

Strengthening Human Resources for Health in Ethiopia

Baseline Survey Findings

March 2013

Authors:

Firew Ayalew, Awoke Misganaw, Tegbar Yigzaw, Sharon Kibwana, Damtew W/Mariam (Jhpiego), Shelemo Kachara (MSH)

This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the Cooperative Agreement AID-663-A-12-00008. The contents are the responsibility of Jhpiego and do not necessarily reflect the views of USAID or the United States Government.

© Jhpiego Corporation, 2012. All rights reserved.

Table of Contents

LIST OF TABLES	iv
LIST OF FIGURES	v
ACKNOWLEDGMENTS	vi
ABBREVIATIONS AND ACRONYMS	vii
EXECUTIVE SUMMARY	viii
Key Findings.....	viii
BACKGROUND	1
Human Resources for Health in Ethiopia.....	1
Strengthening Human Resources for Health Project.....	2
Scope and Significance of the Baseline Survey.....	2
Objectives.....	2
METHODOLOGY	4
Survey Design.....	4
Sampling Frame.....	4
Sample Size.....	5
Sample Allocation and Selection Process.....	5
Data Collection Instruments and Procedures.....	6
Recruitment and Training of Data Collectors.....	6
Data Entry and Analysis.....	7
Ethical Considerations.....	7
RESULTS	8
Response Rate.....	8
Human Resources for Health Management.....	8
Health Science Training Institutions.....	19
Limitations.....	33
Strengths.....	33
PROJECT IMPLICATIONS BY RESULT AREA	35
Result 1: Improved Human Resources for Health Management.....	35
Result 2: Increased Availability of Midwives, Anesthetists, HEWs and Other Essential Health Workers.....	36
Result 3: Improved Quality of Training of Health Workers.....	36
Result 4: Program Learning and Research Conducted.....	37
APPENDICES	

List of Tables

Table 1: Number of public health training institutions by region and type of program.....	4
Table 2. Number of ZHDs and WoHOs and allocation of sample WoHOs by region (strata)	6
Table 3: Number of organizations in study and response rate	8
Table 4: Distribution of studied health science training institutions by region	8
Table 5: Percentage of health management organizations with key elements of organizational structure, by type of organization	9
Table 6: Average HRM staffing levels, by type of organization	11
Table 7: Percentage of HRM leaders with educational qualifications, by type of organization	11
Table 8: Percentage of organizations with human resources assessment and planning	12
Table 9: Percentage of organizations with plans and policies to train, upgrade and deploy HEWs, by type of organization.....	15
Table 10: Percentage of training institutions offering different levels of training	20
Table 11: Percentage of teaching institutions by level of teacher-to-student ratio	23
Table 12: Percentage of teaching institutions with professional background in the subject they are teaching and teacher-to-student ratio	24
Table 13: Percentage of training institutions with designated classrooms, average number of seats per classroom and appropriately equipped classrooms, 2005 EC.....	28
Table 14: Percentage of training institutions with clinical skills learning labs, by characteristics of labs ...	29
Table 15: Percentage of health science training institutions with more than one computer lab and average number of computers	30

List of Figures

Figure 1: Reported key strategies included in HRM policy document	9
Figure 2: Training guidelines and staffing standards	10
Figure 3: Specifications included in HRM standards	10
Figure 4: Number of public sector health workers, by region in 2005 EC	12
Figure 5: Percentage distribution of public sector health workers, by cadre	13
Figure 6: Reasons why public sector health workers left their jobs in past 12 months	13
Figure 7: Attrition rate per 1,000 during the past 12 months, by region	14
Figure 8: Attrition rate per 1,000 during the past 12 months, by cadre.....	14
Figure 9: Staff-retention mechanisms	16
Figure 10: Performance planning, monitoring and evaluation	16
Figure 11: IST/continuing professional development (CPD).....	17
Figure 12: Type of training needed to build capacity of HRM staff	18
Figure 13: Reasons for not having a computerized HRIS	18
Figure 14: Percentage of health management by characteristics of HRIS	19
Figure 15: Universities and RHSCs offer Health science training programs	20
Figure 16: Postgraduate programs available at universities	21
Figure 17: Accelerated programs offered at universities and RHSCs	21
Figure 18: Alternative training programs offered by universities and RHSCs	22
Figure 19: Number of teaching staff, by qualification, in universities and RHSCs.....	22
Figure 20: Number of teaching staff, by gender.....	23
Figure 21: Number of midwifery- and anesthesia-trained teachers in institutions	24
Figure 22: Percentage of training institutions offering regular technical and teaching skills updates for midwifery instructors	25
Figure 23: Percentage of training institutions offering regular technical and teaching skills updates for anesthesia instructors	25
Figure 24: Percentage of training institutions offering regular technical and teaching skills updates for HEW instructors	26
Figure 25: Average number of graduates in 2004 EC	26
Figure 26: Average number of student intakes in 2005 EC	27
Figure 27: Percentage of training institutions with skills labs.....	28
Figure 28: Percentage of training institutions with clinical skills learning labs.....	29
Figure 29: Percentage of universities by student-to-computer ratio	30
Figure 30: Percentage of RHSCs by student-to-computer ratio	30
Figure 31: Transportation to clinical practice sites.....	31
Figure 32: Quality assurance unit and health science education development center	32
Figure 33: Clinical practice sites	32

Acknowledgments

The Strengthening Human Resources for Health (HRH) Project is a five-year (2012–2017) bilateral project funded by the U.S. Agency for International Development (USAID). The HRH Project would like to thank the Ethiopia Federal Ministry of Health, Regional Health Bureaus and Health Science Training Institutions that generously participated in the survey.

The HRH Project extends its gratitude to all the Jhpiego and Management Sciences for Health (MSH) staff who provided technical support for design, sampling, instrument development, data collection, data analysis and review. In particular, we thank Young Mi-Kim, Adrienne Kohls, Peter Johnson, Maya Tholandi and Jhpiego HRH Regional Education Officers and Regional Monitoring and Evaluation Officers.

Abbreviations and Acronyms

CPD	Continuing Professional Development
CSPRO	Census and Survey Processing System
DHRDA	Directorate of Human Resources Development and Administration
EAA	Ethiopian Association of Anesthetists
EC	Ethiopian Calendar
EMA	Ethiopian Midwives Association
FMOH	Federal Ministry of Health
GoE	Government of Ethiopia
HERQA	Higher Education Relevance and Quality Agency
HEW	Health Extension Worker
HIT	Health Information Technology
HRH	Human Resources for Health
HRIS	Human Resources Information System
HRM	Human Resources Management
HSDP	Health Sector Development Program
ICT	Information Communication Technology
ICU	Intensive Care Unit
IESO	Integrated Emergency Surgery and Obstetrics
IST	In-Service Training
MSH	Management Sciences for Health
PSE	Pre-Service Education
RHB	Regional Health Bureau
RHSC	Regional Health Science College
SNNPR	Southern Nations, Nationalities and Peoples' Region
SPSS	Statistical Package for Social Science
USAID	United States Agency for International Development
WoHO	Woreda Health Office
ZHD	Zonal Health Department

Executive Summary

The Strengthening Human Resources for Health (HRH) Project is a five-year (2012–2017) bilateral cooperative agreement, funded by U.S. Agency for International Development (USAID) Ethiopia, with an overall goal of improving the status of HRH in Ethiopia. The project is implemented by a consortium led by Jhpiego, an international nonprofit organization affiliated with The Johns Hopkins University. Implementing partners under the leadership of Jhpiego are Management Sciences for Health (MSH), Ethiopian Midwives Association (EMA), Ethiopian Association of Anesthetists (EAA) and the Open University.

A baseline survey was conducted in December 2012 with the following objectives:

- Assess existing human resources management (HRM) capacity and performance at different levels of health management organizations
- Assess the performance and capacity of the human resources information system (HRIS), including data management capacity at different levels of health management organizations
- Assess the performance and capacity of midwifery, anesthesia and health extension worker (HEW) pre-service training institutions

The survey employed a combination of census and stratified random sampling techniques to obtain representative information. A structured questionnaire on HRH planning, staffing standards and levels, attrition rates and HRM capacities was completed by respondents at the Federal Ministry of Health (FMOH), 11 Regional Health Bureaus (RHBs), 85 Zonal Health Departments (ZHDs) and 87 Woreda Health Offices (WoHOs). A second questionnaire on student intake, graduation rates, teaching staff and infrastructure was completed by respondents at 20 universities and 22 Regional Health Science Colleges (RHSCs) that offer training programs in midwifery, anesthesia and/or HEW. Data were entered and analyzed using CPro version 5 and SPSS version 20.

KEY FINDINGS

Result 1: Improved Human Resources for Health Management

An essential component of a functioning HRH management system is the availability of a dedicated human resources unit with HRM standards that directly supports health workers. The survey found that the FMOH and all RHBs had their own human resources unit and about half of ZHDs and WoHOs relied on an independent human resources unit in the civil service sector that serves health, education and other civil service sectors. Although the HRM standards specify the number of positions for its functions, a disparity between the number of HRM positions and the actual workload was found. For optimal functioning, the survey determined that on average nine additional HRM positions were needed at the FMOH, three at each RHB, two at each ZHD and two at each WoHO. Having up-to-date job descriptions for all HRM positions is essential to increase the effectiveness of HRM functions. However, the survey indicated that 36% of RHBs, 16% of ZHDs and 33% of WoHOs did not have up-to-date job descriptions.

The baseline survey also indicated that all individuals in leadership positions at RHBs had a bachelor's or master's degree, while only 58% of those at ZHDs and 15% of those at WoHOs had the same. In contrast, all leaders at the FMOH, 42% of leaders of ZHDs and 85% of leaders of WoHOs had a diploma and below. Across all health management organizations surveyed, most HRM leaders graduated from a program in management or HRM; fewer had clinical or medical training or studied the social sciences. The HRM staff were equally divided by gender at RHBs and ZHDs, but men occupied most of these positions at the FMOH (77%) and WoHOs (66%).

HRM capacity assessments are important for strengthening HRM through evidence-based planning, training and management. The survey showed that none of the health management organizations surveyed had conducted an HRM capacity assessment, although most organizations had a staff requirement plan for all health program activities in place.

At the time of the baseline, 106,991 public sector workers were actively serving in the catchment areas of the surveyed health management organizations. Of these workers, 80,764 (75%) were health professionals and 26,227 (25%) were non-health professionals/administrative and supportive staff. Among the health professionals were 28,994 HEWs, 4,709 midwives and 252 anesthetists; Intensive Care Unit (ICU) nurses, scrub nurses, radiologists, biomedical engineers and ambulance paramedics were each fewer than 100.

Approximately 3,455 health workers had left their job at a public health organization during the 12 months before the survey: 92% were voluntary resignations, 5% were transfers within the public health system, 1% were deaths and 1% were retirements. The overall attrition rate of health workers was 30 per 1,000. When further broken down by cadre, there was a vast difference in attrition rates among biomedical engineers, radiographers and integrated emergency surgery and obstetrics (IESO) personnel (more than 120 per 1,000) and among HEWs, midwives and anesthetists (60, 40 and 20 per 1,000, respectively). Attrition rates also varied by region, with some regions (e.g., Dire Dawa, Benshangul-Gumuz, Afar, Tigray, Somali) having rates of more than 40 per 1,000. The FMOH also reported an attrition rate of 70 per 1,000.

Most of the health management organizations surveyed had a complete staff performance planning, monitoring and evaluation system in place. However, the FMOH, all RHBs, 93% of ZHDs and 87% of WoHOs had never conducted a staff satisfaction survey—an important finding because a staff satisfaction survey helps to improve staff retention and performance. The type of staff-retention mechanisms varied with the surveyed health management organizations. Housing allowance, recognition and supervision, communication allowance, education upgrading (a long-term career development course) and short-term training were the most common staff-retention mechanisms. The FMOH and RHBs were more likely than lower-level health management organizations to employ staff-retention mechanisms.

The FMOH and less than one-third of all health management organizations reported that human resources unit staff members had received in-service training (IST) in HRM in 2004 EC (Ethiopian Calendar). The demand continues to be great: respondents at the FMOH, RHBs, ZHDs and WoHOs thought that they needed IST to build the capacity of HRM staff, including training on

leadership, data management, and monitoring and evaluation. Most RHBs (73%) had a system to link IST with health worker career development, but the FMOH did not report the availability of the system. Neither the FMOH nor any of the RHBs reported availability of an HRH forum.

Result 2: Increased Availability of Midwives, Anesthetists, HEWs and Other Essential Health Workers

The survey indicated that 20 universities offered a minimum of first-degree training and 22 RHSCs offered Level 1–5 training programs (certificate and diploma). All of the training institutions offered a midwifery training program, six universities and eight RHSCs offered anesthesia, 19 RHSCs offered upgrading HEWs and one university each offered radiography and biomedical engineering. Radiography and paramedics were provided in six and four RHSCs, respectively. However, none of the institutions surveyed reported training programs for ICU nurses and scrub nurses. Postgraduate programs in midwifery and anesthesia were available, respectively, in 10% and 5% of universities. None of the universities offered a postgraduate program in either HRH management or health economics/financing. The survey also indicated that 64% and 14% of RHSCs offered an accelerated program in midwifery and anesthesia, respectively. Accelerated programs in midwifery and IESO were rare at universities (5% each).

Alternative programs (e.g., summer, extension, distance) were more common at universities than RHSCs. Most universities (95%) and half of RHSCs offered extension programs that met on evenings and weekends, while 27% of RHSCs and 70% of universities offered summer programs. A total of 11,604 students graduated from health science training institutions in 2004 EC, including 3,416 university graduates and 8,188 RHSC graduates. On average, 34 midwifery students in the universities and 97 in the RHSCs were graduated. Average number of anesthesia graduates was almost equal in the universities and RHSCs (34 vs. 33). Average number of HEW graduates was 73 in the RHSCs, and the average number of radiography graduates in the universities and RHSCs was 26 and 21, respectively. No graduation was reported in scrub nurse, ICU nurse, biomedical engineering, paramedic and IESO training programs.

In 2005 EC, a total of 57,316 students were enrolled (40,168 in universities and 10,728 in RHSCs). The average intake of students in midwifery was 163 for universities and 217 for RHSCs; in anesthesia, 97 were for universities and 18 were for RHSCs; radiography was 88 for universities and 49 for RHSCs. Intake for upgrading HEWs and paramedics were 186 and 45 for RHSCs, respectively.

Result 3: Improved Quality of Health Worker Training

The survey indicated that health science training institutions employed more than 3,514 teaching staff in 2005 EC. Nearly three times as many worked at universities than at RHSCs (2,526 vs. 988). Teaching staff at universities generally had a higher level of education than teaching staff at RHSCs. Half of instructors at universities in 2005 EC had some kind of specialized or advanced training beyond a diploma or degree, compared with just 19% of instructors at RHSCs.

Less than one-quarter of teaching staff in training institutions was women. Women made up a slightly larger proportion of teaching staff at RHSCs (19%) than at universities (15%). Student-to-

teacher ratios in the universities and RHSCs were 16:1 and 17:1, respectively. Moreover, all surveyed institutions, except 9% of RHSCs and 15% of universities, met the Higher Education Relevance and Quality Agency (HERQA) minimum standard of one teacher per 30 students. The teacher-student ratio, specific to cadres and the anesthesia training program, met the HERQA standard except 12% of RHSCs, but 35% of universities and 59% of RHSCs in the midwifery training program did not meet the HERQA standard.

Regular updates on technical knowledge and skills and on teaching skills are important to maintain the quality of instruction at health science training institutions. Over half of training institutions did not offer these kinds of updates to staff responsible for training students in midwifery and anesthesia; more than 80% did not offer regular updates for HEW instructors.

Adequate infrastructure is required to ensure an effective learning environment. Of the universities with cadre-dedicated classrooms for health science training programs, 65% had classrooms designated only for midwifery, 50% had classrooms designated only for anesthesia and 5% had classrooms designated for shared use by health cadres. There were no more than five classrooms designated for any of these purposes at universities. In contrast, most RHSCs had designated classrooms for midwifery (86%), anesthesia (75%), HEWs (68%) and for shared use by health cadres (64%). Some RHSCs had six or more classrooms designated for midwifery (32%) and for shared use by all health cadres (41%). Less than 50% of universities and RHSCs met the HERQA standard of 50–60 seats per classroom.

The survey indicated that 60% of universities and 95% of RHSCs reported having skills laboratories. Among those reported skills labs, 83% of universities and 67% of RHSCs had clinical skills learning labs for shared use by all health cadres. Compared with universities, a larger proportion of RHSCs had clinical skills learning labs for midwifery (71% vs. 33%) and anesthesia (38% vs. 0). RHSCs were more likely than universities to have multiple labs for common use (65% vs. 20%) and for midwifery (54% vs. 0). No more than 33% had adequate models or instrument kits, and no more than half had appropriate equipment.

Student computer labs were available at most universities (65%) and RHSCs (73%). The overall student-to-computer ratios in the universities and RHSCs were 31 and 30, respectively. The survey reported that 54% of the universities had a student-to-computer ratio of above 30:1, and 39% of RHSCs had a student-to-computer ratio of above 30:1. In addition, the capacity of libraries in the training institutions tended to be smaller at RHSCs (161 students per library) than at universities (301 students per library). On the other hand, only 20% of universities and 14% of RHSCs offered adequate transportation to and from clinical practice sites.

The survey found out that, on average, universities had 6 clinical practicum sites and RHSCs had 15 sites that were used for all health programs. In addition, universities averaged 5 clinical practicum sites for midwifery and 5 for anesthesia, compared with an average of 8 for midwifery, 3 for anesthesia and 8 for HEW training at RHSCs. However, RHSCs were more likely than universities to have a memorandum of understanding with each clinical practicum site (73% vs. 42%).

The survey documented that 75% of universities, but only 32% of RHSCs, had an internal quality assurance system or unit. No RHSCs and only 3 universities had a health science education development center. None of those 3 education development centers had all of the necessary furniture, equipment and resource materials.

Universities and RHSCs reported critical shortages of models for midwifery, anesthesia and upgrading HEW programs, including family planning, cardiopulmonary resuscitation competencies, and antenatal, labor and delivery care. Critical shortages of instrument kits in the skills labs were reported, including delivery kits, manual vacuum aspiration (MVA) set, blood pressure apparatus, autoclave, IV administration stand and anesthesia machine. Moreover, both institutions reported critical shortages of supplies and equipment in the clinical practice sites.

Result 4: Program Learning and Research Conducted

Up-to-date HRIS is essential to generate credible evidence and measure the effectiveness of the HRM functions. The survey found that only the FMOH, 27% of regions (Tigray, SNNPR and Harari), 12% of ZHDs and 5% of WoHOs had reported partially functional computerized HRIS (i.e., availability of software, computer, focal person and some employee data entered, but unable to generate complete reports); the rest did not have an HRIS system in place. At the RHBs, lack of trained personnel and lack of computers were the leading reasons given for not having an HRIS. Among ZHDs and WoHOs, lack of software, lack of computers and unavailability of managerial guidance from higher officials were also important reasons.

Recommendations

1. To improve HRM capacity and performance at health management organizations:
 - Advocate for all human resources unit heads to be members of the HRM team
 - Advocate rewards and recognition to top-performing staff members
 - Advocate to increase staffing in the HRM unit
 - Advocate to allocate budget for the staff requirement plan
 - Support capacity-building activities on educational upgrading and short-term training in HRM for HRM leaders, including HRM/leadership, data management, program monitoring and evaluation, and information technology
 - Support RHBs, ZHDs and WoHOs to develop up-to-date job descriptions
 - Support programs to upgrade HEWs
2. To improve the performance and capacity of HRIS:
 - Advocate for and support revitalization of HRIS by providing training, software and computers
3. To improve the performance and capacity of midwifery, anesthesia and HEW pre-service training institutions:
 - Advocate for scale-up of distance and blended learning and summer and extension alternative

programs in midwifery, anesthesia, HEWs, radiography, biomedical engineering and paramedics to increasing the intake of those cadres in universities and RHSCs

- Support training institutions to strengthen existing programs in midwifery, anesthesia, HEW, radiography, biomedical engineering and paramedics
- Support institutions to open training programs for ICU nurses, scrub nurses and postgraduate programs in HRH management or health economics/financing
- Support training institutions to increase the number of academic staff in midwifery, radiography and HEW training programs at RHSCs and midwifery and radiography training programs at universities
- Provide support for technical knowledge updates and effective teaching skills to improve quality of education for instructors, skills lab assistants and preceptors
- Advocate training institutions to increase number of clinical skills learning labs and practicum sites
- Support critical shortages of training institutions, such as teaching and reference guidelines; books and journals for libraries; models, instrument kits and equipment for skills labs; and transportation to and from clinical practice sites for students in universities and RHSCs
- Advocate and support training institutions to establish educational development centers and internal quality assurance

Background

HUMAN RESOURCES FOR HEALTH IN ETHIOPIA

Ethiopia faces a high burden of morbidity and mortality, largely from communicable diseases, nutritional disorders and poor maternal and child health outcomes. The maternal mortality rate (676 per 100,000 live births) and the under-five mortality rate (88 per 1,000 live births) are unacceptably high, and only 10% of mothers deliver with the assistance of a skilled birth attendant.¹ Access to health care with skilled health providers is limited, necessitating an increase in the production and retention of qualified and competent health professionals to meet the needs of a largely rural population. Several critical factors affect the current human resources for health (HRH) system, including: poor quality of pre-service education (PSE) and in-service training (IST), rapid turnover of skilled health care providers, inequitable distribution of the health workforce, underdeveloped regulatory capacity to sustain the quality of the health workforce, and ineffective management of HRH systems.

Findings from the 2012 Rapid Situational Assessment of Human Resources for Health in Ethiopia² suggest that there is a critical shortage of midwives and anesthetists in most regions. Unmet need for midwives stands at 63% overall (or 4,040 individuals). However, there are regional variations—the greatest unmet need for midwives was observed in Amhara (84%). For anesthetists, overall unmet need was 44% (or 146 individuals), but it is much higher in certain regions, such as Gambela (93%) and Somali (89%). Data on these cadres are not available for several regions.

The HRH Assessment also revealed a weak human resources management (HRM) structure with sub-optimum staffing at all levels of the health system. Lack of systems and institutional arrangements for training and HRM capacity development were cited as an impediment to effective HRM and development in the country. Although the Federal Ministry of Health (FMOH) has successfully trained and deployed more than 34,000 health extension workers (HEWs), the annual attrition rate is approximately 5%. Some regions still have a high unmet need for HEWs, including Somali (34%) and Tigray (19%).

According to the HRH Assessment, inconsistencies in and lack of availability of HRH data are evident at the FMOH and Regional Health Bureaus (RHBs). The newly deployed human resources information system (HRIS) is not fully functional and requires additional strengthening and expansion to all levels of the health system. Of particular importance is having structure and staff dedicated to HRIS and providing training in human resources data collection, processing, data analysis and data for management decision-making.

Efforts have been made to address the significant challenges related to HRH in Ethiopia. The Health Sector Development Program (HSDP) of the Government of Ethiopia (GoE) is in its fourth phase (HSDP IV). The three previous phases of the HSDP resulted in an increased number of health care facilities within the three-tier health care system, ranging from specialized urban hospitals to satellite

¹ Central Statistical Agency [Ethiopia] and ICF International. 2012. Ethiopia Demographic and Health Survey 2011. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Agency and ICF International.

² Jhpiego. 2012. Human Resources for Health: Rapid Situational Assessment of Prioritized Geographic Areas.

rural health posts. Efforts to date have included a rapid scale-up of HEWs, increased attention to the production of midwives and anesthetists, accelerated training of health officers and initiation of a master's-level program in integrated emergency surgery and obstetrics (IESO) for health officers.

STRENGTHENING HUMAN RESOURCES FOR HEALTH PROJECT

The U.S. Agency for International Development's (USAID's) Strengthening Human Resources for Health (HRH) Project is a five-year (2012–2017) bilateral cooperative agreement with an overall goal of improving the status of HRH in Ethiopia. The project is implemented by a consortium led by Jhpiego, an international nonprofit health organization affiliated with The Johns Hopkins University. Implementing partners under the leadership of Jhpiego are Management Sciences for Health (MSH), Ethiopian Midwives Association (EMA), Ethiopian Association of Anesthetists (EAA) and the Open University. These implementing partners will build local capacity for development of sustained systems for managing HRH; improving and monitoring the quality of education, deployment and retention; continuing professional development of health care providers; and generating evidence to inform HRH policies and practices.

Project efforts will build upon previous work and processes and will include activities organized according to the following key results:

- Result 1: Improved Human Resources for Health (HRH) Management
- Result 2: Increased Availability of Midwives, Anesthetists, HEWs and Other Essential Health Workers
- Result 3: Improved Quality of Training of Health Workers
- Result 4: Program Learning and Research Conducted

SCOPE AND SIGNIFICANCE OF THE BASELINE SURVEY

The baseline survey targeted the FMOH, RHBs, Zonal Health Departments (ZHDs) and Woreda Health Offices (WoHOs), as well as universities and Regional Health Science Colleges (RHSCs) that offer training programs for midwifery, anesthesia and HEW students. The survey focused on HRH Project intervention areas, including: leadership and HRH management, organizational structure, staffing norms and levels, incentive mechanisms, staff retention, staff performance management system, health workforce attrition, HRIS, supportive supervision systems, adequacy of teaching staff, student enrollment, graduation rates and educational infrastructure.

