sampled 5%. This produced a planned total of 374 (see Table 1), which constituted 14% of the estimated overall public workforce in these districts.

These cadres were identified from a range of facility types where they worked, to include rural and remote areas, as well as urban. They came from the public and mission facilities, though all were on the public payroll. Sampling in selected facilities was pragmatic, but ensuring that the overall distribution of the sample reflected that on the ground in the district.

Actual numbers diverged somewhat from planned numbers in the different categories, largely due to limited numbers of staff for each category being found and available in the sites visited. The final sample was 312, instead of the planned 374. However, in relation to the total reported number of staff in the districts, this still constitutes nearly 12%, which is adequate. The main district where it was hard to reach targeted numbers was Western Region, where many of the health workers were busy at the time the survey team visited the health facilities or were not at their posts. Alternative means of contacting them were not fruitful.

Table 1: Sampling frame of HWs by district (total number, original planned sample, actual sample)

Cadre	Western Area			Koinadugu			Kenema			Bonthe			TOTAL		
	Total	Original sample	Actual sample	Total	Original sample	Actual sample	Total	Original sample	Actual sample	Total	Original sample	Actual sample	Total	Original sample	Actual sample
Medical Officer	24	12	7	3	1.5	2	4	2	0	4	2	2	35	17.5	11
Specialist Doctors	12	6		1	0.5		2	1					15	7.5	
CHO/CHA	62	12.4	8	19	9.5	11	42	21	18	8	4	4	131	46.9	41
RN	138	13.8	10	13	6.5	6	21	10.5	7	5	2.5	2	177	33.3	25
SECHN	757	37.85	40	96	19.2	17	325	16.25	20	43	21.5	23	1221	94.8	100
Environmental Health Officers	85	17	6	9	4.5	2	11	5.5	4	6	3	2	111	30	14
MCH Aide	350	17.5	13	77	15.4	16	161	16.1	14	63	12.6	12	651	61.6	55
EDCU Assistant	11	5.5	1	7	3.5	3	76	15.2	10	6	3	2	100	27.2	16
Lab technician	58	11.6	9	2	1	1	91	18.2	17	2	1	1	153	31.8	28
Pharmacy Tech.	32	16	15	4	2	2	7	3.5	1	4	2	2	47	23.5	20
Other			1			0			0			1			2
TOTAL	1529	149.65	110	231	63.6	60	740	109.25	91	141	51.6	51	2641	374.1	312

Data collection

The questionnaire focused on the current levels of income earned by health workers from different sources; work practices, including proportion of time spent by the worker in the public and private sectors; and willingness to work in rural or remote settings. In addition, the characteristics and practice of their main employment, including qualifications, years of work, regular workload and training, and earnings from both public and private sectors were included in the survey instrument. Furthermore, qualitative questions on motivating factors were incorporated into the questionnaire.

Training of data collectors and quality assurance

In order to standardize the fieldwork, two days' training was conducted to prepare the interviewers and supervisors for their tasks. During the training they were taught interviewing skills and techniques and familiarized themselves with the questionnaire and the question-by-question instruction guide. Specifically they were trained to:

- a. conduct interviews in the field and be able to administer the questionnaires and interview guides appropriately;
- b. learn the skill of approaching the respondents, gaining consent, contact procedures, handling refusals etc; and
- c. learn interviewing techniques like asking questions in a non-judgemental manner, seeking clarification, probing when necessary, providing feedback, recording information, editing and checking the questionnaire for completeness.

In order to ensure quality of the study, clearly defined standard procedures were observed and the tools were piloted and adapted before use.

Data analysis

The quantitative data was coded, cleaned and analysed using Stata. The data was analysed by cadre, district, gender and facility type.

Research ethics

Ethical permission was obtained from the Sierra Leone Scientific and Ethics Committee prior to the commencement of the study. We sought informed consent of participants and assured them of confidentiality and anonymity of the information collected. The voluntary nature of the participation was stressed. All participants signed a consent form, and identifier codes were stored separately from personal details, to protect the identity of the respondents.

Research limitations

Research officers experienced that respondents were often busy and were reluctant to participate in studies of this kind. As mentioned above, in the Western Area, the target number was not met as many of the health workers were busy at the time the survey team

visited the health facilities or were not at their posts. Due to the remoteness of some areas, and poor network coverage for telephones, it was difficult to secure alternative appointments. Another major constraint was that high level cadres of health professionals, especially doctors, are always very busy so finding the opportunity to interview them was difficult, particularly in the Western Area. This resulted in slight discrepancies in the intended cadre of health workers included in the study, but not such as to affect the value of the information shared.

Questions seeking calculations or numeric values (such as total expenditure) were challenging for some respondents, leading to higher missing values or mismatches. These were coded as "99/don't know/can't remember"). For some questions, outlying responses were removed; these were felt to reflect poor comprehension of the question.

In retrospect, classification of the place of work as rural or urban and location details would have been helpful to have been included in the questionnaire, as it would have allowed cross-checking against eligibility for the rural area allowance (most reported not receiving it, but we were unable to ascertain the proper denominator in terms of those who should have been in receipt).

Findings

1. Characteristics of respondents

In order to simplify the number of professional categories for analysis and to group professional categories with few members (such as specialist doctors), staff were grouped as shown below (Table 2). All types of doctor were amalgamated. Community Health Officers and Assistants were combined. Nurses and midwives were also combined, while maintaining the distinction between state enrolled nurses and registered nurses. This is in line with national reporting – in Sierra Leone midwives receive the same general nursing training before undertaking their midwifery training. The category of ‘other’ was removed as only two cases were registered and their findings could not be interpreted. This left a total of 310 respondents overall.

Table 2 Categories of HWs by professional title (cadre)

	Original categories (cadre)	New categories (cadre_new)
1	Medical Doctor	Doctor
2	House officer	
3	Registrar	
4	Specialist - Senior Specialist	
5	Consultant	
6	CHO	CHO/CHA
7	CHA	
8	Nurse (RN), etc	RN
9	Nurse (SECHN)	SECHN
10	Midwife (SRN), Matron	→ group with 8
11	Midwife SECHN)	→ group with 9
12	Environ Health Officer	
13	MCH/Nurse etc Aide	
14	EDCU Assistant	
15	Lab Technician	
16	Pharmacist/Pharmacy Technician	
17	Other	Removed

Table 3 Respondents by professional title/cadre, according to gender [n and row %]

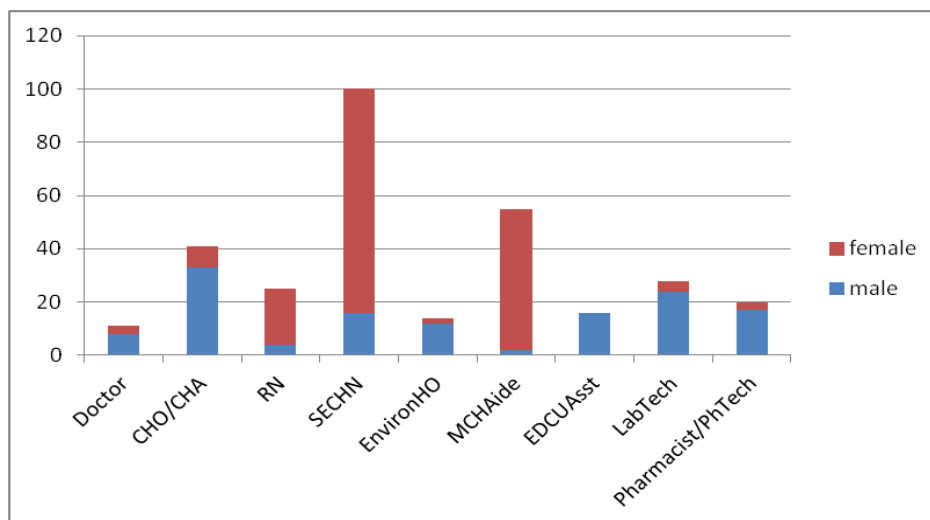
Cadre	Gender		Total
	Male	Female	
Doctor	8	3	11
	73%	27%	100%
CHO/CHA	33	8	41
	80%	20%	100%
RN	4	21	25

	16%	84%	100%
SECHN	16	84	100
	16%	84%	100%
EnvironHO	12	2	14
	86%	14%	100%
MCHAide	2	53	55
	4%	96%	100%
EDCUAsst	16	0	16
	100%	0%	100%
LabTech	24	4	28
	86%	14%	100%
Pharmacist/PhTech	17	3	20
	85%	15%	100%
Total	132	178	310
	43%	57%	100%

Pearson chi2(8) = 166.6804 Pr = 0.000

Overall, 57% of respondents were female (Table 3), but with wide variations according to professional categories. The chi2 test shows that there is a statistically significant difference between cadre of the respondents and gender. Most roles are male-dominated, with the exception of nurses/midwives and MCH aides (Figure 1).

Figure 1 Number of respondents by professional title/cadre, according to gender



Analysis by district (Table 4) reflects the uneven distribution of staff across the country. The bulk of doctors and nurses, for example, are in Western Area, while other categories such as MCH Aides and CHOs/CHAs are more evenly distributed. This is a reflection of the current national HRH distribution.

Table 4 Respondents by professional title/cadre, according to district [freq and cell %]

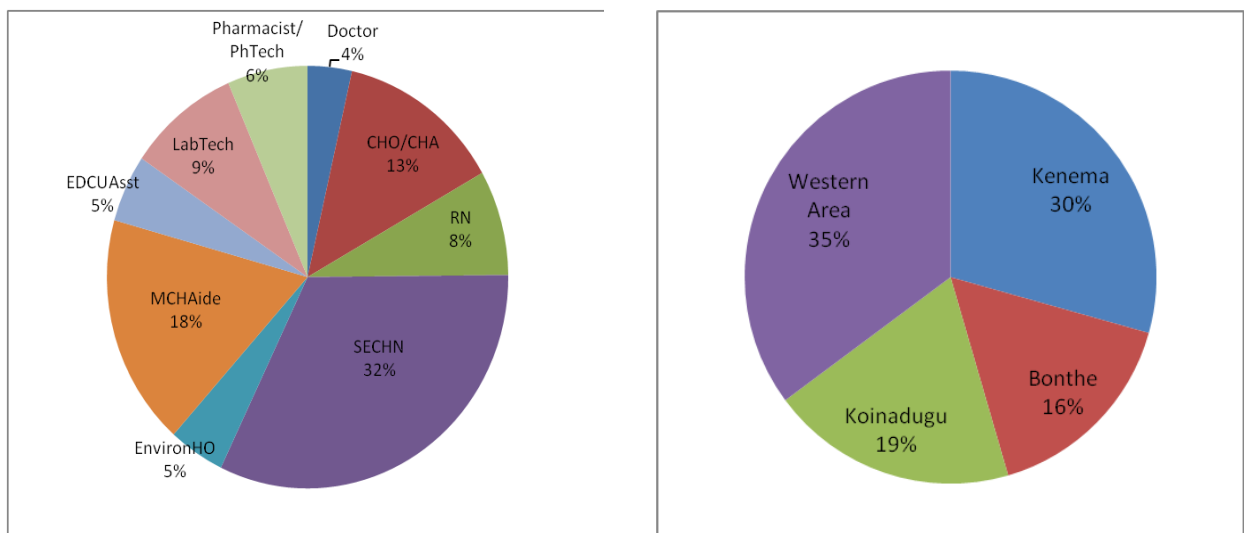
CADRE	DISTRICT				Total
	Kenema	Bonthe	Koinadugu	Western Area	
Doctor	0	2	2	7	11
	0%	0.65%	0.65%	2.26%	3.55%
CHO/CHA	18	4	11	8	41
	5.81%	1.29%	3.55%	2.58%	13.23%
RN	7	2	6	10	25
	2.26%	0.65%	1.94%	3.23%	8.06%
SECHN	20	23	17	40	100
	6.45%	7.42%	5.48%	12.90%	32.26%
EnvironHO	4	2	2	6	14
	1.29%	0.65%	0.65%	1.94%	4.52%
MCHAide	14	12	16	13	55
	4.52%	3.87%	5.16%	4.19%	17.74%
EDCUAsst	10	2	3	1	16
	3.23%	0.65%	0.97%	0.32%	5.16%
LabTech	17	1	1	9	28
	5.48%	0.32%	0.32%	2.90%	9.03%
Pharmacist/PhTech	1	2	2	15	20
	0.32%	0.65%	0.65%	4.84%	6.45%
Total	91	50	60	109	310
	29.35%	16.13%	19.35%	35.16%	100%

Pearson

chi2(24) = 68.9479

Pr = 0.000

Figure 2 Respondents by professional title/cadre and by district



A large proportion of the sample was married with children (67%), followed by single (22%), and there was no significant variation between cadres in this respect (Table 5).

Table 5 Respondents by professional title/cadre, according to marital status [n and row %]

CADRE	Single	co-habiting	married w/children	married w/out children	divorced	widower	no response	Total
Doctor	1	1	8	0	0	1	0	11
	9%	9%	73%	0%	0%	9%	0%	100%
CHO/CHA	6	0	28	3	1	2	1	41
	15%	0%	68%	7%	2%	5%	2%	100%
RN	5	0	18	1	0	1	0	25
	20%	0%	72%	4%	0%	4%	0%	100%
SECHN	33	4	54	9	0	0	0	100
	33%	4%	54%	9%	0%	0%	0%	100%
EnvironHO	2	0	11	0	0	1	0	14
	14%	0%	79%	0%	0%	7%	0%	100%
MCHAide	13	0	38	1	1	2	0	55
	24%	0%	69%	2%	2%	4%	0%	100%
EDCUAsst	2	1	13	0	0	0	0	16
	13%	6%	81%	0%	0%	0%	0%	100%
LabTech	3	0	23	1	1	0	0	28
	11%	0%	82%	4%	4%	0%	0%	100%
Pharmacist/PhTech	3	0	16	0	0	1	0	20
	15%	0%	80%	0%	0%	5%	0%	100%
Total	68	6	209	15	3	8	1	310
	22%	2%	67%	5%	1%	3%	0.32%	100%

Pearson chi2(48) = 53.9303 Pr = 0.258

Most cadres were in their forties – this was the largest age group for most cadres. There was a significant difference in age by cadre, with MCH Aides and EDCU Assistants being generally younger (the majority in their thirties). Given their predominance, in terms of numbers, this meant that 35% of the overall sample was 30-41 years old (Table 6).

Table 6 Age of respondents (by professional title) – grouped into decades [n and row %]

CADRE	AGE GROUP					(no response)	Total
	20-30yrs	31-40yrs	41-50yrs	51-60yrs	61+yrs		
Doctor	1	2	4	3	0	1	11
	9%	18%	36%	27%	0%	9%	100%
CHO/CHA	7	11	18	4	0	1	41

	17%	27%	44%	10%	0%	2%	100%
RN	4	9	9	2	1	0	25
	16%	36%	36%	8%	4%	0%	100%
SECHN	42	36	18	4	0	0	100
	42%	36%	18%	4%	0%	0%	100%
EnvironHO	0	4	6	4	0	0	14
	0%	29%	43%	29%	0%	0%	100%
MCHAide	3	26	16	7	0	3	55
	5%	47%	29%	13%	0%	5%	100%
EDCUAsst	0	7	4	4	1	0	16
	0%	44%	25%	25%	6%	0%	100%
LabTech	8	8	9	1	1	1	28
	29%	29%	32%	4%	4%	4%	100%
Pharmacist/ PhTech	1	6	6	6	0	1	20
	5%	30%	30%	30%	0%	5%	100%
Total	66	109	90	35	3	7	310
	21%	35%	29%	11%	1%	2%	100%

Pearson chi2(40) = 93.8232 Pr = 0.000

The age range of the group as a whole spanned from 22 (for an SECHN) to 67 years old (for an SRN) (Table 7).

Table 7 Age of respondents (by professional title)

	Mean	Min	Max	Std. Err.	[95% Conf Interval]		n
Doctor	46.4	30	58	3.17	39.2	53.6	10
CHO/CHA	40.7	26	54	1.29	38.1	43.3	40
SRN	41.8	28	67	1.92	37.8	45.8	25
SECHN	34.4	22	59	0.81	32.8	36.1	100
EHO	46.6	31	59	2.38	41.4	51.7	14
MCHAide	40.0	28	60	1.12	37.8	42.3	52
EDCU Assist	44.7	31	63	2.38	39.7	49.8	16
LabTech	38.1	25	65	1.94	34.2	42.1	27
Pharmacist/PhTech	45.0	26	59	2.05	40.7	49.3	19
							303

As expected, there are significant differences between cadres in relation to the highest educational status attained. (Table 8). Doctors are evenly split between MBChB and postgraduate qualifications. Most CHOs/CHAs have a diploma in community health (83%). For RNs, 52% have a certificate in midwifery, while 32% have a nursing qualification (and 12% have postgraduate training).

Table 8 Respondents' highest level of educational qualification, by professional title [n and row %]

Cadre	MCH Aide	Cert/Dipl/ Degree in Nursing	Cert in Midwifery (SRN)	Cert in Midwifery (SECHN)	CHO Dipl	CHA Dipl	Cert/Dipl in Lab Sciences	Dipl/ Degree in Pharmacy	MBCHB	Postgradu	Other
Doctor	0	0	0	0	0	0	0	0	5	5	1
	0%	0%	0%	0%	0%	0%	0%	0%	45%	45%	10%
CHO/CHA	1	0	0	0	34	5	0	0	0	0	1
	2%	0%	0%	0%	83%	12%	0%	0%	0%	0%	2%
RN	0	8	13	0	0	0	0	0	0	3	1
	0%	32%	52%	0%	0%	0%	0%	0%	0%	12%	4%
SECHN	1	62	0	36	0	0	1	0	0	0	0
	1%	62%	0%	36%	0%	0%	1%	0%	0%	0%	0%
EnvironHO	0	0	0	0	0	0	1	0	0	1	12
	0%	0%	0%	0%	0%	0%	7%	0%	0%	7%	85.71
MCHAide	52	1	0	0	0	0	1	0	1	0	0
	95%	2%	0%	0%	0%	0%	2%	0%	2%	0%	0%
EDCUAsst	0	0	0	0	0	0	1	0	0	0	15
	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%	94%
LabTech	0	0	0	0	0	0	24	1	0	1	2
	0%	0%	0%	0%	0%	0%	86%	4%	0%	4%	7%
Pharmacist/PhTech	0	0	0	0	0	0	1	18	0	0	1
	0%	0%	0%	0%	0%	0%	5.00	90%	0%	0%	5%
Total	54	71	13	36	34	5	29	19	6	10	33
	17%	23%	4%	12%	11%	2%	9%	6%	2%	3%	11%

Pearson chi2(80) = 1.6e+03 Pr = 0.000

The majority of the sample (62%, with no significant variation across cadres) were working outside of their home district at the time of the survey. This is testimony to labour market fluidity. This was the dominant response for all cadres (Table 9).

Table 9 Working in/out of their home district, by profession [n and row %]

	outside of home dst	in home dst	no response	Total
Doctor	6	5	0	11
	55%	45%	0%	100%
CHO/CHA	26	12	3	41
	63%	30%	7%	100%
RN	18	7	0	25
	72%	28%	0%	100%
SECHN	62	35	3	100
	62%	35%	3%	100%
EnvironHO	12	2	0	14
	86%	14%	0%	100%

MCHAide	27	25	3	55
	50%	45%	5%	100%
EDCUAsst	10	6	0	16
	63%	37%	0%	100%
LabTech	17	11	0	28
	61%	39%	0%	100%
Pharmacist/PhTech	14	5	1	20
	70%	25%	5%	100%
Total	192	108	10	310
	62%	35%	3%	100%

Pearson chi2(16) = 14.9800 Pr = 0.526

However, the majority of the lower level cadres of health workers were found working in their home district. For example, MCH Aides in Bonthe and Koinadugu were more likely to be working in their home district, as were SECHNs and technicians in Koinadugu. The data also shows that doctors in Western Area were more likely to have remained in their home district, while all other cadres have been most commonly drawn from other districts (Table 10).

Table 10 Working in/out of their home district, by profession, cross-tabbed with district

	KENEMA			BONTHE			KOINADUGU			WESTERN AREA		
	outside of home dst	in home dst	no response	outside of home dst	in home dst	no response	outside ofhome dst	in home dst	no response	outside of home dst	in home dst	no response
Doctor				2			2			2	5	
CHO/CHA	10	6	2	4			6	5		6	1	1
RN	4	3		2			5	1		7	3	
SECHN	11	6	3	12	11		4	13		35	5	
EnvironHO	3	1		1	1		2			6		
MCHAide	10	4		3	8	1	5	10	1	9	3	1
EDCUAsst	5	5		2			2	1		1		
LabTech	9	8		1				1		7	2	
Pharmacist/PhTech	1			1	1			2		12	2	1

(n=310)

Testing for differences in the decision to work in their home area or move away, we found no significant variation between the genders (for all respondents as a group - p-value= 0.5518 - and for each cadre).

2. Respondents' household characteristics

Table 11 shows the mean number of people in the respondent's household – ranging from 6 in doctors' households to 8 for lab technicians. The mean number of dependents was

higher, ranging from 6 to 11 across the professional groups (Table 13). Analysis by district indicates that larger households and higher numbers of dependents are found outside the Western Area (Table 12, Table 14).

