Lesotho Nursing Task Analysis Report

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The Human Resources Alliance for Africa (HRAA) project is a regional five-year (2011-2016) human capacity development effort funded by USAID through a Strategic Objective Agreement (SOAG) award. HRAA is led by the East, Central and Southern Africa Health Community (ECSA-HC). Please visit http://www.ecsahc.org/projects.php?id=1 to learn more.

The Maternal and Child Health Integrated Program (MCHIP) is the USAID Bureau for Global Health's flagship maternal, neonatal and child health (MNCH) program. MCHIP supports programming in maternal, newborn and child health, immunization, family planning, malaria and HIV/AIDS, and strongly encourages opportunities for integration. Cross-cutting technical areas include water, sanitation, hygiene, urban health and health systems strengthening.

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Abbreviations and Acronyms

ANC	Antenatal care
ART	Antiretroviral therapy
CHAL	Christian Health Association of Lesotho
CHW	Community health worker
CPD	Continuing professional development
CPR	Cardiopulmonary resuscitation
DOTS	Directly Observed Therapy Short-Course
ECSA-HC	East, Central and Southern Africa–Health Community
EPI	Expanded Program on Immunization
ESP	Essential Service Package
GBV	Gender-based violence
GDP	Gross domestic product
GOL	Government of Lesotho
HPV	Human papillomavirus
HR	Human resources
HRH	Human resources for health
HRAA	Human Resources Alliance for Africa
HSA	Health Service Areas
LNA	Lesotho Nurses Association
LNC	Lesotho Nursing Council
MASN	Maluti Adventist School of Nursing
MCH	Maternal and child health
MCHIP	Maternal and Child Health Integrated Program
MDR-TB	Multi-drug resistant tuberculosis
MOH	Ministry of Health
NCSBN	National Council of State Boards of Nursing
NHTC	National Health Training College
NUL	National University of Lesotho
ORS	Oral rehydration solution
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary health center
PITC	Provider-initiated [HIV] testing and counseling
PMTCT	Prevention of mother to child transmission [of HIV]
PPP	Public-private partnership
PRSP	Poverty Reduction Strategy Paper
PSE	Pre-service education
RED	Reaching Every District Approach
RM	Registered midwife
RN	Registered nurse
SSN	Scott School of Nursing
TB	Tuberculosis
USAID	United States Agency for International Development
USD	United States dollar
VIA	Visual inspection with acetic acid
WHO	World Health Organization
YLL	Years of life lost

Acknowledgments

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Executive Summary

BACKGROUND

The Human Resources Alliance for Africa (HRAA) project seeks to build human resource management capacity in countries with serious health workforce shortages, such as Lesotho. Lesotho's predominantly rural population faces significant health challenges within a setting of inadequate human resources for health. It is essential that nurses and nurse-midwives, who together make up the largest health workforce in the country, be adequately prepared to address Lesotho's Health Priorities according to the Poverty Reduction Strategy Paper (PRSP) in the settings where they work. Under the HRAA project, Jhpiego conducted a task analysis study to obtain data on job duties or tasks performed by these cadres, as well as information about how often the tasks are performed, if and where tasks were learned, and the self-perceived level of competence in performing the tasks.

This report and the study results it contains are intended for Lesotho nursing and midwifery education and regulation leaders to use for a variety of purposes. Some activities that were prioritized by these stakeholders as outputs from the task analysis study include: creating a set of core nursing competencies, revising scopes of practice, developing national nursing and midwifery standards, reviewing and updating curriculum, and laying the groundwork for the areas of focus of a new graduate mentorship program that will support new graduates as they transition to practice.

DATA AND METHODS

Task analysis is a descriptive study method that utilizes self-reporting by a health care cadre to determine what tasks are performed by workers in that cadre. Task analysis is used to identify the current reality of practice, providing a data set that can then be used to inform various activities relevant to human resource strengthening, such as revision of curriculum content, adjustment or verification of the scope and standards of practice, revision of job descriptions and deployment practices, and the updating of licensure examinations.

In this study, the methodology entailed seeking responses primarily from practicing nurses and nurse-midwives in four key measurement areas by task: FREQUENCY at which the task is performed; CRITICALITY of the task to patient/public health outcome; setting where the provider received EDUCATION/training on the task; and the provider's self-perceived level of competence in PERFORMANCE of the task.

Nurses and nurse-midwives who had graduated from a nursing or midwifery education program within the last six months to four years were included in the study. Data were collected through a card game that Jphiego developed for the purpose of task analysis—Task Master: Mining for Data©. One hundred and seventy individuals participated in the study.

KEY FINDINGS

The results of the task analysis provided an overview of tasks that are frequently done by nurses and nurse-midwives currently in practice, which tasks are perceived to be critical for improved health, if and where the necessary skills were learned to perform the task, and the percentage of participants in the sample who consider themselves competent to do the task. In addition,

through the data analysis, some gaps were revealed between areas related to training or competence and the nation's health care priorities. Key findings were analyzed in the context of six technical areas: Nursing Practice and Education, HIV/AIDS, Maternal and Child Health (MCH), Tuberculosis (TB), Cervical Cancer, and Other Health Priorities.

Some of the key findings of the task analysis are as follows:

- For more than 90% of tasks that participating nurses and nurse-midwives examined, most reported being trained during pre-service education and most also considered themselves to be competent or proficient in those tasks. This suggests an impressive level of coverage during pre-service education for the vast majority of tasks on the task list.
- Important gaps were identified that require further examination—considering the health issues that the Lesotho nursing/midwifery workforce is poised to address.
- The following are examples of tasks rated as most critical in terms of patient outcomes, coupled with reports of relatively low exposure to education/training for the task.
  - **Screening for TB based on patient symptoms:** While 92.2% of all participants rated the task as highly critical, only about half (51.9%) reported pre-service exposure.
  - **Advocating and mobilizing for community-organized emergency transport for obstetric emergencies:** A concerning 22.7% reported never having been trained to complete the task, although 95.5% rated the task as highly critical.
  - **Linking HIV-positive pregnant mothers to services for prevention of mother-to-child transmission of HIV:** This was the 9th least frequent task done by participants working at the referral hospital, and the 49th and 83rd least frequent at district hospitals and health centers, respectively.
- The task analysis also examined **where** tasks are performed in terms of level of facility, as well as **frequency** of performance. The following are two examples of results that call for action in terms of increasing provider capacity for task performance:
  - **Screening for cervical cancer:** This task is predominantly done at the referral hospital in Lesotho, yet this is one of the 10 least-performed activities as reported by participants from that level of care.
  - **Educating men and women on gender-based violence:** This task was reportedly done infrequently at hospitals, presumably where a majority of victims of violence would present for care.