The purpose of the survey was to establish reference points or benchmarks for key indicators of the four HRH intermediate results listed above. It determined baseline performance levels, which will be compared with performance during mid-term and end-line program evaluations. Findings from the baseline will also be used to inform program design and implementation.

OBJECTIVES

The general objective was to assess the current capacity and performance of: 1) HRM systems at national, regional and sub-regional levels, and 2) pre-service training institutions for midwifery, anesthesia and HEWs.

Specific objectives were:

1. To assess existing HRM capacity and performance at different levels of health management organizations
2. To assess the performance and capacity of the HRIS, including data management capacity at different levels of health management organizations
3. To assess the performance and capacity of midwifery, anesthesia and HEW pre-service training institutions

Methodology

SURVEY DESIGN

This baseline survey employed a combination of census and stratified random sampling techniques to obtain representative information. The FMOH, all RHBs, all ZHDs and all midwifery, anesthesia and HEW training institutions were enumerated because their numbers are small. However, there are a large number of WoHOs, which required sampling of the respective population. The survey considered regions as strata to reduce variability and survey costs.

SAMPLING FRAME

The sampling frame is the complete list of units from which a sample is drawn, where all units from the sampling frame have an equal probability of being selected to participate in the survey. For this purpose, lists of health science training institutions were gathered in September 2012 from all regions. A total of 56 government-owned health science training universities and RHSCs were identified (31 universities and 25 RHSCs). Of these, 20 universities and 22 RHSCs were identified as offering midwifery, anesthesia or HEW training programs along with training in other fields, and were therefore eligible for this survey. The complete list of institutions was stratified by region, as shown in **Table 1**.

According to the 2012 National Statistical Abstract,³ there were 85 zonal administrations and 831 Woreda administrations in Ethiopia. While all 85 ZHDs were included in the survey, 99 Woreda health desk offices in the Addis Ababa City Administration were excluded because they only provide supervision to urban HEWs and sanitation activities—leaving a total of 732 WoHOs, which were included in the survey.

Table 1. Number of public health training institutions by region and type of program

REGION	ONLY MIDWIFERY	MIDWIFERY AND ANESTHESIA	MIDWIFERY AND HEWS	MIDWIFERY, ANESTHESIA AND HEWS	TOTAL
Tigray	1	1	1	1	4
Afar	1	0	0	0	1
Amhara	3	1	2	4	10
Oromia	2	2	0	5	9
Somali	3	0	0	0	3
SNNPR	3	1	3	2	9
Benshangul-Gumuz	0	0	1	0	1
Gambela	0	0	0	0	0
Harari	1	0	1	0	2
Dire Dawa	0	0	0	0	0
Addis Ababa	2	1	0	0	3
Total	16	6	8	12	42

³ Central Statistical Agency of Ethiopia. 2012. National Statistical Abstract.

SAMPLE SIZE

An adequate sample size was determined to estimate the population proportion with optimum precision using a mix of total enumeration and representative sampling techniques. The sampling procedures are described below.

- Census: A total of 42 midwifery, anesthesia and HEW training institutions, the FMOH, 11 RHBs and 85 ZHDs in the list frames were included in the survey sample, with 100% probability of inclusion.
- Sampling: A representative sample of WoHOs was determined to yield estimates of population percentages of the survey attributes.

Since similar studies were not available at the time to obtain reference values, the survey used assumptions to calculate sample size: proportion of 0.5 to render the largest sample size and variability, margin of error plus or minus 10 percentage points and 95% level of confidence. The following sample size formula was applied⁴ to determine the number of sample WoHOs:

$$n = \frac{Z^2 pq}{d^2}$$

Where n is the sample size, p is the anticipated proportion of organizations with the attribute of interest (=0.5), q is equal to $1-p$, d is margin of error/precision (=10%), and Z is 95% level of confidence (=1.96 of the normal deviate).

Using this formula, the sample size was determined to be 96 WoHOs.

Because of the ratio of the above sample size to total size ($n/N=96/732>5\%$), an adjusted sample size was calculated using the following statistical equation:

$$n' = \frac{NZ^2P(1-P)}{d^2(N-1) + Z^2P(1-P)}$$

N is the total size (total number of WoHOs). This formula yielded a sample of 87 WoHOs.

SAMPLE ALLOCATION AND SELECTION PROCESS

As shown in **Table 2**, the number of Woredas varies widely among strata (regions), ranging from one Woreda in Dire Dawa and Harari to 278 Woredas in Oromia. As a result, the Oromia region would have comprised the largest proportion of the total sample, while Dire Dawa and Harari regions would have received the smallest sample (near to zero), yielding inefficient estimators. Power or square-root allocation technique was used to reallocate the distribution of the smallest and largest ultimate sampling units across strata in order to improve precision. The survey used a sample selection procedure of probability proportional to size, in which the probability of selection for sampling unit is directly proportional to measure of size. Since a list of health workers by WoHO was not available, a proxy measure of size was used, which was the number of people served by WoHOs.

⁴ Naing L et al. 2006. Practical issues in calculating the sample size for prevalence studies. *Archives of Orofacial Sciences*, 1: 9–14.

Table 2. Number of ZHDs and WoHOs and allocation of sample WoHOs by region (strata)

REGION (STRATA)	TOTAL NUMBER OF ZHDS	TOTAL NUMBER OF WOHOs	NUMBER OF WOHOs ALLOCATED TO SAMPLE
Tigray	5	48	8
Afar	5	30	7
Amhara	11	139	14
Oromia	20	278	20
Somali	9	53	9
Benshangul-Gumuz	5	22	6
SNNPR	14	145	15
Gambela	4	13	4
Harari	1	2	2
Dire Dawa	1	2	2
Addis Ababa	10	0	0
Total	85	732	87

DATA COLLECTION INSTRUMENTS AND PROCEDURES

Two structured questionnaires were used to collect quantitative data (**Appendix D**). The questionnaires included closed and open-ended questions on educational and HRH management practices. Both questionnaires were developed in English and translated into the Amharic language.

The Questionnaire for Management and Service Delivery Levels was administered at the FMOH, RHBs, ZHDs and WoHOs to gather information on HRH planning, staffing standards and current staffing levels for management and service delivery functions, attrition rates, HRM capacities and related matters. The Questionnaire for Health Training Institutions was designed to obtain information on background characteristics, annual student intake, graduation rates, number and qualifications of teaching staff, and infrastructure at health training institutions.

They were administered during face-to-face interviews with heads of health training institutions, the Directorate of Human Resources Development and Administration (DHRDA) at the FMOH, and human resources support processes at RHBs, ZHDs and WoHOs. Data were collected from December 5–19, 2012.

RECRUITMENT AND TRAINING OF DATA COLLECTORS

HRH Project staff served as data collectors. They attended three days of extensive training to ensure standardization of data collection procedures. Both questionnaires were piloted at the end of the training, which focused on the purpose of the survey, content of the questionnaires, data collection approaches, respondent selection, ethical issues, data completeness and accuracy checks. A total of 23 data collectors were deployed to conduct the survey. Each data collector visited at least two training institutions or health management organizations per day. Two supervisors from the HRH team at the country office were deployed to check data consistency, completeness, skip patterns and missing values during the data collection process.

DATA ENTRY AND ANALYSIS

Data clerks were temporarily hired at the Jhpiego country office to check data consistency, completeness, skip patterns and missing values and to categorize responses to open-ended questions. Data were entered into CSPro version 5 and exported to SPSS version 20 for further analysis and were double-entered and finalized within 10 working days (December 24, 2012–January 10, 2013). Then data cleaning was done using SPSS version 20 to detect outliers and inconsistent variables. After which, average percentages and totals were calculated. Different approaches were used to estimate the total number of health workers actively working and resigning from public sectors, as follows:

- Amhara, SNNPR and Addis Ababa did not report regional-level data; estimation was made from ZHDs/sub-city-level data.
- Afar did not report neither regional nor zonal-level data; estimation was made from weighted sample WoHO-level data.
- For Tigray RHB, HEWs were estimated from weighted sample WoHO-level data because the region reported incomplete data.

ETHICAL CONSIDERATIONS

Survey data did not contain personal identifiers; rather, it gathered information on organizational capacity and performance to determine the baseline status and identify the needs of organizations that will receive capacity-building support from the HRH Project. Letters of cooperation were obtained from the FMOH and the RHBs to acquire permission for the survey.

Results

RESPONSE RATE

The response rate for this survey was high (**Table 3**). Representatives from the FMOH and all RHBs and ZHDs responded. Questionnaires were also completed at 80 of the 87 WoHOs in the survey sample, yielding a response rate of 93%. All of the health training institutions (**Table 4**), including 20 universities and 22 RHSCs, responded to the survey.

Table 3. Number of organizations in study and response rate

ORGANIZATION	NUMBER PLANNED	NUMBER IN STUDY	RESPONSE RATE
FMOH	1	1	100%
RHBs	11	11	100%
ZHDs	72	72	100%
WoHOs	87	80	93%

Table 4. Distribution of studied health science training institutions by region

REGIONS	NUMBER OF UNIVERSITIES	NUMBER OF RHSCS	TOTAL
Tigray	2	2	4
Afar	1	1	2
Amhara	5	5	10
Oromia	4	5	9
Somali	1	2	3
B/Gumuz	0	1	1
SNNP	5	4	9
Gambela*	0	0	0
Harari	1	1	2
Dire Dawa*	0	0	0
Addis Ababa	1	1	2
Total	20	22	42

*Note: No university or RHSC providing midwifery, anesthesia or HEWs upgrading.

HUMAN RESOURCES FOR HEALTH MANAGEMENT

Organizational Structure

The survey sought information on the health management organizational structure. **Table 5** summarizes findings related to the organizational structure. While the FMOH has an organogram, over half of RHBs (55%) and ZHDs (54%) had an organizational chart. WoHOs (69%) were more likely to have an organogram than either RHBs or ZHDs. Notably, respondents at 9% of RHBs did not know whether their organization had an organogram (**Appendix Table A1**).

The FMOH and all RHBs had their own human resources unit, as did about half of ZHDs and WoHOs (51% and 49%, respectively). The remainder of ZHDs and WoHOs pooled the HRM function, that is, they relied on an independent human resources unit in the civil service sector.

The heads of the HRM unit at all RHBs and at a large majority of ZHDs (81%) and WoHOs (95%) were also members of the organization’s management team.

Table 5. Percentage of health management organizations with key elements of organizational structure, by type of organization

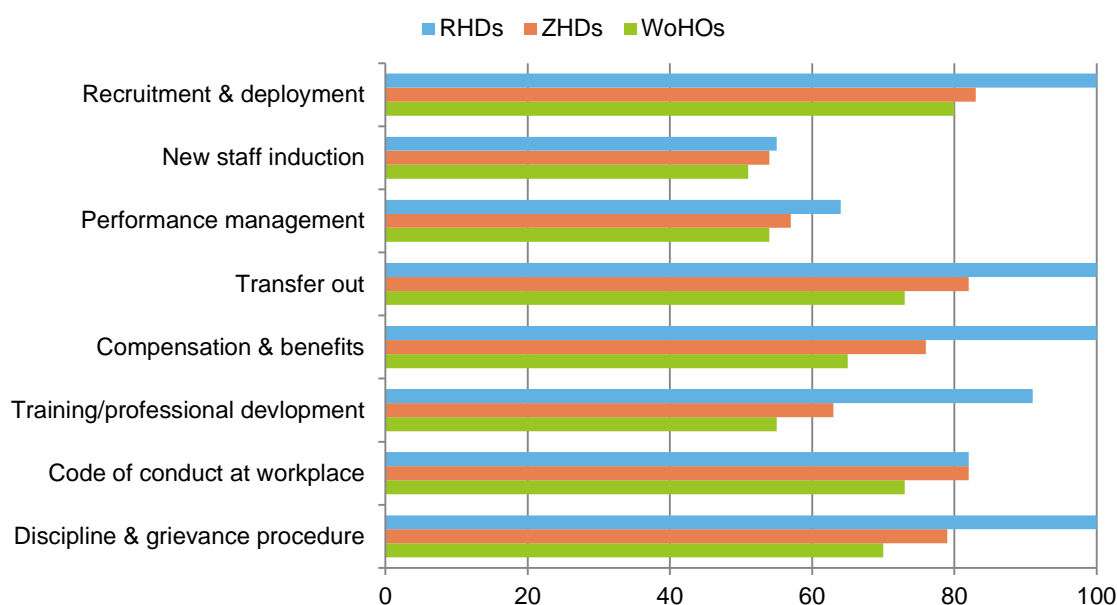
CHARACTERISTICS	FMOH (N=1)	RHBS (N=11)	ZHDS (N=72)	WOHOS (N=80)
Organogram present	100	55	54	69
HRM unit:				
• Exists in organization	100	100	51	49
• Function pooled to civil service office	0	0	49	51
Among organizations with their own HRM unit:	(N=1)	(N=11)	(N=37)	(N=39)
• Head is member of management team	0	100	81	95

Human Resources Management Policy, Standards and Capacity

All organizations had a HRM policy and procedure document available, with the exception of 17% of ZHDs and 15% of WoHOs (**Appendix Table A2**). However, many organizations—including 9% of RHBs, 21% of ZHDs and 39% of WoHOs—shared a common document with other organizations in the civil service.

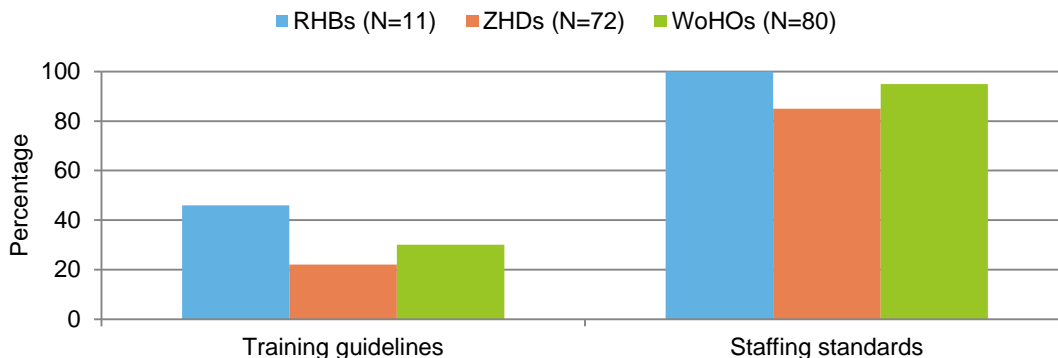
Figure 1 and **Appendix Table A2** show which of the eight key components of HRM strategies were included in the HRM policy and procedure document at each level of government. At the FMOH, the HRM policy included all of the strategies, except for compensation and benefits. Nearly, half of the organizations’ policy document contained new staff induction and performance management components. Policy documents at RHBs were generally more likely to include each of the key strategies than policy documents at ZHDs and WoHOs.

Figure 1. Reported key strategies included in HRM policy document



As **Figure 2** shows, the FMOH, all RHBs, 85% of ZHDs and 95% of WoHOs had staffing standards that specified the number of management and technical positions across the organization (**Appendix Table A3**). In contrast, less than half of the organizations, including the FMOH, 46% of RHBs, 22% of ZHDs and 30% of WoHOs, had guidelines for the management of staff training.

Figure 2. Training guidelines and staffing standards



All of the organizations surveyed, with the exception of two WoHOs, had HRM standards that specified the minimum number of positions for the HRM and administration function and the minimum qualifications required for those positions (**Figure 3 and Appendix Table A3**). However, the findings suggest that there is a disparity between the number of positions specified and the workload requirements of the human resources function. Respondents at the FMOH, 82% of RHBs, 78% of ZHDs and 65% of WoHOs perceived that the number of HRM positions was insufficient to handle the workload. They proposed estimated number of additional staff to meet the current workload (Table 6). In addition, the FMOH, 64% of RHBs, 84% of ZHDs and 67% of WoHOs had up-to-date job descriptions for all HRM (personnel administration) positions.

Figure 3. Specifications included in HRM standards

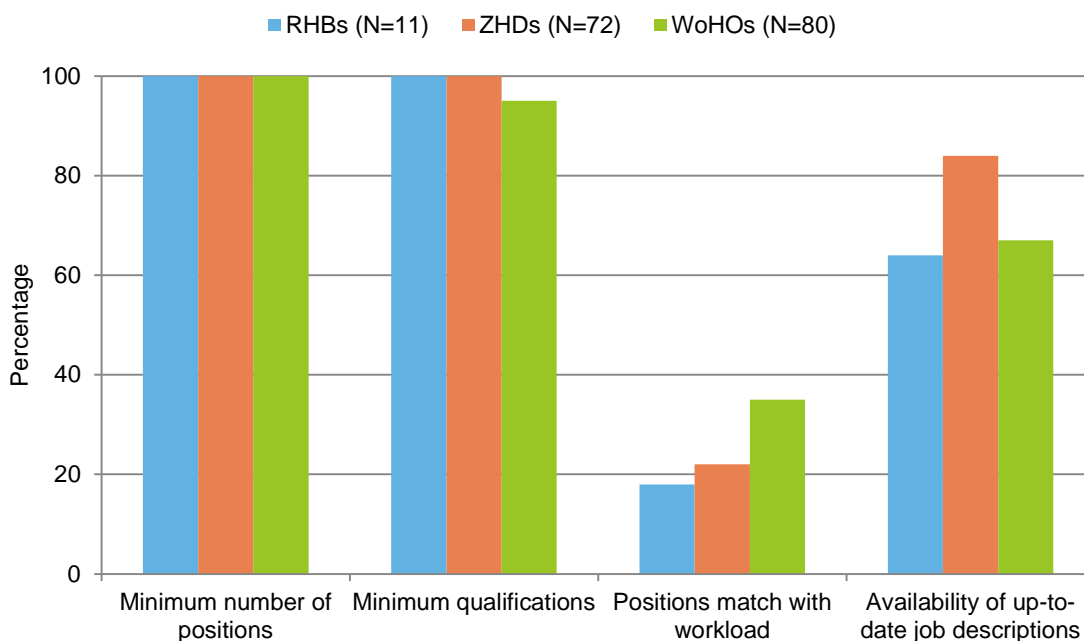


Table 6 shows the average staffing levels at different types of organizations. The staffing standards provide an average of 10 HRM positions at the FMOH, 11 at RHBS, 4 at ZHDs and 3 at WoHOs. Most of these positions were filled at the time of the assessment, but there were some vacancies at the FMOH and ZHDs. For optimal functioning, the respondents proposed an average of 9 additional HRM positions at the FMOH, 3 at RHBS, 2 at ZHDs and 2 at WoHOs.

Table 6. Average HRM staffing levels, by type of organization

CHARACTERISTIC	FMOH (N=1)	RHBS (N=11)	ZHDS (N=72)	WOHOS (N=80)
Number of positions recommended by HRM standard	10	11	4	3
Number of allowed positions that are filled	8	11	3	3
Number of additional positions needed for optimal functioning	9	3	2	2

HRM staffs were equally divided by gender at RHBS and ZHDs, but men occupied most of these positions at the FMOH (77%) and WoHOs (66%) (**Appendix Table A4**). The leaders (or managers) of HRM units at RHBS had higher educational levels than those at the FMOH, ZHDs and WoHOs. All of the individuals in leadership positions had a bachelor's or master's degree at the RHBS, while only 58% of those at ZHDs and 15% of those at WoHOs possess the same (**Table 7**).

In contrast, all leaders at the FMOH, 42% of leaders at ZHDs and 85% leaders at WoHOs had diploma and below. Across all organizations surveyed, most HRM leaders had graduated from a program in management or HRM; FEWER had clinical or medical training or had studied the social sciences (**Table 7**). About half (46%) of all full-time HRM staff at the FMOH had received additional training in HRM or leadership. However, similar opportunities were rare at other management levels, as only 12% of HRM staff at RHBS, 16% at ZHDs and 21% at WoHOs had received such training in the year before the survey (**Appendix Table A4**).

Table 7. Percentage of HRM leaders with educational qualifications, by type of organization

CHARACTERISTIC	FMOH (N=1)	RHBS (N=11)	ZHDS (N=36)	WOHOS (N=39)
Educational level*				
Master's degree	0	36	0	3
Bachelor's degree	0	64	58	13
Diploma	100	0	42	79
Certificate	0	0	0	3
Other	0	0	0	3
Field of study				
Management	0	73	42	28
HRM	100	0	22	28
Health administration	0	9	0	0
Clinical training (MD, HO, nurse, etc.)	0	0	14	10
Social sciences	0	9	25	8
Other	0	45	19	26

*Note: Educational level of HRM leaders at FMOH refers only to human resources administration case team coordinator.

Human Resources Planning

None of the organizations surveyed had conducted an HRM capacity assessment (**Table 8**). Most organizations had a staff requirement plan for all health program activities in place for 2005 EC, including 91% of RHBS, 76% of ZHDs and 86% of WoHOs. However, the FMOH did not have a staff requirement plan. Among those organizations with a staff requirement plan, 70% of RHBS, 76% of ZHDs and 61% of WoHOs had budgeted for the plan.

Table 8. Percentage of organizations with human resources assessment and planning

CHARACTERISTIC	FMOH (N=1)	RHBS (N=11)	ZHDS (N=72)	WOHOS (N=80)
HRM capacity assessment conducted	0	0	0	0
Staff requirement plan in place for 2005 EC	0	91	76	86
<i>Among organizations with a staff requirement plan:</i>	(N=0)	(N=10)	(N=55)	(N=69)
• Budget allocated for plan	N/A	70	76	61

Workforce Recruitment, Deployment and Resignation

In 2005 EC, there were a total of 106,991 public sector workers actively serving in the catchment areas of the surveyed health organizations (**Appendix Table A6**). Of which, 80,764 were health professionals and 26,227 were non-health professionals/administrative and supportive staff. The number of active public sector health workers in each region ranged from 650 in the FMOH to 43,261 in Oromia (**Figure 4**).

Figure 4. Number of public sector health workers, by region in 2005 EC

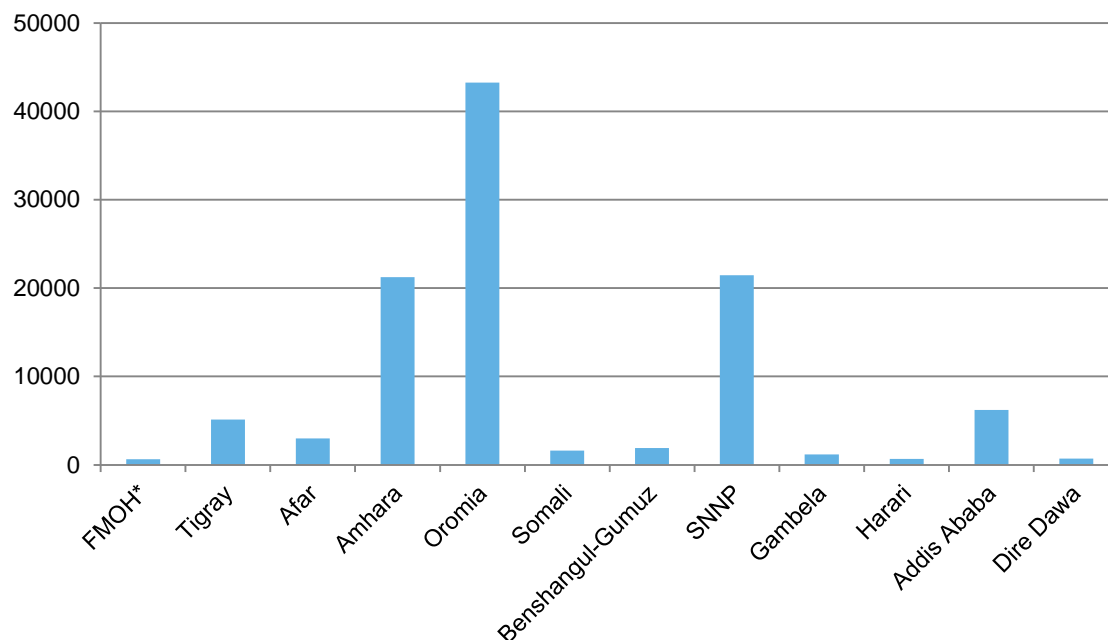
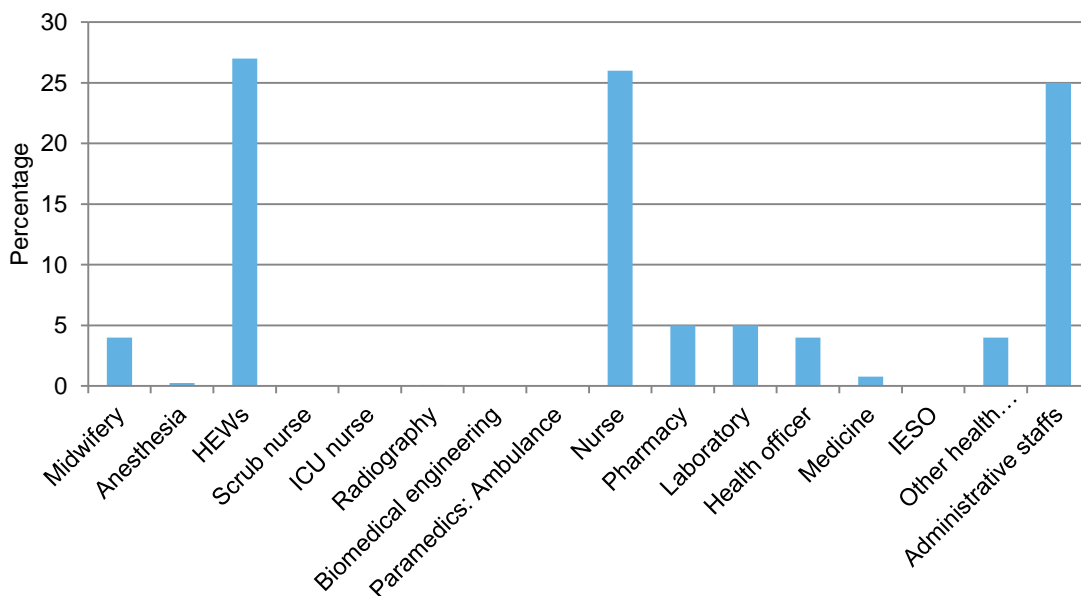


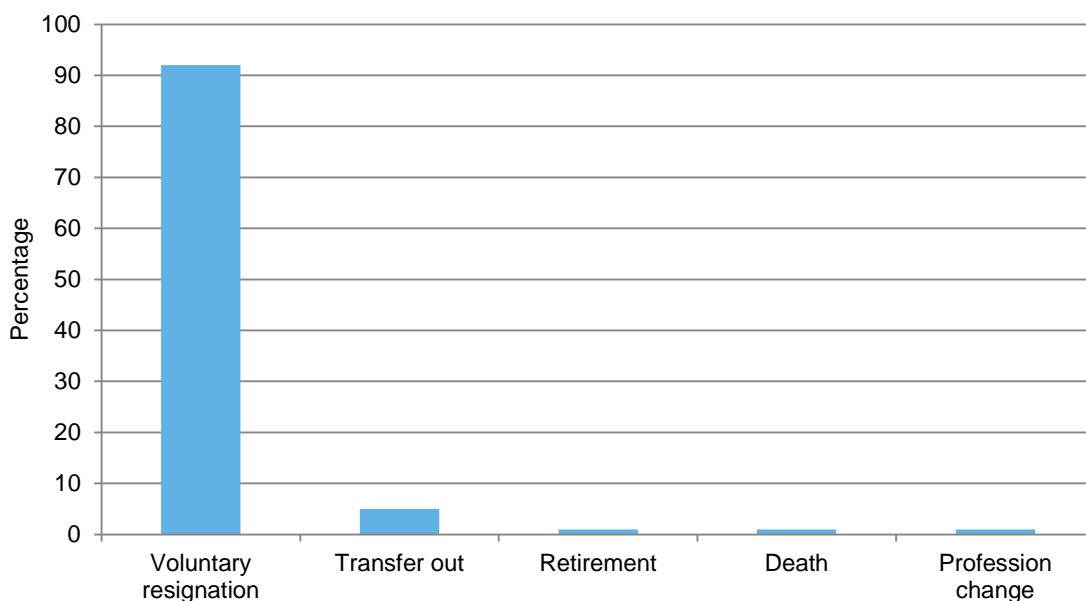
Figure 5 shows the distribution of active public sector health workers by cadre. The majorities were HEWs (27%) and nurses (26%). Support and administrative staff, who are not health professionals, made up another 25% of all health workers. Fewer than 5% were actively working in certain specialties, including anesthesia, midwifery, scrub nursing, ICU nursing, biomedical engineering and ambulance paramedics (**Appendix Table A6**).