Table 11 Number of people in household, by profession

	Mean	Min	Max	Std. Err.	[95% Conf Interval]		N
Doctor	6.5	1	15	1.2	3.8	9.1	11
CHO/CHA	8.0	3	14	0.4	7.1	8.9	41
RN	6.8	0	21	0.9	4.8	8.7	25
SECHN	7.4	1	22	0.4	6.6	8.2	100
EHO	8.1	2	16	1.1	5.7	10.6	14
MCHAide	7.9	2	17	0.4	7.0	8.7	55
EDCU Assist	7.7	4	14	0.8	6.0	9.4	16
LabTech	8.2	0	14	0.6	7.0	9.5	28
Pharmacist/PhTech	7.8	1	20	1.0	5.7	9.8	20
							310

F = 0.51; Prob > F = 0.87

Table 12 Number of people in household, by district

	Mean	Min	Max	Std. Err.	[95% Conf Interval]		N
Kenema	7.8	0	14	0.3	7.2	8.4	91
Bonthe	8.4	2	20	0.6	7.1	9.6	50
Koinadougou	7.9	3	22	0.5	6.9	9.0	60
Western Area	7.0	0	20	0.3	6.3	7.6	109
							310

F=2.07; Prob>F = 0.1037

Table 13 Number of dependents, by profession

	Mean	Min	Max	Std. Err.	[95% Conf Interval]		n
Doctor	7.9	3	16	1.61	4.17	11.60	9
CHO/CHA	10.5	2	25	0.81	8.84	12.13	41
RN	7.5	0	20	1.19	5.03	9.97	24
SECHN	6.6	0	21	0.43	5.80	7.49	96
EHO	11.5	5	18	1.17	8.90	14.02	13
MCHAide	8.9	2	24	0.55	7.80	10.02	55
EDCU Assist	9.1	4	16	0.97	7.05	11.20	16
LabTech	8.9	1	27	1.14	6.56	11.22	28
Pharmacist/PhTech	10.6	2	20	1.05	8.38	12.78	20
							302

F = 3.74; Prob > F = 0.0002

Table 14 Number of dependents, by district

	Mean	Min	Max	Std. Err.	[95% Conf Interval]	n
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Kenema	9.27	0	27	0.54	8.20	10.35	91
Bonthe	9.91	2	20	0.71	8.48	11.34	45
Koinadougou	8.65	0	25	0.64	7.36	9.94	60
Western Area	7.10	1	24	0.42	6.26	7.93	105
							301

F=5.03; Prob>F = 0.0020

Expenditures on food and non-food items

Significant differences are found in overall expenditure, with doctors spending over 3 million Leones per month on average, compared to 792,000 Leones for the EDCU Assistants (Table 15). However, as a proportion of overall expenditure, the cost of food accounted for close to 50% of total expenditure for most groups (

Figure 3). Differing patterns were found across the districts (Figure 4), with higher overall expenditure in Western Area and Bonthe.

Table 15 Expenditure on food, non-food and total, by profession [n=279]

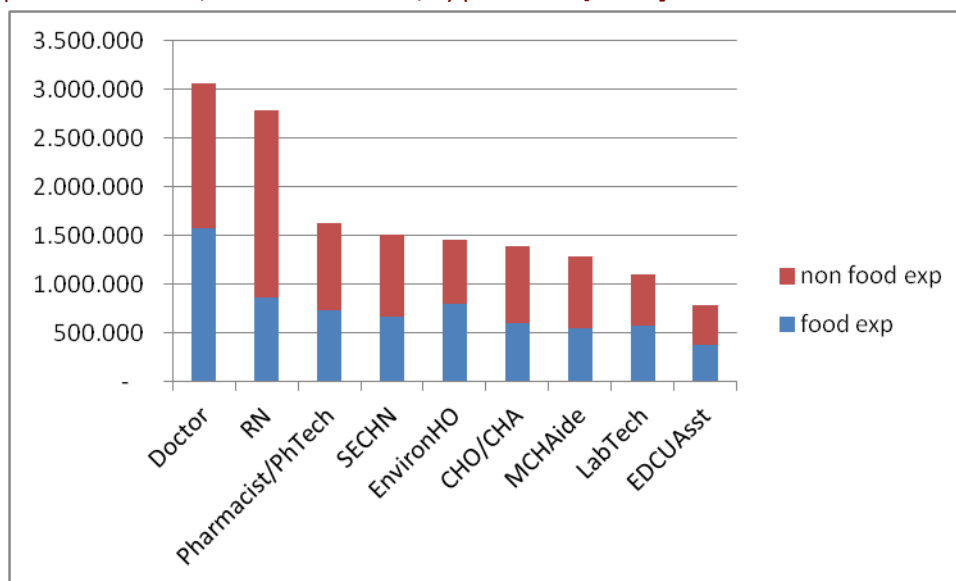
CADRE	Mean - food exp	Mean - non food exp	Mean – total exp	Mean – food exp as % of total exp
Doctor	1,579,546	1,481,818	3,061,364	52%
CHO/CHA	607,236	789,868	1,397,105	43%
RN	860,750	1,933,050	2,793,800	31%
SECHN	668,023	838,092	1,506,115	44%
EnvironHO	799,231	659,667	1,458,897	55%
MCHAide	548,509	741,415	1,289,925	43%
EDCUAsst	385,333	406,667	792,000	49%
LabTech	570,625	530,875	1,101,500	52%
Pharmacist/PhTech	740,556	888,889	1,629,445	45%

Food expenditures: F = 12.45; Prob>F = 0.0000

Non-food expenditures: F = 5.19; Prob>F = 0.0000

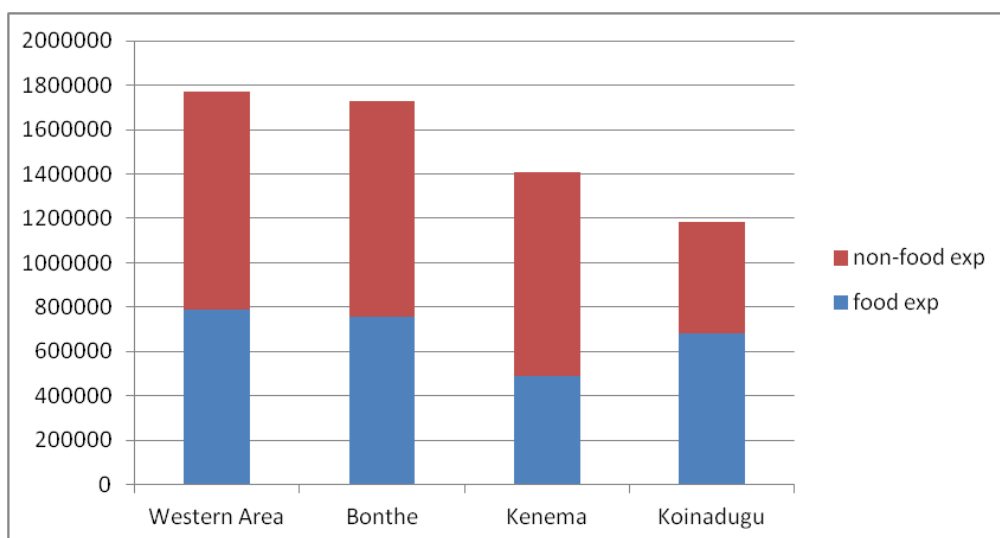
Total expenditures: F = 8.19; Prob>F = 0.0000

Figure 3 Expenditure on food, non-food and total, by profession [n=279]



The difference by gender in household expenditure was not significant (Food expenditures: p-value = 0.9803 (ttest); non-food expenditures: p-value = 0.0429; total expenditures: p-value = 0.0955).

Figure 4 Expenditure on food, non-food and total, by district [n=279]



Food expenditures: F = 10.39; Prob>F = 0.0000

Non-food expenditures: F = 3.97; Prob>F = 0.0086

Total expenditures: F = 4.26; Prob>F = 0.0058

Savings and loans

28% of respondents overall reported having saved in the previous month, while 43% had received loans, with significant differences across the professions (Table 16). Health workers outside Western Area were more likely to have borrowed in the previous months (Table 17), but there were no significant differences by gender (Table 18).

Table 16 Respondents who made savings or received loans in the last month, by profession [n=310]

CADRE	Those who saved			Those who recieved loan			Total
	Yes	No	don't know	Yes	no	don't know	
Doctor	8	3	0	1	9	1	11
	73%	27%	0%	9%	82%	9%	100%
CHO/CHA	6	35	0	19	22	0	41
	15%	85%	0%	46%	54%	0%	100%
RN	13	11	1	7	18	0	25
	52%	44%	4%	28%	72%	0%	100%
SECHN	29	70	1	43	56	1	100
	29%	70%	1%	43%	56%	1%	100%
EnvironHO	3	10	1	10	4	0	14
	21%	71%	7%	71%	29%	0%	100%
MCHAide	12	42	1	28	25	2	55
	22%	76%	2%	51%	45%	4%	100%
EDCUAsst	2	14	0	4	11	1	16
	13%	87%	0%	25%	68%	7%	100%
LabTech	6	21	1	11	13	4	28
	21%	75%	4%	40%	46%	14%	100%

Pharmacist/PhTech	9	11	0	9	11	0	20
	45%	55%	0%	45%	55%	0%	100%
Total	88	217	5	132	169	9	310
	28%	70%	2%	42%	55%	3%	100%

Savings: Pearson chi2(16) = 34.4948 Pr = 0.005

Borrowing: Pearson chi2(16) = 34.4346 Pr = 0.005

Table 17 Savings or borrowing in the last month, by district [n=310]

DISTRICT	Those who saved			Those who recieved loan			Total
	Yes	No	don't know	yes	no	don't know	
Kenema	16	74	1	39	47	5	91
	18%	81%	1%	43%	52%	5%	100%
Bonthe	15	35	0	28	21	1	50
	30%	70%	0%	56%	42%	2%	100%
Koinadugu	20	38	2	27	30	3	60
	33%	63%	4%	45%	50%	5%	100%
Western Area	37	70	2	38	71	0	109
	34%	64%	2%	35%	65%	0%	100%
Total	88	217	5	132	169	9	310
	28%	70%	2%	43%	54%	3%	100%

Savings: Pearson chi2(6) = 10.1479 Pr = 0.119

Borrowing: Pearson chi2(6) = 14.0961 Pr = 0.029

Table 18 Savings or borrowing in the last month, by gender [n=310]

GENDER	Those who saved			Those who recieved loan			Total
	Yes	No	don't know	yes	no	don't know	
Male	31	99	2	58	68	6	132
	23%	75%	2%	44%	52%	4%	100%
Female	57	118	3	74	101	3	178
	32%	66%	2%	42%	57%	2%	100%
Total	88	217	5	132	169	9	310
	28%	70%	2%	42%	55%	3%	100%

Savings: Pearson chi2(2) = 2.7808 Pr = 0.249

Borrowing: Pearson chi2(2) = 2.6150 Pr = 0.271

Of the 88 who reportedly had savings, 81 were able to provide estimates (

Table 19), with significant differences across the professions. 128 of the 132 of those who received loans provided estimates of amounts borrowed (F = 6.49; Prob>F = 0.0000

Table 20).

Table 19 Amount of money saved by profession [n=81]

CADRE	mean	max	Min	Sd	n
Doctor	2,160,000	5,000,000	300,000	2,180,138	5
CHO/CHA	400,000	1,000,000	50,000	328,633.5	6
RN	397,500	1,000,000	50,000	270,323.9	12
SECHN	220,172	1,100,000	50,000	210,977	29
EnvironHO	283,333	400,000	200,000	104,083.3	3
MCHAide	414,546	900,000	100,000	273,984.1	11
EDCUAsst	51,000	52,000	50,000	1,414.214	2
LabTech	260,000	500,000	100,000	155,724.1	5
Pharmacist/PhTech	458,750	1,000,000	70,000	329,780.8	8
Total					81

F = 6.49; Prob>F = 0.0000

Table 20 Amount of money borrowed by profession [n=128]

CADRE	Mean	max	Min	sd	n
Doctor					
CHO/CHA	498,556	1,500,000	114,000	399,231.5	18
RN	790,167	1,500,000	300,000	480,957.6	6
SECHN	729,535	3,000,000	100,000	755,635.8	43
EnvironHO	1,070,000	4,000,000	200,000	154,6358	10
MCHAide	352,857	1,000,000	50,000	225,763.8	28
EDCUAsst	387,500	600,000	200,000	193,110.5	4
LabTech	609,091	3,000,000	50,000	829,704.3	11
Pharmacist/PhTech	712,500	2,000,000	100,000	612,809.7	8
Total					128

F = 1.35; Prob>F = 0.2248

While there are no significant differences across districts for savings (F=0.88; Prob>F = 0.4531) and borrowings (F=0.40; Prob>F = 0.7561), men saved significantly more than women (p= 0.0097), but there were no significant differences for borrowing between the sexes (p=0.1618).

Ownership of assets

The most common asset owned by health workers' households across the group was a mobile phone (more than 98% overall), while the least common was a car (just over 10% overall) (Figure 5).

Figure 5 Ownership of household assets

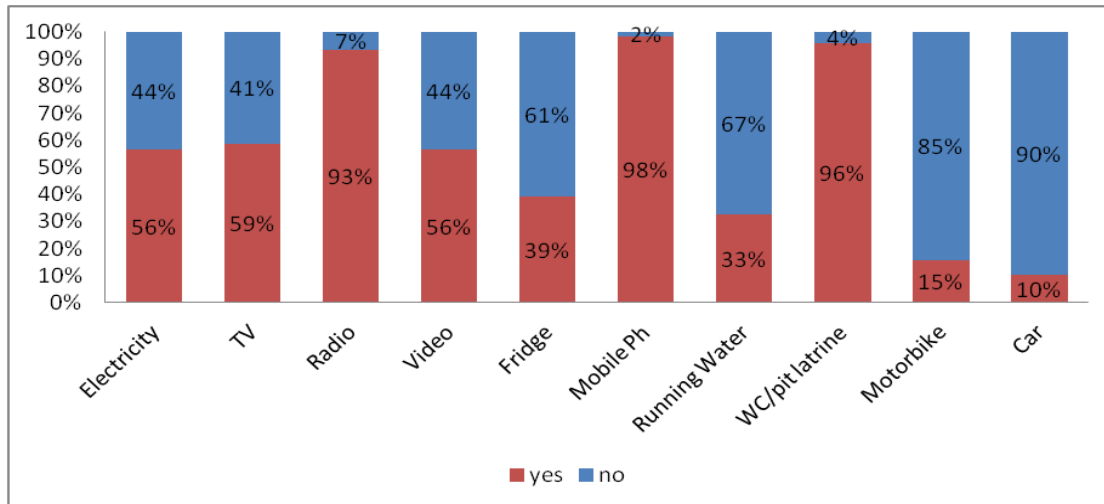


Table 21 Ownership of household assets (by profession)

	Electricity		TV		Radio		Video		Fridge		Mobile Ph		Running Water		WC/pit latrine		Motorbike		Car		Total
	No	Yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	
Cadre																					
Doctor	2	9	1	10	0	11	2	9	3	8	0	11	5	6	1	10	11	0	3	8	11
	18%	82%	9%	91%	0%	100%	18%	82%	27%	73%	0%	100%	45%	55%	9%	91%	100%	0%	27%	73%	100%
CHO/CHA	19	22	21	20	3	38	21	20	28	13	1	40	22	19	1	40	24	17	37	4	41
	46%	54%	51%	49%	7%	93%	51%	49%	68%	32%	2%	98%	54%	46%	2%	98%	59%	41%	90%	10%	100%
RN	2	23	2	23	1	24	4	21	6	19	0	25	13	12	2	23	22	3	16	9	25
	8%	92%	8%	92%	4%	96%	16%	84%	24%	76%	0%	100%	52%	48%	8%	92%	88%	12%	64%	36%	100%
SECHN	46	54	38	62	10	90	40	60	57	43	0	100	71	29	3	97	89	11	97	3	100
	46%	54%	38%	62%	10%	90%	40%	60%	57%	43%	0%	100%	71%	29%	3%	97%	89%	11%	97%	3%	100%
EnvironHO	3	11	4	10	0	14	3	11	5	9	0	14	11	3	0	14	9	5	13	1	14
	21%	79%	29%	71%	0%	100%	21%	79%	36%	64%	0%	100%	79%	21%	0%	100%	64%	36%	93%	7%	100%
MCHAide	38	17	38	17	6	49	40	15	47	8	1	54	37	18	4	51	54	1	52	3	55
	69%	31%	69%	31%	11%	89%	73%	27%	85%	15%	2%	98%	67%	33%	7%	93%	98%	2%	95%	5%	100%
EDCUasst	13	3	14	2	0	16	15	1	16	0	2	14	16	0	0	16	13	3	16	0	16
	81%	19%	88%	12%	0%	100%	94%	6%	100%	0%	12%	88%	100%	0%	0%	100%	81%	19%	100%	0%	100%
LabTech	7	21	5	23	1	27	4	24	16	12	0	28	18	10	0	28	23	5	27	1	28
	25%	75%	18%	82%	4%	96%	14%	86%	57%	43%	0%	100%	64%	36%	0%	100%	82%	18%	96%	4%	100%
Pharmacist/ PhTech	5	15	5	15	0	20	6	14	11	9	1	19	16	4	2	18	17	3	17	3	20
	25%	75%	25%	75%	0%	100%	30%	70%	55%	45%	5%	95%	80%	20%	10%	90%	85%	15%	85%	15%	100%
Total	135	175	128	182	21	289	135	175	189	121	5	305	209	101	13	297	262	48	278	32	310
	44%	56.6%	41%	59%	7%	93%	44%	56%	61%	39%	2%	98%	67%	33%	4%	96%	85%	15%	90%	10%	100%

- Electricity: Pearson chi2(8) = 49.4558 Pr = 0.000
- TV: Pearson chi2(8) = 59.3433 Pr = 0.000
- Radio: Pearson chi2(8) = 8.3478 Pr = 0.400
- Video: Pearson chi2(8) = 61.5736 Pr = 0.000
- Fridge: Pearson chi2(8) = 49.5158 Pr = 0.000
- Mobile phone: Pearson chi2(8) = 16.5057 Pr = 0.036
- Running Water: Pearson chi2(8) = 19.3318 Pr = 0.013
- WC/pit latrine: Pearson chi2(8) = 7.7419 Pr = 0.459
- Motorbike : Pearson chi2(8) = 37.4113 Pr = 0.000
- Car : Pearson chi2(8) = 75.1427 Pr = 0.000

Across the professions, there were significant differences for electricity, TVs, videos, fridges, motorbikes and cars, with doctors and RNs having higher access to most assets. However, this did not apply to motorbikes, which are more common for other groups. Across the whole sample, less than 33% had access to running water and around 39% to a fridge (Table 21). Across the districts, significant differences were found, with higher access to electricity, TV, videos, fridges, running water and cars in WA (Table 22). Conversely, motorbike ownership is highest in Koinadugu.

Table 22 Ownership of household assets by district

		Kenema		Bonthe		Koinadugu		Western Area		Total	
		N	%	n	%	N	%	n	%	n	%
Electricity	no	44	48%	42	84%	37	62%	12	11%	135	44%
	yes	47	52%	8	16%	23	38%	97	89%	175	56%
TV	no	46	51%	39	78%	35	58%	8	7%	128	41%
	yes	45	49%	11	22%	25	42%	101	93%	182	59%
Radio	no	6	7%	2	4%	4	7%	9	8%	21	7%
	yes	85	93%	48	96%	56	93%	100	92%	289	93%
Video	no	50	55%	36	72%	35	58%	14	13%	135	44%
	yes	41	45%	14	28%	25	42%	95	87%	175	56%
Fridge	no	69	76%	41	82%	43	72%	36	33%	189	61%
	yes	22	24%	9	18%	17	28%	73	67%	121	39%
Mobile phone	no	1	1%	0	0%	2	3%	2	2%	5	2%
	yes	90	99%	50	100%	58	97%	107	98%	305	98%
Running water	no	60	66%	44	88%	47	78%	58	53%	209	67%
	yes	31	34%	6	12%	13	22%	51	47%	101	33%
WC/pit latrine	no	2	2%	4	8%	6	10%	1	1%	13	4%
	yes	89	98%	46	92%	54	90%	108	99%	297	96%
Motorbike	no	72	79%	48	96%	38	63%	104	95%	262	85%
	yes	19	21%	2	4%	22	37%	5	5%	48	15%
Car	no	91	100%	48	96%	54	90%	85	78%	278	90%

	yes	0	0%	2	4%	6	10%	24	22%	32	10%
Total (n)		91	100%	50	100%	60	100%	109	100%	310	100%

- Electricity: Pearson $\chi^2(3) = 89.0920$ Pr = 0.000
- TV: Pearson $\chi^2(3) = 90.0317$ Pr = 0.000
- Radio: Pearson $\chi^2(3) = 0.9946$ Pr = 0.803
- Video: Pearson $\chi^2(3) = 68.4071$ Pr = 0.000
- Fridge: Pearson $\chi^2(3) = 56.3776$ Pr = 0.000
- Mobile phone: Pearson $\chi^2(3) = 2.1241$ Pr = 0.547
- Running Water: Pearson $\chi^2(3) = 23.0043$ Pr = 0.000
- WC/pit latrine: Pearson $\chi^2(3) = 10.6521$ Pr = 0.014
- Motorbike : Pearson $\chi^2(3) = 37.5261$ Pr = 0.000
- Car : Pearson $\chi^2(3) = 28.7477$ Pr = 0.000

Across the sexes, there are no significant differences except for motorbikes, which men are likely to own (26% men; 8% women; $p=0.00$).