RECOMMENDATIONS

In Lesotho, substantial efforts have been made through donor support to increase the number of nursing and midwifery graduates in order to address the shortage in human resources for health. A comparable, if not increased, emphasis should be placed on the competence of these graduates to ensure that upon graduation they are able to "hit the ground running" and be deployed into the workforce—competent and confident practitioners that have the necessary knowledge and skills to provide safe, beginning-level care. The task analysis results highlight some key areas that may need to be addressed in both pre- and in-service education, particularly in the areas of MCH, TB, HIV/AIDS, interpersonal (gender-based) violence, and nursing regulation.

Pre-service nursing/midwifery education curriculum should focus on leading causes of years of life lost in Lesotho and ensure that these health priorities are integrated through the national competencies, course content, and clinical and learning objectives. Meanwhile, in-service updates are important to ensure that nurses/nurse-midwives are, in their current practice, able to respond to the present needs. Health priorities of their patient populations and communities—with a focus on those tasks identified in the task analysis as highly critical but performed at low frequency and with low training, as these are the tasks providers may be least competent in performing. The results of the task analysis also provide evidence to warrant further exploration into how effectively nursing and midwifery education and practice are harmonized with country health priorities.

Background and Introduction

The Human Resources Alliance for Africa (HRAA) project is a regional, five-year (2010–2015) human capacity development effort funded by the United States Agency for International Development (USAID) and led by the East, Central and Southern Africa Health Community (ECSA-HC). The goal of HRAA is to help build human resources (HR) management capacity in countries facing serious workforce shortages and other HR challenges in the health and social welfare sectors. Ultimately, HRAA aims to strengthen HR capacity to enable improved access to quality HIV/AIDS services and support. As a member of the HRAA consortium, Jhpiego works to build and strengthen human resources for health (HRH) and conducted the study described herein in support of strengthening nurse education and practice in Lesotho.

LESOTHO

The Kingdom of Lesotho has a population of just over 2 million within the borders of its 30,300 square kilometers, divided into 10 districts (Figure 1). Altitude ranges from 1,400 to 3,482 meters,[1] making it the country with the highest lowest point in the world. Approximately 60% of the population lives below the poverty line of USD 1.50 per day, and three-quarters live in rural areas, the majority of whom are engaged in agriculture.[2] Agricultural production has declined over the past century, and Lesotho now faces food security problems.[3]

Figure 1: Ten Districts of Lesotho

In 1997, Lesotho passed the Local Government Act, which outlined a new local government system that created 10 districts and 128 community councils. The Government of Lesotho (GOL) has outlined a phased approach to decentralization of health services to the district level in the Health Services Decentralization Strategic Plan, 2009.[4] The planned decentralization devolves gradually, eventually enabling key health services to be provided at different levels of the health system, as per the Essential Service Package (ESP).

In Lesotho, HIV/AIDS, lower respiratory infections, and diarrheal diseases were the three leading causes of years of life lost (YLL) in 2010. YLL is the preferred means of prioritizing health interventions, as it quantifies premature mortality by weighting younger deaths more than older deaths. The top 10 causes of YLL in Lesotho can be found in Table 1.[5] Between 1990 and 2010, the all-cause mortality rate increased among women aged 25–29 years by 831%, the largest such increase of any age group, primarily due to HIV/AIDS. Nearly one-quarter of adults aged 15–49 years in the country are living with HIV (23.3%).[6] Along with the HIV epidemic, Lesotho faces the fifth highest incidence of TB globally, with 632 cases per 100,000 population.[7] The country also has one of the highest cervical cancer rates in the world, ranging from 60 to 90 cases per 100,000 women.[8] HIV-positive women have a higher incidence, greater prevalence, and longer persistence of HPV infection—making them four times more likely to develop cervical cancer than their HIV-negative counterparts.[9]

Table 1: Leading Causes of Years of Life Lost in Lesotho in 2010 and Comparison to 1990

Rank		No. YLL in Thousands	Percentage (%) of Total YYL	Percentage (%) Change from 1990
1	HIV/AIDS	645	35.9%	7,403
2	Lower respiratory infections	164	9.1%	48
3	Diarrheal diseases	151	8.4%	11
4	Interpersonal violence	128	7.1%	350
5	Tuberculosis	90	5.0%	67
6	Preterm birth complications	51	2.9%	26
7	Stroke	36	2.0%	44
8	Congenital anomalies	32	1.8%	44
9	Neonatal encephalopathy	32	1.8%	27
10	Mechanical forces (e.g., automobile accidents, falls)	29	1.6%	112

Lesotho's maternal mortality ratio is estimated at 620 per 100,000 live births, and its children under-5 mortality ratio remains unchanged from 1990 levels at 88 per 1,000 live births.[10] Overall, the risk factor that accounts for the most disease burden in children under 5 in Lesotho is suboptimal breastfeeding. For adults aged 15–49 years, the leading risk factor for disease burden in the country is alcohol use.[5] Gender-based violence is also a significant issue within Lesotho communities; 25% of women aged 18–35 years reported that they had been physically forced to have sex, according to a random sampling survey conducted in 2006.[11] Another more recent study of school age children in Lesotho echoes similarly disturbing statistics, with one in every five children aged 11–16 years reporting that they had experienced forced or coerced sex.[12]

The GOL has outlined key strategic areas to improve the country's health in the Poverty Reduction Strategy Paper (PRSP): National Strategic Development Plan 2012/13–2016/17.[13] Priorities were developed based on the disturbing trend in increases in maternal deaths and infant mortality rates. In addition, the government recognized the need to increase the accessibility of essential maternal and preventive health care services.

Lesotho's Health Priorities according to the PRSP[13]

- Reduce infant and child morbidity and mortality rates
- Reduce malnutrition (stunting, wasting, and underweight)
- Reduce maternal mortality ratio
- Attain full coverage and access to health services
- Reduce new HIV infections through intensification of HIV prevention and integration with treatment AND increase coverage and quality of treatment, care, and support services and facilities

Delivery of health care services in the country occurs under Health Service Areas (HSA), each based upon a government or mission hospital with affiliated health centers. Health centers—or local clinics—are staffed predominantly by nursing assistants, nurses, and nurse-midwives and are responsible for basic curative services, immunization, and maternal and family planning services.[14] More than half of the country's health care is provided in health centers; however, less than 20% of the formal sector labor supply works at this level of care.[15] The country's Human Resources Development and Strategic Plan 2005–2025 indicates that health centers should be staffed with a minimum of one nurse clinician, one general nurse, and one nursing assistant.[15] Despite such staffing norms, 78% of health centers are not meeting these requirements.[16]

In Lesotho, there are four urban filter clinics (clinics linked to the district hospitals), 17 health posts, and 192 health centers, of which 78 are owned by the government, 35 by the private sector, and seven by the Red Cross. District hospitals, of which there are 17 across the country, provide the first level of inpatient care.[17] The Christian Health Association of Lesotho (CHAL) is responsible for the administration of eight hospitals, 72 health centers, and four schools of nursing and midwifery affiliated with district hospitals.