Figure 5. Percentage distribution of public sector health workers, by cadre



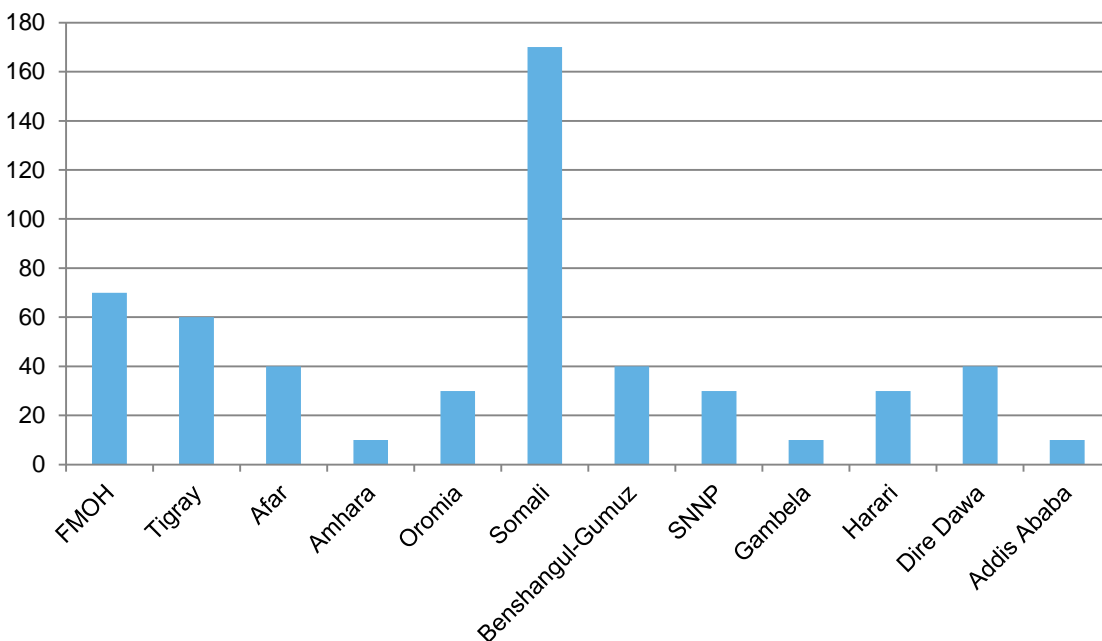
A total of 3,455 health workers resigned from/left public sector jobs during the 12 months prior to the survey (**Appendix Table A7**). **Figure 6** shows that 92% of these departures were voluntary resignations, 5% were transfers within the public health system, and 1% each was retirements, death and profession change.

Figure 6. Reasons why public sector health workers left their jobs in past 12 months



The attrition rate of health workers in the country one year before the survey was 30 per 1,000. As indicated in **Figure 7**, Somali, FMOH and Tigray were the regions with the highest attrition rates (170, 70 and 60, respectively). Addis Ababa, Amhara and Gambela had the lowest attrition rates.

Figure 7. Attrition rate per 1,000 during the past 12 months, by region



The attrition rate exceeded 50 per 1,000 among biomedical engineers, IESOs, doctors, radiographers and HEWs (**Figure 8**). The attrition rates for midwifery and anesthesia were 20 and 40 per 1,000, respectively. It was relatively low, however, among the two largest cadres of health workers: 10 per 1,000 for nurses and 10 per 1,000 for administrative staff.

Figure 8. Attrition rate per 1,000 during the past 12 months, by cadre

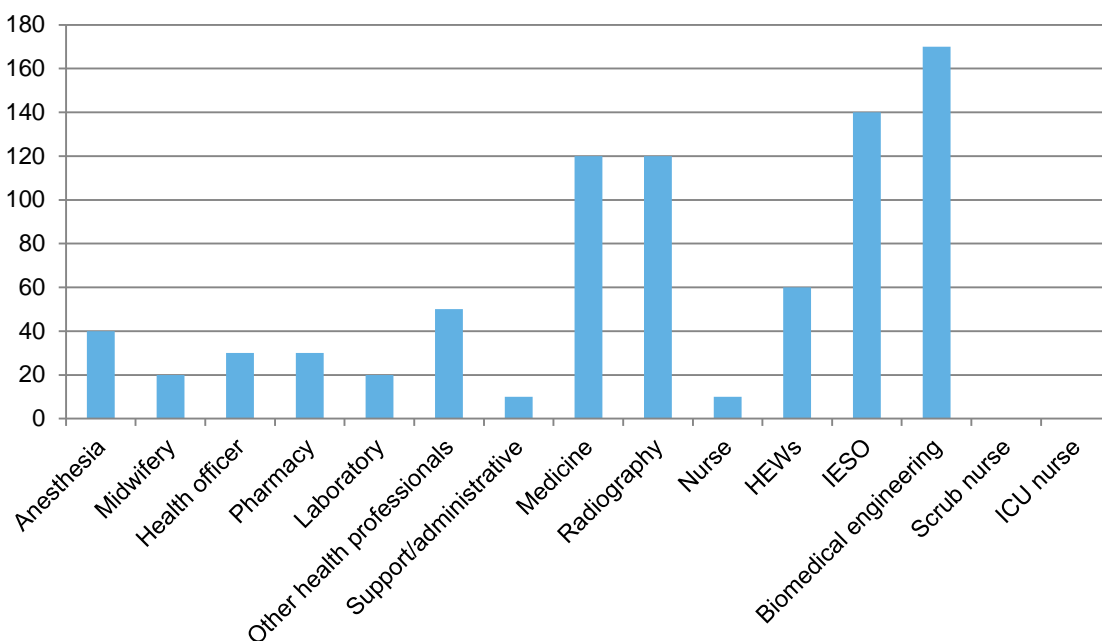


Table 9 shows that the FMOH had a plan to upgrade 16,367 HEWs to Level IV over a five-year period, from 2005 EC to 2009 EC. Of these, the FMOH upgraded 1,367 HEWs (8%) to Level IV (**Appendix Table A11**).

Most RHBs (64%) and more than two-fifths of ZHDs (44%) and WoHOs (44%) had a plan to train new Level III HEWs. Thus, a total of 6,088 new Level III HEWs were reported to receive training over the course of the five-year period in all regions (**Appendix Table A11**).

Most organizations, especially lower-level organizations, were implementing the policy of assigning HEWs to work in their home Woredas or kebeles (i.e., where they have grown up or lived for a long period of time). Some 64% of RHBs, 72% of ZHDs and 92% of WoHOs reportedly deployed HEWs in this way (**Table 9**).

Table 9. Percentage of organizations with plans and policies to train, upgrade and deploy HEWs, by type of organization

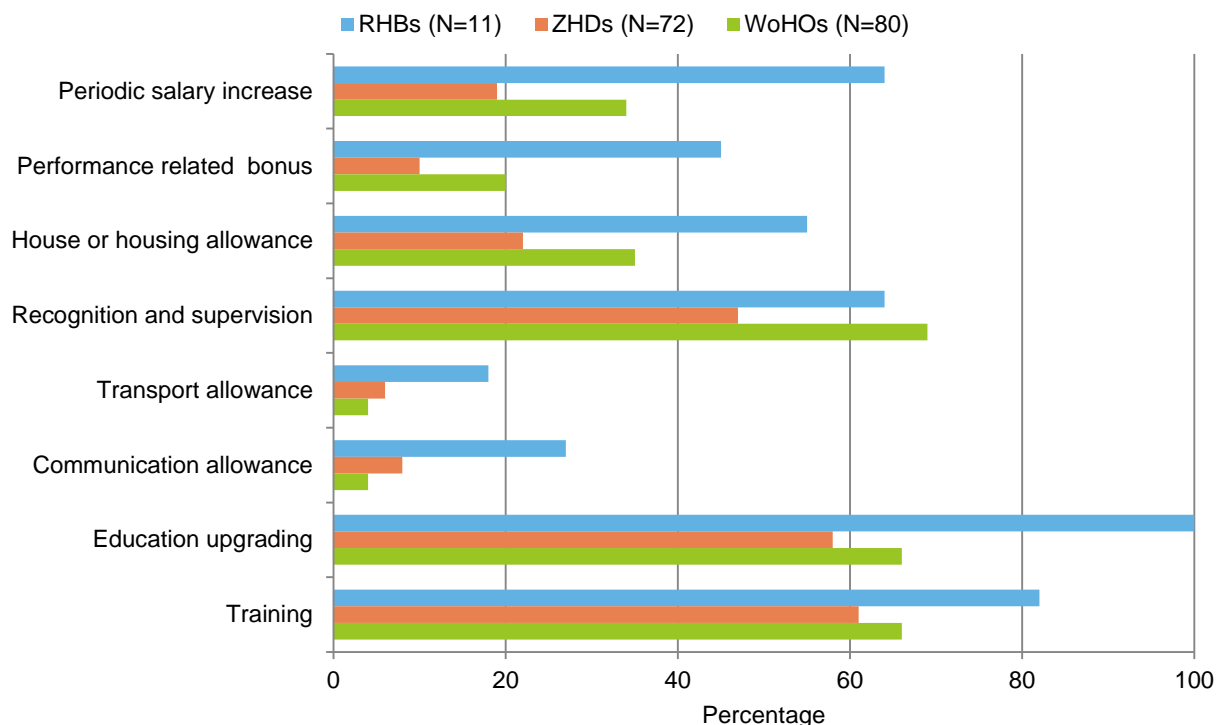
PLANS AND POLICIES	FMOH (N=1)	RHBS (N=11)	ZHDS (N=72)	WOHOS (N=80)
Has plan to upgrade HEWs to Level IV	1	N/A	N/A	N/A
Has plan to train new Level III HEWs	N/A	64	44	44
Is implementing policy to deploy HEWs to their home Woredas/kebeles	N/A	64	72	92

Workforce Satisfaction and Retention

While 7% of ZHDs reported that their HRM/personnel administration unit had conducted a staff satisfaction survey, 87% of WoHOs and all RHBs had never conducted such a survey (**Appendix Table A12**). All of the ZHDs and 80% of the WoHOs that had conducted a staff satisfaction survey reported taking some action in response to the findings.

The baseline survey inquired about the eight staff-retention mechanisms shown in **Figure 9**. The FMOH employed all but two: performance-related bonuses and transport allowances. At RHBs, ZHDs and WoHOs, education upgrading (a long-term career development course), short-term training, and recognition and supervision were the most common; transport and communication allowances were the least common. RHBs were more likely than lower-level organizations to employ each staff-retention mechanism, especially financial incentives such as salary increases and performance-related bonuses. A greater proportion of WoHOs than ZHDs employed most of the retention mechanisms.

Figure 9. Staff-retention mechanisms

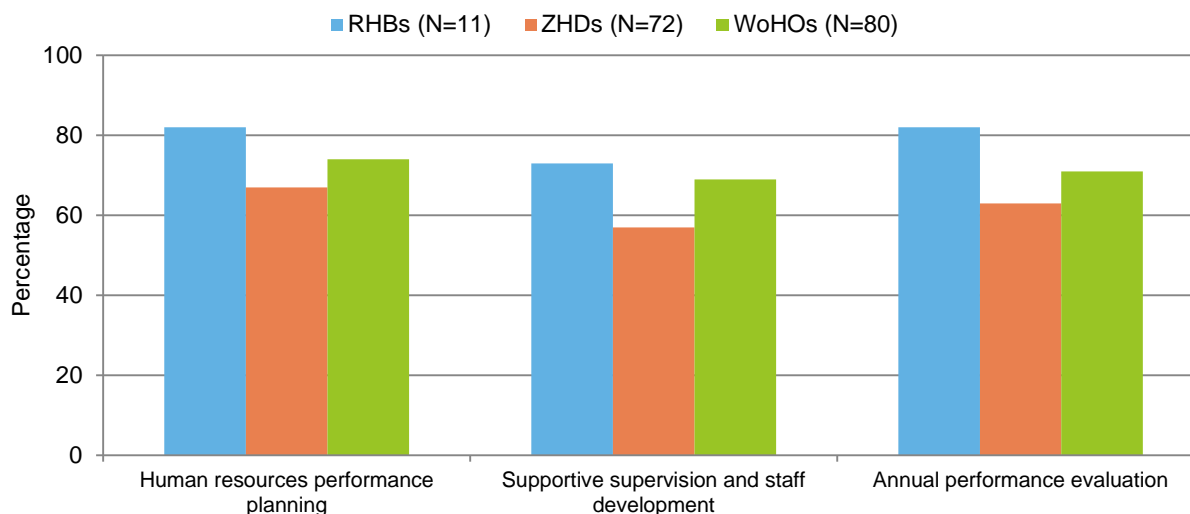


The FMOH and 45% of RHBs provided a hardship allowance for health workers posted in remote and relatively inaccessible areas, compared with just 14% of ZHDs and WoHOs (**Appendix Table A12**).

Performance Management

The FMOH had a complete performance planning, monitoring and evaluation system that included human resources performance planning, supportive supervision, staff development and annual performance evaluations (**Appendix Table A13**). Most of the RHBs, ZHDs and WoHOs surveyed also had these performance management systems in place. **Figure 10**, however, shows that RHBs were somewhat more likely and ZHDs somewhat less likely to do so.

Figure 10. Performance planning, monitoring and evaluation



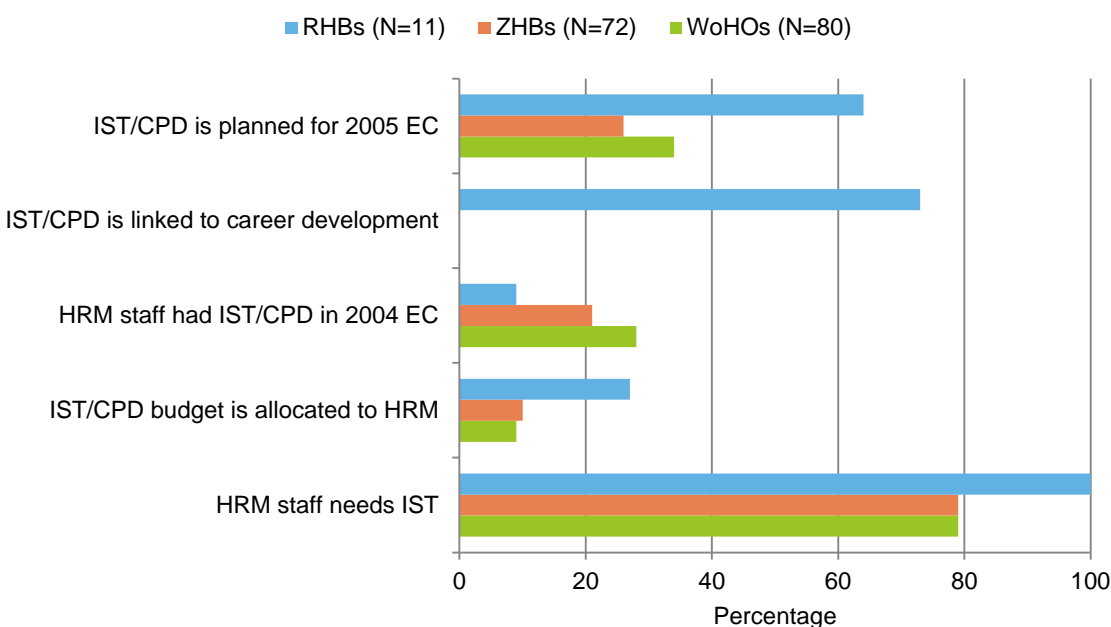
Among organizations with annual performance evaluation systems, 44% of RHBs, 38% of ZHDs, 54% of WoHOs and the FMOH offered rewards and recognition to top-performing staff members (**Appendix Table A13**).

In-Service Training and Continuing Professional Development

Less than one-third of all organizations reported that staff members had received in-service training (IST)/continuing professional development in HRM during 2004 EC; the FMOH was among them (**Figure 11** and **Appendix Table A14**). Yet, the demand is high: respondents at the FMOH, all RHBs and 79% of ZHDs and WoHOs thought that their organizations needed IST to build the capacity of the HRM staff.

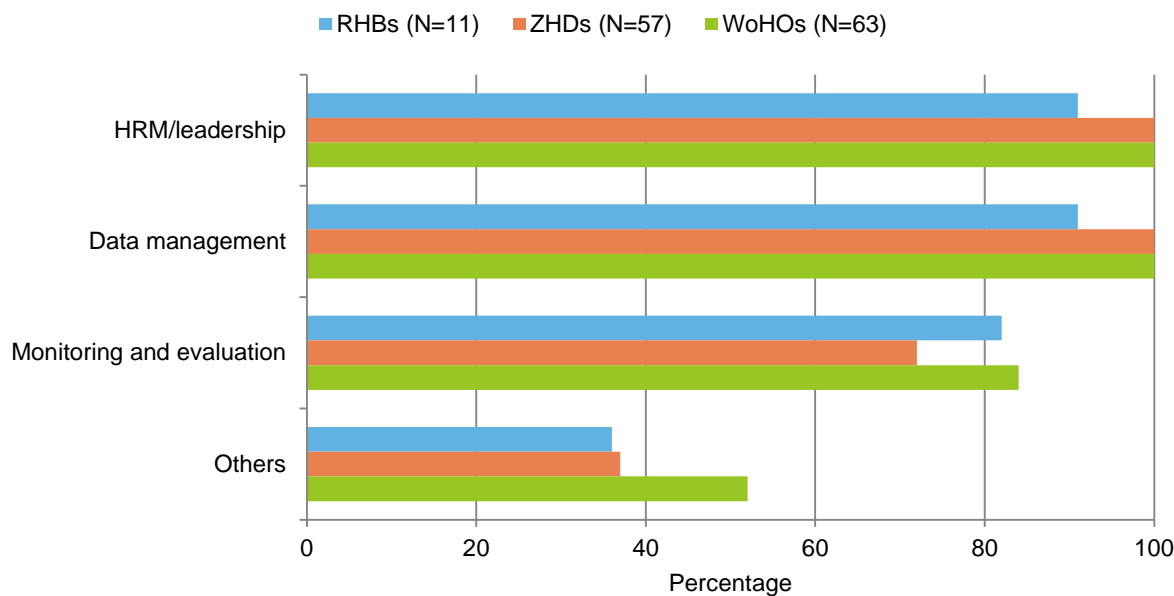
RHBs are more active than lower-level organizations in this area. Almost two-thirds (64%) of RHBs had a plan for IST or continuing professional development in 2005 EC, compared with 26% of ZHDs and 34% of WoHOs. Twenty-seven percent of RHBs had allocated part of their IST budget to HRM, compared with 10% of ZHDs and 9% of WoHOs. The FMOH lacked a plan for IST in 2005 EC, but did allocate part of its training budget to HRM. Most RHBs (73%) linked IST/continuing professional development with health workers' career development. The FMOH did not have a system to link IST and career development.

Figure 11. IST/continuing professional development (CPD)



When respondents indicated that IST was needed to build the capacity of HRM staff, a follow-up question asked which types of training were required. **Figure 12** shows that multiple kinds of training were needed at most RHBs, ZHDs and WoHOs, including training on leadership, data management, and program monitoring and evaluation. All three types of training were also needed at the FMOH (**Appendix Table A14**).

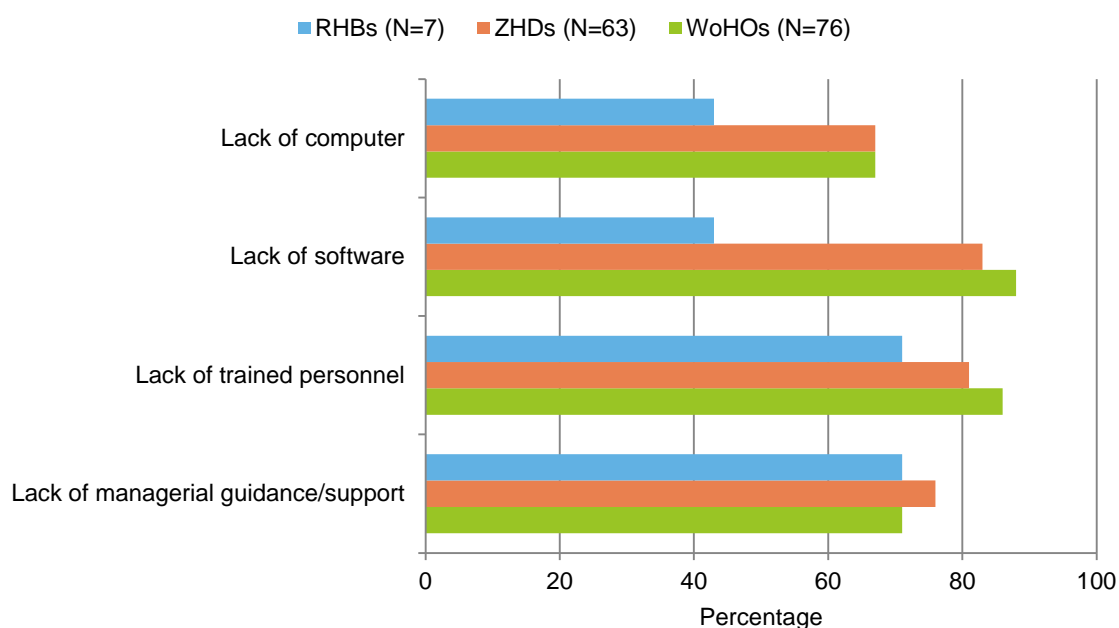
Figure 12. Type of training needed to build capacity of HRM staff



Human Resources Information System (HRIS)

The FMOH, Tigray, SNNPR and Harari RHBs had partially functional computerized HRIS (i.e., availability of software, computer, focal person and starting to enter employee data but unable to generate complete report). Only 12% of ZHDs and 5% of WoHOs had partially functional computerized HRIS (**Appendix Table A15**). For RHBs, lack of trained personnel and lack of managerial guidance and support from officials at higher levels were the leading reasons given for not having an HRIS (**Figure 13**). Among ZHDs and WoHOs, lack of software and lack of a computer were also important reasons.