3. Current employment and workload

Table 23 shows where the staff surveyed were working, which clearly reflects their profession. All doctors were based in hospitals; most CHOs/CHAs were based in the CHCs; 80% of RNs are in the hospitals, while SECHNs and Environmental HOs are more evenly distributed across facility types; the bulk of MCH Aides and EDCU Assistants are based in the MCHPs; lab technicians are largely but not exclusively hospital-based, while pharmacists and their assistants are concentrated in the tertiary hospitals. 32% overall were based in regional, district and secondary hospitals, while just over 5% were in faith-based facilities.

Table 23 Place of work by profession

CADRE	TYPE OF FACILITY								
	Tertiary hosp	Reg/dst/sec hosp	Faith-based facility	CHC	CHP	MCHP	Environ Health Division	Other/no response	Total
Doctor	2	9	0	0	0	0	0	0	11
	18%	82%	0%	0%	0%	0%	0%	0%	100%
CHO/CHA	0	7	2	27	4	1	0	0	41
	0%	17%	5%	66%	10%	2%	0%	0%	100%
RN	7	13	1	2	0	0	1	1	25
	28%	52%	4%	8%	0%	0%	4%	4%	100%
SECHN	19	35	10	22	7	6	0	1	100
	19%	35%	10%	22%	7%	6%	0%	1%	100%
EnvironHO	1	5	1	3	0	0	2	2	14
	7%	36%	7%	21%	0%	0%	14%	14%	100%
MCHAide	2	3	2	13	5	30	0	0	55
	4%	5%	4%	24%	9%	55%	0%	0%	100%
EDCUAsst	0	2	0	2	4	7	0	1	16
	0%	12%	0%	12%	25%	44%	0%	6%	100%
LabTech	5	18	0	5	0	0	0	0	28
	18%	64%	0%	18%	0%	0%	0%	0%	100%
Pharmacist / PhTech	14	6	0	0	0	0	0	0	20
	70%	30%	0%	0%	0%	0%	0%	0%	100%
Total	50	98	16	74	20	44	3	5	310
	16%	32%	5%	24%	6%	14%	1%	2%	100%

Pearson chi2(56) = 305.1676 Pr = 0.000

The percentages in this table are broadly reflective of the national data. In general, faith-based organisations have a pool of health workers which can be supplemented by government health workers to strengthen their health workforce. This supplementation represents a small percentage of the overall health workforce in these organisations.

Note that “place of work” was regrouped as per Table 24.

Table 24 Categories of place of work

	Original categories (faciltyyp)	New categories (faciltyyp_new)
1	Tertiary Hospital	
2	Regional Hospital	Grouped together
3	Secondary Hospital	
4	District Hospital	
5	Faith-Based Hospital	Grouped with 9
6	CHC	
7	CHP	
8	MCHP	
9	Faith Based Clinic	Grouped with 5
10	Other	
11	Environmental health division	Newly created
99	No response	Grouped with other

There were only 16 HWs working in the non-public sector (and even these were usually seconded from the MoHS). Due to the small number of observations, disaggregated analysis by type of employment was not performed in the following sections.

On average, HWs had spent just over 11 years working in the health sector, just under 11 years in the public sector and nearly 4.5 years in their current post (Table 25).

Table 25 Number of years in the health sector, in public employment and in this post

	Mean	Std. Err	95% CI		Obs (n)
Years in healthcare sector	11.274	.544	10.203	12.344	312
Years in public work	10.795	.537	9.739	11.852	311
Years in present facility	4.480	.291	3.903	5.053	305

Between the professions, Environmental Health Officers had worked the longest in the sector and in public service (around 19 years). In addition, EHOs and pharmacists had been longest in their current posts (both over seven years) (Table 26).

Table 26 Number of years in the health sector, in public employment and in this facility, by profession (mean)

CADRE	years in healthcare sector	years in public work	years in present facility
Doctor	14.7	14.7	3.8
CHO/CHA	9.8	10.2	3.5
RN	17.3	17.3	5.1
SECHN	7.7	6.6	3.5
EnvironHO	18.9	19.0	7.2
MCHAide	11.2	10.7	5.6
EDCUAsst	13.6	13.6	4.2

LabTech	11.3	11.3	4.0
Pharmacist/PhTech	15.0	14.1	7.3

Years in health sector: F = 4.80; Prob>F = 0.0000

Years in public work: F = 6.15; Prob>F = 0.0000

Years in present facility: F = 2.03; Prob>F = 0.0356

Although differences were significant across cadres, there are no significant differences in the years worked in the health sector, public sector and present facility across districts¹. Between men and women, there are significant differences in the years worked in the health sector and in years worked in public work (with men having worked longer than women), but there is no difference in years worked in the present facility².

Nearly 90% had worked for the public sector in their previous post – only 6% had worked elsewhere in their previous post, with 5% of people not responding to this question. Having previously worked outside of the public sector was more common in Kenema and Bonthe (Table 27). There were no significant differences between professions and sexes.

Table 27 Whether last post was public or not, by district

	Public	Non-public	No answer	Total
Kenema	73	11	7	91
	80.22	12.09	7.69	100.00
Bonthe	45	5	0	50
	90.00	10.00	0.00	100.00
Koinadugu	59	0	1	60
	98.33	0.00	1.67	100.00
Western Area	101	2	6	109
	92.66	1.83	5.50	100.00
Total	278	18	14	310
	89.68	5.81	4.52	100.00

Pearson chi2(6) = 21.2661 Pr = 0.002

Hours worked per week

The average number of hours reported worked per week across all respondents is 53.9 (CI: 51.5-56.4)³ (Table 28), with significant difference by cadre. CHOs/CHAs reported the highest

¹ Years in health sector: F = 1.14 ; Prob>F = 0.3323; years in public work: F = 2.00; Prob>F = 0.1134; years in present facility: F = 0.21; Prob>F = 0.8926

² Years in health sector: 0.0023; years in public work: 0.0014; years in present facility: 0.2735

³ 24 responses were excluded as they were too high (more than 168 per week, which is impossible and may reflect poor comprehension of the question). Similarly, some appeared too low to be plausible. Analysis was done of all responses between 8 and 168 hours per week.

mean. Some (e.g. the SECHNs) report very high maximums, which may reflect the fact of being on call and living near facilities.

Table 28 Number of hours worked per week by profession

	Mean	Min	Max	Std. Err.	[95% Conf Interval]		n
Doctor	63.9	48	84	4.929639	52.22	75.53	8
CHO/CHA	65.2	42	105	2.974275	59.15	71.26	34
RN	54.2	15	140	4.817565	44.20	64.13	24
SECHN	48.4	9	168	2.068727	44.26	52.47	96
EHO	51.4	40	77	3.251308	44.30	58.47	13
MCHAide	54.6	8	144	2.911434	48.71	60.46	43
EDCU Assist	58.5	46	112	5.047502	47.39	69.61	12
LabTech	56.3	9	160	5.262138	45.49	67.08	28
Pharmacist/PhTech	49.3	12	98	3.687889	41.58	57.02	20

F = 2.76; Prob>F = 0.0042

59 respondents (19%) stated that the hours worked per week had changed over the past 3 years; 218 (70%) stated that their hours did not change and 35 (11%) did not respond or the question was not applicable to them (e.g., they started work less than 3 years before). There were significant differences across professions, with MCH Aides most likely to report an increase in hours (25%) (Table 29). Of those who stated that their hours of worked had changed, 48 (81%) said that they increased, 9 (15%) that they decreased and 2 (3%) did not reply.

For those reporting an increase in hours worked, they increased on average by 18.34 hours per month (CI: 13.03-23.66; n=29). For those reporting a decrease, they decreased on average by 22.78 hours/month (CI: 1.03-44.54; n=7).

Table 29 Changes in number of hours worked per week over the past 3 years by profession

	no change	increased	decreased	change (not specified)	n/a	Total
Doctor	6	1	0	0	4	11
	54.55	9.09	0.00	0.00	36.36	100.00
CHO/CHA	34	2	0	0	5	41
	82.93	4.88	0.00	0.00	12.20	100.00
RN	16	4	2	0	3	25
	64.00	16.00	8.00	0.00	12.00	100.00
SECHN	75	16	1	0	8	100
	75.00	16.00	1.00	0.00	8.00	100.00
EnvironHO	8	3	2	0	1	14
	57.14	21.43	14.29	0.00	7.14	100.00
MCHAide	36	14	1	2	2	55

	65.45	25.45	1.82	3.64	3.64	100.00
EDCUAsst	11	0	0	0	5	16
	68.75	0.00	0.00	0.00	31.25	100.00
LabTech	16	4	1	0	7	28
	57.14	14.29	3.57	0.00	25.00	100.00
Pharmacist/PhTech	14	4	2	0	0	20
	70.00	20.00	10.00	0.00	0.00	100.00
Total	216	48	9	2	35	310
	69.68	15.48	2.90	0.65	11.29	100.00

Pearson chi2(32) = 60.3866 Pr = 0.002

There was no significant difference in the number of hours of work reported by district (Table 30). However, there were significant differences in terms of changes in the number of hours worked, with health workers in Bonthe being most likely to report increases (42%) (Table 31).

Table 30 Number of hours worked per week by district

	Mean	Min	Max	Std. Err.	[95% Conf Interval]		n
Kenema	53.3	9	168	2.2737	48.78	57.82	87
Bonthe	55.4	36	100	2.5174	50.31	60.43	49
Koinadougou	59.9	36	140	4.0829	51.63	68.21	36
Western Area	51.3	8	144	1.9392	47.50	55.19	106

F = 1.59; Prob>F = 0.1931

Table 31 Changes in number of hours worked per week over the past 3 years, by profession

	no change	increased	Decreased	change (not specified)	n/a	Total
Kenema	64	3	0	2	22	91
	70.33	3.30	0.00	2.20	24.18	100.00
Bonthe	27	21	0	0	2	50
	54.00	42.00	0.00	0.00	4.00	100.00
Koinadugu	42	6	3	0	9	60
	70.00	10.00	5.00	0.00	15.00	100.00
Western Area	83	18	6	0	2	109
	76.15	16.51	5.50	0.00	1.83	100.00
Total	216	48	9	2	35	310
	69.68	15.48	2.90	0.65	11.29	100.00

Pearson chi2(12) = 72.5534 Pr = 0.000

There were no significant differences between the sexes in hours of work reported (P= 0.0572) or changes to those hours (p=0.195).

Number of patients seen per week

The average number of patients seen across all the respondents who answered (n=177) is 116.6 (CI: 102.7-130.5) (Table 32) (i.e. about 19.43 per day in a 6-day week)⁴.

Table 32 Number of patients seen per week and change over the last 3 years, by profession

	Mean	min	Max	Sd
Doctor	109.6	5	210	82.6
CHO/CHA	117.5	50	420	95.0
RN	90.4	16	200	65.2
SECHN	107.9	5	480	101.3
EnvironHO				
MCHAide	117	50	345	70.6
EDCUAsst				
LabTech	190.1	50	350	94.6
Pharmacist/PhTech	177.4	14	432	165.5

F = 1.44; Prob>F = 0.2026

117 respondents (38%) stated that the number of patients seen had changed over the past 3 years; 67 (21%) stated that patients numbers had not changed; and 128 (41%) did not respond or the question was not applicable to them (e.g. they started work less than 3 years before).

Of those who stated that the number of patients seen had changed (n=117), 90 (77%) said that they increased, 14 (12%) said that they decreased and 13 (11%) did not reply. There was a significant difference by cadre, with MCH Aides most likely to report an increase (47%).

Only 73 HWs answered the question specifying how many more/less patients they now see. For those for which had seen patients numbers increase, it increased on average by 28.89 patients per month (CI: 17.04-40.73; n=63). For those for which it decreased, it so on average by 102.6 patients/month (CI: -7.99-213.19; n=10) (Table 33).

Table 33 Reported changes in patients seen per week, by cadre

	no change	increased	decreased	changed (direction not specified)	n/a	Total
Doctor	0	7	1	1	2	11
	0.00	63.64	9.09	9.09	18.18	100.00
CHO/CHA	16	19	0	2	4	41
	39.02	46.34	0.00	4.88	9.76	100.00
RN	5	2	2	1	15	25

⁴ There was some ambiguity in the phrasing of this question and it is possible that some gave values per month, not week. We have removed from the dataset those reporting more than 500 patients, which has been chosen as the threshold based on the distribution of responses.

	20.00	8.00	8.00	4.00	60.00	100.00
SECHN	32	27	7	3	31	100
	32.00	27.00	7.00	3.00	31.00	100.00
EnvironHO	0	0	0	0	14	14
	0.00	0.00	0.00	0.00	100.00	100.00
MCHAide	11	26	2	4	12	55
	20.00	47.27	3.64	7.27	21.82	100.00
EDCUAsst	0	0	0	0	16	16
	0.00	0.00	0.00	0.00	100.00	100.00
LabTech	3	4	0	2	19	28
	10.71	14.29	0.00	7.14	67.86	100.00
Pharmacist/PhTech	0	5	2	0	13	20
	0.00	25.00	10.00	0.00	65.00	100.00
Total	67	90	14	13	126	310
	21.61	29.03	4.52	4.19	40.65	100.00

Pearson chi2(32) = 123.2889 Pr = 0.000

There is evidence of significantly higher workloads in Western Area (Table 34), but reported increases in patients seen are highest in Bonthe (Table 35).

Table 34 Number of patients seen and change over the last 3 years, by district

	Mean	Min	Max	sd
Kenema	132.76	5	410	94.680
Bonthe	109.947	22	420	78.909
Koinadugu	71.857	5	245	40.779
Western Area	148.030	14	480	114.756

F = 7.19; Prob>F = 0.0001

Table 35 Reported changes in patients seen per week, by district

	no change	increased	decreased	changed (not specified)	n/a	Total
Kenema	15	13	0	3	60	91
	16.48	14.29	0.00	3.30	65.93	100.00
Bonthe	6	20	5	4	15	50
	12.00	40.00	10.00	8.00	30.00	100.00
Koinadugu	23	22	1	2	12	60
	38.33	36.67	1.67	3.33	20.00	100.00
Western Area	23	35	8	4	39	109
	21.10	32.11	7.34	3.67	35.78	100.00
Total	67	90	14	13	126	310
	21.61	29.03	4.52	4.19	40.65	100.00

Pearson chi2(12) = 56.6282 Pr = 0.000

There were insignificant differences in the number of patients seen between the sexes (124 for men, 113 for women, $p=0.457$), though women were more likely to report an increase over three years (33% versus 23% for men; $p=0.024$).

4. Training

Respondents were asked about any training that they had received. 85% reported receiving in-service training (Table 36).

Table 36 Types of training received [n=312]

	University (local)		University (external)		In-service training		Other	
	n	%	n	%	n	%	n	%
no	278	89.10	281	90.06	46	14.74	300	96.15
yes	34	10.90	31	9.94	266	85.26	12	3.85

Significant differences were found by profession for training at external universities, with doctors, RNs, CHO/CHAs and pharmacists most likely to have received external training (Table 37).

Table 37 Types of training received (by profession)

	University (local course)		University (external)		In-service		Other		Total (n)
	no	yes	no	yes	no	yes	no	yes	
Doctor	8	3	7	4	1	10	11	0	11
	72.73	27.27	63.64	36.36	9.09	90.91	100.00	0.00	100.00
CHO/CHA	34	7	32	9	7	34	37	4	41
	82.93	17.07	78.05	21.95	17.07	82.93	90.24	9.76	100.00
RN	19	6	18	7	6	19	25	0	25
	76.00	24.00	72.00	28.00	24.00	76.00	100.00	0.00	100.00
SECHN	90	10	100	0	20	80	99	1	100
	90.00	10.00	100.00	0.00	20.00	80.00	99.00	1.00	100.00
EnvironHO	13	1	13	1	1	13	14	0	14
	92.86	7.14	92.86	7.14	7.14	92.86	100.00	0.00	100.00
MCHAide	53	2	50	5	4	51	50	5	55
	96.36	3.64	90.91	9.09	7.27	92.73	90.91	9.09	100.00
EDCUAsst	16	0	16	0	2	14	14	2	16
	100.00	0.00	100.00	0.00	12.50	87.50	87.50	12.50	100.00
LabTech	26	2	27	1	0	28	28	0	28
	92.86	7.14	96.43	3.57	0.00	100.00	100.00	0.00	100.00
Pharmacist/ PhTech	17	3	16	4	5	15	20	0	20
	85.00	15.00	80.00	20.00	25.00	75.00	100.00	0.00	100.00
Total	276	34	279	31	46	264	298	12	310
	89.03	10.97	90.00	10.00	14.84	85.16	96.13	3.87	100.00

- University (local course): Pearson chi2(8) = 14.9648 Pr = 0.060
- University (external): Pearson chi2(8) = 40.5760 Pr = 0.000
- In-service training: Pearson chi2(8) = 13.9478 Pr = 0.083
- Other: Pearson chi2(8) = 17.2064 Pr = 0.028

Differences between districts were also found for local university training, with those in WA more likely to have received this (Table 38).

Table 38 Types of training received (by district)

	University (local course)		University (external)		In-service		Other		Total (n)
	no	yes	no	yes	no	yes	no	yes	
Kenema	87	4	84	7	10	81	91	0	91
	95.60	4.40	92.31	7.69	10.99	89.01	100.00	0.00	100.00
Bonthe	49	1	49	1	11	39	50	0	50
	98.00	2.00	98.00	2.00	22.00	78.00	100.00	0.00	100.00
Koinadugu	50	10	48	12	12	48	48	12	60
	83.33	16.67	80.00	20.00	20.00	80.00	80.00	20.00	100.00
Western Area	90	19	98	11	13	96	109	0	109
	82.57	17.43	89.91	10.09	11.93	88.07	100.00	0.00	100.00
Total	276	34	279	31	46	264	298	12	310
	89.03	10.97	90.00	10.00	14.84	85.16	96.13	3.87	100.00

- University (local course): Pearson chi2(3) = 14.8020 Pr = 0.002
- University (external): Pearson chi2(3) = 10.7617 Pr = 0.013
- In-service training: Pearson chi2(3) = 5.0927 Pr = 0.165
- Other: Pearson chi2(3) = 52.0134 Pr = 0.000

Some differences in access to training were noted between the genders (lower rates for women), though these were not significant.

For in-service training, the MoHS emerges as the main funder, followed by WHO and UNICEF (Table 39).

Table 39 For those who received IST, % funded by different agencies [n=591]

Agency	% of total training received
MoHS	33%
World Vision	7%
MRC	2%
WHO	19%
UNICEF	18%
JICA	1%

Other	21%
TOTAL	100%

Respondents were also asked what they thought were the benefits of training. Greater knowledge, more confidence, and higher status came top (with 97, 90 and 64% respectively). 19% reported that training increased private practice earnings (Table 40).

Table 40 Benefits of training – frequency of scores given to each aspect [n=312]

Benefit	n	%
Greater knowledge	304	97.44
More confident	282	90.38
Higher status	199	63.78
Opp of getting job with int org	165	52.88
Job opportunities	164	52.56
Influence policy	160	51.28
Per diems	160	51.28
Promotion	144	46.15
More patients	111	35.58
Charge higher (priv pract)	60	19.23
Other	9	2.88

Across the cadres, significant differences were found for some attributes. For example, charging higher in private practice is cited by 45% of doctors, compared to 8% of registered nurses. Seeing more patients is also more frequently cited by doctors (73%) (Table 41).