The country's one national referral hospital—in the capital city of Maseru, Ts'epong—operates as a partnership between the GOL and Netcare, a private hospital and health care group based in South Africa.[18] This facility employs nearly 200 registered nurses (RNs)—approximately 6% of the RNs in the country. There are two specialized hospitals, also in Maseru: Botsabelo Leprosy Hospital and Mohlomi Hospital. Mohlomi provides care for individuals living with mental illness and has 41 RNs on staff.

Nurses along the spectrum of cadres (from assistant to midwife or clinician) account for 90% of personnel directly engaged in patient care. In Lesotho, there are two primary basic nursing qualifications: nursing assistant, which requires two years of education, and RN, which can take from three to five years depending on the institution of education. The National University of Lesotho's Bachelor of Science in Nursing and Midwifery takes five years. The National Health Training College and four CHAL colleges all offer a three-year diploma in general nursing. At these five institutions, midwifery requires an additional year of education and is considered a "post-basic" qualification. Nurse clinicians are specialist nurses with clinical experience, trained in health assessment, diagnosis, and treatment; the training for this qualification is 18 months. Additional post-basic qualifications for RNs exist in areas such as primary health care, mental health, anesthesia, and ophthalmology.

The Lesotho Vision 2020 calls for health and a well-developed HR base. Despite this, Lesotho is facing an HRH crisis, partly due to an inability to produce adequate numbers of health workers, as

well as the issue of "brain drain," whereby health workers are not retained in country once trained and deployed. The HRH strategic plan for 2005–2025 underscores the GOL's commitment to decentralize health services to the district level using district health management teams, which provide each district more autonomy to address its specific health priorities and HR needs. Through this plan, the government's strategy is to train and employ nurse clinicians to expand clinical services, working to fulfil its recommendation to increase the number of nurse officer and nurse clinician graduates along with the number of positions to which they are deployed.

According to the Lesotho Nursing Council registration records, 2,888 RNs and 1,458 nursing assistants are in the country as of 2013.[19] To reach the minimum threshold of 2.28 doctors, nurses, and nurse-midwives per 1,000 population, as put forth by the World Health Organization, Lesotho needs to nearly triple the number of nurses/nurse-midwives employed relative to 2010 staffing levels.[20] In 2013, 187 general nurses, 87 nursing assistants, and 177 nurse-midwives graduated from the six nursing education institutions in Lesotho and registered for service.[21]

As of 2010, there were 15 development partner agencies active in Lesotho, several of which fund activities related to health systems improvement, including HRH. There is still a substantial financing gap even with considerable funding by several agencies—such as the President's Emergency Plan for AIDS Relief (PEPFAR); the Global Fund to Fight AIDS, Tuberculosis and Malaria; the World Bank; and Irish Aid. Despite the commitment of the GOL, which contributes an average of 60.7% of total health spending for the nation and spends an average of 7.7% of the gross domestic product (GDP) on health,[22] this gap persists.

TASK ANALYSIS

To focus most effectively on efforts to efficiently increase the numbers of competent health care workers, it is important to have basic data about job duties or tasks performed by health workers at the work site, as well as information about how often the tasks are performed, if and where the tasks were learned, and the self-perceived level of competence in performing the tasks. Task analysis is a systematic method of collecting self-reported data regarding the responsibilities, knowledge, and skills associated with acceptable performance within a profession.[23] As such, this is a process by which interested health care regulators, educators, and those allocating resources can determine what tasks are performed in the workplace by health care professionals; this information can, in turn, inform a variety of recommendations that will ensure that the work force is being effectively trained and updated for the work they actually do when deployed.

Task analysis was originally used by industries and manufacturers to increase efficiency and productivity in their occupational workforces.[24] It has since been widely adapted in the developed world and applied in the context of the health professions and occupations—for example, as a basis for developing curricula of study for various health worker cadres and for defining the content areas of certification and licensing examinations.[25] Task analyses use self-reported data from the targeted professional cadre to answer questions about the work performed by that cadre. Task analysis studies have been used by various professions as important sources of evidence for content and for validity of licensure examinations.[26] In the United States, for example, the National Council of the State Boards of Nursing (NCSBN) uses a task analysis approach for its "Practice Analysis," which is conducted every three years to assist the NCSBN in evaluating the national licensure exams.[27]

Findings from a task analysis can be used for various health systems strengthening purposes, including the following:[28]

- Promoting practice that is safe, effective, and relevant to a country's specific health needs
- Determining whether the scope of practice is aligned with the job requirements
- Designing education and training for the health care workforce that are based in the reality of current practice
- Creating knowledge and skills assessments and/or licensure tests that are grounded in priority practice areas
- Facilitating decision-making to promote the deployment of nurses and nurse-midwives in a way that adequately meets national health care needs, with an equitable distribution of workforce resources

Jhpiego has modified task analysis for the context of international public health work in order to respond to a variety of country-specific needs, such as prioritizing curriculum content, re-defining scope and standards of practice for a particular cadre, and updating licensure examinations. Task analysis can help characterize the reality of local practice, providing a data set that can then be used to ensure that the focus of education and training are logically linked to national needs.[29]

Illustrative examples of research questions for nursing task analyses are listed below. Each country or program using task analysis will necessarily focus on questions most relevant to its specific national needs.

1. What tasks do recently graduated and deployed nurses and nurse-midwives perform at various health settings?
2. What are the needs and gaps in the education and training of nurses and nurse-midwives?
3. Do gaps vary by age, gender, level of education, and time in service?
4. Based on the results, what are the implications for updating the scope and standards of practice, competencies, and education and training of nurses and nurse-midwives?

Objectives

Considering this background, HRAA and Jhpiego, with the endorsement of the Ministry of Health (MOH) of Lesotho and USAID, implemented a task analysis to document the current tasks undertaken by nurses and nurse-midwives, as quantified by these providers themselves. The primary objective of the Lesotho nursing task analysis study was to generate information about the tasks that are currently being conducted mainly by nurses and nurse-midwives who are practicing in Lesotho.