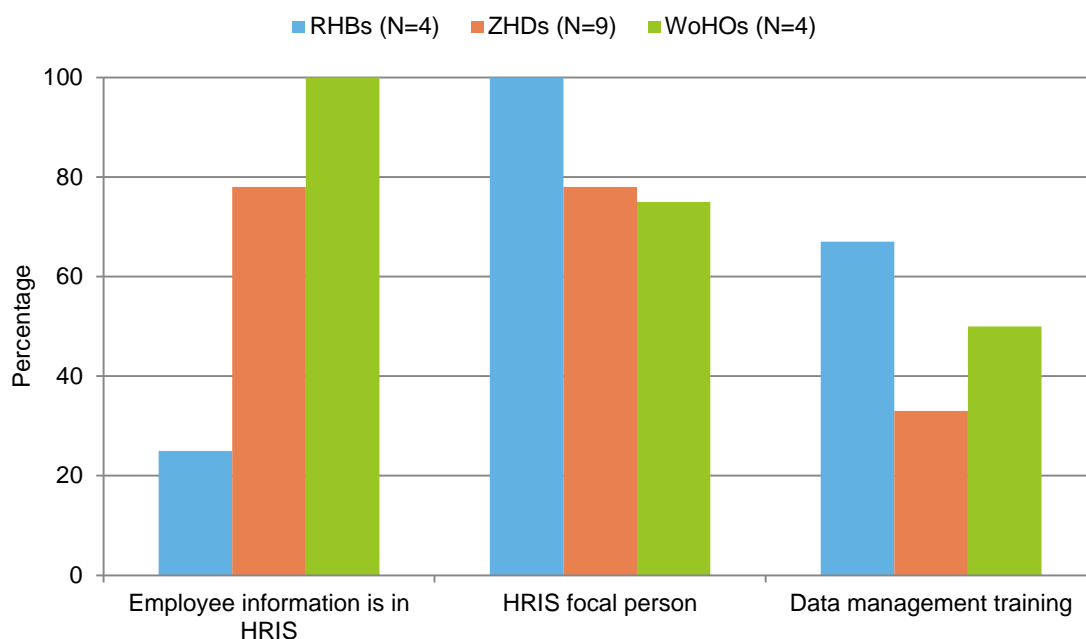
Figure 13. Reasons for not having a computerized HRIS



Among those organizations that reported using HRIS, employee information was entered into the database at the FMOH, all WoHOs and 78% of ZHDs, but at only 33% of RHBs (**Figure 15** and **Appendix Table A15**).

The FMOH, all RHBs, 78% of ZHDs and 75% of WoHOs had a focal person to regularly update the HRIS (**Figure 14**). However, this focal person was not always trained in data management.

Figure 14. Percentage of health management by characteristics of HRIS



Human Resources for Health Forum

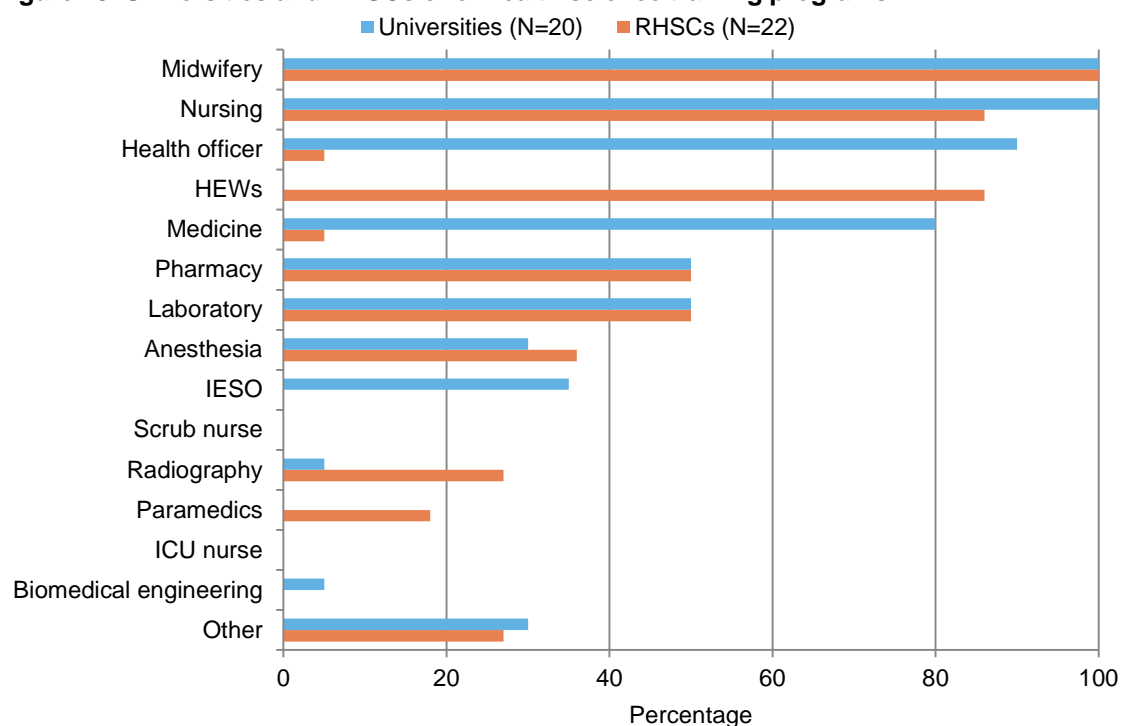
Respondents were asked at the FMOH and RHBs whether there was a functional HRH forum, which serves as an advocacy forum that focuses on strengthening and coordinating HRM functions at national and regional levels. Neither the FMOH nor any of the RHBs reported having such a forum.

HEALTH SCIENCE TRAINING INSTITUTIONS

Training Programs

The survey indicated the distribution of training programs offered in the universities and RHSCs for 2005 EC academic year. As shown in **Figure 15**, midwifery training programs were available at all of the training institutions surveyed, and 30% of universities and 36% of RHSCs offered training in anesthesia. Nearly, 86% of the RHSCs were providing HEW upgrading programs, and 18% of the RHSCs were providing paramedics programs. Some training programs, such as radiography, were offered by relatively few institutions (5% of universities and 27% of RHSCs), and only 5% of universities were providing biomedical technician training. None of the institutions surveyed reported training programs for ICU nurses or scrub nurses. On the other hand, all of the universities and 86% of RHSCs had a training program in nursing. Half of universities and half of RHSCs offered pharmacy and laboratory training programs. However, medicine (80%), health officer (90%) and IESO (35%) training were only available in the universities (**Appendix Table B1**).

Figure 15. Universities and RHSCs offer health science training programs



All universities offered degree programs for midwifery, nursing and health officers, and 80% offered degree programs in medicine. Half of the universities offered pharmacy and laboratory degree programs (**Table 10** and **Appendix Table B2**). RHSCs offered Level 1–3 training in less than half of all programs; it was most common in HEW (23%), nursing (23%) and laboratory (18%) training programs. Level 4–5 training was much more widely available at RHSCs. Half or more of RHSCs offered Level 4–5 training in midwifery (95%), nursing (86%), HEW (68%) and pharmacy (50%).

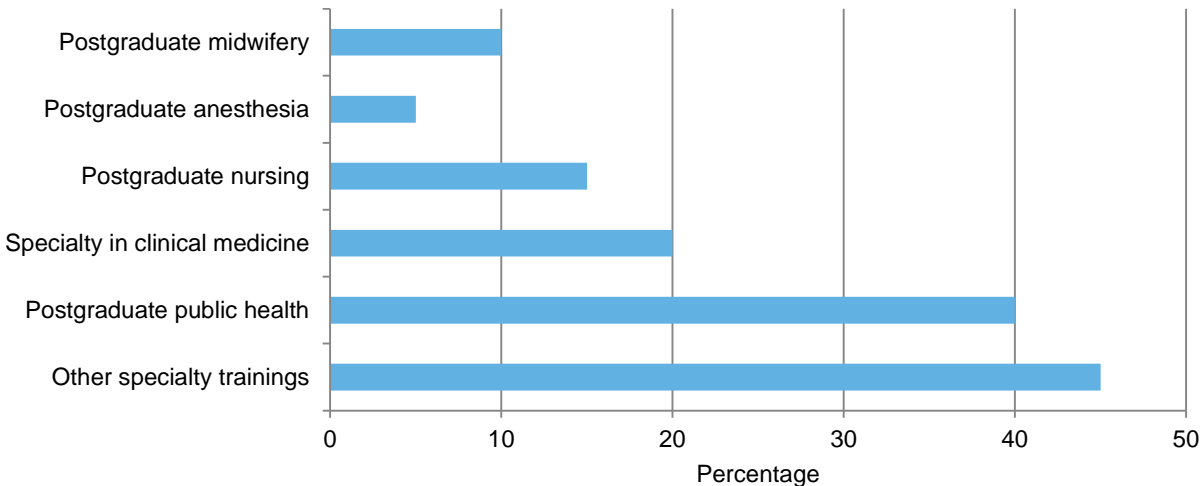
Table 10. Percentage of training institutions offering different levels of training

TRAINING PROGRAM	UNIVERSITIES (N=20)	RHSCS (N=22)	
	Degree	Level 1–3	Level 4–5
Midwifery	100	5	95
Anesthesia	30	0	36
HEW	0	23	68
Scrub nurse	0	0	0
ICU nurse	0	0	0
Radiography	0	5	27
Biomedical engineering	5	5	0
Paramedics	0	9	5
Nursing	100	23	86
Pharmacy	50	9	50
Laboratory	50	18	45
Health officer	100	0	0
Medicine	80	0	0
IESO	15	0	0
Others (psychiatry, dental nurse, environmental health, health informatics)	35	0	50

Only universities offered postgraduate programs. Postgraduate programs in midwifery and anesthesia were available in 10% and 5% of universities, respectively. None of the universities offered a postgraduate program in either HRH management or health economics/financing (**Figure 16** and **Appendix Table B3**).

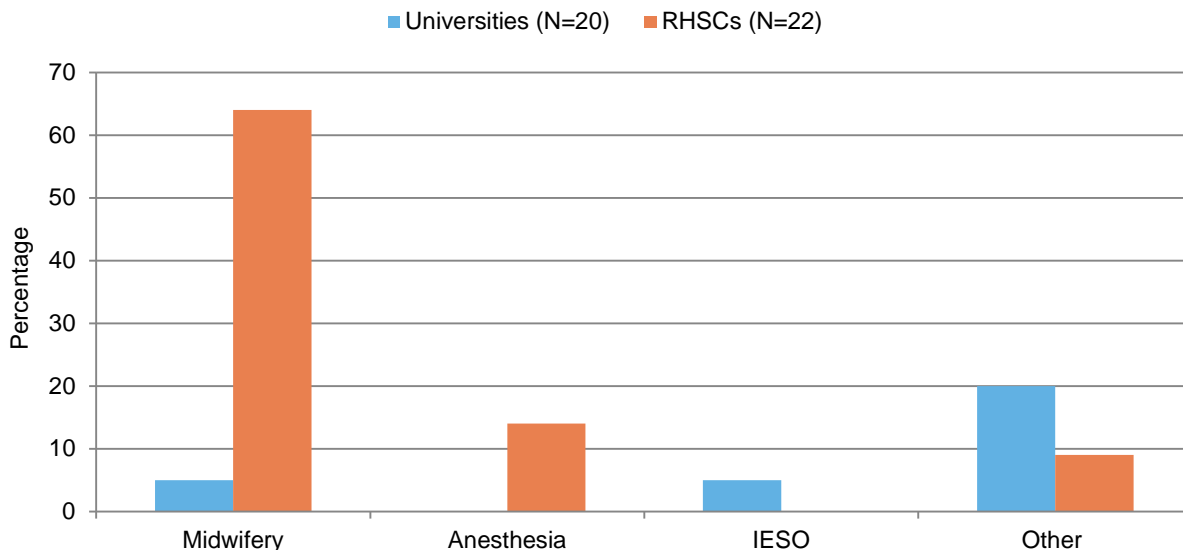
The most commonly offered postgraduate program was in public health, which is available at 40% of universities. Twenty percent of universities offered a specialty in clinical medicine, and 15% offered a postgraduate nursing program (**Figure 16** and **Appendix Table B3**).

Figure 16. Postgraduate programs available at universities



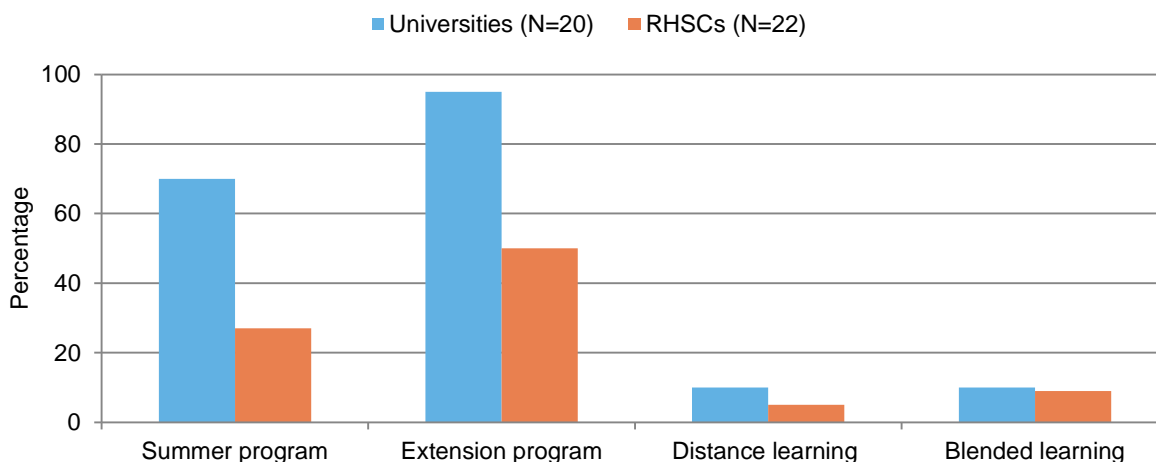
Almost two-thirds (64%) and 14% of RHSCs offered accelerated program in midwifery and anesthesia, respectively. However, accelerated programs in midwifery and IESO were rare at universities (5% each). Accelerated programs were also provided in other fields, such as health information technician, health officer and psychiatrics, in the universities and RHSCs (**Figure 17** and **Appendix Table B4**).

Figure 17. Accelerated programs offered at universities and RHSCs



Alternative programs (e.g., summer, extension, distance) were more common at universities than RHSCs. Most universities (95%) and half of RHSCs offered extension programs that met on evenings and weekends (**Figure 18** and **Appendix Table B5**). Fewer RHSCs (27%) and 70% of universities offered summer programs. Distance learning and blended learning were available from 10% of universities, but less than 10% of RHSCs.

Figure 18. Alternative training programs offered by universities and RHSCs

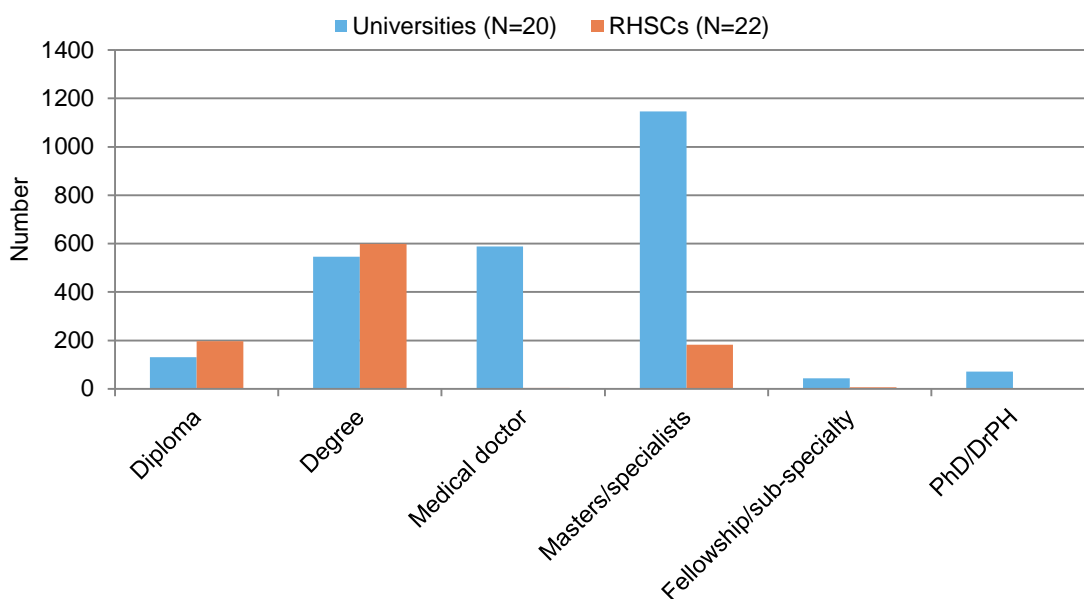


Number of Teaching Staff and Skills Updates

A total of 3,514 teaching staff were teaching at health science training institutions in 2005 EC. (**Appendix Table B6**). Nearly twice as many worked at universities than at RHSCs (2,526 vs. 988).

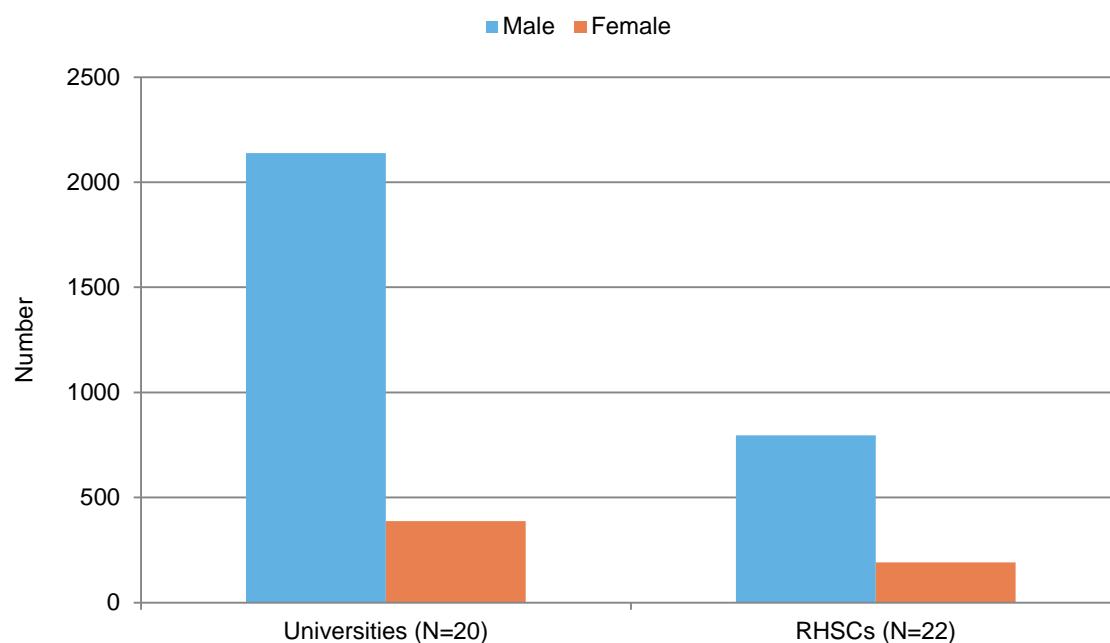
Figure 19 demonstrates that teaching staff at universities generally had a higher level of education than teaching staff at RHSCs. Half of instructors at universities in 2005 EC had some kind of specialized or advanced training beyond a diploma or degree, compared with just 19% of instructors at RHSCs.

Figure 19. Number of teaching staff, by qualification, in universities and RHSCs



In the training institutions, less than one-quarter of teaching staff were women. Women made up a slightly larger proportion of teaching staff at RHSCs (19%) than at universities (15%) (**Figure 20** and **Appendix Table B6**).

Figure 20. Number of teaching staff, by gender



As **Table 11** indicates, all surveyed institutions, except 15 % of universities and 9% of RHSCs, met the Higher Education Relevance and Quality Agency (HERQA) minimum standard of 1 teacher per 30 students.

Table 11. Percentage of teaching institutions by level of teacher-to-student ratio

TEACHER-TO-STUDENT RATIO	UNIVERSITIES (N=20)	RHSCS (N=22)
<= 1:30	85	91
>1:30	15	9
Total	100	100

Figure 21 displays distribution of teaching staff in midwifery and anesthesia training programs: those whose profession matches the subjects they are teaching and who are therefore especially qualified to teach that subject. There were 144 midwives teaching midwifery at universities and 139 midwives teaching midwifery at RHSCs—most of them were men. There were 69 anesthetists teaching anesthesia at universities and 16 anesthetists teaching anesthesia at RHSCs—again, most were men. As indicated in **Table 12**, the teacher-student ratio of anesthesia training programs met the HERQA standard except 12 % of RHSCs, but 35% of universities and 59% of RHSCs with a midwifery training program did not meet the HERQA standard (**Appendix Tables B7, B8**).

Figure 21. Number of midwifery- and anesthesia-trained teachers in institutions

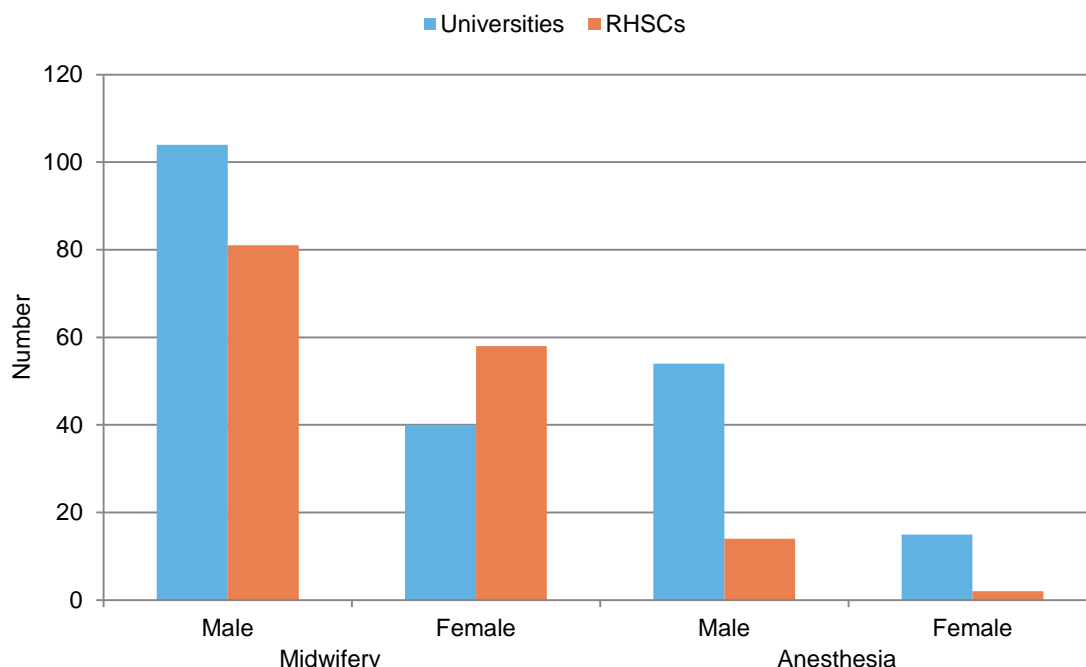


Table 12. Percentage of teaching institutions with professional background in the subject they are teaching and teacher-to-student ratio

TEACHER-TO-STUDENT RATIO	UNIVERSITIES (N=20)		RHSCS (N=22)	
	Midwifery (N=20)	Anesthesia (N=6)	Midwifery (N=22)	Anesthesia (N=8)
< 1:30	65	100	41	88
> = 1:30	35	0	59	12
Total	100	100	100	100

Regular updates on technical knowledge and skills and teaching skills are important to maintain the quality of instruction at health sciences training institutions. **Figures 22–24** show that over half of training institutions did not offer these kinds of updates to staff responsible for training students in midwifery and anesthesia; more than 80% did not offer regular updates for HEW instructors. A greater proportion of training institutions offered updates to classroom and clinical instructors than to skilled lab personnel or clinical preceptors. Equal numbers of institutions offered teaching and technical updates (**Appendix Tables B9, B10**). RHSCs were more likely to offer regular updates on midwifery than universities; the reverse was true for anesthesia.