Table 41 Benefits of training – frequency of scores given to each aspect, by profession

	Greater knowledge	More confident	Higher status	More patients	Charge higher (priv pract)	Promotion	Job opport	Opp of gettin job w/int org	Influence Policy	Per diems	Other	(n)
Doctor	11	11	9	8	5	6	4	7	6	5	0	11
	100.00	100.00	81.82	72.73	45.45	54.55	36.36	63.64	54.55	45.45	0.00	
CHO/CHA	41	39	26	23	8	20	24	25	24	22	1	41
	100.00	95.12	63.41	56.10	19.51	48.78	58.54	60.98	58.54	53.66	2.44	
RN	25	22	16	4	2	12	13	12	14	9	1	25
	100.00	88.00	64.00	16.00	8.00	48.00	52.00	48.00	56.00	36.00	4.00	
SECHN	94	83	69	36	15	41	48	44	38	42	3	100
	94.00	83.00	69.00	36.00	15.00	41.00	48.00	44.00	38.00	42.00	3.00	
EnvironHO	12	12	8	2	2	6	9	7	10	7	1	14
	85.71	85.71	57.14	14.29	14.29	42.86	64.29	50.00	71.43	50.00	7.14	
MCHAide	55	54	39	21	17	31	31	40	32	41	2	55
	100.00	98.18	70.91	38.18	30.91	56.36	56.36	72.73	58.18	74.55	3.64	

EDCUAsst	16	16	4	3	3	6	7	4	6	8	1	16
	100.00	100.00	25.00	18.75	18.75	37.50	43.75	25.00	37.50	50.00	6.25	
LabTech	28	24	14	6	2	9	13	13	12	14	0	28
	100.00	85.71	50.00	21.43	7.14	32.14	46.43	46.43	42.86	50.00	0.00	
Pharmacist/ PhTech	20	19	12	8	5	12	14	13	17	11	0	20
	100.00	95.00	60.00	40.00	25.00	60.00	70.00	65.00	85.00	55.00	0.00	
Total	302	280	197	111	59	143	163	165	159	159	9	310
	97.42	90.32	63.55	35.81	19.03	46.13	52.58	53.23	51.29	51.29	2.90	

- Greater knowledge: Pearson $\chi^2(8) = 17.4723$ Pr = 0.026
- More confident: Pearson $\chi^2(8) = 15.6696$ Pr = 0.047
- Higher status: Pearson $\chi^2(8) = 16.9963$ Pr = 0.030
- More patients: Pearson $\chi^2(8) = 25.7884$ Pr = 0.001
- Charge higher (priv pract): Pearson $\chi^2(8) = 16.2900$ Pr = 0.038
- Promotion: Pearson $\chi^2(8) = 8.1340$ Pr = 0.420
- Job opportunities: Pearson $\chi^2(8) = 7.0329$ Pr = 0.533
- Opp of getting job w/int org: Pearson $\chi^2(8) = 20.3748$ Pr = 0.009
- Influence policy: Pearson $\chi^2(8) = 22.6302$ Pr = 0.004
- Per diems: Pearson $\chi^2(8) = 18.0906$ Pr = 0.021
- Other: Pearson $\chi^2(8) = 3.5388$ Pr = 0.896

5. Income from main health care work

Salary

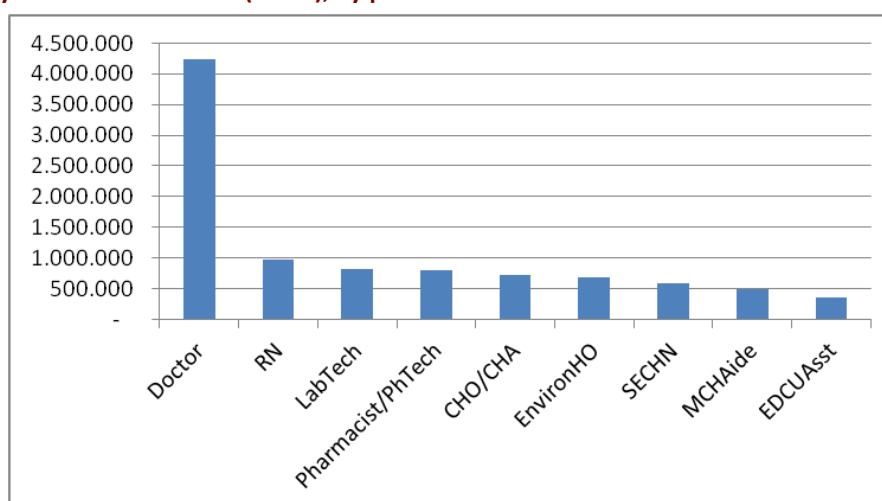
Respondents were asked about their last month's salary. The scale of differences between doctors and other cadres is highly significant and striking (Table 42 and Figure 6).

Table 42 Salary received last month, by profession (mean, max, min, sd) (n=300)

CADRE	SALARY				
	mean	Max	min	sd	n
Doctor	4,237,830	9,100,000	2,399,000	2,061,578	10
CHO/CHA	730,250	900,000	480,000	98,306	40
RN	981,652	1,600,000	300,000	371,090	23
SECHN	588,837	780,000	250,000	93,991	98
EnvironHO	684,214	1,100,000	300,000	259,057	14
MCHAide	486,927	599,000	172,000	56,832	53
EDCUAsst	348,563	400,000	250,000	47,173	16
LabTech	819,643	2,300,000	325,000	304,544	28
Pharmacist/PhTech	805,944	1,300,000	584,000	156,614	18

F=92.31; F>Prob = 0.0000

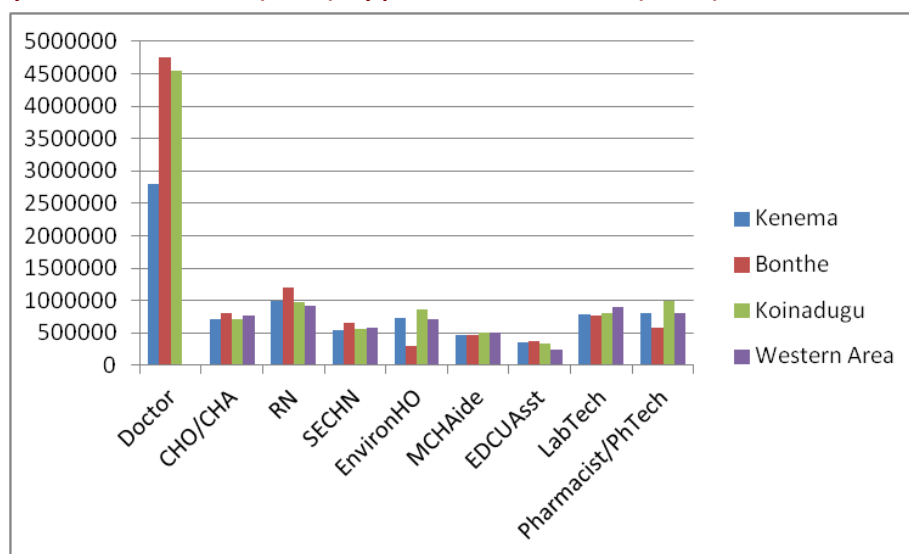
Figure 6 Salary received last month (mean), by profession



Differences between sectors of employment were tested and found not to be significant. This may be because the staff sampled in private not for profit (PNFP) facilities were seconded from the public sector and therefore on similar terms and conditions.

Some differences are observable across the districts, but this may reflect the different mix of seniority across these areas (Figure 7).

Figure 7 Salary received last month (mean), by profession and district (n=300)



In general, women are significantly less well paid than men. However, this is not significant when broken into different cadres, except for CHOs/CHAs, where women are paid significantly less (Table 43). This may reflect different lengths of service.

Table 43 Salary received last month (mean), by profession and gender (n=300)

CADRE	GENDER		p-value
	Male	female	
Doctor	4,741,572	3,062,433	0.260
CHO/CHA	754,781	632,125	0.000
RN	749,500	1,030,526	0.174
SECHN	608,875	584,927	0.354
EnvironHO	677,417	725,000	0.820
MCHAide	554,040	485,637	
EDCUAsst	348,562		
LabTech	823,167	798,500	0.884
Pharmacist/PhTech	814,067	765,333	0.637

Overall across cadres: p-value= 0.0042

The majority of the respondents (94%) received their salary regularly. Only 2% did not and 4% did not know or reply. There was no difference between cadres and by type of employment.

Who pays the salary?

Almost all respondents received their salary from the GoSL/MoHS. 2 people stated that they received it from the Global Fund and GF/GoSL⁵. 2 others were paid by the Catholic Mission (a SRN and a SECHN nurse working in a CHC), one by Bonthe District (a CHO working in a CHC) and one by the United Brethren Church (an MCHAide working in a secondary hospital).

Salary change over the last three years

Only 31% (96) of the respondents stated that their salary changed in the last 3 years. The majority (54%) stated that it didn't change and 15% (47) did not know or did not reply. This result is not entirely consistent with the salary increase that was introduced in April 2010. However, it is likely that many of the staff we interviewed started working after the FHC – for example, a number of the health workers were volunteers before the salary uplift and were only put on the MOHS payroll after the salary uplift, and therefore have not experienced a change in salary.

Of those who declare that their salary changed⁶, 76% (70) stated that it increased, 6% (6) that it decreased, 11% (10) that it was a new allowance/salary, and 6% (6) don't know. Even fewer respondents (50) were able to provide information on the level of the change. For 44 of them, salary had increased. The average increase was 422,800 Le. (CI: 351,588-494,012 Le) Table 44).

Table 44 Level of salary change for workers for whom salary increased (mean, min, max) (n=44)

CADRE	SALARY INCREASE		
	Mean	Min	Max
Doctor	1,500,000	1,500,000	1,500,000
CHO/CHA	440,500	168,000	600,000
RN	510,000	200,000	900,000
SECHN	381,200	300,000	500,000
Environ Health Off	220,000	10,000	450,000
MCHAide	266,750	150,000	360,000
EDCU Asst	100,000	100,000	100,000
Lab Tech	543,000	460,000	600,000
Pharmacist/Ph tech	478,400	250,000	600,000

The average decrease (4 respondents) was 251,500 Le. (CI: -269,746-772,746).

⁵ This is possibly based on the fact that the Global Fund is funding a substantial part of the salaries of MoHS personnel and some HWs may be aware of this. It could also be that these HWs that are not on the payroll yet, but instead waiting to be integrated in it.

⁶ Unfortunately, numbers of those who replied to the previous question that their salary changed (96) don't add up exactly with those who declared how it changed (92).

Remote area allowance

Only a few respondents (16% - 51) mentioned that they received a Remote Area Allowance. The majority (249) of the HWs' responses were coded as non applicable (code "99"). Only a few (10) stated that their received 0 Le. as RAA , thus implying that they should have received it, but didn't. The remaining (2) are coded as 88 (can't remember). It seems that the majority of health workers are not aware that they are eligible and do not receive the payment.

In the following analysis, only those who responded with a positive (non 0) amount to the question will be considered. This is a major limitation as the analysis will not be able to capture all those who should have received a RAA, but did not (possibly the majority of the respondents in our sample).

The distribution of RAA amount has been checked for outliers. Of 3 exceptionally high amounts, two referred to doctors and seem plausible. One referred to an MCH Aide and has been considered an error in the filling of the questionnaire and not included in analysis (Table 45).

Table 45 Remote area allowance received for last quarter (min, max, mean, sd), by profession (n=49)

CADRE	REMOTE AREA ALLOWANCE				
	Mean	Max	Min	sd	n
Doctor	1,900,000	2,000,000	1,800,000	141,421	2
CHO/CHA	550,000	700,000	200,000	207,364	6
RN	500,000	750,000	250,000	353,553	2
SECHN	359,313	580,000	320,000	88,028	16
EnvironHOff	400,000	400,000	400,000	0	2
MCHAide	467,111	800,000	180,000	162,617	18
EDCU Asst	46,000	46,000	46,000		1
Lab Tech	175,000	250,000	100,000	106,066	2
Pharmacist/Ph tech					0

F=25.63; Prob>F = 0.0000

Noone in non-public employment received a remote area allowance. A test was ran to check if there is a difference in RAA between genders for the same cadres. Since the numbers were low, it was relevant only for SECHN and showed that there is no statistical difference between mean in RAA for female and male SECHN (p -value=0.69).

Forty-five HWs responded to the question on whether the RAA is received regularly. 22% (10) stated that they receive it regularly, 71% (32) do not receive it regularly and 7% (3) did not know. There was no significant difference between the cadres.

It seems that there may be a lack of understanding as the RAA is a fixed allowance that is not linked to any particular tasks, as 37% of those who received it reported that it depended on work done and on specific tasks (Table 46 and Table 47).

Table 46 Whether the RAA is fixed (n=38)

	n	%
Fixed	22	57.89%
Depends on work	14	36.84%
Don't know	2	5.26%
Total	38	100%

Table 47 Whether the RAA depends on specific tasks, by profession (n=37)

	n	%
Specific tasks	14	37.84
Routine activities	17	45.95
don't know	6	16.22
Total	37	100.00

Only 34 HWs responded to the question on whether their RAA has changed in the past 3 years. 27 (79%) declared that it did not change and 7 (21%) stated that it had changed. Of those who said that it did change, 3 declared that it increased. The rest gave no answer.

Top-ups or supplementations

Of the 312 respondents, 284 said that they did not receive any top-ups in the last month. 28 stated that they did receive a salary supplementation and gave the amount. One HW did not disclose the amount received. Only the 27 HWs who disclosed the amounts received are included in the following analysis (Table 48).

Table 48 Top-up received (min, max, mean, sd), by profession (n=27)

	Mean	Max	Min	Sd	n
Doctor	1,030,000	1,660,000	400,000	890,955	2
CHO/CHA	247,500	400,000	90,000	176,139	4
RN	138,000	250,000	90,000	66,858	5
SECHN	300,500	526,000	75,000	318,905	2
EnvironHO	238,333	500,000	40,000	212,077	6
MCHAide					
EDCUAsst					
LabTech	94,143	150,000	74,000	25,693	7
Pharmacist/PhTech	100,000	100,000	100,000		1

F=3.56; Prob>F = 0.0119

Salary supplementation was more popular prior to the FHCI for health workers attached to health programmes. Post-FHCI, this was minimised due to the salary uplift associated with the FHCI, so it is not surprising that less than 10% reported being in receipt of this.

Significant differences were found across the districts, with few in receipt in Western Area (Table 49). No one in non-public employment received a top-up or salary supplementation.

Table 49 Average top-up received, by profession and district (n=27)

CADRE	DISTRICT			
	Kenema	Bonthe	Koinadugu	Western Area
Doctor			1,030,000	
CHO/CHA	247,500			
RN	110,000		250,000	
SECHN	300,500			
EnvironHO	40,000	500,000	175,000	
MCHAide				
EDCUAsst				
LabTech	94,143			
Pharmacist/PhTech				100,000

F=3.32; Prob>F=0.0368

A test was ran to check if there was a difference in top-ups between genders for all cadres (the number of observations was too low to run a comparison by cadre). It showed no significance difference (p-value=0.17).

63% (17) of those who received a top-up described them as regular, while 33% (9) said they were not. There was a balance between those who described them as fixed or work-dependent (Table 50), with work predominantly meaning routine tasks (Table 51).

Table 50 Whether the top-up is fixed

	N	%
Fixed	10	38.46
Depends on work	11	42.31
Don't know	5	19.23
Total	26	100.00

Table 51 Whether the top-up depends on specific tasks

	n	%
--	---	---

specific tasks	3	11.54
routine actv	17	65.38
don't know	6	23.08
Total	26	100.00

These responses may reflect the different funding sources for these supplements, which are reported in Table 52.

Table 52 Who pays the top-up or supplementation, by profession cross-tabbed with type of facility, district and cadre (n=27)

	n	%	TYPE OF FACILITY	DISTRICT	CADRE
GlobalFund	2	11.11	CHC (2)	Bonthe (2)	Environ H Off (2)
GoSL	2	7.41	Reg/Dis/Sec Hosp (2)	Kenema (1) Koinadugu (1)	Doctor (1) RN (1)
IRC	13	48.15	Reg/Dis/Sec Hosp (11) CHC (2)	Kenema (13)	CHO/CHA (2) RN (3) SECHN (1) Environ H Off (2) Lab Tech (5)
NGO	2	7.41	Reg/Dis/Sec Hosp (2)	Kenema (2)	Lab Tech (2)
NID*	3	11.11	Reg/Dis/Sec Hosp (1) Other (2)	Koinadugu (3)	Doctor (1) RN (1) Environ H Off (1)
Donor	2	7.41	CHC (1) CHP (1)	Kenema (2)	CHO/CHA (2)
Don't know	2	7.41	CHC (1) CHP (1)	Kenema (1) Koinadugu (1)	SECHN (1) Environ H Off (1)
Total	26	100.00	(26)	(26)	(26)

* NID may mean national immunisation day, in which case it is what the HWs were paid for, rather than by

27 HWs responded to the question as to whether their top-up had changed over the last 3 years. 15 respondents (56%) said that it did not change, 7 (26%) said they did not know and 5 (18%) said that it had changed (1 doctor Koinadugu; 1 CHO/CHA, 1 SECHN, 1 Environmental Health Officer in Kenema, 1 Pharmacist in Western Area). Of the 5 respondents who said it did change, 1 (CHO/CHA) declared that it is a new allowance, 2 (SECHN and Environmental Health Officer) that it increased, 1 (Pharmacist) that it decreased, and 1 didn't respond. The only respondent able to quantify the change (Pharmacist) stated that the top-up decreased by 200,000 Le. over the past 3 years.

Payments from user fees

Of the 312 respondents, 299 stated that they did not receive any payment from user fees in the last month. 13 stated that they did receive a payment from user fees and gave the amount. These HWs are included in the analysis below (Table 53). The low number of

observations may be due to the fact that sharing user fees revenues is now not accepted by the Anti Corruption Commission (ACC) since the introduction of its Service Delivery Charter in September 2010. This is meant to encourage and support public institutions to become more transparent in their dealings with the public. All fees should now go to the consolidated fund of the facility.

Table 53 Payment from user fees received (min, max, mean, sd), by profession (n=13)

CADRE	PAYMENTS FROM USER FEES				
	mean	Max	Min	Sd	n
Doctor	20,000	20,000	20,000		1
CHO/CHA	283,333	500,000	50,000	225,463	3
RN					
SECHN	90,000	150,000	30,000	84,853	2
Environ H Off					
MCHAide	30,000	40,000	20,000	8,165	4
EDCU Asst					
Lab Tech	32,500	60,000	5,000	38,891	2
Pharmacist/Ph tech	600,000	600,000	600,000		1
TOTAL					13

F=4.61; Prob>F = 0.0351

Noone in non-public employment received payment from user fees. A test was ran to check if there was a difference in payments from user fees between genders across cadres. It showed that there is no significance difference (p-value= 0.97). Roughly half of respondents reported receiving it regularly, and the majority of those receiving any payments from user fees (64%, or 7 health workers) stated that the payment is based on the amount of work performed. When asked about the source, 6 HWs out of the 9 who responded to this question stated that it was the patients who paid.

Other payments, such as gifts

Of the 312 respondents, 15 HWs stated that they received other payments beyond what was already reported (Table 54). These HWs are included in the analysis below. Triangulation of the information about what these payments are and who paid them reveals that these payments are mostly gifts from patients or parents (13 – 87%).

Table 54 Other payments received (min, max, mean, sd), by profession (n=15)

CADRE	OTHER PAYMENTS				
	mean	max	min	sd	N
Doctor					
CHO/CHA	240,000	700,000	5,000	398,403	3
RN/Nurse or Midwife	5,000	5,000	5,000		1

SECHN/Nurse or Midwife	9,000	20,000	5,000	6,519	5
EnvironHOff					
MCHAide/Nurse Aide	4,000	7,000	1,000	4,243	2
EDCU Asst					
Lab Tech	100,000	100,000	100,000	100,000	1
Pharmacist/Ph tech	73,333	150,000	20,000	68,069	3

F=0.66; Prob>F = 0.6658

Noone in non-public employment received other payments. A test was ran to check if there was a difference in other payments between genders across cadres. It showed that there was no significance difference (p-value=0.30). No significant difference was found between districts either (F=0.03; Prob>F = 0.9706). Most people that reported receiving other payments (78%) did not receive them regularly.

Performance-based funding

A “Simple Performance-Based Financing Scheme for Primary Healthcare” was introduced from April 2011. The PBF scheme was initially only implemented in PHUs and has been later extended to PCMH and Ola During Children’s Hospital in Freetown. All other hospitals are excluded from the scheme. Under the PBF scheme, facilities are meant to receive a quarterly bonus for their achievements based on a list of output indicators and ‘quality’ items. This financial bonus is split so that 40% must be reinvested in the facility to improve service delivery and 60% is used to reward all staff, using a points system.

As the survey was carried out in December 2012, eligible HWs should have received 7 quartely payments from April 2011 to December 2012. However, in practice there has been numerous delays in the payment of the PBF bonus.

The HWIS survey counted 216 responses to the question on the number of PBF payments received (including 91 HWs who responded 0). 94 responses were missing, which may reflect the fact that not all respondents were in facilities that were eligible for PBF. As we know that all PHUs in the country are supposed to receive PBF payments and all workers in those PHUs should be entitled to a percentage of the bonus, the following analysis only includes the 138 working in PHUs and eligible to received PBF payments from the MoHS scheme. A quarter had received no PBF payments, while a third had received three, with no significant difference by type of PHU (Table 55) but with significant differences by cadre (Figure 8) and district (

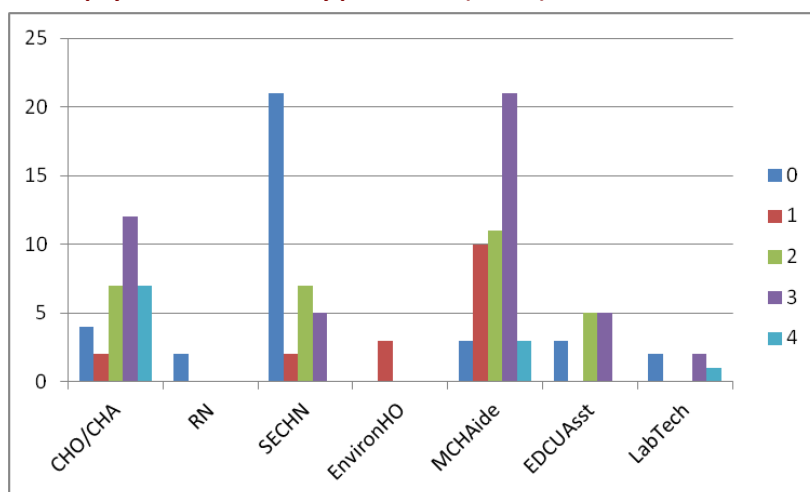
Figure 9). The pattern across districts is either linked to variable performance or problems of disbursement in certain districts.