In Lesotho, dynamic practice environments—influenced by new diseases, technologies, treatment protocols, and nursing roles—often make it necessary for nurses/nurse-midwives to perform new tasks before they have been trained in them and before the nursing curriculum has been updated to reflect the demands of current practice. Without updated information regarding what nurses/nurse-

midwives are actually doing in the workplace in relation to the tasks listed in the curriculum, job descriptions, and other national documents, there is risk for a considerable disconnect among nursing education, training, and practice—which has obvious implications for patient/public outcomes. In most settings, how providers spend a majority of their time at work (clinical consultation, recording and reporting of data, administrative duties, etc.) is not known. This lack of information in Lesotho creates a gap between priorities in pre-service education and those in clinical practice; changing health needs of the country (e.g., HIV), necessitating expanded roles of health care providers; and varying donor requirements for monitoring and evaluation purposes.

This study targeted practicing nurses/nurse-midwives relatively early in their careers or new to their site designation, the rationale being that their competencies would better reflect the most current pre-service education curricula and training practices than those of nurses/nurse-midwives who had been working longer. The methodology entailed seeking responses from nurses/nurse-midwives in four key measurement areas, by task: FREQUENCY at which the task is performed; CRITICALITY of the task to patient/public health outcome; setting where the provider received EDUCATION/training on the task; and the provider's self-perceived level of competence in PERFORMANCE of the task. Based on analysis of the results, the objectives of the study were to:

- Determine whether the tasks being performed are in agreement with the Lesotho nursing scope of practice and assess results for scope of practice modification;
- Determine and document the tasks that are performed and also reported to not be part of the training curricula;
- Make recommendations to the Lesotho Nursing Council and the MOH regarding the strengthening of other key areas of nursing practice; and
- Identify potential gaps in the education, practice, and competencies, which will be used to inform a variety of strategic nursing cadre priorities, including:
  - Supporting the newly drafted nursing scope and standards of practice;
  - Creating the nurse/nurse-midwife competencies;
  - Supporting the transition from graduation to practice for new nurses/nurse-midwives; and
  - Prioritizing content areas for nursing curricula.

NOTE: This task analysis study encompassed both nurses and nurse-midwives. In this report, the term "nurse" is often used generally to encompass both nurses and nurse-midwives unless specifically noted. In addition, the term "'nursing" (in the context of services/care, education/training, curriculum, etc.) is used to represent midwifery also unless otherwise noted.

Methods

This task analysis consisted of structured, systematic feedback by nurses and nurse-midwives on a task list during group-based data collection workshops. The feedback was compiled into a data set that was critically analyzed in order to address the objectives stated above.

APPLICATION TO CONDUCT RESEARCH

The study team sought and obtained approval to conduct the nursing task analysis study from the Lesotho MOH Research and Ethics Committee, as well as from the Johns Hopkins University School of Public Health Internal Review Board. The study was deemed to be exempt, meaning that participants were not at risk for any foreseeable harm. Identifying information was not collected from participants.

DEVELOPMENT AND VALIDATION OF THE TASK LIST

The task analysis process involved undertaking a series of steps including developing draft task lists, validating the task list, and conducting data collection. The first two steps—development of a task list and validation of the task list by national expert panels—were completed in preparation for the study.

Jhpiego staff in the organization's Technical Leadership Office reviewed national documents that describe the tasks nurses and nurse-midwives in Lesotho are expected to perform in order to draft the task list. Documents reviewed included: the 2008 Nursing and Midwifery Act; Bachelor of Science in Nursing curriculum; MOH job description for registered nurses or "nursing sisters;" 2005–2025 Ministry of Health Human Resources Development and Strategic Plan; Ministry of Health and Social Welfare Essential Health Services: Services/Functions the Ministry Is Decentralizing; Lesotho TB Manual; National Treatment Guidelines for HIV/AIDS; and 2008 Proposed Nurses and Midwives Professional Conduct Rules (Code of Ethics). Based on these documents, a list of 104 nursing tasks was drafted, with most influence from the curriculum and the Strategic Plan.

A panel of nursing experts in Lesotho convened on August 22–24, 2012 in Maseru. Participants included human resource managers from the GOL and CHAL, members of the Lesotho Nursing Council, members of the Lesotho Nursing Association, and nurse educators. (Table A-1 in the Annex presents the participant list.) The draft task list was reviewed by the experts, and edits were made to the list according to their feedback. The final revised version included 102 tasks. (The complete task list is provided in Table A-2 in the Annex.) Before data collection, Task 33 was removed from the list, according to further expert feedback. Therefore, the list that was eventually used for data collection included 101 tasks.

Task list variables: The task list focused on the following four areas for each of the items on the task list:

1. Frequency: How often is the nursing task performed?
   - Never—Nurse does not feel capable or lacks opportunity
   - Rarely—Nurse completes task less than once per month
   - Monthly—Nurse completes task less than once per week but at least once per month
   - Weekly—Nurse completes task less than once per day but at least once per week
   - Daily—Nurse completes task at least once per day

2. **Criticality:** How critical is timely and effective performance of this task to the outcome for the patient or public health?
    - High importance—Failure to complete the task (e.g., performing resuscitation, caring for an unconscious patient) correctly or in a timely manner may lead to patient death or permanent disability; may cause major impact on public health
    - Moderate importance—Failure to complete the task correctly or in a timely manner may lead to serious patient discomfort, short-term disability, or moderate impact on public health
    - Low importance—Failure to complete the task (e.g., bed making) correctly or in a timely manner will have minimal impact on the patient or public health
3. **Education:** When and where was the provider educated/trained to perform the task?
    - Pre-service education (PSE)—Nurse was educated/trained to complete task as part of pre-service education
    - In-service training—Nurse received education/training needed to complete task following graduation
    - On the job—Nurse received informal education/training from co-workers or supervisor
    - Not trained—Nurse has not received any formal (pre-service) or informal (in-service or on-the-job) education/training for the task
4. **Performance:** What is the provider's self-perceived level of competence in performance of the task?
    - Proficient—Nurse perceives self as proficient and may instruct others in performance of the task
    - Competent—Nurse perceives self as performing task safely and effectively; may ask for assistance as necessary
    - Not competent—Nurse perceives self as unable to perform task safely without assistance; may cause harm if performing task without supervision

SAMPLING

According to local stakeholder guidance, nurses and nurse-midwives newly graduated from their most recent nursing or midwifery educational program were included in the study. Several participants were nurse-midwives who were experienced nurses that had recently completed their midwifery education. The task analysis study was designed to recruit nurses who, at the time of data collection, had graduated between six months and four years previously. This group was targeted because one of the objectives of the task analysis was to evaluate the pre-service education curriculum and make recommendations based upon the findings. The rationale was that nurses and nurse-midwives with greater than four years of experience in their current designation would be more likely to have gained skills at work that differ considerably from their original training. Newly graduated nurses/nurse-midwives' responses to the task list, on the other hand, may be more likely to reflect skills obtained through current curricula, training practices, and supportive provisions for new nurses—all of which can be adjusted and improved accordingly. Surveying nurses who have more recently graduated also helps to ensure that any

future curricular changes made accurately reflect core competencies needed by nurses upon graduation.