Figure 22. Percentage of training institutions offering regular technical and teaching skills updates for midwifery instructors

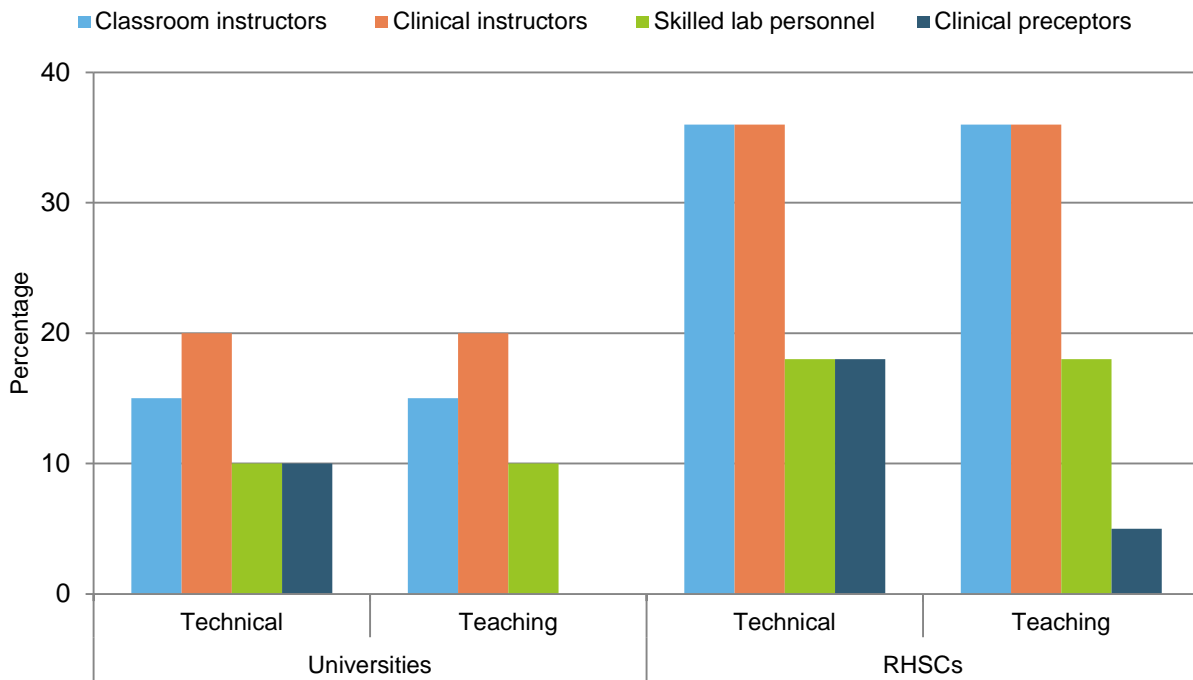


Figure 23. Percentage of training institutions offering regular technical and teaching skills updates for anesthesia instructors

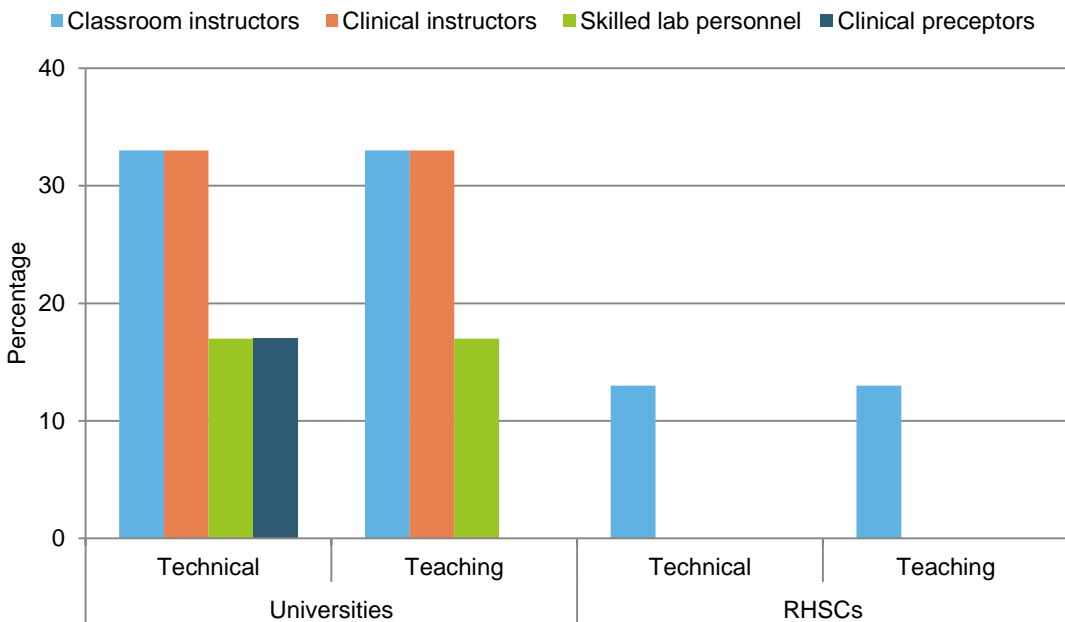
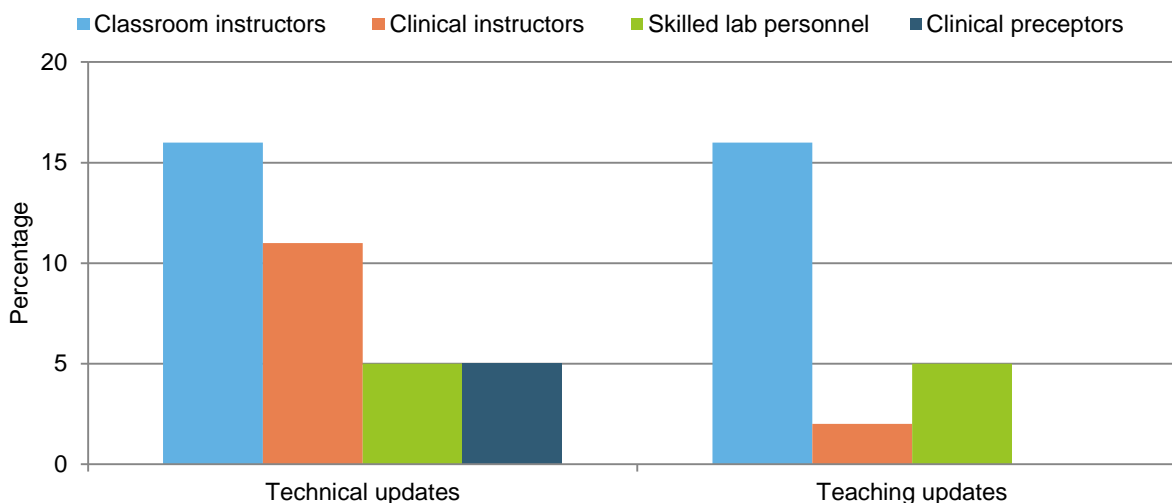


Figure 24. Percentage of training institutions offering regular technical and teaching skills updates for HEW instructors

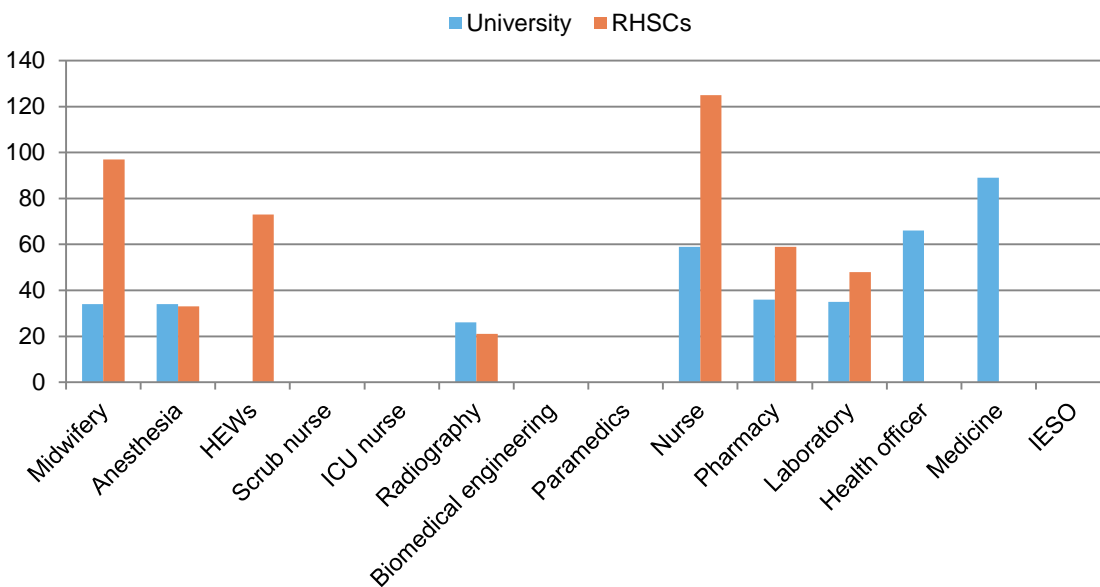


Student Enrollment and Graduation

Most training programs, including regular and extension programs, only enrolled new students once a year. However, some programs had twice-yearly intakes, including 14% of midwifery and 11% HEW training programs at RHSCs and 11% of health officer and 43% of IESO programs at universities (**Appendix Table B11**).

A total of 11,604 students graduated from health science training institutions in 2004 EC, including 3,416 university graduates and 8,188 RHSC graduates (**Appendix Tables B12 and B13**). On average, 34 midwifery students in the universities and 97 in the RHSCs were graduated. Average number of anesthesia graduates was almost equal in the universities and RHSCs (34 vs. 33), and average number of HEW graduates was 73 in the RHSCs. The average number of radiography graduates in the universities and RHSCs was 26 and 21, respectively. However, no graduations were reported in scrub nurse, ICU nurse, biomedical engineering, paramedics and IESO training programs (**Figure 25**).

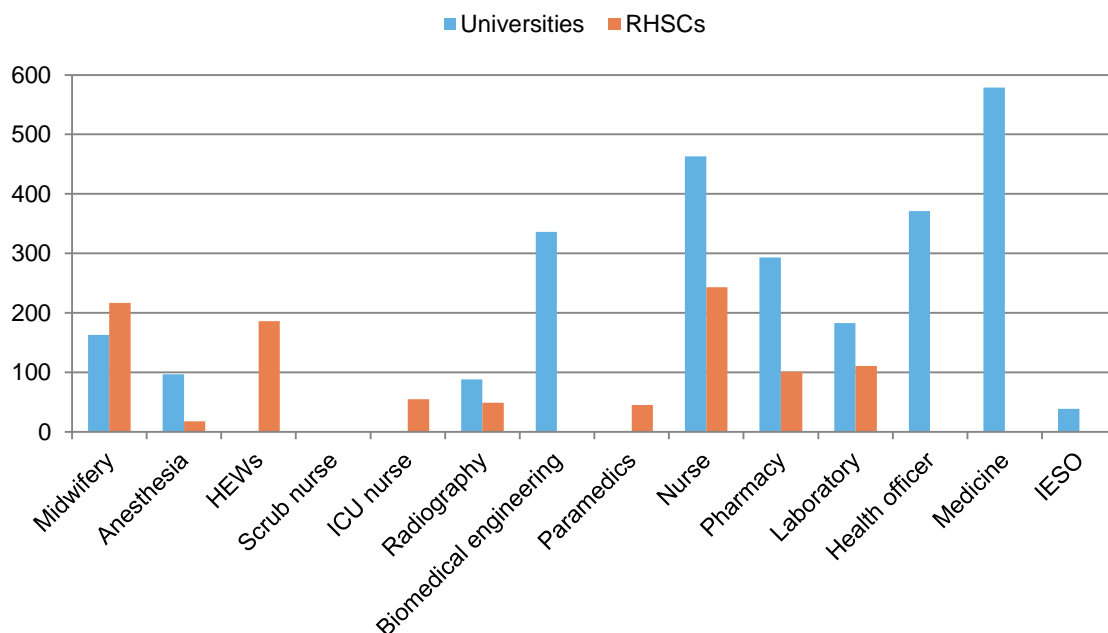
Figure 25. Average number of graduates in 2004 EC



Male graduates greatly outnumbered female graduates at universities in 2004 EC (2,444 vs. 972), but they were roughly equal at RHSCs (4,085 men and 4,103 women). Midwifery and HEW programs at RHSCs were the only training programs with more female than male graduates (**Appendix B12 and B13**).

In 2005 EC, a total of 57,316 students were enrolled (40,168 in the Universities and 10,728 in the RHSCs). The average intake of students in midwifery was 163 for universities and 217 for RHSCs; in anesthesia, 97 were for universities and 18 were for RHSCs; radiography were 88 for universities and 49 for RHSCs; and upgrading HEWs and paramedics were 186 and 45 for RHSCs, respectively (**Appendix Table B14 and B15**).

Figure 26. Average number of student intakes in 2005 EC



Educational Infrastructure

To be most effective, health science training institutions need a sufficient number of properly equipped classrooms, clinical skills learning labs, computer labs linked to the Internet, libraries and transportation to clinical practice sites.

Of the universities with cadre-dedicated classrooms for health science training programs, 65% had classrooms designated only for midwifery, 50% had classrooms designated only for anesthesia, and 5% had classrooms designated for shared use by health cadres (**Table 13**). There were no more than five classrooms designated for any of these purposes at universities (**Appendix Table B20**). In contrast, most RHSCs had designated classrooms for midwifery (86%), anesthesia (75%), HEW (68%) and shared use by health cadres (64%). Some RHSCs had six or more classrooms designated for midwifery (32%) and shared use by all health cadres (41%). Less than 50% of universities and RHSCs met the HERQA standard of 50–60 seats per classroom (**Table 13**).

Many classrooms lacked appropriate furnishings and equipment (**Table 13**). Midwifery, anesthesia and HEW classrooms were fully equipped with tables, chairs, audiovisual aids and an electric supply at about half of training institutions. Classrooms shared by all health cadres were fully equipped at less than 30% of training institutions (**Appendix B16**).

Table 13. Percentage of training institutions with designated classrooms, average number of seats per classroom and appropriately equipped classrooms, 2005 EC

	UNIVERSITIES			RHSCS			
	Only for midwifery (N=20)	Only for anesthesia (N=6)	Shared by all health cadres (N=20)	Only for midwifery (N=22)	Only for anesthesia (N=8)	Only for HEWs (N=19)	Shared by all health cadres (N=22)
At least one classroom designated	65	50	5	86	75	68	64
Average number of seats in classroom							
<50 seats	55	50	70	64	75	47	59
50–60 seats	35	50	15	36	25	32	23
>60 seats	10	0	15	0	0	21	18
Classrooms appropriately equipped*	50	50	20	55	50	47	27

*Includes table, stools, audiovisual aids, water source and source of electricity.

As shown in **Figure 27**, 60% of universities and 95% of RHSCs reported having skills labs. Among those that reported skills labs, 83% of universities and 67% of RHSCs had clinical skills learning labs for shared use by all health cadres. Compared with universities, a larger proportion of RHSCs had clinical skills learning labs for midwifery (71% vs. 33%) and anesthesia (38% vs. 0) (**Figure 28** and **Appendix Table B17**). RHSCs were more likely than universities to have multiple labs for common use (65% vs. 20%) and for midwifery (54% vs. 0) (**Table 14**). Clinical skills learning labs tended to be poorly outfitted, no matter where they were located or what their purpose. No more than 33% had adequate models or instrument kits, and no more than half had appropriate equipment.

Figure 27. Percentage of training institutions with skills labs

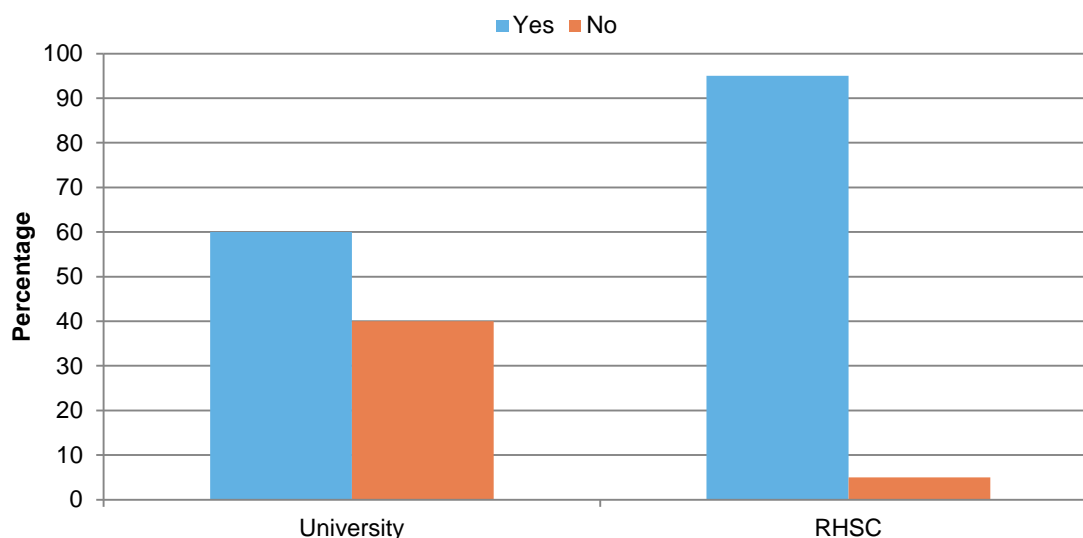


Figure 28. Percentage of training institutions with clinical skills learning labs

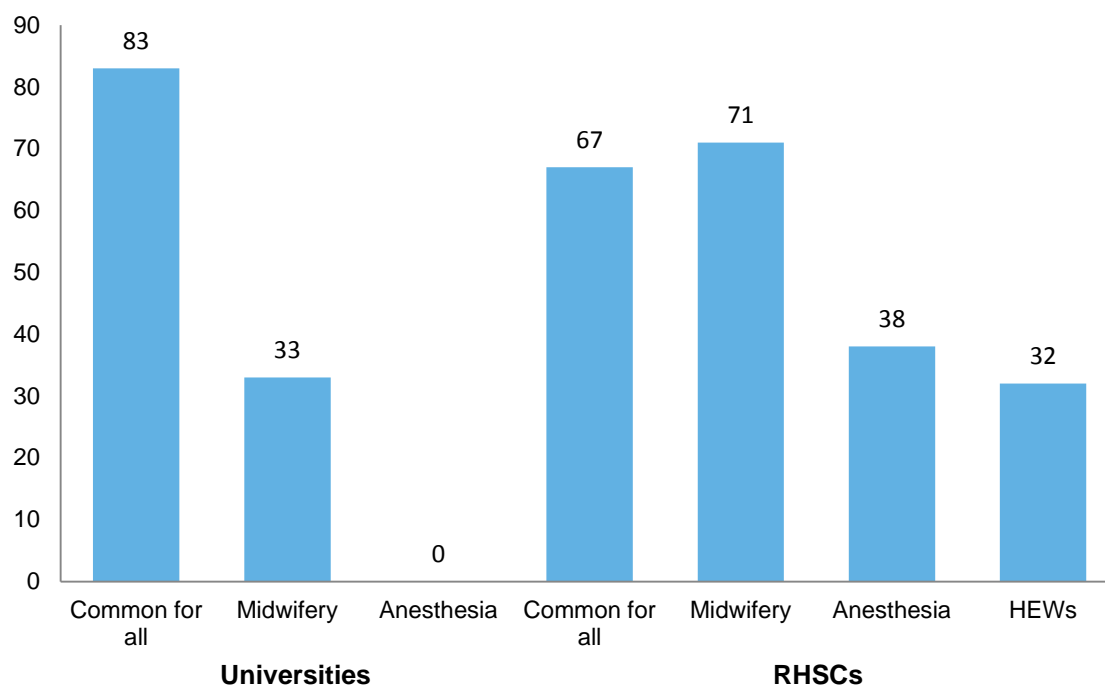


Table 14. Percentage of training institutions with clinical skills learning labs, by characteristics of labs

CHARACTERISTICS	UNIVERSITIES			RHSCS			
	Common for all (N=10)	Only for Midwifery (N=4)	Only for Anesthesia (N=0)	Common for all (N=14)	Only for Midwifery (N=15)	Only for Anesthesia (N=3)	Only for HEWs (N=6)
More than one lab at institution	20	0	0	65	54	0	0
Adequate models	10	25	0	21	27	0	33
Adequate instrument kits	0	0	0	21	33	33	17
Appropriate equipment*	10	25	0	14	40	33	50

*Includes table, stools, audiovisual aids, water source and source of electricity.

Student computer labs were available at most universities (65%) and RHSCs (73%) (**Appendix Table B18**). Fewer universities and RHSCs had computer labs for teachers (30% and 9%, respectively) and for shared use by teachers and students (5% and 14%, respectively). Most universities and RHSCs only had one computer lab of each type (**Table 15**). Universities had three times as many computers in student computer labs, on average, as RHSCs (97 vs. 32) and twice as many computers in teacher computer labs (21 vs. 8) and shared computer labs (50 vs. 24). The overall student-to-computer ratios in the universities and RHSCs were 31 and 30, respectively. As shown in **Figures 29 and 30**, 54% of the universities had a student-to-computer ratio of more than 30:1 (of the overall average), and 39% of the RHSCs had a student-to-computer ratio of greater than 30:1.

Table 15. Percentage of health science training institutions with more than one computer lab and average number of computers

CHARACTERISTICS	UNIVERSITIES			RHSCS		
	Teachers only (N=6)	Students only (N=13)	Both (N=1)	Teachers only (N=2)	Students only (N=16)	Both (N=3)
More than one computer lab	17	46	0	0	37	33
Average number of computers at institution	21	97	50	8	32	40

Figure 29. Percentage of universities by student-to-computer ratio

■ Student to computer ratio >30 ■ Student to computer ratio <=30

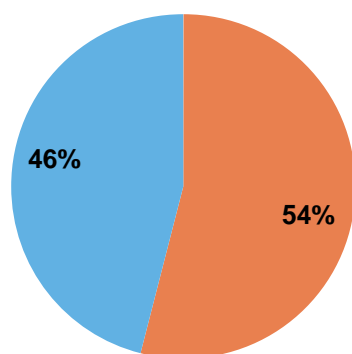
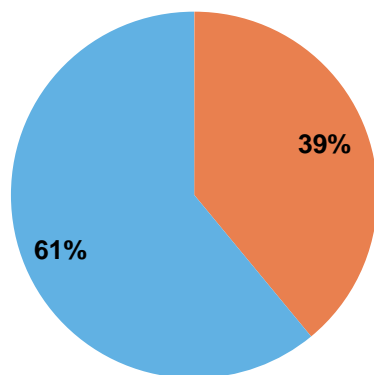


Figure 30. Percentage of RHSCs by student-to-computer ratio

■ Student to computer ratio >30 ■ Student to computer ratio <=30



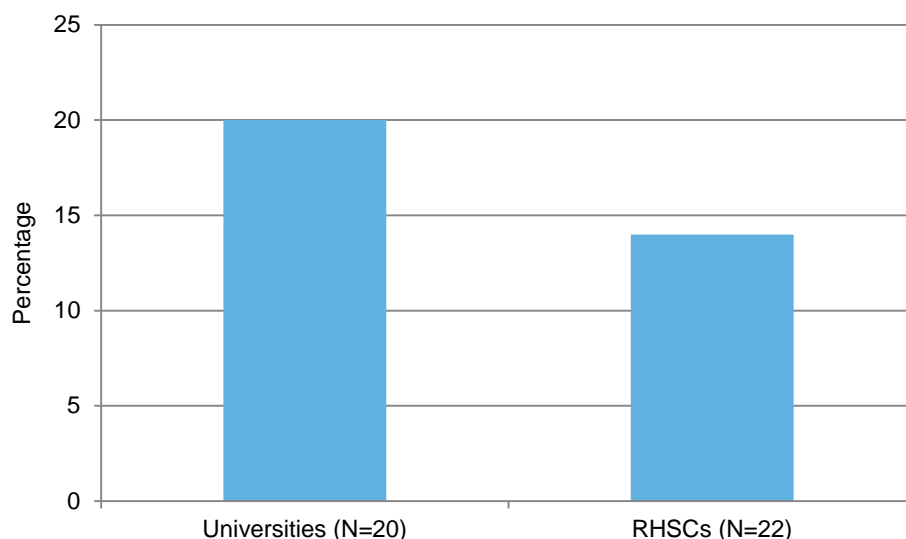
Universities were more likely to have internet connectivity in computer labs than RHSCs (86% vs. 53%) and educational websites available for student use (30% vs. 0) (**Appendix Table B19**).

All RHSCs and 70% of universities had one functional library; the remaining universities had two functional libraries (**Appendix Table B20**). The capacity of these libraries tended to be smaller at RHSCs (161 students per library) than at universities (301 students per library). Over three-quarters of RHSCs (77%) could accommodate less than 200 students in their libraries, compared with 40% of universities. None of the RHSCs, but 10% of universities, had libraries large enough to

accommodate more than 600 students. Some libraries lacked the lighting, ventilation, tables and/or seats that make them conducive for use—libraries at just 60% of universities and 50% of RHSCs had all of these amenities

Only 20% of universities and 14% of RHSCs offered adequate transportation to and from clinical practice sites (**Figure 31** and **Appendix Table B20**).

Figure 31. Transportation to clinical practice sites



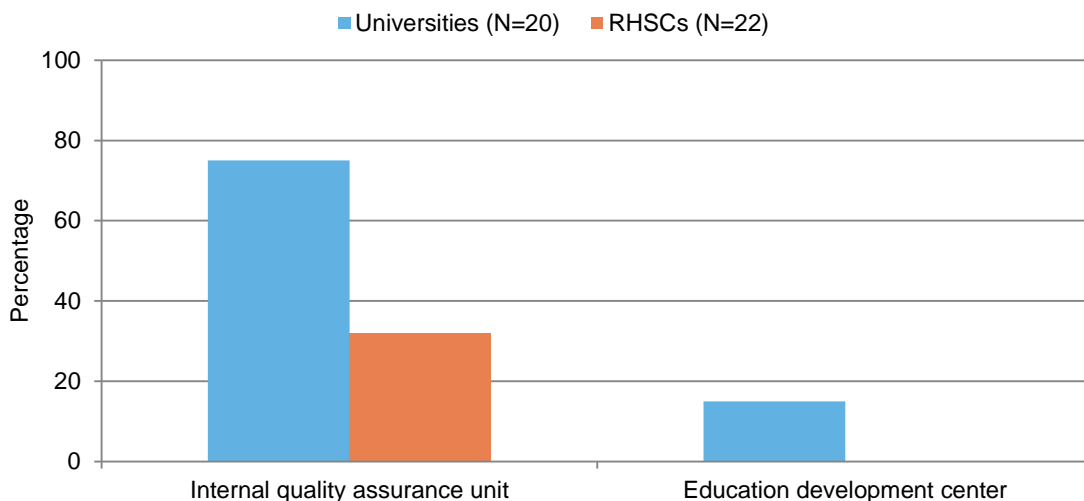
Educational Centers, Gender Offices and Quality Assurance System

Only about one-quarter of all health science training institutions (20% of universities and 27% of RHSCs) had sufficient copies of national service delivery guidelines and documents covering areas such as tuberculosis, leprosy, HIV, sexually transmitted infections, maternal and newborn care, integrated management of childhood illness, malaria and nutrition (**Appendix Table B21**). Even fewer institutions (15% of universities and 5% of RHSCs) had reference copies of journals available on a timely basis.