Table 55 Number of PBF payments received, by place of work (n=138) [column %]

Num of PBF payments received	TYPE OF PHU			
	CHC	CHP	MCHP	Total
0	23	4	8	35
	31.08	20.00	18.18	25.36
1	9	1	7	17
	12.16	5.00	15.91	12.32
2	15	4	11	30
	20.27	20.00	25.00	21.74
3	19	10	16	45
	25.68	50.00	36.36	32.61
4	8	1	2	11
	10.81	5.00	4.55	7.97
Total	74	20	44	138
	100.00	100.00	100.00	100.00

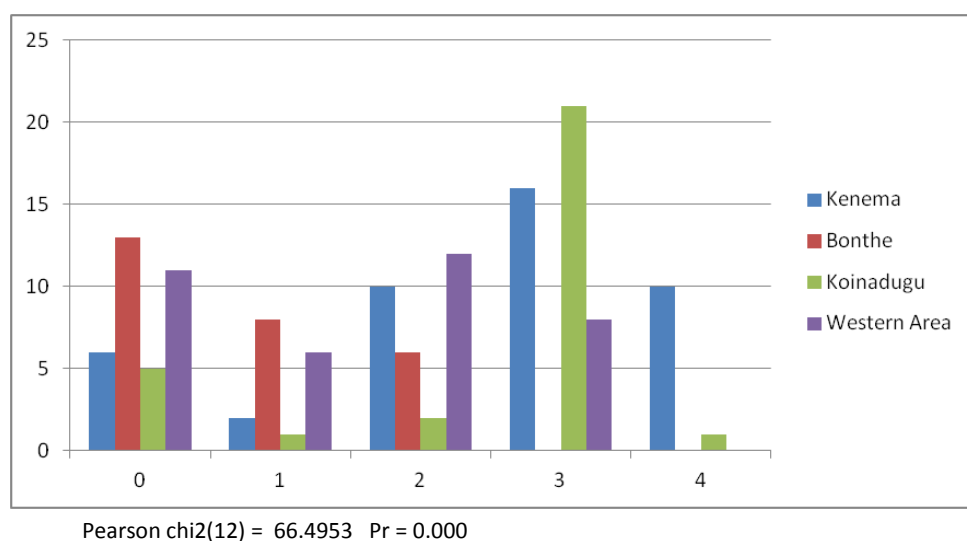
Pearson chi2(8) = 8.4775 Pr = 0.388

Figure 8 Number of PBF payments received, by profession (n=138)



Pearson chi2(24) = 81.8811 Pr = 0.000

Figure 9 Number of PBF payments received, by district (n=138)



The original question on PBF payments asked for the ‘amounts received in last 12 months’. To gain a quarterly average, we have summed all PBF payment amounts ever received and divided by four. For HWs that received less than 4 payments (0-3 payments), the missing payments were considered as 0 Le. received and included in the average. When a payment was received but no information on amount provided, the observation was dropped. Outliers (individuals reporting more than 2,500,000 Leones) were also removed.

The results by cadres are shown in Table 56. Significant differences were found across the cadres (note that no doctors are present in the sample as the analysis was done for staff at PHU level only).

Table 56 Average quarterly PBF payment (mean max min sd), by profession (n=110)

	Mean	Min	Max	Std. Err.	[95% Conf Interval]		n
Doctor							
CHO/CHA	219,693	-	544,250	51,864	107,648	331,738	14
RN	-	-	-				2

SECHN	75,333	-	738,250	28,557	17,233	133,434	34
EHO	75,000	50,000	87,500	12,500	21,217	128,783	3
MCHAide	192,386	-	782,500	28,366	135,181	249,591	44
EDCU Assist	92,972	-	238,750	30,805	21,935	164,010	9
LabTech	19,563	-	50,000	12,136	-	58,184	4
Pharmacist/PhTech							
							110

F=2.36; Prob>F = 0.0279

Significant differences are found in PBF payments by district, with the highest means in Koinadugu (Table 57). There are no significant differences in the PBF amounts earned by type of facility (F=1.76; Prob>F = 0.1773).

Table 57 Average quarterly PBF payment, by district (n=110)

	Mean	Std. Err.	[95% Conf Interval]		n
Kenema	189,833	31,638	125,126	254,539	30
Bonthe	33,030	8,379	15,736	50,324	25
Koinadugu	260,326	50,564	154,851	365,802	21
Western Area	95,719	26,052	42,716	148,722	34
					110

F=9.36; Prob>F = 0.0000

Per diems

Of the 310 respondents, 131 (42%) received a per diem/DSA in the last month. 121 (39%) received it at some point in the past, and 58 (19%) never received or did not know. There was a significant difference by profession, with MCH aides most commonly receiving them in the past month (65%), followed by environmental health officers (57%), CHOs/CHAs (56%) and doctors (55%) (Table 58).

Table 58 People receiving per diems, by profession (n=310) [row %]

	DSA RECEIVED
--	--------------

CADRE	last month	in the past	never/don't know	Total
Doctor	6	0	5	11
	54.55	0.00	45.45	100.00
CHO/CHA	23	16	2	41
	56.10	39.02	4.88	100.00
RN	7	11	7	25
	28.00	44.00	28.00	100.00
SECHN	35	41	24	100
	35.00	41.00	24.00	100.00
EnvironHO	8	5	1	14
	57.14	35.71	7.14	100.00
MCHAide	36	17	2	55
	65.45	30.91	3.64	100.00
EDCUAsst	7	7	2	16
	43.75	43.75	12.50	100.00
LabTech	5	18	5	28
	17.86	64.29	17.86	100.00
Pharmacist/PhTech	4	6	10	20
	20.00	30.00	50.00	100.00
Total	131	121	58	310
	42.26	39.03	18.71	100.00

Pearson chi2(16) = 58.8742 Pr = 0.000

Differences are also evident between the districts and facility types. Koinadugu and Bonthe report the highest frequency of per diems (Table 59). The paying of per diems seems to be more concentrated in primary facilities (Table 60).

Table 59 People receiving per diems, by district (n=310) [row %]

DISTRICT	DSA RECEIVED			Total
	last month	in the past	never/don't know	
Kenema	23	60	8	91
	25.27	65.93	8.79	100.00
Bonthe	25	20	5	50
	50.00	40.00	10.00	100.00
Koinadugu	35	14	11	60
	58.33	23.33	18.33	100.00
Western Area	48	27	34	109
	44.04	24.77	31.19	100.00
Total	131	121	58	310
	42.26	39.03	18.71	100.00

Pearson chi2(6) = 52.9188 Pr = 0.000

Table 60 People receiving per diems, by facility (n=310) [row %]

TYPE OF FACILITY	DSA RECEIVED			Total
	last month	in the past	never/don't know	
tertiary hosp	15	14	21	50
	30.00	28.00	42.00	100.00
reg/dis/sec hosp	21	51	26	98
	21.43	52.04	26.53	100.00
faith-based/NGO facility	6	10	0	16
	37.50	62.50	0.00	100.00
CHC	42	26	6	74
	56.76	35.14	8.11	100.00
CHP	12	6	2	20
	60.00	30.00	10.00	100.00
MCHP	31	11	2	44
	70.45	25.00	4.55	100.00
other/no response	3	2	0	5
	60.00	40.00	0.00	100.00
EnvironHDivision	1	1	1	3
	33.33	33.33	33.33	100.00
Total	131	121	58	310
	42.26	39.03	18.71	100.00

Pearson chi2(14) = 68.7670 Pr = 0.000

An analysis of amounts received was done for those who stated that they did receive per diems in the last month (n=131). The maximum number of per diems received was 4 and the overall mean was 1.5 per diems per month (Table 61). This may in part reflect the season when the survey was conducted: in December every year most health partners and programmes within the MOHS engage PHU staff in a lot of training activities to achieve their targets before the end of the financial year.

Table 61 Number of per diem payments received in last month (min, max, mean), by profession (n=124)

	Mean	Min	Max	Std. Err.	[95% Conf Interval]		n
Doctor	1.33	1	2	0.21	0.79	1.88	6
CHO/CHA	1.57	1	4	0.21	1.14	1.99	23
RN	2.29	1	4	0.36	1.41	3.17	7
SECHN	1.45	1	4	0.15	1.14	1.76	31
EHO	1.33	1	3	0.33	0.48	2.19	6
MCHAide	1.36	1	4	0.13	1.09	1.63	36
EDCU Assist	1.33	1	2	0.21	0.79	1.88	6
LabTech	1.80	1	4	0.58	0.18	3.42	5
Pharmacist/PhTech	1.50	1	2	0.29	0.58	2.42	4
							124

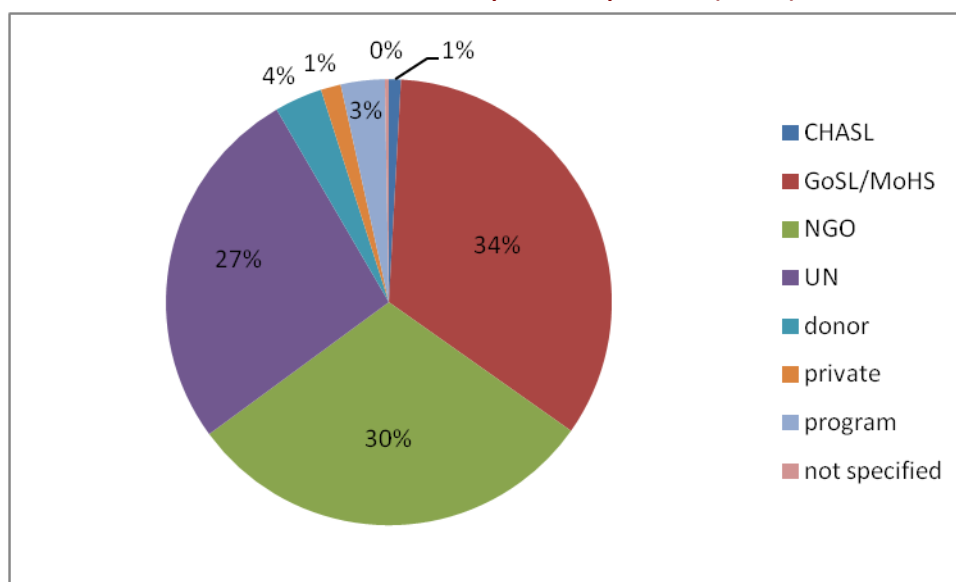
F=0.96; Prob>F = 0.4758

The differences between cadres were not significant. However, there were significant differences in the number of per diem payments received by district, with HWs in Kenema receiving more payments than in other districts ($F=6.72$; $\text{Prob}>F = 0.0003$). There were no significant differences between facility types ($F=1.78$; $\text{Prob}>F = 0.1081$).

The MoHS is the main funder of per diems, closely followed by NGOs and UN agencies (

Figure 10). However, the funds paid by the MoHS are presumably mostly funded by development partners.

Figure 10 Breakdown of funders of activities for which per diems provided (n=345)



In the analysis of sums received, training longer than 30 days outside of the country was excluded as it is not considered as in-service training. Amounts higher than 3,000,000 Le. have been excluded as outliers. Monthly totals are given in Table 62. Significant differences are found across the cadres, with the largest amounts received by RNs and doctors.

Table 62 Total amount received from per diems in past month - by profession (n=106)

CADRE	PER DIEM RECEIVED LAST MONTH				
	Mean	max	min	Sd	n
Doctor	1,109,000	2,100,000	500,000	70,2939	4
CHO/CHA	370,381	1,000,000	30,000	27,0108	21
RN	1,132,000	2,200,000	300,000	76,0342	5
SECHN	314,889	1,400,000	20,000	34,8488	27
EnvironHO	620,000	1,850,000	200,000	61,4654	6
MCHAide	178,613	600,000	20,000	16,0970	31
EDCUAsst	110,000	230,000	30,000	7,3144	5

LabTech	838,000	2,450,000	40,000	106,1000	5
Pharmacist/PhTech	225,000	350,000	100,000	17,6777	2

F=6.31; Prob>F = 0.0000

There are significant differences in per diem payments amounts received by district, with HWs in Kenema receiving higher payments than in other districts (F=3.29; Prob>F = 0.0237). There are also significant differences between facility types (F=8.25; Prob>F = 0.0000) with HWs working in regional/district/secondary hospitals receiving higher payments than the others.

Benefits in kind

Overall, 87 (28%) respondents declared in-kind benefits. The most common was housing, reported by 14% of respondents overall (Table 63). 5% report receiving in-kind gifts from patients.

Table 63 Benefits received in kind, by type of benefit and by profession

CADRE	House	Food	Health	Car	Fuel	Communication allowance	Gift	Computer	Motor bike	Risk allow.	Other/ non specified	Total
Doctor	6	0	1	4	7	4	1	0	0	0	0	11
	54.55	0.00	9.09	36.36	63.64	36.36	9.09	0.00	0.00	0.00	0.00	100.00
CHO/CHA	9	1	1	0	6	7	4	0	3	0	0	41
	21.95	2.44	2.44	0.00	14.63	17.07	9.76	0.00	7.32	0.00	0.00	100.00
RN	8	2	3	0	3	5	0	1	0	1	0	25
	32.00	8.00	12.00	0.00	12.00	20.00	0.00	4.00	0.00	4.00	0.00	100.00
SECHN	13	4	2	1	0	2	4	0	0	2	0	100
	13.00	4.00	2.00	1.00	0.00	2.00	4.00	0.00	0.00	2.00	0.00	100.00
EnvironHO	3	0	0	0	2	0	0	0	1	0	0	14
	21.43	0.00	0.00	0.00	14.29	0.00	0.00	0.00	7.14	0.00	0.00	100.00
MCHAide	4	2	2	0	1	1	4	0	0	0	0	55
	7.27	3.64	3.64	0.00	1.82	1.82	7.27	0.00	0.00	0.00	0.00	100.00
EDCUAsst	0	0	0	1	0	0	0	0	2	0	0	16
	0.00	0.00	0.00	6.25	0.00	0.00	0.00	0.00	12.50	0.00	0.00	100.00
LabTech	2	2	3	0	0	1	3	0	0	0	1	28
	7.14	7.14	10.71	0.00	0.00	3.57	10.71	0.00	0.00	0.00	3.57	100.00
Pharmacist/ PhTech	3	2	1	0	2	3	1	0	0	0	0	20
	15.00	10.00	5.00	0.00	10.00	15.00	5.00	0.00	0.00	0.00	0.00	100.00
Total	48	13	13	6	21	23	17	1	6	3	1	310
	15.48	4.19	4.19	1.94	6.77	7.42	5.48	0.32	1.94	0.97	0.32	100.00

Very few respondents were able to indicate how much in cash the benefits were worth (for example, when the benefit is given as voucher or reimbursement). Table 64 provides a summary of it, by reported absolute numbers (Le.).

Table 64 Corresponding cash amount for in kind benefits received, by type of benefit and profession

CADRE	House	Fuel	Gift	Risk Allowance
Doctor				
		35,000 (1)	5,000 (3)	
CHO/CHA	40,000 (1)	100,000 (1)	7,000 (1)	
RN				30,000 (1)

			5,000 (2)	22,000 (2)
SECHN			10,000 (1)	
EnvironHO				
MCHAide			5,000 (1)	
EDCU Asst				
Lab Tech	100,000 (1)			
Pharmacist/Ph tech				

Total main income

For all of the tables above, the details about the level of income for each component have been given considering only those respondents for which that component was relevant and where the information was provided. For the “total” tables in this section, all HWs are included, with 0 Le./no remuneration for each particular component counted in the average, so that results are comparable across HWs. Any health workers not providing salary totals were excluded from the total tables (304 provided values). Quarterly figures (such as RAA and PBF) were converted to monthly.

Table 65 Total income from all sources (main employment) last month – mean by profession (n=310)

	Mean	Std. Err.	[95% Conf Interval]		n
Doctor	4,444,936	843,580	2,565,323	6,324,550	11
CHO/CHA	1,033,065	60,801	910,182	1,155,948	41
RN	1,157,320	168,073	810,435	1,504,205	25
SECHN	705,688	31,161	643,858	767,519	100
EHO	1,092,548	151,174	765,957	1,419,139	14
MCHAide	724,270	36,313	651,467	797,072	55
EDCU Assist	409,083	24,342	357,199	460,967	16
LabTech	999,667	110,659	772,614	1,226,719	28
Pharmacist/PhTech	793,850	77,319	632,019	955,682	20
					310

F = 43.20; Prob>F = 0.0000

Differences in total income from main employment are obviously highly significant across professions. There are no statistically significant differences in the income from the main employment by district (F = 1.03; Prob>F = 0.3814), nor by type of facility (F=1.17; Prob>F = 0.3225). However, the difference in mean income from main employment is significant by gender (p-value = 0.0054) with women earning less than men across cadres.

Overall totals show the difference in scale of overall income from main job for doctors, as well as the dominance of the salary element. Apart from additional funds from per diems, other sources constitute a small proportion of total public sector income (Figure 11).

Figure 11 Bar chart with breakdown of sources of primary income, by profession (n=310)

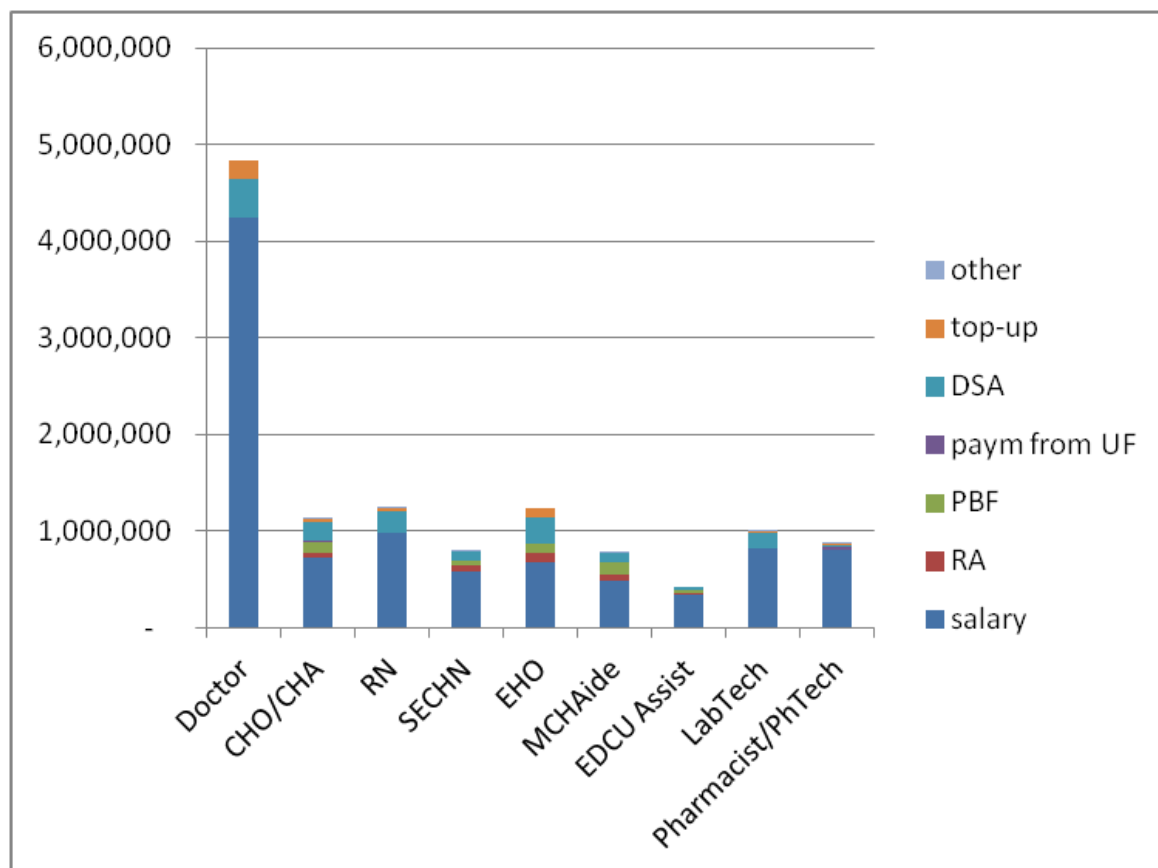


Table 66 Breakdown of sources of primary income, by profession (%)

	salary	RA	PBF	paym from UF	DSA	top-up	other	Total
Doctor	88%	0%	0%	0%	8%	4%	0%	100%
CHO/CHA	64%	3%	10%	2%	17%	2%	2%	100%
RN	79%	0%	0%	0%	18%	2%	0%	100%
SECHN	74%	7%	7%	0%	11%	1%	0%	100%
EHO	55%	7%	8%	0%	21%	8%	0%	100%
MCHAide	63%	8%	16%	0%	13%	0%	0%	100%
EDCU Assist	81%	0%	10%	0%	8%	0%	0%	100%
LabTech	82%	0%	1%	0%	15%	2%	0%	100%
Pharmacist/PhTech	92%	0%	0%	3%	3%	1%	1%	100%

Although the survey intended to examine how overall income has changed in the last three years, the few observations for previous income meant that we cannot analyse change meaningfully.