Obtaining a sample of participants that statistically represented the overall study population of interest was infeasible due to lack of available work deployment data to help identify nurses who had graduated within the specific target range (six months to four years previously). HRAA's recently conducted head count of health care facility staff (2011) informed the sample size of 280 total nurses in the study population.

PARTICIPANT RECRUITMENT

The study team determined a target sample size of at least 60 participants per task, per the guidance of a biostatistician at the Johns Hopkins University Bloomberg School of Public Health. To ensure that this sample size was met, the team invited an average of 20 participants to 10 workshops for a total of approximately 200 invitations. This approach anticipated that some nurses who were invited would not be able to participate in the data collection process. To avoid overwhelming participants and divide the effort among them, the task list was separated into two groups: Group A, Tasks 1–51, and Group B, Tasks 52–102. Because nurses would be responding to only half the task list, half the number of those who attended the workshops determined the final sample size.

The recruitment strategy was developed with consideration of the distribution of MOH and CHAL practicing nurses in Lesotho (private providers were not included). Ten data collection workshops were planned, one in each Lesotho district, and efforts were made to ensure representation from rural health centers. The Director of Nursing Services at the MOH sent recruitment letters to health facility managers, requesting nurses who had graduated between six months and four years previously to participate in data collection workshops. To maintain confidentiality, the specific names of the nurses were not included in written correspondence between study staff and health facility managers. Before the data collection workshops, the study team made follow-up phone calls to facility managers to ascertain the expected number of participants.

Inclusion criteria:

Registered nurses and/or registered nurse-midwives with a graduation date for their most recent professional designation (nursing or midwifery) ranging from six months to four years before the data collection activity were included in the study.

Exclusion criteria:

Nurses and/or nurse-midwives who graduated from their most recent nursing or midwifery program more than four years previously were excluded from the study, as was any nurse/nurse-midwife on probation.

DATA COLLECTION

A one-day training of data collectors was conducted in Maseru in January 2013, in which they reviewed research ethics, including the importance of data confidentiality and the assurance of study participant autonomy via informed consent. Data collector trainees practiced the task analysis data collection methodology and signed a data confidentiality agreement. The data collection team then traveled to the 10 health districts during the period of April 15 to May 10,

2013. Although the Paray Hospital and attached health division clinic were to be included in the data collection, the data sheets from that workshop were misplaced. Therefore, the data from those two facilities (Paray Hospital and attached clinic, 16 participants) were not included in the data analysis.

Before each workshop, study participants filled out a biographical data sheet designating their level of experience and workplace type and location. Each participant was assigned a random number, which was linked to the participant responses on the task list. There was no linkage between the data gathered and any personal identifying information.

Data were collected using Task Master: Mining for Data©, which was developed by Jhpiego for the purpose of task analysis data collection. This card game was designed in such a way as to increase participants' engagement while reducing their fatigue, in an attempt to increase quality of data relative to more traditional methods. The game prompts feedback on four measurement areas for each task: frequency, criticality, setting where educated/trained, and self-perceived competence in performance. For each of these areas, participants had a number of cards to choose from to express their responses:

- Frequency of performance (five cards): never, rarely, monthly, weekly, or daily
- Criticality to patient/public health outcome (three cards): low, moderate, high
- Setting where educated/trained (four cards): not trained, on the job, in-service, pre-service
- Self-perceived competence in performance (three cards): not competent, competent, proficient

A set of cards was passed to each participant before every round of the game. For all tasks being examined (1–51 or 52–102), the facilitator read each task aloud and provided time for participants to lay down the card (face down) that reflected their personal experience in their workplace for all four measurement areas. Each participant's cards were marked, before the game, with the number assigned on her biographical data sheet.

For example, for the criticality round, participants received three cards with the different responses written on the cards: High Criticality, Moderate Criticality, and Low Criticality. In response to the task, "connects women to PMTCT services," study participants independently decided the criticality level of that task and "played" the corresponding card. After all participants had made their selections, the data collectors picked up all of the cards; they recorded the responses on data collection forms out of sight of participants to maintain the confidentiality and anonymity of responses.

The trained data collectors who recorded participant responses at data collection workshops transferred the results into an Excel spread sheet. A data analysis consultant reviewed all entries by comparing the paper-based data sheets and the Excel spread sheet results. Any discrepancies were corrected, resulting in a thoroughly cleaned data set.

Missing data points (of which there were few) were included in the demographic analysis results but were not included in the analysis of nurse responses to the tasks, because IBM SPSS software (for statistical analysis)[30] automatically removes missing values during frequency cross-tabulation analysis.

ANALYSIS OF RESULTS

A data analysis plan was developed in accordance with the expected outputs of the task analysis, specifically to look at the tasks new graduate nurses do in Lesotho, as well as the implications related to nursing education and practice.

As a first step in the analysis, the demographic data were analyzed with the Fisher's exact test and Chi-square test to determine whether the two groups, those who were participants for Tasks 1–51 and those who were participants for Tasks 52–102, were statistically different from one another. Descriptive analysis of some demographic data was also performed to characterize the context of the setting and participants.

Upon establishing that the two groups were not statistically different (see Results section), summaries of each task by the four measurement areas (frequency of performance, criticality to patient/public health outcome, setting of education/training, and self-perceived competence in performance) were made by analyzing the data in Excel, as well as by using IBM SPSS software. The resulting frequency distributions summarize the nurses' responses to the task list. Results are highlighted by category.

Frequency distributions were explored to further plan for analysis of data and consider cross-tabulations that may have relevance to the outlined objectives. Results were disaggregated by type of workplace (clinic, district hospital, referral hospital, or specialized hospital) from the tasks analyzed.

Cross-tabulations of the four measurement areas were considered based upon the implications that the results might have on nursing education, practice, and/or regulation. Table 2 provides an overview of the rationale.