Three-quarters of universities, but only 32% of RHSCs, had an internal quality assurance system or unit (**Figure 32**). No RHSCs and only three universities had a health science education development center, and none of those three education development centers had all of the necessary furniture, equipment and resource materials (**Appendix Table B22**).

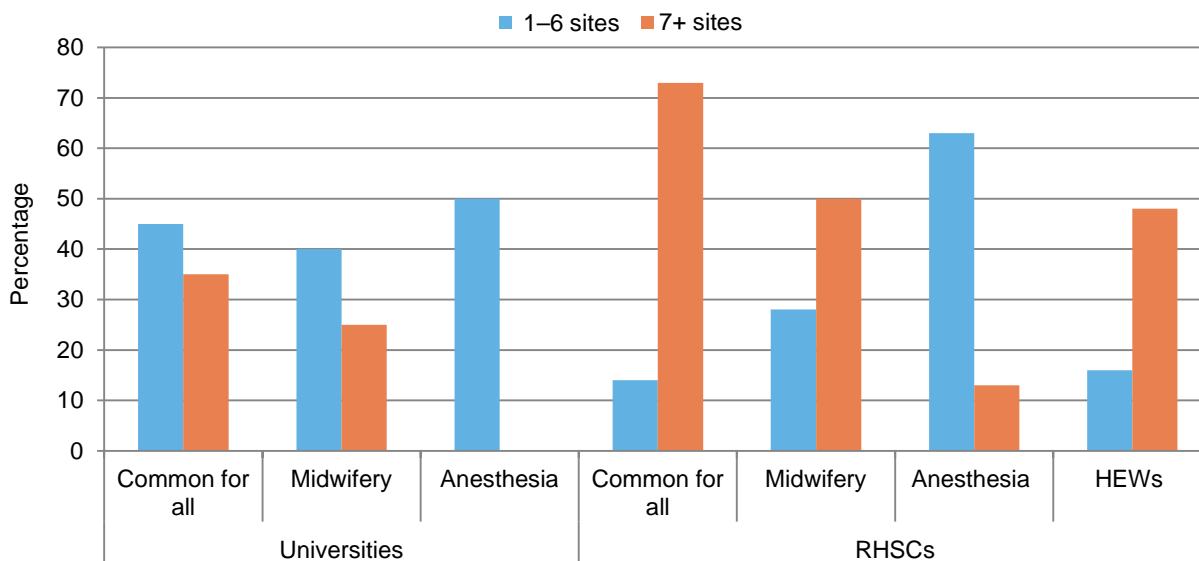
Forty percent of universities and 23% of RHSCs had the skills needed to design or develop curricula and teaching/learning materials, either in a curriculum development group or health science education development center (**Appendix Table B22**).

Figure 32. Quality assurance unit and health science education development center



As shown in **Figure 33**, on average, universities had 6 clinical practice sites and RHSCs had 15 sites that were used for all health programs (**Appendix Table B23**). In addition, universities averaged 5 clinical practice sites for midwifery and 5 for anesthesia, compared with an average of 8 midwifery, 3 anesthesia and 8 HEW clinical practice sites at RHSCs.

Figure 33. Clinical practice sites



Not all clinical practice sites had enough supplies and equipment for students to practice. Sites associated with RHSCs were more likely to be adequately equipped than those associated with universities (**Appendix Table B23**).

Over 85% of all training institutions had some criteria for selection of clinical practices sites (**Appendix Table B24**). However, RHSCs were more likely than universities to have a memorandum of understanding with each clinical practice site (73% vs. 42%).

Seventeen universities (85% of the total) had a functional gender office. At all but one of these (i.e., the gender office), worked in collaboration with the training programs to mainstream gender. Only 8 RHSCs (36% of the total) had a gender office. Gender was mainstreamed at just 6 of those 8 RHSCs (**Appendix Table B25**).

Perceived Challenges and Critical Shortages at Universities and RHSCs

Nearly all training institutions (95% of universities and 91% of RHSCs) said they faced challenges related to classroom teaching, skills labs, other infrastructure and/or education management (**Appendix Table B26**). Slightly fewer institutions (90% of universities and 82% of RHSCs) reported challenges related to clinical sites and preceptors.

Universities and RHSCs reported critical shortages of models for midwifery, anesthesia and HEW training programs, including family planning, cardiopulmonary resuscitation competencies and antenatal, labor and delivery care. Critical shortages of instrument kits in the skills labs were reported, including delivery kits, MVA set, blood pressure apparatus, autoclave, IV administration stand and anesthesia machine. Moreover, both institutions reported critical shortages of supplies and equipment in the clinical practice sites (**Appendix Tables B27–B29**).

LIMITATIONS

The following were some of the limitations of this baseline survey:

- HRIS data were either incomplete or not available at different levels of surveyed organizations. Where paper-based records of health workforce data existed, the records were often not updated or were incomplete. As a result, we are unable to compute the health workforce attrition rates, and could not verify the number of total health workers in the country by cadre.
- Data were collected primarily from the zonal and WoHO levels, as this is where the most complete data were available. However, this data may not include health workers who are working at the RHBs and other health facilities that do not share their information with zonal offices and WoHO.
- Data collected from the training institutions were based on self-reporting or from review of registers, interviews and payroll records. Data were not always verifiable.

STRENGTHS

- The survey was nationally representative; all RHBs and ZHDs were included in the survey.
- Response rates were high—responses were received from all RHBs and ZHDs (100% response rate).
- WoHOs were randomly sampled to obtain generalizable information.
- All training institutions targeted for program intervention were included in the survey to obtain information on their capacity.

Project Implications by Result Area

RESULT 1: IMPROVED HUMAN RESOURCES FOR HEALTH MANAGEMENT

- Advocate for all human resources unit heads at the FMOH, ZHDs and WoHOs to be members of the HRM team.
- Support RHBs, ZHDs and WoHOs to develop up-to-date job descriptions for all their staff as this is essential to ensuring that HRM functions are effective; the project has to promote RHBs, ZHDs and WoHOs to have up-to-date job descriptions for their staff.
- Adequate staffing in the HRM unit is important for optimal functioning; there should be advocacy with the FMOH, RHBs, ZHDs and WoHOs to staff as appropriate and ensure all required positions are filled.
- Promote and support educational upgrading and short-term training in HRM for HRM leaders to improve their managerial capacity.
- Support the FMOH, RHBs, ZHDs and WoHOs to develop and routinely update a staff requirement plan that includes a budget for all health program activities.
- Focus on regions and cadres to minimize attrition. Volunteer resignation was a key contributor to the health workforce attrition and was highest in Oromia, SNNPR, Tigray, Somali and Amhara. It was also highly prevalent among biomedical engineers, IESOs, doctors, radiographers, HEWs and anesthetists.
- Address upgrading of HEWs with program planning. Over a five-year period (2005 EC to 2009 EC), the FMOH planned to upgrade 16,367 HEWs to Level IV. Of these, the FMOH upgraded only 1,367 HEWs to Level IV. A total of 6,088 new Level III HEWs were planned by regions to train for replacement. This reflects an area of great need that can be addressed in program planning and design.
- Conduct staff satisfaction surveys. The HRM/personnel administration units of the FMOH, all RHBs, 93% of ZHDs and 87% of WoHOs had never conducted a staff satisfaction survey. Project activities should focus on capacitating these organizations to conduct periodic staff satisfaction surveys and take subsequent actions for improvement based on the findings.
- Reward and recognize top-performing staff. Nearly half of RHBs, ZHDs and WoHOs did not offer rewards and recognition to top-performing staff members. There is a program need to advocate for health organizations to reward and recognize best-performing staff members based on annual performance evaluation.
- Build capacity of HRM staff. The demand for IST/continuing professional development in HRM is great in the FMOH, all RHBs and 79% of ZHDs and WoHOs. Project activities should focus on capacity-building of the HRM staff with training, including HRM/leadership, data management, program monitoring and evaluation, and IT. Neither the FMOH nor any of the RHBs reported an HRH forum. Programs should plan to establish an HRH forum in the health system and provide sustainable support to strengthen and coordinate HRM functions at national and regional levels.

RESULT 2: INCREASED AVAILABILITY OF MIDWIVES, ANESTHETISTS, HEWS AND OTHER ESSENTIAL HEALTH WORKERS

- Strengthen existing training programs. Anesthesia training programs were available in only a few universities and RHSCs, and none of the institutions were providing ICU nurse, scrub nurse or postgraduate programs in HRH management or health economics/financing. Programs need to support institutions to strengthen existing programs and to open ICU nurse, scrub nurse and postgraduate programs in HRH management or health economics/financing.
- Offer distance learning. Opportunities for distance and blended learning were rare in universities and RHSCs. Programs should advocate the scale-up of these training programs to increase student uptake.
- Establish gender offices. The majority of RHSCs and some universities did not have gender offices. Programs need to support the establishment of gender offices and mainstreaming of activities.

RESULT 3: IMPROVED QUALITY OF TRAINING OF HEALTH WORKERS

- Reduce student-to-teacher ratios. Student-to-teacher ratios varied widely, depending on the training program and the type of training institution. When comparable training programs were available at universities and RHSCs, the student-to-teacher ratio was slightly higher at RHSCs. To improve quality of education, programs must work to increase the number of academic staff in midwifery, radiography and HEW training programs at RHSCs and in midwifery and health officer training programs at universities.
- Support gender in program planning. Women teaching staff were limited in number in the institutions. There is a need to support and streamline gender in program planning.
- Provide technical updates. Classroom instructors, skills lab personnel and preceptors of midwifery, anesthesia and HEW training programs in universities and RHSCs generally lack regular updates on technical knowledge and teaching skills. Programs need to provide required training on technical knowledge updates and effective teaching skills to improve quality of education. Clinical skills learning labs and practicum sites at universities and RHSCs were limited in number and tended to be poorly outfitted with teaching and reference materials, models, instrument kits and equipment. There was also inadequate transportation to and from clinical practice sites for students in the universities and RHSCs; this is a great demand that needs to be addressed. Programs have to plan to support and strengthen universities and RHSCs to improve quality of education.
- Strengthen and establish educational centers. All RHSCs and the majority of universities had no educational development centers, and the majority of RHSCs had no an internal educational quality assurance system. To improve the quality of education, programs have to strengthen existing centers, establish new centers and build human resources capacity in internal quality assurance in the universities and RHSCs.

- Provide up-to-date reference materials. Libraries and educational development centers in the universities and RHSCs had shortages of educational guidelines, books and journals. The project has to provide up-to-date and essential reference materials and guides.
- Fill the gaps on critical shortages of models, instruments and kits for midwifery, anesthesia and HEW training programs in the universities and RHSCs.

RESULT 4: PROGRAM LEARNING AND RESEARCH CONDUCTED

- Ensure HRIS functionality. HRIS is almost non-functional in most of the surveyed health organizations. Programs should design and plan to make HRIS functional by providing support on training, software and computers to obtain up-to-date human resources data.

Appendix A: Detailed Tables on Human Resources Management

Table A1. Percentage of organizations that have organizational structure

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda Health Office	
	Number	Number	%	Number	%	Number	%
Presence of organogram							
Yes	1	6	55	39	54	55	69
No	0	4	36	33	46	25	31
Do not know	0	1	9	0	0	0	0
Total	1	11	100	72	100	80	100
Presence of human resources management unit							
Yes	1	11	100	37	51	39	49
Yes in pool*	0	0	0	35	49	41	51
Total	1	11	100	72	100	80	100
The head of human resources management unit is a member of management team							
Yes	0	11	100	30	81	37	95
No	1	0	0	7	19	2	5
Total	1	11	100	37	100	39	100

* Pooling means different organizations have used one human resources management unit at the civil service organization.

Table A2. Percentage of organizations that have human resources management policy and strategies

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda Health Office	
	Number	Number	%	Number	%	Number	%
Availability of human resources management policy and procedure document							
Yes	1	10	91	45	62	37	46
Yes in pool	0	1	9	15	21	31	39
No	0	0	0	12	17	12	15
Total	1	11	100	72	100	80	100
Key strategies included in human resources policy							
Recruitment and deployment	1	11	100	60	83	64	80
New staff induction	1	6	55	39	54	41	51
Performance management	1	7	64	41	57	43	54
Transfer out	1	11	100	59	82	58	73
Compensation/benefit	0	11	100	55	76	52	65
Training/professional development	1	10	91	45	63	44	55
Code of conduct at work place	1	9	82	59	82	58	73
Discipline and grievance procedure	1	11	100	57	79	56	70
Total	1	11		72		80	

Table A3. Percentage of organizations that have guidelines for training management and staffing standards

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda Health Office	
		Number	%	Number	%	Number	%
Existence of guideline for management of staff training							
Yes	1	5	46	16	22	24	30
No	0	6	54	56	78	56	70
Total	1	11	100	72	100	80	100
Existence of staffing standard							
Yes	1	11	100	61	85	76	95
No	0	0	0	11	15	4	5
Total	1	11	100	72	100	80	100
HRM standards specifying minimum number of positions**							
Yes	1	11	100	36	100	37	100
No	0	0	0	0	0	0	0
Total	1	11	100	36	100	37	100
HRM standards specifying minimum qualification**							
Yes	1	11	100	36	100	37	95
No	0	0	0	0	0	2	5
Total	1	11	100	36	100	39	100
HRM position match with the workload**							
Yes	0	2	18	8	22	13	35
No	1	9	82	28	78	24	65
Total	1	11	100	36	100	37	100
Availability of up-to-date job description for HRM positions**							
Yes	1	7	64	31	84	26	67
No	0	4	36	6	16	13	33
Total	1	11	100	37	100	39	100

** Note: These results produced for organizations that have independent HRM unit.

Table A4. Number of positions and HRM staff, by type of qualification

CHARACTERISTICS	RESPONDING ORGANIZATIONS							
	Federal Ministry of Health		Regional Health Bureau		Zonal health department		Woreda health office	
	Number	%	Number	%	Number	%	Number	%
Average number of positions allowed in the HRM standard	10		11		4		3	
Average number of approved positions filled	8		11		3		3	
Required average number of HRM positions	9		3		2		2	
Number of fulltime staff in HRM								
Male	10	77	62	50	65	51	81	66
Female	3	23	61	50	62	49	41	34
Total	13	100	123	100	127	100	122	100
Average number of HRM staff currently working**	13		11		3		3	
Educational level of HRM leaders**								
Master's degree	–		4	36	0	0	1	3
Bachelor's degree	–		7	64	21	58	5	12
Diploma	1		0	0	15	42	31	79
Certificate	–		0	0	0	0	1	3
Other (specify)	–		0	0	0	0	1	3
Total	1		11	100	36	100	39	100
HRM leaders' qualification**								
Management	0		8	73	15	42	11	28
Human resources management	1		0	0	8	22	11	28
Health administration	0		1	9	0	0	0	0
Clinical training/MD, HO, nurse, etc.	0		0	0	5	14	4	10
Social science	0		1	9	9	25	3	8
Others	0		5	45	7	19	10	26
Total	1		11		36		39	
Number of HRM staff with additional HRM training among full time staff**	6	46	14	12	20	16	25	21

** Note: These results produced for organizations that have independent HRM unit. Educational level of HRM leaders at FMOH refers only to human resources administration case team coordinator.

Table A5. Percentage of organization having human resources assessment and planning

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda Health Office	
		Number	%	Number	%	Number	%
Human resources management capacity assessment conducted							
Yes	0	0	0	0	0	0	0
No	1	11	100	72	100	80	100
Total	1	11	100	72	100	80	100
Availability of staff requirement plan for 2005 EC							
Yes	0	10	91	55	76	69	86
No	1	1	9	17	24	11	14
Total	1	11	100	72	100	80	100
Allocation of budget in the staff requirement plan							
Yes	–	7	70	42	76	42	61
No	–	3	30	13	24	27	39
Total	–	10	100	55	100	69	100

Table A6. Total number of health workers actively working at the time of the survey in public sectors (in December 2012)

Health Workers	FMOH	Tigray	Afar	Amhara	Oromia	Somali	B/Gumuz	SNNP	Gambela	Harari	AA*	D/Dawa	Total
Midwifery	4	595	52	580	1,709	402	99	918	64	33	203	50	4,709
Anesthesia	0	13	0	7	112	0	6	26	2	6	76	4	252
HEWs	0	1,543	526	5,759	12,552	297	690	5,582	556	103	1,201	185	28,994
Scrub nurse	0	0	0	0	0	0	0	22	4	0	0	0	26
ICU nurse	0	0	0	0	0	0	0	0	13	0	0	0	13
Radiography	0	18	0	8	31	0	4	17	2	0	0	1	81
Biomedical engineering	0	0	0	5	6	0	0	3	1	0	0	0	15
Paramedics: Ambulance	0	0	0	1	0	0	0	0	0	0	0	0	1
Nurse	41	333	433	5,609	11,229	720	734	5,914	323	159	1,782	220	27,497
Pharmacy	4	765	85	1,235	1,790	0	96	1,015	13	36	245	35	5,319
Laboratory	20	483	78	1,123	1,680	0	98	1,090	53	37	257	46	4,965
Health officer	28	396	35	853	1,420	139	82	924	65	34	281	37	4,294
Medicine	19	82	0	34	378	48	20	172	9	18	15	29	824
IESO	0	4	0	1	10	0	2	4	4	0	0	0	25
Other health professionals	26	284	11	626	1,670	0	21	969	24	9	79	30	3,749
Non-health professionals (supportive and administrative staffs)	508	596	1,766	5,409	10,674	0	51	4,789	60	249	2,059	68	26,227
Total	650	5,112	2,984	21,250	43,261	1,606	1,903	21,445	1,193	684	6,198	705	106,991

Note: Estimates may not include health workers who are working at hospitals under FMOH and Regional Health Bureaus.

AA*=Addis Ababa

Table A7. Total number of health workers voluntary resigned from public sectors one year prior to the survey (December 14, 2011 to December 15, 2012)

Health Workers	FMOH	Tigray	Afar	Amhara	Oromia	Somali	B/Gumuz	SNNP	Gambela	Harari	AA*	D/Dawa	Total	Attrition rate per 1,000
Midwifery	0	9	0	2	8	13	0	37	1	2	0	4	76	20
Anesthesia	0	1	0	1	4	0	0	2	0	0	3	0	11	40
HEWs	-	131	35	190	879	151	41	368	0	2	19	0	1,816	60
Scrub nurse	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ICU nurse	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Radiography	0	0	0	1	4	0	0	5	0	1	0	0	11	120
Biomedical engineering	0	0	0	1	2	0	0	0	0	0	0	0	3	170
Paramedics: Ambulance	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nurse	2	34	48	8	58	127	12	109	2	7	6	0	413	10
Pharmacy	0	15	15	10	78	7	7	36	2	2	1	4	177	30
Laboratory	1	3	9	2	10	14	8	30	0	0	0	4	81	20
Health officer	5	18	3	29	27	7	3	36	2	1	1	6	138	30
Medicine	2	31	0	9	23	12	5	9	2	3	13	0	109	120
IESO	0	0	0	3	0	0	0	0	1	0	0	0	4	140
Other health professionals	3	112	0	41	17	0	6	18	0	0	0	3	200	50
Non-health professionals (supportive and administrative staff)	35	0	24	4	12	0	4	36	2	1	10	5	133	10
Total	48	354	134	301	1,122	331	86	686	12	19	53	26	3,172	30

AA*=Addis Ababa

Table A8. Number of health workers who left from their jobs during last 12 months (December 14, 2011 to December 15 2012), by reason

Reasons	FMOH	Tigry	Afar	Amhara	Oromia	Somali	B/Gumuz	SNNP	Gambela	Harari	AA	D/Dawa	Total
Retirement	7	0	0	3	3	0	3	24	0	2	0	3	45
Death	4	0	0	1	1	0	3	21	2	2	0	1	35
Voluntary resignation	48	354	134	301	1,122	331	86	686	12	19	53	26	3,172
Profession change	0	0	0	0	0	0	0	13	3	0	0	0	16
Transfer out within the public health system	9	46	10	0	8	0	0	104	5	2	0	3	187
Total	68	400	144	305	1,134	331	92	848	22	25	53	33	3,455

AA*=Addis Ababa

Table A9. Workforce attrition rate by regions for the last one year (December 14, 2011–December 15, 2012)

REGIONS	NUMBER OF HEALTH WORKERS ACTIVELY WORKING AT TIME OF SURVEY	NUMBER OF HEALTH WORKERS VOLUNTARY RESIGNING	ATTRITION RATE PER 1,000
FMOH	650	48	70
Tigray	5,112	354	60
Afar	2,984	134	40
Amhara	21,250	301	10
Oromia	43,261	1,122	30
Somali	1,606	331	170
B/Gumuz	1,903	86	40
SNNP	21,445	686	30
Gambela	1,193	12	10
Harari	684	19	30
Addis Ababa	6,198	53	10
D/Dawa	705	26	40
Total	106,991	3,172	30

Attrition rate: Is the number of health workforce who voluntary resigned from their job during last one year as numerator and total number of health workforce during the same year as denominator.