In an analysis of overall pay for the primary job by hours worked across the professions, doctors emerge as the most expensive (Table 67).

Table 67 Income from main job per hour worked, by profession (n=278)

	Mean	Std. Err.	[95% Conf Interval]		n
Doctor	20,245	5,374	7,537	32,954	8
CHO/CHA	4,215	310	3,585	4,845	34
RN	6,873	1,672	3,415	10,331	24
SECHN	3,993	304	3,390	4,597	96
EHO	5,768	880	3,851	7,685	13
MCHAide	3,572	443	2,679	4,465	43
EDCU Assist	1,842	157	1,497	2,188	12
LabTech	5,907	1,019	3,816	7,997	28
Pharmacist/PhTech	4,213	527	3,109	5,316	20
					278

F=14.16; Prob>F = 0.0000

Across the districts, however, differences in cost per hour were not significant (Table 68).

Table 68 Income from main job per hour worked by district (n=278)

	Mean	Std. Err.	[95% Conf Interval]		n
Kenema	4,881	593	3,703	6,060	87
Bonthe	4,413	449	3,511	5,315	49
Koinadougou	5,498	1,042	3,382	7,615	36
Western Area	4,859	544	3,781	5,937	106
					278

F=0.29; Prob>F = 0.8342

Pay per patient seen is even more differentiated, with a 30-fold difference between RNs and doctors in pay per patient (Table 69), compared to a four-fold difference in pay per hour. This suggests that RNs are seeing a higher volume of patients in their hours of work.

Table 69 Income from main job per patient seen by profession (n=177)

	Mean	Std. Err.	[95% Conf Interval]		n
Doctor	65,207	41,230	- 29,869	160,283	9
CHO/CHA	3,054	308	2,425	3,682	31
RN	2,969	880	979	4,958	10
SECHN	3,731	715	2,305	5,156	71
EHO	-				
MCHAide	2,138	200	1,734	2,543	43
EDCU Assist	-				
LabTech	1,656	454	582	2,730	8
Pharmacist/PhTech	6,624	5,269	- 8,004	21,252	5
					177

F=7.45; Prob>F = 0.0000

Across the districts, differences in pay per patient seen were not significant (F= 1.47; Prob>F = 0.2231).

6. Private practice

Health workers were asked about private practice, but only 6% reported doing any. There was significant variation across the professions, with the highest rates reported for pharmacists (45%), followed by doctors (18%) (Table 70).

Table 70 Private practice, by profession

CADRE	Private Practice		
	No	Yes	Total
Doctor	9	2	11
	81.82	18.18	100.00
CHO/CHA	37	4	41
	90.24	9.76	100.00
RN	24	1	25
	96.00	4.00	100.00
SECHN	97	3	100
	97.00	3.00	100.00
EnvironHO	14	0	14
	100.00	0.00	100.00
MCHAide	55	0	55
	100.00	0.00	100.00
EDCUAsst	16	0	16
	100.00	0.00	100.00
LabTech	28	0	28
	100.00	0.00	100.00
Pharmacist/PhTech	11	9	20
	55.00	45.00	100.00
Total	291	19	310
	93.87	6.13	100.00

Pearson chi2(8) = 65.5156 Pr = 0.000

As would be expected, there is also significant variation across the districts, with Western Area and Koinadugu reporting more private practice, which is almost entirely absent in Kenema and Bonthe. Men ($Pr = 0.005$) and those in tertiary facilities ($Pr = 0.015$) were also significantly more likely to report private practice.

Table 71 Private practice, by district

DISTRICT	PRIVATE PRACTICE		
	NO	YES	Total
Kenema	90 98.90%	1 1.10%	91 100.00%
Bonthe	50 100.00%	0 0.00%	50 100.00%
Koinadugu	53 88.33%	7 11.67%	60 100.00%

Western Area	98 89.91%	11 10.09%	109 100.00%
Total	291 93.87%	19 6.13%	310 100.00%

Pearson chi2(3) = 13.4396 Pr = 0.004

Those who did report private practice gave relatively high numbers of hours per week, ranging from 9.5 for the doctors to 42 for one nurse (Table 72).

Table 72 Hours worked in private practice (weekly), by profession (n=16)

CADRE	NUM of HOURS in PRIVATE PRACTICE / WEEK				
	Mean	min	Max	sd	n
Doctor	9.5	4	15	7.78	2
CHO/CHA	29	21	37	11.31	2
RN	42	42	42		1
SECHN	38.5	28	49	14.84	2
Pharmacist/Ph tech	15.44	2	35	9.95	9

F=3.95; Prob>F = 0.0318

Only 6 respondents reported a change in hours worked in private practice in the last 3 years (1 SECHN and 5 Pharmacist/Pharmacy technicians). 3 respondents stated that it had increased (1 SECHN and 2 Pharmacists), 2 said that it had decreased (Pharmacists) and 1 (Pharmacist) did not know. Only 2 participants answered the question about how much it had changed. An SECHN stated that it had increased by 28 hours per week, and one pharmacist said their hours had increased by 2 hours per week.

Private clinics and private pharmacies were the most common locations given for private practice (Table 73), and were most commonly owned by someone else (Table 74).

Table 73 Location of private practice

LOCATION OF PP	N	%
At my home	2	10.53%
Home of a colleague	2	10.53%
Private clinic	3	15.79%
Private Pharmacy	8	42.11%
Other (Lecturer)	1	5.26%
Don't know	3	15.79%
Total	19	100.00%

Table 74 Ownership of the private practice

OWNERSHIP OF PP	N	%
I own it	4	21.05

I share ownership	1	5.26
Someone else owns it	10	52.63
Don't know	4	21.05
Total	19	100.00

Only 13 out of 19 respondents disclosed their monthly income from private practice. No doctors disclosed this information. (Table 75).

Table 75 Private income received last month (min, max, mean) by profession (n=13)

CADRE	mean	Min	Max	Sd	n
Doctor					
CHO/CHA	400,000	200,000	600,000	282,843	2
RN	800,000	800,000	800,000		1
SECHN	350,000	300,000	400,000	70,711	2
Pharmacist/Ph tech	500,000	300,000	1,500,000	409,704	8

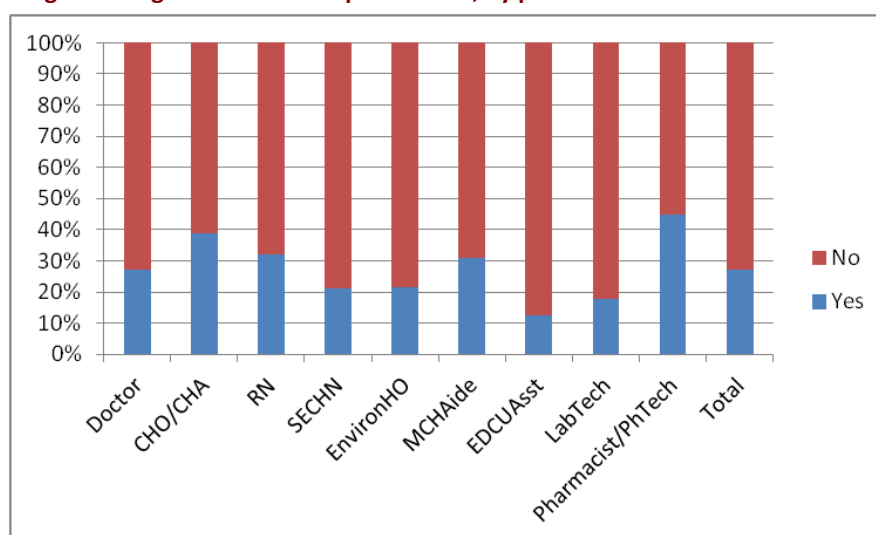
F=0.36;Prob>F = 0.7823

Out of 19, only 6 respondents reported a change in income earned from private practice in the last 3 years (1 doctor, 1 SECHN and 4 Pharmacists). Four respondents stated that it had increased (1 doctor, 1 SECHN and 2 pharmacists), 1 pharmacist said that it decreased and 1 pharmacist did not know. Only 3 responded to the question about how much it had changed. For the doctor it had increased by 7,000,000 Le.; for the SECHN by 100,000 Le.; and for the pharmacist by 200,000 Le.

7. Additional income

Of the 310 respondents, 84 (27%) stated that they do have some income-generating activities (IGA) outside of the health sector (Figure 12), with differences which are not statistically significant across the professions.

Figure 12 Income-generating activities in the past month, by profession



Pearson chi2(8) = 11.9520 Pr = 0.153

IGA were less common in Bonthe (Table 76). Across different places of work, the differences were not significant. 29% of women and 24% of men were engaged in other IGA, but the differences were not significant (Pr = 0.330).

Table 76 Income-generating activities in the past month, by district

DISTRICT	IGA		
	NO	YES	Total
Kenema	68 74.73%	23 25.27%	91 100.00%
Bonthe	40 80.00%	10 20.00%	50 100.00%
Koinadugu	33 55.00%	27 45.00%	60 100.00%
Western Area	85 77.98%	24 22.02%	109 100.00%
Total	226 72.90%	84 27.10%	310 100.00%

Pearson chi2(3) = 12.5860 Pr = 0.006

For the 53 who provided estimates of hours spent in other IGA, the range was from 3 hours per week as a mean for doctors to 12 per week for SECHNs (Table 77).

Table 77 Hours worked in other IG (weekly), by profession⁷ (n=53)

CADRE	mean	min	Max	Sd	n
Doctor	3	3	3		1
CHO/CHA	8.27	2	14	4.24	11
RN	4.25	0	8	3.86	4
SECHN	12.14	3	21	6.98	14
EnvironHO	7	7	7		1
MCHAide	6.6	0	14	4.24	10
EDCU Asst	7	2	12	7.07	2
Lab Tech	3.8	0	8	3.19	5
Pharmacist/Ph tech	10.2	2	21	7.56	5

F=1.86; Prob>F = 0.0910

Only 5 respondents reported a change in hours worked in IGA in the last 3 years. Five stated that it increased, and one that it decreased.

Trading and selling is the most common type of IGA reported by the group (65% of all IGA reported), followed by farming (29%). Lecturing is also an additional source of income for the doctors (Table 78).

Table 78 Frequency of different types of IGA (main categories), by profession

CADRE	TYPE OF IGA				Total
	trade/sale	Farming	lecturer	other/no response	
Doctor	0	2	1	0	3
%	0.00	66.67	33.33	0.00	100.00
CHO/CHA	8	6	1	1	16
%	50.00	37.50	6.25	6.25	100.00
RN	6	1	0	1	8
%	75.00	12.50	0.00	12.50	100.00
SECHN	19	2	0	0	21
%	90.48	9.52	0.00	0.00	100.00
EnvironHO	2	1	0	0	3
%	66.67	33.33	0.00	0.00	100.00
MCHAide	14	3	0	0	17
%	82.35	17.65	0.00	0.00	100.00
EDCUAsst	0	2	0	0	2
%	0.00	100.00	0.00	0.00	100.00
LabTech	3	2	0	0	5
%	60.00	40.00	0.00	0.00	100.00
Pharmacist/PhTech	3	5	0	1	9

⁷ more than 30h per week were considered outliers or mistakes and were not included in analysis.

%	33.33	55.56	0.00	11.11	100.00
Total	55	24	2	3	84
%	65.48	28.57	2.38	3.57	100.00

Significant differences were found in amounts of income earned through other (non-medical) channels, with the highest mean reported by doctors (Table 79).

Table 79 IGA income received last week (min, max, mean), by profession (n=57)

CADRE	AMOUNT EARNED FROM IGA				
	mean	Min	Max	Sd	n
Doctor	407,500	190,000	625,000	307,591	2
CHO/CHA	70,300	20,000	280,000	84,412	10
RN	171,429	50,000	350,000	118,523	7
SECHN	91,067	10,000	300,000	84,574	15
EnvironHO	50,000	50,000	50,000		1
MCHAide	28,462	10,000	75,000	19,081	13
EDCUAsst	250,000	250,000	250,000		1
LabTech	92,500	20,000	170,000	61,847	4
Pharmacist/PhTech	89,750	49,000	200,000	73,668	4

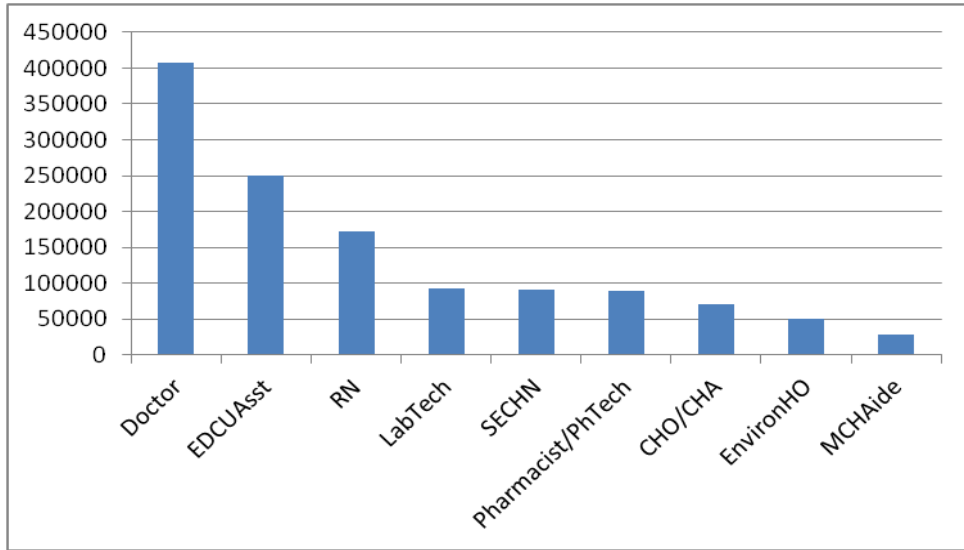
F=5.22; Prob>F = 0.0001

This should be a weekly income and there are some amounts that are surprisingly high. Different thresholds were identified for different cadres to decide which observations to omit from analysis.

- CHO/CHA: > 1,000,000 Le.
- SECHN: > 500,000 Le.
- MCHAides: > 100,000 Le.
- Pharmacists: > 1,000,000 Le.

Income generated from IGA per week shows a familiar gradient across the professions, though with the EDCU Assistants reporting relatively higher sums than, for example, nurses (Figure 13).

Figure 13 IGA income received last week (min, max, mean), by profession



8. Summary of overall income

A summary of income reported from all sources is given in Table 80 and There are no statistically significant differences in the income from the main employment by facility ($F = 1.73$; $\text{Prob}>F = 0.1599$). However, the difference is significant by district ($F=1.91$; $\text{Prob}>F = 0.0670$) with higher incomes in Koinadugu and Western Area, and by gender ($p\text{-value} = 0.0102$) with women earning less than men across cadres.

Figure 14. The scale of difference between doctors and other professions is highly significant, ranging from 471,583 as mean monthly income from all sources for EDCU assistants to 4,741,300 for doctors.

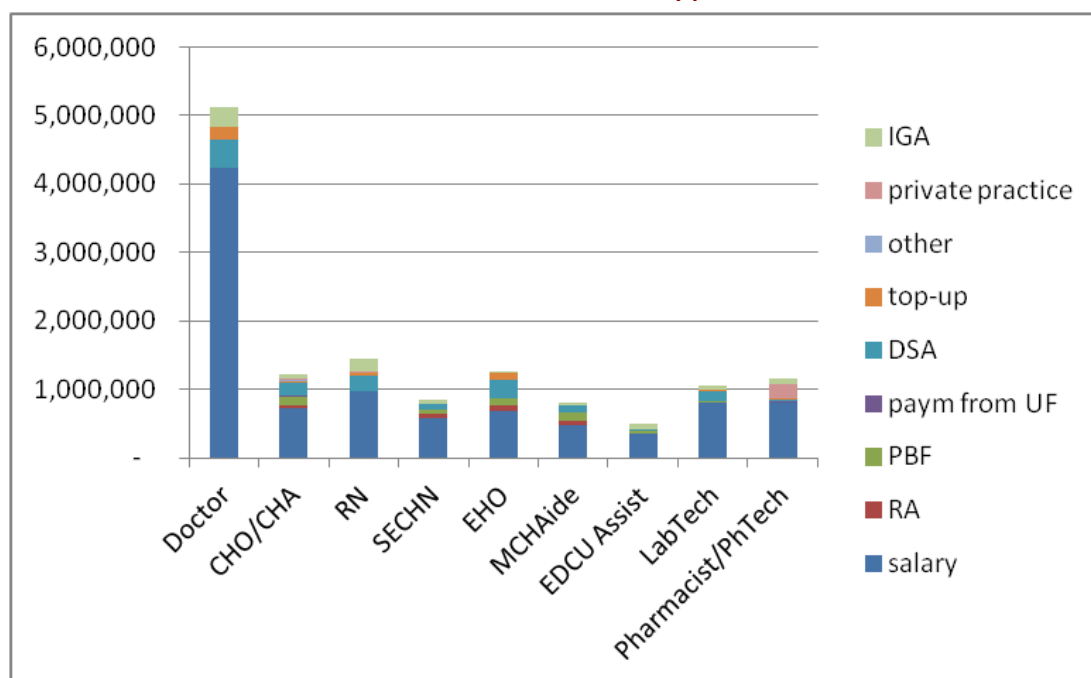
Table 80 Total income from all sources (public, private, additional IGA) last month – min, max, mean by profession (n=310)

	Mean	Std. Err.	[95% Conf Interval]		n
Doctor	4,741,300	967,606	2,585,340	6,897,260	11
CHO/CHA	1,121,163	64,528	990,746	1,251,579	41
RN	1,381,320	215,825	935,879	1,826,761	25
SECHN	767,328	34,588	698,699	835,958	100
EHO	1,106,833	151,720	779,062	1,434,605	14
MCHAide	751,179	37,873	675,248	827,109	55
EDCU Assist	471,583	59,915	343,878	599,288	16
LabTech	1,052,524	112,557	821,576	1,283,472	28
Pharmacist/PhTech	1,065,650	127,429	798,939	1,332,361	20
					310

$F=36.86$, $\text{Prob}>F = 0.0000$

There are no statistically significant differences in the income from the main employment by facility ($F = 1.73$; $\text{Prob}>F = 0.1599$). However, the difference is significant by district ($F=1.91$; $\text{Prob}>F = 0.0670$) with higher incomes in Koinadugu and Western Area, and by gender ($p\text{-value} = 0.0102$) with women earning less than men across cadres.

Figure 14 Bar chart with breakdown of total sources of income, by profession



Looking at the composition of overall income, salary is dominant for all groups. This is especially apparent for doctors, for whom it provides more than 80% of total income (Table 81). For EHOs, the proportion is 55%. Pharmacists derive an important proportion from private practice (around 18%), though this component may be underreported in general. Per diems for workshops provide between 2% of income for pharmacists, 21% for Environmental Health Officers and 12% of income across all groups. For the staff in PHUs, the PBF component contributes about 10% for CHOs, SECHNs, EHOs and MCH Aides. RAA is only reported by CHOs, SECHNs, EHOs and MCH Aides and is limited in amount (about 6% of total income for these cadres).

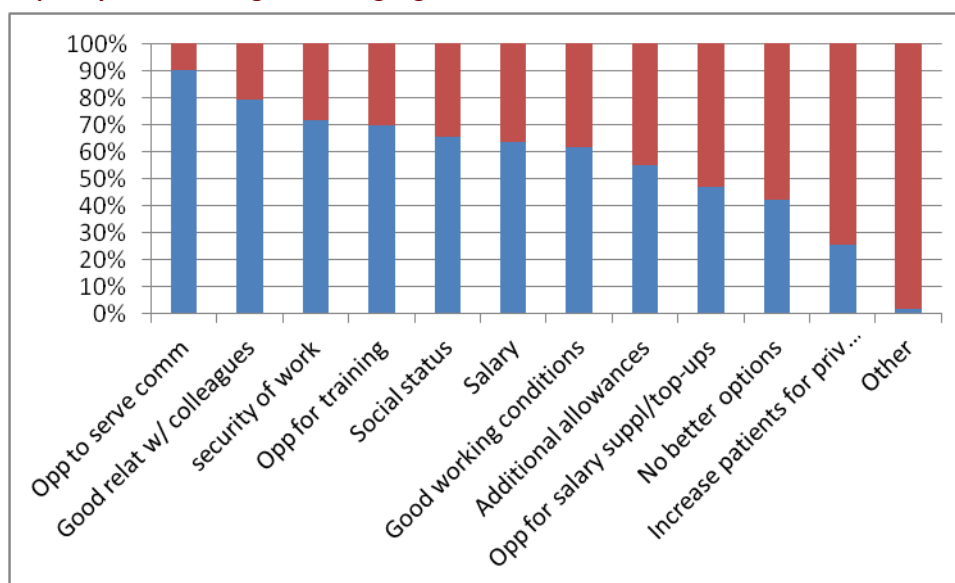
Table 81 Breakdown of sources of total income, by profession (%)

	salary	RA	PBF	paym from UF	DSA	top-up	other	private practice	IGA	Total
Doctor	83%	0%	0%	0%	8%	4%	0%	0%	6%	100%
CHO/CHA	60%	3%	9%	2%	15%	2%	1%	2%	6%	100%
RN	67%	0%	0%	0%	16%	2%	0%	2%	13%	100%
SECHN	69%	6%	6%	0%	10%	1%	0%	1%	7%	100%
EHO	55%	7%	8%	0%	21%	8%	0%	0%	1%	100%
MCHAide	61%	7%	15%	0%	13%	0%	0%	0%	3%	100%
EDCU Assist	71%	0%	9%	0%	7%	0%	0%	0%	13%	100%
LabTech	77%	0%	1%	0%	14%	2%	0%	0%	5%	100%
Pharmacist/PhTech	69%	0%	0%	3%	2%	0%	1%	18%	7%	100%

9. Motivation and perceptions

Participants were asked ‘what are the main factors that motivate you to stay in your job?’ Opportunities to serve the community were most frequently cited (90%), followed by good relationships with colleagues (79%), security of work (71%), opportunities for training (70%), social status (65%) and salaries (63%) (Figure 15).