Table 2: Cross-Tabulation Options for the Four Task Measurement Areas Analyzed

	Frequency: "How frequently task is performed"—never, rarely, monthly, weekly, or daily	**Criticality*:** "How critical task is to patient/public health outcomes"—low (< 50% of respondents rated the task as highly critical), moderate (50−90% rated task highly critical), or high (≥ 90% rated task highly critical)	**Education:** "Where and when educated/trained in task"—never trained, on the job, in-service, or pre-service	**Performance:** "Self-perceived competence in performing task"—not competent, competent, or proficient
Frequency		1	2	3
Criticality			4	5
Education				6
Performance				

1. Frequency – Criticality	**Low-frequency, high-criticality** tasks should receive most attention and focus during education/training, testing, and continued in-service trainings. More focus may be required for tasks that are performed less frequently in the job setting to make sure the skills needed to perform these critical tasks are sufficiently obtained during training.
	Low-criticality, high-frequency tasks (in which participants generally perceive themselves as proficient) may be considered for removal from training curriculum given the limited time for training, the low criticality of the task, and the likelihood that the task will be learned on the job with a high frequency of performance.
2. Frequency – Education	Shows where the majority of education/training takes place for different tasks. *Not a priority to analyze, as it is presumed that all nursing standards should be taught, irrespective of the frequency with which the task is performed; therefore, relevant data are found in frequency of education alone.*
3. Frequency – Performance	May describe association between frequency of performance and level of comfort in performing a task, with the assumption that the more a task is done the more comfortable the provider is doing it. *Not a priority to analyze for the purpose of this task analysis, as it would not contribute to the main objectives.*
4. Criticality – Education	**High-criticality** tasks for which participants reported being **never trained** should be considered when developing or revising curriculum content (pre- and in-service).
5. Criticality – Performance	**High-criticality, low-perceived performance** tasks (not competent) will require special focus and attention for new graduate support.
6. Education – Performance	May show correlation between setting where educated/trained and perceived performance. *Not a priority to analyze, as the objective of the study was not designed to compare effectiveness of training.*

* For meaningful interpretation of results, variability in the criticality category was imposed using the following metrics: if a task was ranked by less than 50% of respondents as high criticality, the task was categorized as LOW CRITICALITY; if a task was ranked by 50%−90% of respondents as high criticality, the task was categorized as MODERATE CRITICALITY; if a task was ranked by more than 90% of respondents as high criticality, the task was categorized as HIGH CRITICALITY.

LIMITATIONS OF METHODOLOGY OF TASK ANALYSIS

Standard task analysis methodology is based on self-reporting of the participants' individual rating of tasks. It is a "snapshot in time" of how recent graduates of a health cadre perceive the different measurements within each category, not a measure of the actual performance of individuals. Within these parameters, limitations include those inherent to self-reporting—

including under- or over-reporting due to inaccurate memory, social desirability bias, or the possibility that participants may provide answers that they believe are desired by researchers. These limitations may be mitigated by the anonymous nature of the responses.

Recent task analysis experience, in particular in the United States with NCSBN (2011),[29] notes that nurses rarely self-rate as "not competent." This apparent bias may lead to an over-reporting of nurses rating themselves as "competent" and may not be an accurate reflection of competence. The US task analysis study also noted that, similar to self-perceived competence ratings, nurses' responses appeared biased toward over-representing tasks as "critical." This may be due to the general notion that all tasks done by nurses are important. Some researchers have considered using phrasing such as "may cause harm if not done under supervision" rather than "not competent." Such wording may allow more accurate responses on the part of the nurse, and avoid imposing a negative self-perception of competence based on the performance of one or more tasks.

Task analysis is descriptive, not experimental, and results must be interpreted in the context of the country and setting. For example, if critical health worker shortages mean a near complete lack of supervision for new graduates, this reality should be considered when interpreting results.

Results

DEMOGRAPHIC ANALYSIS

One hundred and seventy individuals participated in the study. Responses from 16 participants were not included in the final analysis because data sheets from Paray Hospital and the affiliated Health Division Clinic were misplaced; therefore, data were taken from the card game survey conducted with 154 nurses from health facilities in all 10 districts of Lesotho. These facilities included one referral hospital, one specialized hospital, and 15 general hospitals, with approximately 25 of their affiliated clinics. Table 3 provides an overview of the number of participants and facilities sampled in each district. Health centers are affiliated with district hospitals and therefore are not listed separately.

Table 3: Participant Distribution across Districts

District	District Hospital	Number of Participants from Hospital or Affiliated Clinics
Berea	Berea Hospital	27
	Maluti Adventist Hospital	
Butha-Buthe	Butha-Buthe Hospital	21
	Seboche Hospital	
Leribe	Mamohau Hospital	12
	Mosebang Hospital	
Mafeteng	Mafeteng Hospital	9
Maseru	Scott Hospital	10
	St. Joseph's Hospital	
Mohale's Hoek	Ntsekhe/Mohales Hoek Hospital	14
Mokhotlong	Mokhotlong Hospital	7

District	District Hospital	Number of Participants from Hospital or Affiliated Clinics
Qacha's Nek	Machabeng Hospital	10
	Tebellong Hospital	
Quthing	Quthing Hospital	7
Thaba Tseka	St. James Hospital	8
	Specialized Hospital	**No. of Participants from Hospital**
Maseru	Mohlomi Mental Hospital	4
	Referral Hospital	**No. of Participants from Hospital**
Maseru	Queen Mamohato Hospital	25
Total		**154**

Each group of questions (Groups A and B) had 77 participants in the sample. Group A participants responded to questions related to Tasks 1–51 (excluding Task 33, which was eliminated before data collection) and Group B responded to questions related to Tasks 52–102. The results of Fisher's exact and Chi-square tests, used to compare characteristics of the two groups, are found in Table 4. Analysis of the demographics showed that the two groups did not statistically differ in any of the measured variables ($p > .05$). Given the lack of statistical difference (as indicated in the far-right column), the study team proceeded with analysis of the data, having confirmed that no potential group biases existed in terms of their responses to one-half of the task list.

Table 4: Demographic Information of Participants by Response Group

Variable	Group A: Tasks 1–51 (n)	Group B: Tasks 52–102 (n)	Total (%)	P value
Number of Participants	**77**	**77**	**154 (100)**	
Gender				**0.843**
Male	15	16	31 (20.1)	
Female	62	60	122 (79.2)	
*Missing	0	1	1 (0.6)	
Age				**0.475**
20–24	5	8	13 (8.4)	
25–29	43	49	92 (59.7)	
30–34	22	14	36 (23.4)	
35–40	3	4	7 (4.5)	
40+	4	2	6 (3.9)	
Facility Level				**0.887**
Clinic	22	26	48 (31.2)	
Hospital	39	38	77 (50.0)	
Referral Hospital	14	11	25 (16.2)	
Specialized hospital	2	2	4 (2.6)	
Facility Type				**0.748**
Government	33	37	70 (45.5)	
CHAL	30	29	59 (38.3)	
PPP	14	11	25 (16.2)	