Table A10. Percentage of organizations having plan to train and upgrade HEWs and implement deployment policy

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda Health Office	
		Number	%	Number	%	Number	%
Availability of plan to upgrade HEWs to level IV							
Yes	1						
No	0						
Total	1						
Availability of plan to train new level III HEWs							
Yes		7	64	31	44	35	44
No		4	36	39	56	45	56
Total		11	100	70	100	80	100
Implement HEWs' deployment policy							
Yes		7	64	51	72	72	92
No		4	36	20	28	6	8
Total		11	100	71	100	78	100

Table A11. Number of new and upgrade HEW training plan

HEWs	FMOH	Tigray	Afar	Amhara	Oromia	Somali	B/Gumuz	SNNP	Gambela	Harari	Addis Ababa	Dire Dawa	Region Total
Annual HEWs upgrading to level IV training plan from 2005 to 2009 EC	15,000												
Number of upgraded HEWs to level IV	1,367												
Level III HEWs training plan from 2005 to 2009 EC		410	317	650	2,400	No data	770	1,391	No data	0	No data	150	6,088

Table A12. Percentage of organization having workforce satisfaction and retention mechanisms

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda Health Office	
		Number	%	Number	%	Number	%
HRM staff satisfaction survey conducted							
Yes	0	0	0	5	7	10	13
No	1	11	100	67	93	70	87
Total	1	11	100	72	100	80	100
Measures taken using staff satisfaction survey result							
Yes	–	–	–	5	100	8	80
No	–	–	–	0	0	2	20
Total	–	–	–	5	100	10	100
Staff retention mechanisms in place							
Periodic salary increase	1	7	64	14	19	27	34
Performance related bonus/allowance	0	5	45	7	10	16	20
House or housing allowance	1	6	55	16	22	28	35
Recognition and supervision	1	7	64	34	47	55	69
Transport allowance	0	2	18	4	6	3	4
Communication allowance	1	3	27	6	8	3	4
Education upgrading	1	11	100	42	58	53	66
Training	1	9	82	44	61	53	66
Others	0	5	45	11	15	12	15
Total		11		72		80	
Provision of hardship allowance for health workforce							
Yes	1	5	45	10	14	11	14
No	0	6	55	61	86	69	86
Total	1	11	100	71	100	80	100

Table A13. Percentage of organization having performance planning, monitoring and evaluation

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda Health Office	
		Number	%	Number	%	Number	%
Presence of human resources performance planning							
Yes	1	9	82	48	67	59	74
No	0	2	18	24	33	21	26
Total	1	11	100	72	100	80	100
Presence of supportive supervision and staff development system							
Yes	1	8	73	41	57	55	69
No	0	3	27	31	43	25	31
Total	1	11	100	72	100	80	100

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda Health Office	
		Number	%	Number	%	Number	%
Presence of annual performance evaluation system							
Yes	1	9	82	45	63	57	71
No	0	2	18	27	38	23	29
Total	1	11	100	72	100	80	100
Availability of rewards or recognitions for best performing staff among organizations having annual performance evaluation							
Yes	1	4	44	17	38	31	54
No	0	5	56	28	62	26	46
Total	1	9	100	45	100	57	100

Table A14. Percentage of organizations exercising in-service training and continuing professional development

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda Health Office	
		Number	%	Number	%	Number	%
Presence of in-service training or CPD plan in 2005 EC							
Yes	0	7	64	19	26	27	34
No	1	4	36	53	74	53	66
Total	0	11	100	72	100	80	100
Availability of system to link in-service training or CPD to career development							
Yes	0	8	73				
No	1	3	27				
Total	1	11	100				
HRM staff received in-service training or CPD in HRM in 2004 EC							
Yes	1	1	9	16	21	22	28
No	0	10	91	56	79	58	72
Total	1	11	100	72	100	80	100
Allocate in service training budget for human resources management							
Yes	1	3	27	1	3	1	3
No	0	8	73	36	97	38	97
Total	1	11	100	37	100	39	100
In-service training needed for HRM staff							
Yes	1	11	100	37	100	39	100
No	0	0	0	0	0	0	0
Total	1	11	100	37	100	39	100
Type of training needed to HRM staff							
HRM/leadership	1	10	91	37	100	39	100
Data management	1	10	91	36	97	39	100
Monitoring and evaluation	1	9	82	29	78	31	80
Others/basic computer	0	4	36	17	47	17	44
Total	1	11		37		39	

Table A15. Percentage of organization having human resources information system

CHARACTERISTICS	RESPONDING ORGANIZATIONS						
	Federal Ministry of Health	Regional Health Bureau		Zonal Health Department		Woreda health Office	
		Number	%	Number	%	Number	%
Availability of computerized HRIS							
Yes	1	3	27	9	12	4	5
No	0	8	73	63	88	76	95
Total	0	11	100	72	100	80	100
Reasons for not having HRIS							
Lack of computer	–	4	50	42	67	51	67
Lack of software	–	3	38	52	83	67	88
Lack of trained personnel	–	6	75	51	81	65	86
Lack of orientation form higher officials	–	6	75	48	76	54	71
Others	–	0	0	8	13	10	13
Total	–	8		63		76	
Availability of employees information in the HRIS database							
Yes	1	1	33	7	78	4	100
No	0	2	67	2	22	0	0
Total	1	3	100	9	100	4	100
Timely reporting using HRIS							
Yes	1	2	67	5	56	4	100
No	0	1	33	4	44	0	0
Total	1	3	100	9	100	4	100
Frequency of reporting using HRIS							
Monthly	1	1	50	2	40	1	25
Quarterly	0	0	0	2	40	2	50
Every six month	0	1	50	1	20	1	25
Annually	0	0	0	0	0	0	0
As requested	0	0	0	0	0	0	0
Total	1	2	100	5	100	4	100
Presence of HRIS focal person							
Yes	1	3	100	7	78	3	75
No	0	0	0	2	22	1	25
Total	1	3	100	9	100	4	100
Data management training given to HRIS focal person prior to the survey							
Yes	1	2	67	3	33	2	50
No	0	1	33	6	67	2	50
Total	1	3	100	9	100	4	100

Appendix B: Detailed tables on training institutions

Table B1: Percentage of health science training institutions by type of program

TYPE OF PROGRAM	UNIVERSITY (N=20)		REGIONAL HEALTH SCIENCE COLLEGES (N=22)	
	Number	%	Number	%
Midwifery	20	100	22	100
Anesthesia	6	30	8	36
HEWs	0	0	19	86
Scrub nurse	0	0	0	0
ICU nurse	0	0	0	0
Radiography	1	5	6	27
Biomedical engineering	1	5	0	0
Paramedics	0	0	4	18
Nurse	20	100	19	86
Pharmacy	10	50	11	50
Laboratory	10	50	11	50
Health officer	18	90	0	0
Medicine	16	80	0	0
IESO	7	35	0	0
Others (HIT, Psychiatry, Ophthalmic, Dental Nurse, Environmental Health, etc.)	6	30	6	27

Table B2: Percentage of health science training institutions by type of program and level of training

TYPE OF PROGRAM	TRAINING LEVEL					
	University (N=20)		Regional Health Science Colleges (N=22)			
	Degree		Level 1–3		Level 4–5	
	Number	%	Number	%	Number	%
Midwifery	20	100	1	5	21	95
Anesthesia	6	30	0	0	8	36
HEWs	0	0	5	23	15	68
Scrub nurse	0	0	0	0	0	0
ICU nurse	0	0	0	0	0	0
Radiography	1	5	1	5	6	27
Biomedical engineering	1	5	0	0	0	0
Paramedics	0	0	3	14	1	5
Nurse	20	100	5	23	19	86
Pharmacy	10	50	2	9	11	50
Laboratory	10	50	4	18	10	45
Health officer	18	90	0	0	0	0
Medicine	16	80	0	0	0	0
IESO	3	15	0	0	0	0
Others (HIT, Psychiatry, Ophthalmic, Dental Nurse, Environmental Health, etc.)	7	35	0	0	11	50

Table B3: Percentage of health science training institutions by type of postgraduate program

TYPES OF POSTGRADUATE TRAININGS (Q3)	UNIVERSITY (N=20)	
	Number	%
Postgraduate midwifery	2	10
Postgraduate anesthesia	1	5
Postgraduate HRH management	0	0
Postgraduate health economics/financing	0	0
Postgraduate Nursing	3	15
Specialty in Clinical Medicine	4	20
Postgraduate Public Health	8	40
Other specialty trainings (specify) (IESO, Environmental Health, etc.)	9	45

Table B4: Percentage of health science training institutions providing accelerated program

ACCELERATED TRAINING PROGRAM TYPE	UNIVERSITY (N=20)		REGIONAL HEALTH SCIENCE COLLEGES (N=22)	
	Number	%	Number	%
Midwifery	1	5	14	64
Anesthesia	0	0	3	14
IESO	1	5	0	0
Others (Health Officer, HIT, Innovative Medicine, etc.)	4	20	2	9

Table B5: Percentage of health science training institutions providing alternative cohort training programs

ALTERNATIVE TRAINING PROGRAMS	UNIVERSITY (N=20)		REGIONAL HEALTH SCIENCE COLLEGES (N=22)	
	Number	%	Number	%
Regular program	20	100	22	100
Summer program	14	70	6	27
Extension (weekend and evening) program	19	95	11	50
Distance learning	2	10	1	5
Blended learning	2	10	2	9

Table B6: Number of teaching staffs by level of education

LEVEL OF EDUCATION	UNIVERSITY			REGIONAL HEALTH SCIENCE COLLEGES		
	Number of Male	Number of Females	Total	Number of Males	Number of Females	Total
Diploma	94	37	131	130	67	197
Degree	451	95	546	511	88	599
Medical Doctor	496	92	588	4	0	4
Masters/Specialists	991	156	1,147	145	37	182
Fellowship/sub specialty	40	3	43	6	0	6
PhD/DrPH	66	5	71	0	0	0
Total	2,138	388	2,526	796	192	988

Table B7: Number of teaching staffs by program and same profession

TYPE OF PROGRAM	UNIVERSITY		TOTAL	REGIONAL HEALTH SCIENCE COLLEGES		TOTAL
	Number of Male	Number of Females		Number of Males	Number of Females	
Midwifery	104	40	144	81	58	139
Anesthesia	54	15	69	19	2	21
Total	158	55	213	100	60	160

Table B8. Ratio of student to teacher with the same profession in 2005 EC

TYPE OF PROGRAM	UNIVERSITY			REGIONAL HEALTH SCIENCE COLLEGES		
	Number of Students	Number of Teachers	Ratio	Number of student	Number of teachers	Ratio
Midwifery	3,269	144	23	4,772	139	34
Anesthesia	579	69	8	142	21	7
Total	3,848	213	18	4,914	160	31

Table B9. Percentage of health science training institutions having regular technical knowledge and skill update for teaching staff

REGULAR TECHNICAL KNOWLEDGE AND SKILL UPDATE	UNIVERSITY						REGIONAL HEALTH SCIENCE COLLEGES							
	Only for Midwifery		Only for Anesthesia		Other Programs		Only for Midwifery		Only for Anesthesia		Only for HEWs		Other Programs	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Class room instructors														
Yes	3	15	2	33	2	12	8	36	1	13	3	16	1	5
No	17	85	4	67	15	88	14	64	7	88	16	84	20	95
Total	20	100	6	100	17	100	22	100	8	100	19	100	21	100
Clinical instructors														
Yes	4	20	2	33	2	12	8	36	0	0	2	11	2	10
No	16	80	4	67	14	82	14	64	8	100	17	89	19	90
Total	20	100	6	100	17	100	22	100	8	100	19	100	21	100
Skill lab personnel														
Yes	2	10	1	17	1	6	4	18	0	0	1	5	2	10
No	18	90	5	83	16	94	18	82	8	100	18	95	19	90
Total	20	100	6	100	17	100	22	100	8	100	19	100	21	100
Clinical preceptors														
Yes	2	10	1	17	–	–	4	18	0	0	1	5	–	–
No	18	90	5	83	–	–	18	82	8	100	18	95	–	–
Total	20	100	6	100	–	–	22	100	8	100	19	100	–	–

Table B10. Percentage of health science training institutions having regular teaching skill update for teaching staff

REGULAR TEACHING SKILL UPDATE	UNIVERSITY						REGIONAL HEALTH SCIENCE COLLEGES							
	Midwifery		Anesthesia		Other Programs		Midwifery		Anesthesia		HEWs		Other Programs	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Class room instructors														
Yes	3	15	2	33	2	12	8	36	1	13	3	16	1	5
No	17	85	4	67	15	88	14	64	7	88	16	84	20	95
Total	20	100	6	100	17	100	22	100	8	100	19	100	21	100
Clinical instructors														
Yes	4	20	2	33	3	18	8	36	0	0	2	11	2	10
No	16	80	4	67	14	82	14	64	8	100	17	89	19	90
Total	20	100	6	100	17	100	22	100	8	100	19	100	21	100
Skill lab personnel														
Yes	2	10	1	17	1	6	4	18	0	0	1	5	2	10
No	18	90	5	83	16	94	18	82	8	100	18	95	19	90
Total	20	100	6	100	17	100	22	100	8	100	19	100	21	100
Clinical preceptors														
Yes	0	0	0	0	–	–	1	5	0	0	0	0	–	–
No	20	100	6	100	–	–	21	95	8	100	19	100	–	–
Total	20	100	6	100	–	–	22	100	8	100	19	100	–	–

Table B11: Percentage of health science training institutions by type of program and frequency of student intake

PROGRAM AREA	UNIVERSITY				REGIONAL HEALTH SCIENCE COLLEGES			
	Once intake		Twice intake		Once intake		Twice intake	
	Number	%	Number	%	Number	%	Number	%
Midwifery	20	100	0	0	19	86	3	14
Anesthesia	6	100	0	0	8	100	0	0
HEWs	0	0	0	0	17	89	2	11
Scrub nurse	0	0	0	0	0	0	0	0
ICU nurse	0	0	0	0	0	0	0	0
Radiography	1	100	0	0	6	100	0	0
Biomedical engineering	1	100	0	0	0	0	0	0
Paramedics	0	0	0	0	4	100	0	0
Nurse	19	95	1	5	19	100	0	0
Pharmacy	10	100	0	0	11	100	0	0
Laboratory	10	100	0	0	10	91	1	9
Health officer	16	89	2	11	0	0	1	100
Medicine	16	100	0	0	0	0	1	100
IESO	4	57	3	43	0	0	0	0
Others (HIT, Psychiatry, etc.)	6	100	3	43	5	50	3	50

Table B12: Number of graduates by program and gender

TYPE OF PROGRAM	NUMBER OF GRADUATES IN 2004 EC						GRAND TOTAL
	University			Regional Health Science Colleges			
	Number of Male	Number of Females	Total	Number of Males	Number of Females	Total	
Midwifery	148	90	238	688	1,357	2,045	2,283
Anesthesia	79	22	101	15	18	33	134
HEWs	0	0	0	90	567	657	657
Scrub nurse	0	0	0	0	0	0	0
ICU nurse	0	0	0	0	0	0	0
Radiography	26	0	26	103	23	126	152
Biomedical engineering	0	0	0	0	0	0	0
Paramedics	0	0	0	0	0	0	0
Nurse	586	301	887	1,689	1,053	2,742	3,629
Pharmacy	105	73	178	380	148	528	706
Laboratory	214	68	282	350	183	533	815
Health officer	598	189	787	0	0	0	787
Medicine	384	150	534	0	0	0	534
IESO	0	0	0	0	0	0	0
HIT	15	2	17	414	305	719	736
Psychiatry	23	5	28	0	0	0	28
Others	266	72	338	356	449	805	1,143
Total	2,444	972	3,416	4,085	4,103	8,188	11,604

Table B13: Average number of graduates by program in 2004 EC

TYPE OF PROGRAM	UNIVERSITY		REGIONAL HEALTH SCIENCE COLLEGES	
	Total Graduates	Average Graduates/ Institutions	Total Graduates	Average Graduates/ Institutions
Midwifery	238	34	2,045	97
Anesthesia	101	34	33	33
HEWs	0	–	657	73
Scrub nurse	0	–	0	–
ICU nurse	0	–	0	–
Radiography	26	26	126	21
Biomedical engineering	0	–	0	–
Paramedics	0	–	0	–
Nurse	887	59	2,742	125
Pharmacy	178	36	528	59
Laboratory	282	35	533	48
Health officer	787	66	0	–
Medicine	534	89	0	–
IESO	0	–	0	–

Table B14: Number of student intake by program and gender for 2005 EC

TYPE OF PROGRAM	STUDENT ENROLLMENT FOR 2005 EC						GRAND TOTAL
	University		Total	Regional Health Science Colleges		Total	
	Number of Male	Number of Females	Total	Number of Males	Number of Females	Total	
Midwifery	2,023	1,246	3,269	642	4,130	4,772	8,041
Anesthesia	363	216	579	100	42	142	721
HEWs	0	0	0	128	3,037	3,165	3,165
Scrub nurse	0	0	0	0	0	0	0
ICU nurse	0	0	0	20	35	55	55
Radiography	134	42	176	179	65	244	420
Biomedical engineering	255	81	336	0	0	0	336
Paramedics	0	0	0	136	0	136	136
Nurse	5,288	3,503	8,791	2,573	1,798	4,371	13,162
Pharmacy	2,146	779	2,925	764	345	1,109	4,034
Laboratory	1,107	536	1,643	684	422	1,106	2,749
Health officer	4959	1,724	6,683	0	0	0	6,683
Medicine	7,619	2,222	9,841	0	0	0	9,841
IESO	289	25	314	0	0	0	314
Others	4,340	1,271	5,611	1194	854	2,048	7,659
Total	28,523	11,645	40,168	6420	10,728	17,148	57,316

Table B15. Average number of student intake by program for 2005 EC

TYPE OF PROGRAM	UNIVERSITY		REGIONAL HEALTH SCIENCE COLLEGES	
	Total Intake	Average Intake/Institution	Total Intake	Average Intake/Institution
Midwifery	3,269	163	4,772	217
Anesthesia	579	97	142	18
HEWs	0	0	3,165	186
Scrub nurse	0	0	0	0
ICU nurse	0	0	55	55
Radiography	176	88	244	49
Biomedical engineering	336	336	0	0
Paramedics	0	0	136	45
Nurse	8,791	463	4,371	243
Pharmacy	2,925	293	1,109	101
Laboratory	1,643	183	1,106	111
Health officer	6,683	371	0	0
Medicine	9,841	579	0	0
IESO	314	39	0	0

Table B16: Percentage of health science training institutions having class rooms and seats by programs

NUMBER OF CLASS ROOMS OR SEATS	UNIVERSITY						REGIONAL HEALTH SCIENCE COLLEGES							
	Only for Midwifery		Only for Anesthesia		Shared for all health cadres		Only for Midwifery		Only for Anesthesia		Only for HEWs		Shared for all health cadres	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Number of class rooms														
0	7	35	3	50	19	95	3	14	2	25	6	32	8	36
1–5	13	65	3	50	1	5	12	55	6	75	13	68	5	23
6–10	0	0	0	0	0	0	6	27	0	0	0	0	3	14
≥10	0	0	0	0	0	0	1	5	0	0	0	0	6	27
Total	20	100	6	50	20	100	22	100	8	25	19	100	22	100
Adequacy of class rooms														
Yes	10	50	3	50	4	20	12	55	4	50	9	47	6	27
No	10	50	3	50	16	80	10	45	4	50	10	53	16	73
Total	20	100	6	100	20	100	22	100	8	100	19	100	22	100

Table B17: Percentage of health science training institutions having clinical skill labs, models and equipment in the clinical skill labs by program

CHARACTERISTICS	UNIVERSITY						REGIONAL HEALTH SCIENCE COLLEGES							
	Common for all cadres		For only Midwifery		For only Anesthesia		Common for all		For only Midwifery		For only Anesthesia		For only HEWs	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Availability of skill labs														
Yes	10	83	4	33	0	0	14	67	15	71	3	38	6	32
No	2	17	8	67	6	100	7	33	6	29	5	63	13	68
Total	12	100	12	100	6	100	21	100	21	100	8	100	19	100
Number of skill labs														
0	1	10	0	0	0	0	1	7	1	7	1	33	2	33
Only 1	7	70	4	100	0	0	4	29	6	40	2	67	4	67
Only 2	0	0	0	0	0	0	4	29	7	47	0	0	0	0
3 and above	2	20	0	0	0	0	5	36	1	7	0	0	0	0
Total	10	100	4	100	0	0	14	100	15	100	3	100	6	100

CHARACTERISTICS	UNIVERSITY						REGIONAL HEALTH SCIENCE COLLEGES							
	Common for all cadres		For only Midwifery		For only Anesthesia		Common for all		For only Midwifery		For only Anesthesia		For only HEWs	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Availability of models in the skill labs														
Yes	1	10	1	25	0	0	3	21	4	27	0	0	2	33
No	9	90	3	75	0	0	11	79	11	73	3	100	4	67
Total	10	100	4	100	0	0	14	100	15	100	3	100	6	100
Availability of adequate equipment in the skill labs														
Yes	0	0	0	0	0	0	3	21	5	33	1	33	1	17
No	10	100	4	100	0	0	11	79	10	67	2	67	5	83
Total	10	100	4	100	0	0	14	100	15	100	3	100	6	100
Adequacy of skill labs														
Yes	1	10	1	25	0	0	2	14	6	40	1	33	3	50
No	9	90	3	75	0	0	12	86	9	60	2	67	3	50
Total	10	100	4	100	0	0	14	100	15	100	3	100	6	100

Table B18. Percentage of health science training institutions having computer labs and Internet access

CHARACTERISTICS	UNIVERSITY						REGIONAL HEALTH SCIENCE COLLEGES					
	Teachers Only		Students Only		Both		Teachers Only		Students Only		Both	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Availability of computer lab												
Yes	6	30	13	65	1	5	2	9	16	73	3	14
No	14	70	7	35	19	95	20	91	6	27	19	86
Total	20	100	20	100	20	100	22	100	22	100	22	100
Number of computer lab												
Only 1	5	83	7	54	1	100	2	100	10	63	2	67
2-4	1	17	6	46	0	0	0	0	4	25	1	33
5-10	0	0	0	0	0	0	0	0	2	13	0	0
Total	6	100	13	100	1	100	2	100	16	100	3	100
Number of computers												
≤ 25	5	83	2	15	0	0	2	100	8	50	2	67
26-50	1	17	5	38	1	100	0	0	4	25	1	33
≥51	0	0	6	46	0	0	0	0	4	25	0	0
Total	6	100	13	100	1	100	2	100	16	100	3	100
Average computers per institution	21		97		50		8		32		24	

Table B19. Availability of internet and websites in the computer labs

CHARACTERISTICS	UNIVERSITY		REGIONAL HEALTH SCIENCE COLLEGES	
	Number	%	Number	%
Availability of internet				
Yes	12	86	10	53
No	2	14	9	47
Total	14	100	19	100
Availability of websites				
Yes	6	30	0	0
No	14	70	22	100
Total	20	100	22	100

Table B20. Percentage of health science training institutions having libraries and transportation

CHARACTERISTICS	UNIVERSITY		REGIONAL HEALTH SCIENCE COLLEGES	
	Number	%	Number	%
Number of functional libraries				
1	14	70	22	100
2	6	30	0	0
Total	20	100	22	100
Capacity of libraries				
<200	8	40	17	77
201-400	3	15	2	9
401-600	7	35	3	14
>600	2	10	0	0
Total	20	100	22	100
Number of student per library	301		161	
Conducive of libraries				
Yes	12	60	11	50
No	8	40	11	50
Total	20	100	22	100
Availability of adequate transportation				
Yes	4	20	3	14
No	16	80	19	86
Total	20	100	22	100

Table B21: Percentage of health science training institutions having national guidelines and journals

CHARACTERISTICS	UNIVERSITY		REGIONAL HEALTH SCIENCE COLLEGES	
	Number	%	Number	%
Availability of national guidelines				
Yes	4	20	6	27
No	16	80	16	73
Total	20	100	22	100
Timely arrival of journals				
Yes	3	15	1	5
No	17	85	21	95
Total	20	100	22	100

Table B22. Percentage of health science training institutions having educational center and internal quality assurance

CHARACTERISTICS	UNIVERSITY		REGIONAL HEALTH SCIENCE COLLEGES		GRAND TOTAL
	Number	%	Number	%	
Presence of EDC					
Yes	3	15	0	0	3
No	17	85	22	100	39
Total	20	100	22	100	42
Presence of internal quality assurance					
Yes	15	75	7	32	22
No	5	25	15	68	20
Total	20	100	22	100	42
Availability of basic infrastructures in EDC					
Yes	0	0	0	0	0
Yes (partially)	2	67	0	0	0
No	1	33	0	0	0
Total	3	100	0	0	0
Availability of skilled personnel in EDC/Curriculum group					
Yes	8	40	5	23	13
No	12	60	17	77	29
Total	20	100	22	100	42

Table B23. Percentage of training institutions having clinical practicum sites and training materials

CHARACTERISTICS	UNIVERSITY						REGIONAL HEALTH SCIENCE COLLEGES							
	Common for All		Midwifery		Anesthesia		Common for all		Midwifery		Anesthesia		HEWs	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Number of practicum sites														
0	4	20	7	35	3	50	3	14	5	23	2	25	7	37
1-3	3	15	4	20	3	50	1	5	3	14	3	38	1	5
4-6	6	30	4	20	0	0	2	9	3	14	2	25	2	11
7-10	2	10	2	10	0	0	2	9	2	9	1	13	2	11
>11	5	25	3	15	0	0	14	64	9	41	0	0	7	37
Total	20	100	20	100	6	100	22	100	22	100	8	1,000	19	100
Average practicum site/institution	6		5		1		15		8		3		8	
Training materials adequacy at practicum sites														
Yes	2	13	2	15	0	0	5	26	5	29	2	33	5	42
No	14	88	11	85	3	100	14	74	12	71	4	67	7	58
Total	16	100	13	100	3	100	19	100	17	100	6	100	12	100

Table B24. Percentage of training institutions having clinical practicum sites with memorandum of understanding

CHARACTERISTICS	UNIVERSITY		REGIONAL HEALTH SCIENCE COLLEGES	
	Number	%	Number	%
Availability of practicum site selection criteria				
Yes	18	90	19	86
No	2	10	3	14
Total	20	100	22	100
Availability of MOU				
Yes	8	42	16	73
No	11	58	6	27
Total	19	100	22	100

Table B25: Percentage of training institutions having gender office

CHARACTERISTICS	UNIVERSITY		REGIONAL HEALTH SCIENCE COLLEGES	
	Number	%	Number	%
Presence of gender office				
Yes	17	85	8	36
No	3	15	14	64
Total	20	100	22	100
Mainstreaming of gender				
Yes	16	94	6	75
No	1	6	2	25
Total	17	100	8	100

Table B26: Challenges in the health science training institutions

CHARACTERISTICS	UNIVERSITY		REGIONAL HEALTH SCIENCE COLLEGES	
	Number	%	Number	%
Challenges of class rooms, skill labs, infrastructure and educational management				
Yes	19	95	20	91
No	1	5	2	9
Total	20	100	22	100
Challenges on practicum sites and preceptors				
Yes	18	90	18	82
No	2	10	4	18
Total	20	100	22	100

Table B27. Critical shortages of models in the health science training institutions

CRITICAL SHORTAGES OF MODELS FOR MIDWIFERY (Q23)
1. Family Planning Models
2. Pregnant models/doll
3. Delivery models/delivery doll
4. MVA doll
5. PNC models
6. Pelvic model
7. CPR doll/model
8. Newborn care models/doll
CRITICAL SHORTAGES OF MODELS FOR ANESTHESIA (Q23)
1. Neonatal CPR models
2. Adult CPR models
3. Lumbar puncture model
CRITICAL SHORTAGES OF MODELS FOR HEWS (Q23)
1. Pregnant models/doll
2. Labor and delivery doll/birth simulation model
3. Nutrition models
4. CPR doll (adult and child CPR doll)
5. Injection doll
6. Cardio pulmonary resuscitation (CPR) models
7. Pregnancy doll

Table B28. Critical shortages of instrument kits in the skill labs of health science training institutions

CRITICAL SHORTAGE OF INSTRUMENT KITS TO PRACTICE SKILL LABS FOR MIDWIFERY (Q25)
1. Labor and delivery kits
2. Delivery set/instrumental delivery set
3. MVA set
4. Audiovisual aid and training model
5. Delivery bed/coach
6. Postnatal bed
7. ANC/FP instruments and kits
8. Obstetrics test
9. Trolley
10. Autoclave, IV administration stand
11. Glove, dust bins, BP apparatus
12. Neonatal weight measurement
CRITICAL SHORTAGE OF INSTRUMENT KITS TO PRACTICE SKILL LABS FOR ANESTHESIA (Q25)
1. Defibrillator
2. Oxygen cylinder with mask
3. Digital thermometer
4. Anesthesia machine
5. Laryngoscope, pulse oximetric
6. ICU materials

CRITICAL SHORTAGE OF INSTRUMENT KITS TO PRACTICE SKILL LABS FOR HEWS (Q25)	
1.	Delivery couch
2.	Refrigerator
3.	Autoclave
4.	ANC, FP instrument kits
5.	Trolley
6.	Audiovisual aids
7.	White board/screen board
8.	Delivery coach

Table B29. Critical shortages of supplies and equipment in the clinical practice sites of health science training institutions

CRITICAL SHORTAGES IN THE CLINICAL PRACTICE SITES FOR ALL CADRES TO PRACTICE (Q51)	
1.	Gloves and detergents
2.	Stethoscope, BP apparatus set, thermometers
3.	Kidney dish
4.	Protective equipment or device
5.	Tables and chairs
6.	Delivery kit, delivery coach, glove, dust bins
7.	Duty class, discussion rooms and dormitory
Critical shortages in the clinical practice sites for Midwives to practice (Q51)	
1.	Gloves, Gauze
2.	Catheter
3.	Labor and delivery equipment
4.	BP apparatus
5.	Thermometer
6.	Stethoscopes
7.	Personal protective equipment
8.	Library
9.	Dormitory
10.	Birth simulation, ARM model MVA set
11.	Delivery set
12.	Suction machines
13.	Ambu Bag
14.	Delivery equipment
15.	Gloves
16.	Consumable items
CRITICAL SHORTAGES IN THE CLINICAL PRACTICE SITES FOR ANESTHESIA TO PRACTICE (Q51)	
1.	Spinal needle
2.	IV setup
3.	Thermometer
4.	Infection prevention materials
5.	ICU room, recovery room
6.	Tables

Appendix C: Consent Form

READ TO RESPONDENT:

My name is _____. I work for USAID's Strengthening Human Resources for Health Project led by Jhpiego. The Jhpiego-led consortium is implementing USAID's five-year (2012–2017) bilateral Human Resources for Health (HRH) Project in all regions. The objectives of the project are: to improve human resources for health management at national, regional and sub-regional levels, to increase availability of midwives, anesthetists, HEWs and other essential health workers, to improve quality of pre-service and in service trainings of health workers and to build monitoring, evaluation and research capacity of institutions/organizations.