Figure 15 Frequency of motivating factors highlighted



Note: this question was posed with a closed list of options, but no limit to how many could be chosen.

Significant differences are found across the professions in relation to the frequency of citation of factors (Table 82).

Table 82 Frequency of motivating factors highlighted (by profession)

	Salary	Addit. allow.	Good working conditions	Opp for training	Increase patients for priv pract	Social status	Security of work	Opp to serve comm	No better options	Good relat w/ colleagues	Opp for salary suppl/top-ups	Other	Total (n)
Doctor	7	8	7	8	4	7	8	9	7	9	6	1	11
	63.64	72.73	63.64	72.73	36.36	63.64	72.73	81.82	63.64	81.82	54.55	9.09	
CHO/CHA	24	20	24	25	9	23	31	36	13	24	17	0	41
	58.54	48.78	58.54	60.98	21.95	56.10	75.61	87.80	31.71	58.54	41.46	0.00	
RN	14	8	10	17	4	11	16	22	9	19	7	1	25
	56.00	32.00	40.00	68.00	16.00	44.00	64.00	88.00	36.00	76.00	28.00	4.00	
SECHN	68	57	68	69	33	71	77	90	46	86	52	3	100
	68.00	57.00	68.00	69.00	33.00	71.00	77.00	90.00	46.00	86.00	52.00	3.00	
EnvironHO	12	8	9	10	2	10	13	13	6	12	8	0	14

	85.71	57.14	64.29	71.43	14.29	71.43	92.86	92.86	42.86	85.71	57.14	0.00	
MCHAide	37	40	43	46	19	46	41	53	25	46	32	0	55
	67.27	72.73	78.18	83.64	34.55	83.64	74.55	96.36	45.45	83.64	58.18	0.00	
EDCUAsst	5	6	6	10	1	6	6	14	8	9	5	0	16
	31.25	37.50	37.50	62.50	6.25	37.50	37.50	87.50	50.00	56.25	31.25	0.00	
LabTech	18	7	8	15	1	15	11	24	6	23	6	0	28
	64.29	25.00	28.57	53.57	3.57	53.57	39.29	85.71	21.43	82.14	21.43	0.00	
Pharmacist/ PhTech	12	15	16	16	6	14	18	20	11	18	12	0	
	60.00	75.00	80.00	80.00	30.00	70.00	90.00	100.00	55.00	90.00	60.00	0.00	
Total	197	169	191	216	79	203	221	281	131	246	145	5	310
	63.55	54.52	61.61	69.68	25.48	65.48	71.29	90.65	42.26	79.35	46.77	1.61	

- Salary/pay: Pearson chi2(8) = 12.5346 Pr = 0.129
- Additional allowances: Pearson chi2(8) = 29.8610 Pr = 0.000
- Good working conditions: Pearson chi2(8) = 32.9887 Pr = 0.000
- Opportunities for training: Pearson chi2(8) = 11.5021 Pr = 0.175
- Help increase the number of patients for private work: Pearson chi2(8) = 18.8285 Pr = 0.016
- Social status: Pearson chi2(8) = 23.7851 Pr = 0.002
- Security of work: Pearson chi2(8) = 32.4523 Pr = 0.000
- Opportunity to serve the community: Pearson chi2(8) = 6.9115 Pr = 0.546
- No better options available elsewhere: Pearson chi2(8) = 11.8407 Pr = 0.158
- Good relations with colleagues: Pearson chi2(8) = 21.4450 Pr = 0.006
- Opportunities for salary supplementation and top-ups: Pearson chi2(8) = 19.0262 Pr = 0.015
- Other: Pearson chi2(8) = 8.8389 Pr = 0.356
-

When asked to rank them in order of importance (1-5, with five being the most important), salary emerges as the most highly ranked, followed by opportunities for training and additional allowances/opportunities to serve the community (Table 83).

Table 83 Ranking of motivating factors (score 1 to 5) [n=312]

	Mean	Std. Err	95% CI		Rank
Salary	2.324	.130	2.067	2.580	1
Opp for training	1.734	.105	1.527	1.941	2
Additional allowances	1.561	.102	1.360	1.762	3
Opp to serve comm	1.561	.112	1.340	1.782	3
Good working conditions	1.192	.090	1.014	1.370	5
Security of work	1.106	.085	.938	1.274	6
Good relat w/ colleagues	.949	.089	.773	1.124	7
Social status	.747	.070	.608	.886	8
Opp for salary suppl/top-ups	.570	.077	.420	.721	9
No better options	.535	.070	.397	.673	10
Other	.080	.034	.014	.146	11

Increase patients for priv pract	.074	.028	.019	.129	12
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By profession, when ranked, additional allowances came top for doctors and pharmacists, whereas salaries are first for most other groups (CHO/CHAs, SECHNs, EHOs, MCHAides, ECDU Assistants) (Table 84). RNs put opportunities for training as most important, while lab assistants put serving the community as their most highly ranked factor.

Table 84 Ranking of factors (score 1-5) (by profession) [mean and rank]

	Salary	Additional allowances	Good working conditions	Opp for training	Increase patients for priv pract	Social status	Security of work	Opp to serve comm	No better options	Good relat w/ colleagues	Opp for salary suppl/ top-ups	Other
Doctor	1.454	2.182	1.545	2.091	0	.273	1.364	.454	.909	1	.636	0
	4	1	3	2	11	10	5	9	7	6	8	11
CHO/CHA	2.366	1.366	1.097	1.682	.097	.512	1.390	1.756	.195	.707	.536	.219
	1	4	6	3	12	9	5	2	11	7	8	10
RN	1.48	.76	1.04	2.4	0	.52	1.4	2.24	.56	1.6	.28	0
	4	7	6	1	11	9	5	2	8	3	10	11
SECHN	2.77	1.47	1.36	2.09	.081	.89	1.07	1.2	.49	.8	.37	.06
	1	3	4	2	11	7	6	5	9	8	10	12
EnvironHO	2.928	1.571	1.071	1.286	.077	1	1.357	1.071	.643	.571	.643	0
	1	3	5	4	11	7	2	5	8	10	8	12
MCHAide	2.473	2.309	1.382	1.509	.018	.873	.854	1.436	.618	.673	1.036	.091
	1	2	5	3	12	7	8	4	10	9	6	11
EDCUAsst	1.187	1.062	.437	1	.25	.625	.75	1.187	.625	.75	.875	0
	1	3	10	4	11	8	6	1	8	6	5	12
LabTech	2.071	.536	.678	1.071	.178	.893	1	2.964	.607	2.071	.25	0
	2	9	7	4	11	6	5	1	8	2	10	12
Pharmacist/ PhTech	2.2	2.95	1.55	1.65	0	.4	1.1	1.7	.55	1.05	.9	.25
	2	1	5	4	12	10	6	3	9	7	8	11

Across the districts, variation was seen, with salary scoring highest in three districts. However, opportunity to serve the community highest in Kenema (Table 85). Across genders, differences were not significant.

Table 85 Ranking of factors (score 1-5) (by district) [mean and rank]

	Salary	Additional allowances	Good working conditions	Opp for training	Increase patients for priv pract	Social status	Security of work	Opp to serve comm	No better options	Good relat w/ colleagues	Opp for salary suppl/ top-ups	Other
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Kenema	.736	.341	.198	.648	0	.626	.890	2.538	.374	1.341	.098	0
	5	8	9	4	11	6	3	1	7	2	10	11
Bonthe	4.28	3.18	2.26	2.92	.14	.38	.64	.5	0	.18	.44	.08
	1	2	4	3	10	8	5	6	12	9	7	11
Koinadugu	1.967	1.65	.983	1.433	.15	.9	1.7	1.717	1.2	1.217	1.25	.083
	1	4	9	5	11	10	3	2	8	7	6	12
Western Area	2.991	1.807	1.670	2.293	.065	.927	1.165	1.138	.514	.844	.660	.147
	1	3	4	2	12	7	5	6	10	8	9	11

How life has changed since the war

Participants were asked how their life had changed since the war (or since they started working, if that was more recent). Answers were grouped into themes, as follows:

- Education (more education, more knowledge, training opportunities, scholarships, etc.)
- Family (able to feed their family, able to take care of their family, educate their children, family carer, etc.)
- Benefits to self (independence, peace of mind, improved life, confidence, respect, self-reliant, etc.)
- Community (serving the community, helping my people, saving lives, working for peace, etc.)
- Salary and living conditions (wealth, better salary, good accommodation, improved living standards)
- Working conditions (safe working environment, work life has improved, better diagnostic equipment, drug availability, better relationships with colleagues, decreased workload, etc.)
- Increased workload
- No change (no change, mostly the same, no significant change, work goes on etc)

Very few negative changes were reported – the main one being an increased workload, which was reported by 12.5%. The largest group (46%) reported benefits to themselves, followed by educational improvements (33%), and improvements to salary and living conditions (24%). 18% feel better able to care for their families. Relatively few (8%) think that working conditions have improved, while less than 2% report improvements in their ability to serve the community, and 6% report no change (Table 86).

Table 86 Summary of main phrases as to how life has changed since the war⁸

	n	%
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⁸ Note than some HWs may have mentioned more than one term in the open question, while others did not respond at all.

Benefits to self	143	45.83
Education	104	33.33
Salary and living conditions	75	24.04
Family	55	17.63
Workload increase	39	12.50
Working conditions	25	8.01
No change	20	6.41
Community	5	1.60

Across the professions, significant differences in responses can be noted (Table 87). Doctors, SRNs, SECHNs, EHOs and pharmacists particularly highlight personal benefits, while CHOs/CHAs and MCH Aides are more aware of educational changes, and EDCU assistants improvements to salary and living conditions.

Table 87 Summary of main phrases as to how life has changed since the war (by profession)

	Education	Family	Self	Community	Salary and living conditions	Working conditions	Workload	No change
Doctor	4	0	7	0	1	1	0	0
	36.36	0.00	63.64	0.00	9.09	9.09	0.00	0.00
CHO/CHA	15	3	11	1	10	3	10	2
	36.59	7.32	26.83	2.44	24.39	7.32	24.39	4.88
RN	12	2	12	0	7	0	3	3
	48.00	8.00	48.00	0.00	28.00	0.00	12.00	12.00
SECHN	30	14	64	0	22	5	6	5
	30.00	14.00	64.00	0.00	22.00	5.00	6.00	5.00
EnvironHO	2	7	7	1	2	2	0	1
	14.29	50.00	50.00	7.14	14.29	14.29	0.00	7.14
MCHAide	23	18	18	2	10	5	8	1
	41.82	32.73	32.73	3.64	18.18	9.09	14.55	1.82
EDCUAsst	5	4	3	0	2	2	3	3
	31.25	25.00	18.75	0.00	12.50	12.50	18.75	18.75
LabTech	6	5	7	1	13	5	8	4
	21.43	17.86	25.00	3.57	46.43	17.86	28.57	14.29
Pharmacist/PhTech	6	1	13	0	8	2	1	1
	30.00	5.00	65.00	0.00	40.00	10.00	5.00	5.00
Total	103	54	142	5	75	25	39	20
	33.23	17.42	45.81	1.61	24.19	8.06	12.58	6.45

- Education: Pearson $\chi^2(8) = 9.1583$ Pr = 0.329
- Family: Pearson $\chi^2(8) = 29.6616$ Pr = 0.000
- Self: Pearson $\chi^2(8) = 37.1977$ Pr = 0.000
- Community: Pearson $\chi^2(8) = 7.7898$ Pr = 0.454
- Salary and living conditions: Pearson $\chi^2(8) = 15.1273$ Pr = 0.057

- Working conditions: Pearson $\chi^2(8) = 8.4623$ Pr = 0.390
- Workload: Pearson $\chi^2(8) = 21.0442$ Pr = 0.000
- No change: Pearson $\chi^2(8) = 11.4455$ Pr = 0.178

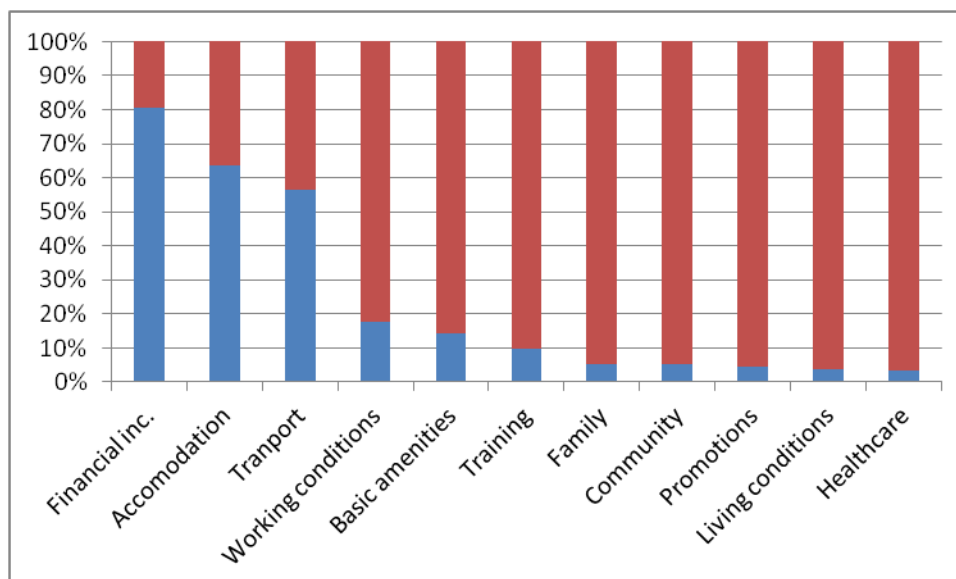
Factors favouring service in rural areas

When asked in an open way about what would motivate staff to serve in rural areas, the main themes which emerged were the following:

- Accommodation (housing, etc.)
- Financial incentives (salary increase, remote and/or risk allowance, incentives, etc.)
- Support to family (school fees, scholarships for children, family and children facilities, etc.)
- Communication support (airtime, communication allowances)
- Transport support (transport allowance, mobility, motorbike, vehicle, fuel, etc.)
- Access to basic amenities (water, electricity, toilet, food, basic facilities)
- Training (more education and training for the health workers)
- Improved living conditions (improvement of social opportunities, social amenities, relationship with communities, etc.)
- Promotions (linked to rural posting)
- Investment in working conditions (improvement of working conditions, relationship with colleagues, support and supervision, more staff, equipment and drug availability, etc.)
- Provision of healthcare for health workers

Of these, financial incentives was most frequently cited as important (80%), followed by better accommodation (64%), transport support (56%), improved working conditions (18%) and access to basic amenities (14%). All other factors are cited by less than 10% of the group (Figure 16).

Figure 16 Summary of main phrases as to what would motivate staff to serve in rural areas



(n=310)

Financial incentives are the top priority for each profession, with the exception of pharmacists (who mention accommodation more frequently). In general, the differences in themes across the professions are not significant.

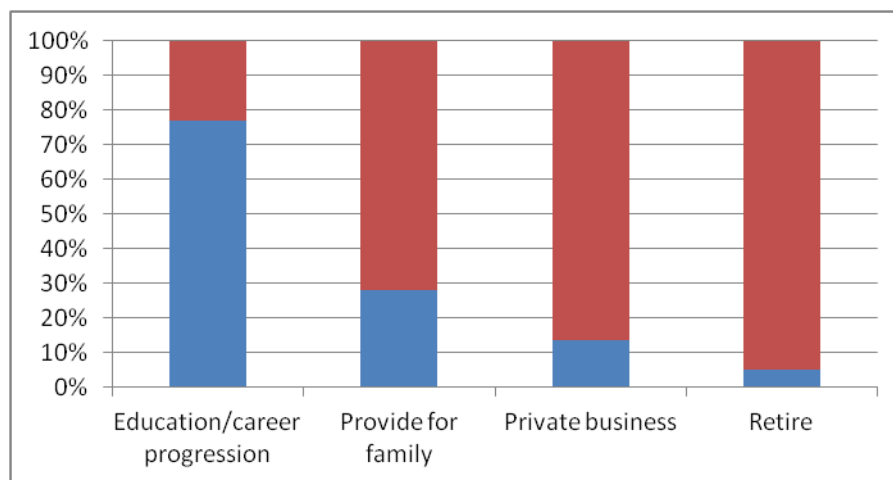
Future plans

Answers to open-ended questions about future plans were grouped thematically as follows:

- Education and career advancement through studies (further training and education, become a CHO, become a ward sister, etc.)
- Family (provide for family, take care of children, provide education for children, build a house, etc.)
- Retirement (retire, lead a peaceful life, etc.).
- Private business (start a private practice, start a business, get a better job, open a private pharmacy, work for NGO, etc.).

77% overall plan to develop their career or pursue their education, compared to 28% who are focussing on providing for their family, 13% who want to start a private business and 5% who are approaching retirement.

Figure 17: Summary of health worker plans for the future (n=384)



Discussion and conclusion

To our knowledge, this study is the first quantitative survey of its kind to be done in Sierra Leone investigating how the main public sector health professionals live and work, how they earn their living (including from private practice and additional income-generating activities) and seeking their views on changes to their working lives, what motivates them and what would motivate them to work in rural areas. The survey provides policy-relevant evidence for the MoHS and its partners, particularly as they face the challenge of rebuilding the sector post-Ebola.

The study has some limitations, as highlighted above. Some of the target groups were slightly smaller than planned, due to the difficulty of getting the time of busy professionals, especially doctors and staff in Western Area. In addition, some questions were harder to answer, and we have highlighted these or removed outliers in order to increase the robustness of analysis. Finally, and most importantly, all answers are based on self-reporting and there are some topics, like private practice, where under-reporting may have occurred.

The findings of the survey can be triangulated with some of the other research tools which ReBUILD has used, which included key informant interviews (Bertone & Witter, 2014), document review (Bertone et al., 2014), routine HRH data analysis (Wurie et al., 2014) and life history interviews with health workers (Wurie & Witter, 2014). In general, the findings cohere across the different tools. For example, in the life histories, health workers report that access to training opportunities is biased in favour of those in urban areas, which is supported by the survey findings that those in Western Area were more likely to have received university training and that doctors, RNs, CHOs and pharmacists were most likely to have received external training.

Some of the findings on allowances in this survey are also supported by the in-depth interviews, which make clear that the RAA and PBF are not received regularly and not well understood, although the principle is appreciated. Similarly, the factors which motivate staff to stay in post and which they require to retain them in rural areas are very similar across the two research components.

It is encouraging in general that, according to this survey, life for health workers has improved in general over the past few years (noting that the field work was done before the current Ebola crisis). The survey had hoped to isolate to some extent the effects of the free health care initiative, which was introduced in 2010, some 2.5 years before the survey was carried out. However, the questions about changing work and changing income had many missing responses, so we did not place much emphasis on them in the analysis. However, the overall questions about perceived change suggest that morale has improved for staff, which would be hoped for, given the HRH policy changes brought in during 2010-12 (Bertone et al. 2014a). Bringing together findings across different tools in relation to the

impact of the Free Health Care Initiative on health workers in Sierra Leone, we find substantial increases in number and pay (particularly for higher cadres), as well as a reported reduction in absenteeism and attrition, and an increase (at least for some areas, where data is available) in outputs per health worker (Witter et al. 2015 forthcoming).

It is also instructive to compare our findings with similar surveys which have been carried out in the region recently. A survey of health workers in Ghana in 2007, for example, found higher self-reported working hours, ranging from 56 for community nurses to 129 per week for Medical Assistants (Witter et al. 2007). By comparison, the mean in Sierra Leone was 54 across the group as a whole. This is closer to the estimates provided by a recent FEMHealth study in Burkina Faso, Benin, Mali and Morocco, which found average working hours per week of 50 for doctors, 42.5 for nurses and 45 for midwives (Witter et al. 2014a).