Variable	Group A: Tasks 1–51 (n)	Group B: Tasks 52–102 (n)	Total (%)	P value
Number of Participants	**77**	**77**	**154 (100)**	
Current Designation				**0.247**
Nursing Sister (RN)	21	28	49 (31.8)	
Nursing Officer	1	3	4 (2.6)	
Nurse-Midwife	55	45	100 (64.9)	
*Missing	0	1	1 (0.6)	
Year Graduated				**0.413**
2008	9	8	17 (11.0)	
2009	13	13	26 (16.9)	
2010	21	21	42 (27.3)	
2011	28	23	51 (33.1)	
2012	5	12	17 (11.0)	
*Missing	1	0	1 (0.6)	
Graduation Institution				**0.422**
MASN	23	14	37 (24.0)	
NHTC	28	26	54 (35.1)	
NUL	9	17	26 (16.9)	
SSN	2	5	7 (4.5)	
Abroad	2	2	4 (2.6)	
*Missing	2	2	4 (2.6)	
Year Nursing or Midwifery Exam Passed				**0.384**
2008	16	10	26 (16.9)	
2009	16	16	32 (20.8)	
2010	24	24	48 (31.2)	
2011	21	24	45 (29.2)	
2012	0	3	3 (1.9)	
Year First Job				**0.615**
2008	2	3	5 (3.2)	
2009	15	9	24 (15.6)	
2010	22	20	42 (27.3)	
2012	17	23	40 (26.0)	
*Missing	0	1	1 (0.6)	
Year Current Post				**0.137**
2008	1	0	1 (0.6)	
2009	8	10	18 (11.7)	
2010	26	17	43 (27.9)	
2011	19	15	34 (22.1)	
2012	22	35	57 (37.0)	
*Missing	1	0	1 (0.6)	

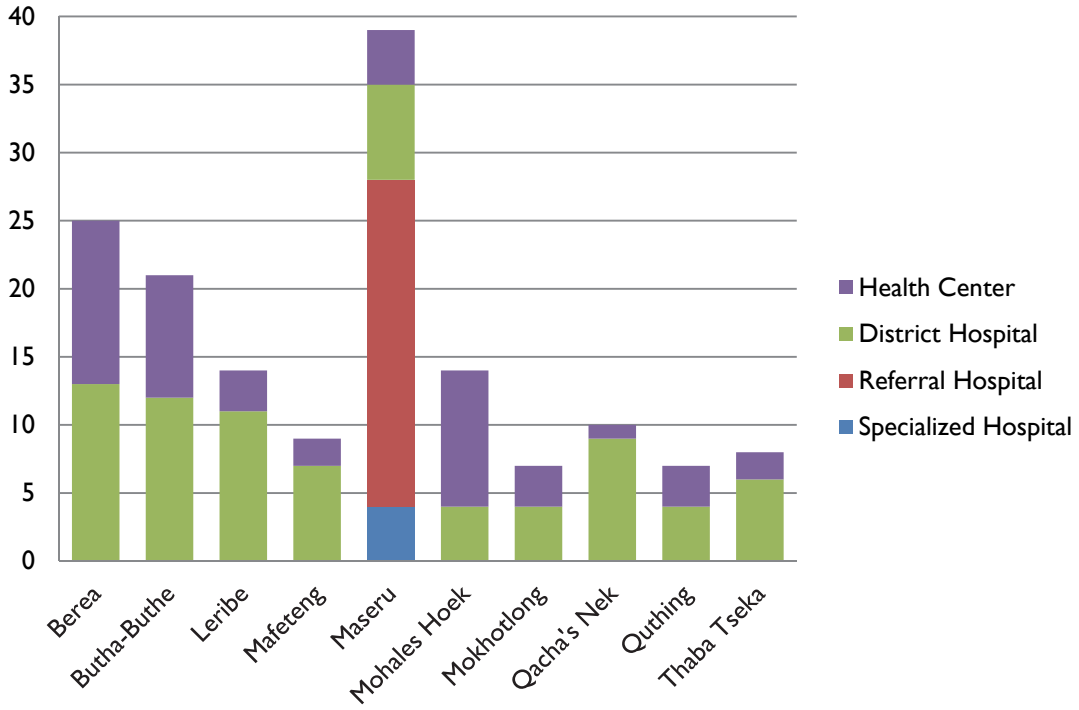
Variable	Group A: Tasks 1–51 (n)	Group B: Tasks 52–102 (n)	Total (%)	P value
Number of Participants	**77**	**77**	**154 (100)**	
Exam Attempts				**0.164**
1 time	60	65	125 (81.2)	
2 times	16	10	26 (16.9)	
3 times	0	2	2 (1.3)	
*Missing	1	0	1 (0.6)	

*Missing refers to the number of responses that were left blank on the demographic form or were unreadable.

The task list, having been reviewed by nursing experts in Lesotho, included tasks that are deemed important for nursing service delivery. There are some tasks that may require further exploration when analyzing the data because the task referred not to a discrete activity, but to a category of care, complex/multifaceted services, or a mode of operation. Examples of such tasks include "first aid treatment of mental health emergencies" (Task 83), "screen for cancer" (Task 37), "care of a patient who has experienced gender-based violence" (Task 52), and "practice in accordance with Child's Bill of Rights" (Task 97).

In Lesotho, health care services differ according to level of care. Taking into consideration the tiered structure of the health care system, descriptive analysis of participants according to their self-reported type of workplace (health center, hospital, referral hospital, or specialized hospital) per district was undertaken. Figure 2 provides an overview of where the 154 participants worked.

Figure 2: Number of Participants for Each Level of Facility per District



The majority of nurses surveyed from health centers were registered nurse-midwives (80%), which denotes a general nursing degree plus one year of post-basic education for midwifery, whereas just over half of those surveyed from all three types of hospitals—district, referral, and specialized—were nurse-midwives (58%). Table 5 provides further detail regarding qualifications of the participants and type of facility where they work. Responses about place of work varied by district as well, as three districts (Berea, Butha-Buthe, and Mohales Hoek) had a larger representation of participants from health centers, whereas only one district, Maseru, had referral and specialized hospital participants. The majority of participants in Maseru were from the referral hospital (n = 24).