Jhpiego is conducting a baseline survey in FMOH, Regional Health Bureaus, Zonal Health Departments, Woreda Health Offices and health training institutions to determine baseline capacity and performance of these institutions in regard to human resources for health management, production of health workforce and availability of required human and material resources. I would like to interview you to obtain information on these issues.

The information you provide will be used for this survey purpose only, i.e., to provide information on human resources for health management capacity, availability of midwives, anesthetists, HEWs and other essential health workers, quality of pre-service and in service trainings of health workers and institutional capacity of human resource information system. In addition, during analysis and report the identifiers of the respondents will be excluded.

Thus, your participation is voluntary and valuable to this survey, but you are free to refuse to answer any question. If you have any questions about this survey, you may ask me or contact:

Dr. Damtew W/Mariam
Chief of party
0115-502124
Jhpiego Ethiopia

Are you willing to participate in this survey?

Agreed []

Refused []

Appendix D: Survey Questionnaires

Human Resources for Health Program Baseline Survey Questionnaire (FMOH, RHBs, Zonal and Woreda Health Offices)

PART 0: IDENTIFICATION

Region _____

Zone _____

Woreda _____

Name of surveyed organizations: _____

Date of survey (Day/Month/Year): ____ ____ / ____ ____ / 2012

Name of data collector: _____

Position/responsibility of the respondent: _____

Please circle surveyed organization:

FMOH 1

RHBs 2

ZHDs 3

WHOs 4

PART I: CORE QUESTIONS

SR.NO	QUESTIONS	CODING CATEGORIES	SKIP TO
Q1	Does your institution have an organogram? (Please share a copy)	Yes 1 No 2 Do not know 9	
Q2	Does your institution have a designated human resources management or personnel administration unit?	Yes 1 No 2	
Q3	Who supervises your human resources management or personnel administration unit head?	Head of the institution 1 Deputy head of the institution 2 Other (Specify _____) 3	
Q4	Is human resources management or personnel administration unit head a member of management team?	Yes 1 No 2	
Q5	How many fulltime staff/s does your institution have in your human resources management or personnel administration unit?	Male _____ Female _____ Total _____	
Q6	Does your institution have staffing standard to determine the number of management and technical staff/s?	Yes 1 No 2	If No, skip to Q12

SR.NO	QUESTIONS	CODING CATEGORIES		SKIP TO
Q7	Who developed the standard?	FMOH RHB Other (specify) Do not know	1 2 3 9	
Q8	Does the existing standard specify minimum number of positions for human resources management or administration function?	Yes No	1 2	If No, skip to Q10
Q9	How many positions do the existing standard allows?	_____		
Q10	Does the standard specify minimum qualification required for human resources management function?	Yes No	1 2	If No, skip to Q12
Q11	How many of the approved positions are currently filled?	_____		
Q12	What is the level of qualification of the leaders and/managers of the human resources management or personnel administration unit?	Master's Degree Bachelor's Degree Diploma Certificate Other (specify)	1 2 3 4 5	
Q13	What field of study the leader of the human resources management or personnel administration unit graduated? (Multiple answers allowed)	Field of study	Yes=1, No=2	
		Management		
		Human Resources Management		
		Health Administration		
		Clinical Training (MD,HO, Nursing)		
		Social Science (Sociology, social anthropology, geography, history, etc.)		
Others (specify)				
Q14	How many of the managerial staff in the human resources management unit has additional training in human resources management and/or leadership?	_____		
Q15	Do all human resources management or personnel administration positions in the institution have up-to-date job descriptions?	Yes No	1 2	
Q16	Does your institution have a staff requirement plan for the 2005 EFY?	Yes No	1 2	If No, skip to Q18
Q17	Is the staff requirement plan costed?	Yes No	1 2	
Q18	In your opinion, does the number of positions match the workload requirement of the human resources function?	Yes No	1 2	If Yes, skip to 20
Q19	If no how many more positions need to be created for an optimum functioning?	_____		

SR.NO	QUESTIONS	CODING CATEGORIES			SKIP TO
Q20	What are the total number of health workers working in public sector of your catchment during the last three years (2002, 2003, 2004 EC)?	Health workers	# of male	# of female	
		Midwives			
		Anesthetists			
		HEWs			
		Other health professionals (MD, HO, Nurse)			
		Non-health professionals (supportive and administrative staffs)			
		Total			
Q21	What were the total number of health workers who voluntarily resigned from their job in the public sector of your catchment during the last three years excluding retirement and mortality (2002, 2003, 2004 EC)?	Health workers	# of male	# of female	
		Midwives			
		Anesthetists			
		HEWs			
		Other health professionals (MD, HO, Nurse)			
		Non-health professionals (supportive and administrative staff)			
		Total			
Q22	What were the total number of health workers who lost their job with listed reasons in the public sector of your catchment during the last three years (2002, 2003, 2004 EC.)?	Reasons	Number		
		Retirement			
		Death			
		Voluntary resignation			
		Profession change			
		Other reasons			
Q23	What were the reasons to resigning from their job in the public sector of your catchment area during the last three years (2002, 2003, 2004 EC)?	<hr/> <hr/> <hr/> <hr/>			
Q24	Currently, how many midwives, anesthetists and HEWs are working in the public sector of your catchment?	Health workers	# of male	# of female	
		Midwives			
		Anesthetists			
		HEWs			
		Total			
Q25	Does your institution have a plan to upgrade HEWs to level IV for the next one to five years?	Yes		1	If No, skip to Q27
		No		2	

SR.NO	QUESTIONS	CODING CATEGORIES		SKIP TO
		Year	Number	
Q26	Can you tell me the number your institution planned to upgrade HEWs to level IV for the next one to five years?			
		2005 EC		
		2006 EC		
		2007 EC		
		2008 EC		
	2009 EC			
Q27	How many HEWs have been graduated to level IV so far?	_____		
Q28	Does your institution have a plan to recruit and train new HEWs for the next one to five years?	Yes	1	If No, skip to Q30
		No	2	
Q29	Can you tell me the number your institution planned to train new HEWs for the next one to five years?	_____		
Q30	Is there a policy of assigning primary health workers to work in their home Woredas where they have grown up or lived for a long period of time?	Yes	1	If No, skip to Q32
		No	2	
Q31	If yes, what percentage of newly deployed primary health workers (such as health officers, midwives, clinical nurses, HEWs) were assigned to their home Woreda during 2004 EFY?	_____		
Q32	Did the human resources management/personnel administration unit ever conduct staff satisfaction survey?	Yes	1	If No, skip to Q35
		No	2	
Q33	If yes, did the human resources management /personnel administration unit take any action based on the survey?	Yes	1	
		No	2	
Q34	What were the key actions taken based on the staff satisfaction survey?	_____		
Q35	What staff retention mechanisms are in place? <i>(Multiple answers allowed)</i>	Retention mechanisms	Yes=1, No=2	
		Periodic salary increases		
		Performance-related bonuses/allowance		
		House or housing allowance		
		Recognition and supervision		
		Transport allowance		
		Communication allowance		
		Education		
Others (specify)				
Q36	Is there any provision for differential compensation (hardship allowance) of health workers posted in remote and relatively inaccessible areas?	Yes	1	
		No	2	

SR.NO	QUESTIONS	CODING CATEGORIES		SKIP TO
Q37	Did your institution ever conduct human resources management capacity assessments?	Yes No	1 2	
Q38	Does your institution have human resources management policy and procedure document?	Yes No	1 2	If No, skip to Q40
Q39	If yes, what key areas does the policy and procedure document include? <i>(Multiple answers allowed)</i>	Policy and procedure components	Yes=1, No=2	
		Recruitment and deployment		
		New staff induction		
		Performance management		
		Compensation and benefits		
		Training and/or professional development		
		Code of conduct at work place		
		Discipline and grievance procedure		
Others				
Q40	Does your institution have a guideline for management of staff training such as recruitment of trainees, skill job application, sharing experience, etc.?	Yes No	1 2	
Q41	Does your institution have human resources performance planning?	Yes No	1 2	
Q42	Does your institution have a system for supervision and staff development?	Yes No	1 2	
Q43	Does your institution have a system for annual performance evaluation?	Yes No	1 2	If No, skip to Q45
Q44	If yes, does your institution reward or recognize best performing staff?	Yes No	1 2	
Q45	Does your institution have a plan for an in-service training (IST) or continuing professional development (CPD)?	Yes No	1 2	
Q46	Are there staffs who received an in-service training in human resource management in your institution during 2004 EFY?	Yes No	1 2	If No, skip to Q48
Q47	If the answer to Q46 is yes, how many human resources management staff have participated in an in-service training of human resources management during 2004 EFY?	_____		
Q48	Does your institution link continuing professional development to career development of health workers?	Yes No	1 2	

SR.NO	QUESTIONS	CODING CATEGORIES		SKIP TO
Q49	What types of trainings does your institution need to capacitate the staff? <i>(Multiple answers allowed)</i>	Types of trainings	Yes=1, No=2	
		HRM/leadership		
		Data management		
		Monitoring and evaluation		
		Others (specify)		
Q50	Does your institution allocate non-salary human resources management budget for human resources development?	Yes No	1 2	If Yes, skip to Q52
Q51	If the answer is no for Q50, why?	_____ _____ _____		
Q52	Does your institution have a functional computerized human resources information system?	Yes No	1 2	If Yes, skip to Q54
Q53	If the answer is no for Q52, why?	_____ _____ _____		
Q54	Is all employees' information entered to human resources information system?	Yes No	1 2	If Yes, skip to Q56
Q55	If the answer is no for Q54, why?	_____ _____		
Q56	Does your institution report human resources information to higher level on time using human resources information system?	Yes No	1 2	
Q57	How often do you report human resources information system data to higher level?	Monthly Quarterly Every six months Annually As requested	1 2 3 4 5	
Q58	Is there focal person to update human resources information system regularly in your institution?	Yes No	1 2	If Yes, skip to Q60
Q59	If the answer is no for Q58, why?	_____ _____ _____		If Yes, skip to Q61
Q60	Is the human resources information system focal person trained in data management?	Yes No	1 2	
Q61	What are the challenges your institution encountered in using human resources information system? <i>(Multiple answers allowed)</i>	Challenges	Yes=1, No=2	
		No challenges at all		
		Lack of computer		
		Lack of trained personnel No supervisory visits from higher level		
		Others (specify)		

SR.NO	QUESTIONS	CODING CATEGORIES	SKIP TO
Q62	Is there functional human resources for health (HRH) forum?	Yes 1 No 2	If Yes, skip to Q64
Q63	If the answer is no for Q62, why?	_____ _____ _____	End Interview
Q64	Who are member institutions of the HRH forum? Please list all of them.	_____ _____ _____	
Q65	Is there a term of reference for the human resources forum in your institution?	Yes 1 No 2	
Q66	Does your institution have a focal person to coordinate the human resource for health forum?	Yes 1 No 2	
Q67	Does the forum have work plan?	Yes 1 No 2	If No, skip to Q69
Q68	Does the forum have budget to implement its work plan?	Yes 1 No 2	
Q69	How often the forum should meet in a given fiscal year?	Monthly 1 Quarterly 2 Semi-annual 3 Annual 4 Others (Specify) 5	
Q70	How many meetings the forum conducted during the 2004 EFY?	_____	
Q71	Are there any minutes of the forum's meetings?	Yes 1 No 2	

Human Resources for Health Program Baseline Survey Questionnaire (Health Science Training Institutions)

PART 0: IDENTIFICATION

Region: _____

Zone: _____

Woreda: _____

Name of health training institutions: _____

Name of town where the school is located: _____

Date of survey (Day/Month/Year): ____ ____ / ____ ____ / 2012

Name of data collector: _____

Position/Responsibility of the respondent: _____

Please circle type of surveyed training institution:

University1

Regional Health Science College2

PART I: CORE QUESTIONS

SR.NO	QUESTIONS	CODING CATEGORIES		SKIP TO
Q1	What types of health science training programs are offered in this institution? <i>(Multiple answers allowed)</i>	Program	Yes=1, No =2	
		Midwifery		
		Anesthesia		
		HEWs		
		Scrub nurse		
		ICU nurse		
		Radiography		
		Biomedical engineering		
		Paramedics		
		Nurse		
		Pharmacy		
		Laboratory		
		Health officer		
		Medicine		
		IESO (integrated emergency surgical officers)		
Others (Specify)				

SR.NO	QUESTIONS	CODING CATEGORIES							SKIP TO	
Q2	What type/s of trainings level your institution currently is providing? <i>(Multiple responses are possible)</i> <i>NA: Not applicable</i>	Levels (Yes=1, No=2, NA=9)								
			1	2	3	4	5	Diploma		Degree+
		Midwifery								
		Anesthesia								
		HEWs								
		Scrub nurse								
		ICU nurse								
		Radiography								
		Biomedical engineering								
		Paramedics								
		Nurse								
		Pharmacy								
Laboratory										
Q3	What type of specialty training is provided at your institution? <i>(Multiple answers allowed)</i>	Training specialty		Yes=1, No=2, NA=9						
		Postgraduate midwifery								
		Postgraduate anesthesia								
		Postgraduate HRH management								
		Postgraduate health economics/financing								
		Postgraduate nursing								
		Specialty in clinical medicine								
		Postgraduate public health								
Other specialty training (specify)										
Q4	To whom the health training institutions are reporting?	Regional Health Bureau							1	
		Regional TVET Authority							2	
		FMOH							3	
		Ministry of Education							4	
Q5	Does this institution provide accelerated program? <i>(Multiple answers allowed)</i>	Program		Yes=1, No=2, NA=9						
		Midwifery								
		Anesthesia								
		HEWs								
		IESO								
Others (specify)										
Q6	Which types of programs does the institution provide? <i>(Multiple answers allowed)</i>	Program		Yes=1, No=2, NA=9						
		Regular program								
		Summer program								
		Extension (weekend and evening) program								
Distance learning and/or using blended approach										

SR.NO	QUESTIONS	CODING CATEGORIES				SKIP TO
Q7	How frequent is the intake of students per year by program area? (Multiple answers allowed)	Program	Once=1, Twice =2, Other, specify			
		Midwifery				
		Anesthesia				
		HEWs				
		Scrub nurse				
		ICU nurse				
		Radiography				
		Biomedical engineering				
Q8	How many students were enrolled at the beginning of the current academic year (2005 EC) for each program?	Program	#Male	#Female	Total	
		Total				
		Midwifery				
		Anesthesia				
		HEWs (Level III, Level IV)				
		Scrub nurse				
		ICU nurse				
		Radiography				
		Biomedical engineering				
		Paramedics				
		Laboratory				
		Pharmacy				
		Nurse				
		Health officer				
Medicine						
Q9	How many students graduated in each program at the end of the academic year 2004 EC?	Program	#Male	#Female	Total	
		Midwifery				
		Anesthesia				
		HEWs (Level III, Level IV)				
		Scrub nurse				
		ICU nurse				
		Radiography				
		Biomedical engineering				
		Paramedics				
		Nurse				
		Pharmacy				
		Laboratory				
		Health officer				
		Medicine				
IESO						

SR.NO	QUESTIONS	CODING CATEGORIES				SKIP TO
Q10	Of the 2004 graduating class, how many were they at admission by program area?	Program	#Male	#Female	Total	
		Midwifery				
		Anesthesia				
		HEWs (Level III, Level IV)				
		Scrub nurse				
		ICU nurse				
		Radiography				
		Biomedical engineering				
		Paramedics				
		Nurse				
		Pharmacy				
		Laboratory				
		Health officer				
		Medicine				
IESO						
Q11	How many students were enrolled in each program in the 2004 EC academic year?	Program	#Male	#Female	Total	
		Total				
		Midwifery				
		Anesthesia				
		HEWs (Level III, Level IV)				
		Scrub nurse				
		ICU nurse				
		Radiography				
		Biomedical engineering				
		Paramedics				
		Nurse				
		Pharmacy				
		Laboratory				
		Health officer				
Medicine						
IESO						

SR.NO	QUESTIONS	CODING CATEGORIES				SKIP TO
		Program	#Male	#Female	Total	
Q12	How many students dropped out in each program in the 2004 EC academic year?	Total				
		Midwifery				
		Anesthesia				
		HEWs				
		Scrub nurse				
		ICU nurse				
		Pharmacy				
		Radiography				
		Biomedical engineering				
		Paramedics				
		Laboratory				
		Health officer				
		Medicine				
		IESO				
Q13	How many academic staff are teaching in each program in 2005 EC? <i>(Write NA if not applicable to the program)</i>	Program	#Male	#Female	Total	
		Total				
		Midwifery				
		Anesthesia				
		HEWs				
		Scrub nurse				
		ICU nurse				
		Radiography				
		Paramedics				
		Nurse				
		Pharmacy				
		Laboratory				
		Medicine				
		Health Officer				
		Others programs				
Teachers for common courses						
Q14	How many academic staffs are available by qualification in your institution in 2005 EC?	Qualification		Number		
		Diploma				
		Degree				
		Medical Doctor				
		Masters/Specialists				
		Fellowship/sub specialty				
		PhD/DrPH				

SR.NO	QUESTIONS	CODING CATEGORIES		SKIP TO
Q15	How many clinical preceptors are available for each program in 2005 EC?	Program	Number	
		Midwifery		
		Anesthesia		
		HEWs		
Q16	How many designated classrooms are available for listed programs in 2005 EC?	Program	Number	
		Midwifery		
		Anesthesia		
		HEWs		
Q17	How many seats in the classrooms on average are available for each program in 2005 EC? <i>(Please observe the class rooms)</i>	Program	Number	
		Midwifery		
		Anesthesia		
		HEWs		
Q18	Are the classrooms equipped appropriately (table, chairs, AV aids and source of electric supply)? <i>(Please observe the classrooms)</i>	Yes No	1 2	
Q19	Are there clinical skills learning labs? <i>(Multiple answers are possible)</i>	Program	Yes=1, No=2	If No for all, skip to Q28
		For all health cadres		
		Midwifery specific		
		Anesthesia specific		
Q20	How many clinical skills labs are there in your institution in 2005 EC?	Program	Number	
		For all health cadres		
		Midwifery		
		Anesthesia		
Q21	Are there adequate models to learn essential competencies listed in the curricula for each program?	Program	Yes=1, No=2	
		For all health cadres		
		Midwifery		
		Anesthesia		
Q22	If the answer is no for any of the cadres, for which competencies do you have the greatest need or shortage of models?			

SR.NO	QUESTIONS	CODING CATEGORIES			SKIP TO	
Q23	Are there adequate instrument kits for practice the skills labs?	Program		Yes=1, No=2		
		For all health cadres				
		Midwifery				
		Anesthesia				
		HEWs				
Q24	If the answer is no for any of the cadres, for which competencies do you have the greatest need or shortage of instruments?	<hr/> <hr/> <hr/>				
Q25	Are there learning guides or standard operating procedures for practicing the skills?	Yes No		1 2		
Q26	Are the skills lab centers equipped appropriately (table, stools, AV aids, water source and source of electric supply)?	Yes No		1 2		
Q27	Are the skills lab centers conducive for teaching (lighting, ventilation, space and movable chairs)?	Yes No		1 2		
Q28	Are there computer labs?	Target audience		Yes=1, No= 2	If No, skip to Q31	
		Teachers				
		Students				
		Teachers and students (shared)				
Q29	If the answer to Q28 is yes, how many computer labs are there and the number of computers?	Target audience		Number of labs	Number of computers	
		Teachers				
		Students				
		Teachers and students (shared)				
Q30	Is there internet connectivity in the computer labs?	Yes No		1 2		
Q31	Are there educational websites for students' use?	Yes No		1 2		
Q32	How many libraries are currently functioning for health science students?	<hr/>				
Q33	What is the maximum student capacity of the libraries?	<hr/>				

SR.NO	QUESTIONS	CODING CATEGORIES		SKIP TO
Q34	Are the libraries conducive for use (lighting, ventilation, tables and seats)?	Yes No	1 2	
Q35	Does the training institution have adequate copies of national service deliver guidelines and documents (TB/leprosy, HIV, STI, MNH, IMCI, malaria, nutrition)?	Yes No	1 2	
Q36	Does your institution have adequate copies of text and reference books for each health programs?	Program	Yes=1, No=2	
		Midwifery		
		Anesthesia		
		HEWs		
		Other programs		
Q37	Are copies of journals timely available to be referenced?	Yes No	1 2	
Q38	Is there health science education development center/quality assurance office for the health science college?	Yes No	1 2	If No, skip to Q41
Q39	Does the health science education development center have adequate basic infrastructure and equipment like Audio-visual quipped conference room with table and chairs, printer, photocopy scanner, binding machine, stationery materials, resource materials (books, journals and training packages) on education?	Yes Yes, partially (Specify) _____ No	1 2 3	
Q40	Is there any regular technical knowledge and skills update for classroom instructors in their area of focus?	Yes No	1 2	

SR.NO	QUESTIONS	CODING CATEGORIES		SKIP TO
Q41	Is there any regular technical knowledge and skills update for clinical instructors, skill lab personnel and/or preceptors in their area of focus?	Yes No	1 2	
Q42	Are there any regular teaching skills updates for classroom, clinical instructors and preceptors and skill lab personnel?	Yes No	1 2	
Q43	Does your institution curriculum development group or health science education development center have the necessary skill to design or develop curricula and teaching/learning materials?	Yes No	1 2	
Q44	Does your institution have an internal quality assurance system or unit?	Yes No	1 2	If No, skip to Q46
Q45	If your answer is yes to Q44, list the activities or strategies of the quality assurance unit.	<hr/> <hr/> <hr/>		
Q46	How many clinical educational sites does your institution have for each program?	Program	Number	
		For all health programs		
		Midwifery		
		Anesthesia		
		HEWs		
Q47	Does your institution have any criteria for selection of clinical practice sites?	Yes No	1 2	If No, skip to Q48
Q48	If the answer to Q47 is yes, what are the criteria to select clinical practice sites?	<hr/> <hr/> <hr/>		

SR.NO	QUESTIONS	CODING CATEGORIES		SKIP TO
Q49	Does your institution have a memorandum of understanding with each clinical education sites?	Yes No	1 2	
Q50	Do the clinical education sites have the necessary supplies and equipment for students' practice?	Yes No	1 2	If Yes, skip to Q50
Q51	If no, which supplies are mostly lacking?	<hr/> <hr/> <hr/>		
Q52	Does your institution have adequate transportation facility to and from clinical practice sites?	Yes No	1 2	
Q53	Does the institution have a functional gender office?	Yes No	1 2	If No, skip to Q55
Q54	If Q53 is yes, list the major activities the gender office undertaking.	<hr/> <hr/> <hr/>		
Q55	Does your institution have any challenges related to: <ul style="list-style-type: none"> • Clinical sites and preceptors • Classroom teaching • Skill labs • Other infrastructure • Education management 	Yes No	1 2	If No, end of the interview
Q56	If the answer to Q55 is yes, describe the challenges that your institution has.	<hr/> <hr/> <hr/>		