In terms of clients treated in a week, the range for the public sector respondents in Ghana was 88 as a mean for nurses, ranging up to 257 for doctors. In Sierra Leone, the range was 90-190, with a mean of 116 per week across the group. This suggests that despite the reported increase in workload, it remains within reasonable bounds, both in terms of time and clients. Workloads for the FEMHealth study countries were lower – an average of 35.5 clients seen by doctors per week, 33.5 for nurses, and 42 for midwives (Witter et al. 2014a). This may reflect low health service utilisation in many of these countries.

Pay per hour and per client also compares favourably for Sierra Leone, especially for doctors. In Ghana, doctor were paid USD 2.57 per hour, compared to USD 4.67 in Sierra Leone. For other staff, the difference are less clear (and of course many of the cadres cannot be directly compared as job descriptions vary by country, and the data in Ghana is from five years earlier). Per client, doctors in Ghana received 1.9 USD in 2007, whereas our figures suggest 15 USD per client for doctors in Sierra Leone. The impact of the pay increase (and lower reported client load per week) are evident here. Our findings are supported by a study in 2012, which concluded that ‘under the old regime, health workers were poorly paid relative to GNI per capita, in comparison to health workers in comparable countries. However, the new pay regime provides much improved relative remuneration to the point that Sierra Leonean doctors will now receive more than 45-fold the average GNI per capita. At the bottom of the salary scales [for lower level cadres such as SECHNs], they are still over six-fold average GNI per capita’ (McPake et al. 2012).

The composition of revenue sources for health workers is also interesting and feeds into the wider debate about the complex remuneration structure of health workers in sub-Saharan Africa (McCoy et al., 2008). Salary as a component of total pay is very high in Sierra Leone, compared to other countries recently surveyed, which presumably links to the salary uplift of 2010. In the Ghana study, salary constituted 46% of total income for midwives, ranging up to 76% for medical assistants. For the Sierra Leone sample, the range was 55% for EHOs,

up to 83% for doctors. Compared to Ghana, allowances are less significant and less money is received from user fees (presumably because of the recent policy changes), while other aspects such as per diems were relatively higher. All of these will affect behaviour in ways which merit further study.

The high salary component poses a risk to sustainability in the sector but also allows for better retention and accountability, if staff are well managed. Some recommendations relating to improving staff recruitment, retention and management are contained in the other ReBUILD reports.

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Appendix 1. Description of cadres and their roles

Cadre of health professional	Grade	Job description
Endemic disease control unit (EDCU)		District operations officer Responsible for vaccination and can sometimes man rural health facilities
Maternal and Child Aides (MCH aides)	2	Conducts safe motherhood services including ANC, deliveries, postnatal care, family planning and immunisation and participates in community outreach services. Mostly posted at MCH posts but also found in some Community Health Centres (CHC)
State enrolled community health nurse (SECHN)	4	Conducts routine ward functions, outreach services (e.g. immunisation, health education) and assists in the provision of safe motherhood services. Mostly posted in CHCs and in some tertiary hospitals
Laboratory Technician	5	Set up assays and analysis appropriately in addition to supervising and coordinating the work of junior laboratory personnel. Housekeeping of laboratory equipment and reagents Performs any other duty that may be assigned to him/her by superior officer
Pharmaacy Technician	6	Assist in drug supply management Maintain an inventory of drugs received and issued Assist in the distribution of drugs Monitor the work of store keepers and stores clerks in Hospital
State registered nurse(SRN)	6	Assists in ward administration and management including ward functions. Mostly found in hospitals and some CHCs in the Western Area
Staff Midwife	6	Conducts maternity services at PHU and community level, manages basic obstetric and neonatal emergencies and is involved in community sensitisation on basic obstetric and neonatal care and other health related issues. SRN qualified midwives are mostly found in hospitals and SECHNs with midwifery qualifications are found in CHCs and hospitals
Matron	8	Responsible for the management and supervision of the nursing/midwifery staff and other support staff. In addition, assists with the preparation of the annual work plan and budget and in the formulation of protocol and guideline in their area of operation. They also assist in the preparation of annual requisitions for the hospital and in the preparation of the human resource for health (HRH) plan for the health facility. Found working in tertiary hospitals
Community Health Officer (CHO)	6	In charge of primary health care units (PHUs), including managing drug stock, diagnosing and providing treatment for common diseases and referring medical, surgical and obstetrics emergencies appropriately. Mostly found working in CHOs and some regional hospitals
Senior Community Officer (CHO in charge)	7	In addition to the above, serves as a zonal supervisor of other CHOs at the PHU level and/or at district level as assigned by the District Medical Officer (DMO).
Community Health Assistant		Not included in the Scheme of service yet
Medical Officer/Senior	10	Serves as a medical officer-in-charge in a district hospital who sanctions and orders the admission of patients into the hospital and undertakes patient

Medical Officer		care and treatment. In addition, they deal with referral cases coming from the PHUs. Found in hospitals
House Officer	9	Assist in the training of medical students, nursing students and other trainees assigned to him/her; Undertake patient assessment, care including clerking and treatment; Undertake any other duties assigned by a Senior Officer.
Registrar	11	Work under the direct supervision of the Consultant; Assist in the training of medical students, nursing students and other trainees assigned to him/her; Supervise House Officers and other health workers; Undertake daily patient care and treatment;
Consultant	14	Train and supervise health professionals; Lead and promote post graduate training and research; Provide specialist advice in the treatment and care of patients; Promote, design and organize continuous medical education;
Environmental Health Officer	7	Sensitize and create awareness on environmental/sanitation practices Ensure that compounds and public places are inspected Carry out research on out-break of communicable diseases Any other duties that may be assigned by the Senior Environmental Officer
Specialist/ Senior Specialist	13	Carries out high-level procedures that require specialised skills and offer training to other medical and nursing staff and usually also serve as programme, unit or directorate heads. Found in hospitals

Scheme of Service, MoHS SL 2012

Annex 2. Questionnaire

ReBUILD health worker incentives survey, 2012

Respondent code.....	<input type="text"/>
(Interviewer number, followed by number according to sequence of interviewing)	<input type="text"/>
Region:	
01 <input type="checkbox"/>	West
02 <input type="checkbox"/>	South
03 <input type="checkbox"/>	North
04 <input type="checkbox"/>	East
District	
01 <input type="checkbox"/>	Kenema
02 <input type="checkbox"/>	Bonthe
03 <input type="checkbox"/>	Koinadugu
04 <input type="checkbox"/>	Western Area
Date of interview .....(DDMMYYYY).....	<input type="text"/>
Time interview started (HHMM)...(24 hour clock).....	<input type="text"/>

1. RESPONDENT DETAILS:

I would like to start by asking some general questions about you and your family:

1.1	Mark respondents' sex	01 <input type="checkbox"/> Male 02 <input type="checkbox"/> Female
1.2	What is your marital status?	01 <input type="checkbox"/> Single 02 <input type="checkbox"/> Co-habiting 03 <input type="checkbox"/> Married with children 04 <input type="checkbox"/> Married without children 05 <input type="checkbox"/> Divorced 06 <input type="checkbox"/> Widowed
1.3	How old are you?	[____] 99 = Don't Know
1.4	What is your district of origin?	[_____]
1.5	What is the last grade of formal education you completed?	01 <input type="checkbox"/> MCH Aide certificate 02 <input type="checkbox"/> Certificate in Nursing 03 <input type="checkbox"/> Diploma in Nursing 04 <input type="checkbox"/> Degree in Nursing 05 <input type="checkbox"/> Certificate in Midwifery (SRN) 06 <input type="checkbox"/> Certificate in Midwifery (SECHN) 07 <input type="checkbox"/> CHO Diploma 08 <input type="checkbox"/> CHA Certificate 09 <input type="checkbox"/> Certificate/Diploma in Laboratory Sciences 10 <input type="checkbox"/> Diploma in Pharmacy 11 <input type="checkbox"/> Degree in Pharmacy 12 <input type="checkbox"/> MBChB 13 <input type="checkbox"/> Postgraduate. Specify: [_____] 14 <input type="checkbox"/> Other. Specify:

		[_____]
--	--	-----------

1.6	How many people are there in your household? (include all those living together with one head and eating from the same pot)	[____]
1.7	For how many people is your income the main source of livelihood? (by that I mean how many people are dependent on your income)	[____] 99 = Don't Know
1.8	How much did your household spend on food consumption in the last month?	Le. _____ 99 = Don't Know
1.9	How much did your household spend on non-food consumption in the last month (clothing, electricity, domestic rents, education fees, health costs, leisure, etc.)?	Le. _____ 99 = Don't Know
1.10	How much did your household spend in total last month?	Le. _____ 99 = Don't Know
1.11	Did the household make any savings last month?	01 [] Yes 02 [] No If no, go to 1.13
1.12	If yes, how much was saved?	Le. _____ 99 = Don't Know
1.13	Did the household have to borrow money last month?	01 [] Yes 02 [] No If no, go to 1.15
1.14	If yes, how much was borrowed?	Le. _____ 99 = Don't Know
1.15	Does your household have any of the following (still functioning)?	01 [] electricity 02 [] television 03 [] radio 04 [] video 05 [] refrigerator 06 [] mobile phone 07 [] running water 08 [] WC/pit latrine 09 [] motorbike 10 [] car

2. Current employment and workload

2.1	Where do you work?	01 [] Tertiary hospital 02 [] Regional hospital 03 [] Secondary hospital 04 [] District hospital 05 [] Faith-based hospital 06 [] Community Health Centre (CHC) 07 [] Community Health Post (CHP) 08 [] Maternal&Child Health Post (MCHP) 09 [] Faith-based Clinic <p style="text-align: right;">[continue...]</p> 10 [] Other. Specify: [_____]
2.2	What is your professional title?	01 [] Medical Officer / Senior Medical Officer 02 [] House Officer

		03 <input type="checkbox"/> Registrar 04 <input type="checkbox"/> Specialist / Senior specialist 05 <input type="checkbox"/> Consultant 06 <input type="checkbox"/> CHO 07 <input type="checkbox"/> CHA 08 <input type="checkbox"/> Nurse (RN), Specialist Nurse/Public health Sister/Ward Sister/Officer 09 <input type="checkbox"/> Nurse (SECHN) 10 <input type="checkbox"/> Midwife (RN), Matron 11 <input type="checkbox"/> Midwife (SECHN) 12 <input type="checkbox"/> Environmental Health Officers 13 <input type="checkbox"/> MCH/Nurse/Dental nurse Aide 14 <input type="checkbox"/> EDCU Assistant 15 <input type="checkbox"/> Laboratory Technician 16 <input type="checkbox"/> Pharmacist / Pharmacy Technician 17 <input type="checkbox"/> Other (specify:) [_____]
2.3	How many years in total have you been working in the health care sector? (number of years)	[____]
2.4	How long have you been working in public employment? (number of years)	[____]
2.4b	How long have you been working in this facility? (number of years)	[____]
2.4c	Was your last post (main employment) in the public or in the non-public health sector (i.e., private, non-for-profit, faith-based)?	01 <input type="checkbox"/> public 02 <input type="checkbox"/> non-public
2.5	How many hours do you work <u>each week</u> on average in this facility (main employment)?	[____] 99 = Don't Know
2.5b	Has this changed over the past three years?	01 <input type="checkbox"/> Yes 02 <input type="checkbox"/> No 03 <input type="checkbox"/> Non applicable If no, go to 2.6
2.5c	If yes, how?	Increased by [____] Decreased by [____] (fill number of hours per month)
2.6	How many patients do you see on average in <u>a week</u> in this facility (main employment)?	[_____] [] Non applicable (Fill in number of patients per month)
2.6b	Has this changed over the past three years?	01 <input type="checkbox"/> Yes 02 <input type="checkbox"/> No 03 <input type="checkbox"/> Non applicable If no, go to next section
2.6c	If yes, how?	Increased by [____] Decreased by [____] (fill number of patients per month)

3. Training

3.1	Have you ever received training while in government employment or do you expect to receive in the future?	01 <input type="checkbox"/> Yes → go to 3.1b 02 <input type="checkbox"/> No → go to 3.2	
		Have received	Expect to receive in the future

3.1b	If yes, what type of training have you received or do you expect to receive in the future?	University (local course) University (external) In-service training (seminar/workshop/short course) Other (please specify):	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3.1c	If you attended an in-service training or workshop/seminar, etc. , who supported this activity? (<i>tick all applicable in the last three months</i>)		01 <input type="checkbox"/> MoHS 02 <input type="checkbox"/> World Vision 03 <input type="checkbox"/> MRC 04 <input type="checkbox"/> WHO 05 <input type="checkbox"/> UNICEF 06 <input type="checkbox"/> JICA 07 <input type="checkbox"/> Other (specify)	
3.2	(a) What do you think are the main benefits of training? (b) Please rank the top three benefits as you see them of training. <i>Rank alongside the top three reasons with the ranks 1, 2 and 3</i>	(Please mark all relevant answers) Greater knowledge Feel more confident Get higher status (from peers, parents and public) Get more patients and more referrals Can charge higher rates in my private practice Quicker promotion Improved/more job opportunities Increased chance of getting a job with an international organisation Opportunity to influence government policy Good per diems during training Other (please specify)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Rank

4. Income from main healthcare work

	Amount for last month	Do you receive this allowance regularly? [01 = yes] [02 = no]	Have these allowances changed over the previous three years? [01 = yes] [02 = no]	If so, how, and how much? [01 = new allowance: did not use to exist] [02 = increased] [03 = decreased] [99 = don't know] If [02] or [03], specify by how much Fill in Le. ...	Who pays for this remuneration? For example : GoSL, Local Council, health facility, program/project, NGO, donor, etc. (specify)	Are these allowances fixed amounts per month?, or do they depend on the amount of work that you do? [01 = fixed] [02 = depend on amount of work]	Do you have to carry out some particular activity/task to receive these allowances, or do they relate to your general tasks and activities? [01 = specific task] [02 = routine activities]
Monthly 'take home' salary from your public sector employment?	[__] N/A [_____]	[01] [02]	[01] [02]	[01] [02] [03] [99] If [02]:..... If [03] :.....	.....GoSL.....	[01]	[02]
Remote area allowance	[__] N/A [_____]	[01] [02]	[01] [02]	[01] [02] [03] [99] If [02]:..... If [03] :.....	.....	[01] [02]	[01] [02]

	Amount for last month	Do you receive this allowance regularly? [01 = yes] [02 = no]	Have these allowances changed over the previous three years? [01 = yes] [02 = no]	If so, how, and how much? [01 = new allowance: did not use to exist] [02 = increased] [03 = decreased] [99 = don't know] If [02] or [03], specify by how much Fill in Le. ...	Who pays for this remuneration? For example : GoSL, Local Council, health facility, program/project, NGO, donor, etc. (specify)	Are these allowances fixed amounts per month?, or do they depend on the amount of work that you do? [01 = fixed] [02 = depend on amount of work]	Do you have to carry out some particular activity/task to receive these allowances, or do they relate to your general tasks and activities? [01 = specific task] [02 = routine activities]
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Other salary top-ups or supplementations

For example, from program/projects, donors, NGOs (specify for each top up in the following lines)

.....	[__] N/A [_____]	[01] [02]	[01] [02]	[01] [02] [03] [99] If [02]:..... If [03] :.....	.....	[01] [02]	[01] [02]
.....	[_____]	[01] [02]	[01] [02]	[01] [02] [03] [99] If [02]:..... If [03] :.....	.....	[01] [02]	[01] [02]
.....	[_____]	[01] [02]	[01] [02]	[01] [02] [03] [99] If [02]:..... If [03] :.....	.....	[01] [02]	[01] [02]
.....	[_____]	[01] [02]	[01] [02]	[01] [02] [03] [99] If [02]:..... If [03] :.....	.....	[01] [02]	[01] [02]

	Amount for last month	Do you receive this allowance regularly? [01 = yes] [02 = no]	Have these allowances changed over the previous three years? [01 = yes] [02 = no]	If so, how, and how much? [01 = new allowance: did not use to exist] [02 = increased] [03 = decreased] [99 = don't know] If [02] or [03], specify by how much Fill in Le. ...	Who pays for this remuneration? For example : GoSL, Local Council, health facility, program/project, NGO, donor, etc. (specify)	Are these allowances fixed amounts per month?, or do they depend on the amount of work that you do? [01 = fixed] [02 = depend on amount of work]	Do you have to carry out some particular activity/task to receive these allowances, or do they relate to your general tasks and activities? [01 = specific task] [02 = routine activities]
Payments from user fees	[] N/A []	[01] [02]	[01] [02]	[01] [02] [03] [99] If [02]:..... If [03] :.....	.....health facility.....	[01] [02]	[01] [02]
Any other? For ex: income from a cash gift from patients							
.....	[] N/A []	[01] [02]	[01] [02]	[01] [02] [03] [99] If [02]:..... If [03] :.....	.....	
.....	[]	[01] [02]	[01] [02]	[01] [02] [03] [99] If [02]:..... If [03] :.....	.....	

4.4	Do you receive any of the following benefits in kind ?	01 <input type="checkbox"/> Yes 02 <input type="checkbox"/> No
		In kind (tick box) Cash amount per month (Le.)
a	Housing	<input type="checkbox"/>
b	Food	<input type="checkbox"/>
c	Health care	<input type="checkbox"/>
d	Car	<input type="checkbox"/>
e	Car loan	<input type="checkbox"/>
f	Fuel	<input type="checkbox"/>
g	Communication allowance (airtime)	<input type="checkbox"/>
h	Gifts from service users	<input type="checkbox"/>
i	Other (specify) :	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>

5. Private practice

5.1	Do you have a private income from working in a private practice? (outside your main job, if you are salaried)?	01 <input type="checkbox"/> Yes 02 <input type="checkbox"/> No
5.2	If yes, how many hours <u>each week</u> do you work on average in your private practice each week?	[____] 99 = Don't Know
5.2b	Has this changed over the past three years?	01 <input type="checkbox"/> Yes 02 <input type="checkbox"/> No If no, go to 5.3
5.2c	If yes, how?	Increased by [____] Decreased by [____] (fill number of hours)
5.3	Which of these options best describes where this private clinical practice is located?	01 <input type="checkbox"/> Same building as public employment 02 <input type="checkbox"/> At my home 03 <input type="checkbox"/> At the home of a colleague 04 <input type="checkbox"/> At a private clinic 05 <input type="checkbox"/> Go to the patient/client's home 06 <input type="checkbox"/> Other (specify) 99 <input type="checkbox"/> Don't know
5.4	Who owns the private practice?	01 <input type="checkbox"/> I own it 02 <input type="checkbox"/> I share ownership 03 <input type="checkbox"/> Someone else owns it 06 <input type="checkbox"/> Other (specify) 99 <input type="checkbox"/> Don't know [continue..]
5.5	How much money did you earn <u>last month</u> from this private practice?	Le. 99 = Don't Know
5.5b	Has this level of income changed over the past three years?	01 <input type="checkbox"/> Yes → go to 5.4c

		02 [] No 99 [] Don't know
5.5c	If so, how much?	Increased by [_____] Decreased by [_____] (fill number amount in Le) 99 = Don't Know

6. Additional income

6.1	Do you carry out any other activities to generate income or have other sources of income? (e.g. non-medical activities, such as trading or farming)?	01 [] Yes 02 [] No If no, go to next section
6.2	If so, how many hours do you work on average in your private income generation <u>each week</u> ?	[____] 99 = Don't Know
6.2b	Has this changed over the past three years?	01 [] Yes 02 [] No If no, go to 6.3
6.2c	If yes, how?	Increased by [____] Decreased by [____] (fill number of hours)
6.3	Please, list all your non-medical, income-generating activities, how much time you spend on those and how much you earned from them <u>last week</u> in the table below:	

Activity	Take home income <u>per week</u> (Le.)

7. Motivation and perceptions

7.1	<p>What are the main factors that motivate you to stay in your job (i.e., main employment in this facility)? (Please rank the first five in order of importance)</p>	<p><i>Tick the most important/relevant ones</i></p> <p><input type="checkbox"/> Salary / Pay</p> <p><input type="checkbox"/> Additional allowances</p> <p><input type="checkbox"/> Good working conditions</p> <p><input type="checkbox"/> Opportunities for training</p> <p><input type="checkbox"/> To help increase the number of patients for private work</p> <p>.....</p> <p><input type="checkbox"/> Social status</p> <p><input type="checkbox"/> Security of work</p> <p><input type="checkbox"/> Opportunity to serve the community</p> <p><input type="checkbox"/> No better options are available elsewhere</p> <p><input type="checkbox"/> Good relations with colleagues</p> <p><input type="checkbox"/> Opportunities for salary supplementation and top-ups</p> <p><input type="checkbox"/> Other (please specify):</p> <p>_____</p>
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7.2 How has your work life changed since the end of the rebel war, or since you started working?

Open question: note key phrases from respondent's answer

7.3 What factors are/would be important to motivate you to work in rural areas?

Mark: urban rural HW

7.4 What are your plans for the future?

END OF INTERVIEW

THANK RESPONDENT FOR HER/HIS TIME AND END INTERVIEW

Time interview ended(HHMM) ...(24 hour clock).....

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Interviewer name: _____

Interviewer Signature: _____

Checked by supervisor: _____