Table 5: Number of Participants According to Designation and Type of Workplace

Level where participant works	Current Designation: Number (%)				
	Nursing Sister	Nursing Officer	Nurse-Midwife	Missing	Total
Health Center	6 (12.2%)	3 (6.1%)	39 (79.6%)	1 (2.0%)	**49** (100.0%)
District Hospital	30 (39.0%)	1 (1.3%)	46 (59.7%)	0 (0.0%)	**77** (100.0%)
Referral Hospital	10 (41.7%)	0 (0.0%)	14 (58.3%)	0 (0.0%)	**24** (100.0%)
Specialized Hospital	3 (75.0%)	0 (0.0%)	1 (25.0%)	0 (0.0%)	**4** (100.0%)
Total	**49 (31.8%)**	**4 (2.6%)**	**100 (64.9%)**	**1 (0.6%)**	**154** (100.0%)

FREQUENCY ANALYSIS BY FOUR TASK MEASUREMENT AREAS

Full frequency tables, presenting data on the responses of study participants for all four task measurement areas—frequency, criticality, setting of education/training, and self-perceived performance—can be viewed in the Annex (Tables A-3 to A-6) and are arranged according to the variable considered to have the most relevance when considering the effects on nursing and midwifery education/training, practice, and/or regulation. For example, the measurement of FREQUENCY—for which the question "How often is the nursing task performed?" was asked of participants about various tasks—is arranged according to the tasks reportedly done most often (i.e., weekly or daily).

Figures 3 to 6 show the average number of participants for each variable of each of the four task measurement areas for the 101 tasks. There was a minimal amount of missing data, and the average number of participants for each of the four task measurement areas was between 76 and 77. These graphs provide a visual impression of how often participants chose each response. Figure 3 shows that "daily" completion of tasks is most frequently reported, whereas "never" done is the second most frequent response, indicating that perhaps the task list utilized is not representative of routine skills in various settings. Figure 4 shows that the vast majority of participants rated the majority of tasks as "high" criticality, which may indicate an "inflated" assessment given that the participants were not asked to prioritize the tasks within the task list. Figure 5 reveals that most tasks were reported as learned during pre-service education, as one would expect considering that the task list was based on essential nursing standards. Finally, Figure 6 indicates that, on average, fewer participants rated themselves as "not competent" than "competent" or "proficient" in performing a task, but even this number may be concerning if these are tasks all nurses are expected to perform.

Figure 3: Average Number for Each Response to Task Measurement Area: FREQUENCY
(for which the question asked was, "How often is the nursing task performed?")

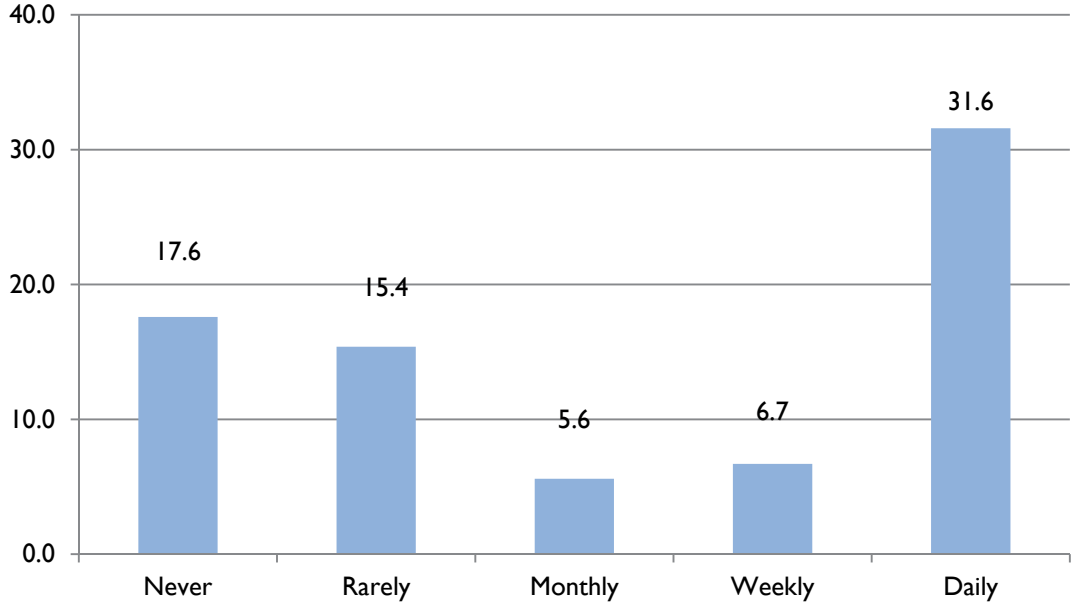


Figure 4: Average Number for Each Response to Task Measurement Area: CRITICALITY
(for which the question asked was, "How critical is timely and effective performance of this task to the outcome for the client or public health?")

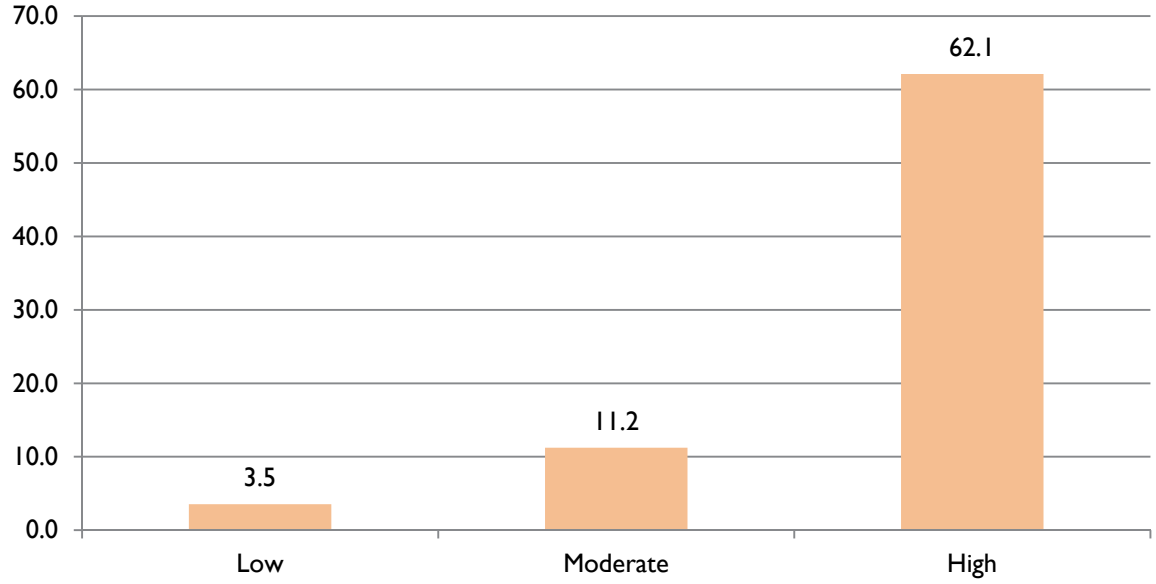


Figure 5: Average Number for Each Response to Task Measurement Area: Setting of EDUCATION/Training *(for which the question asked was, "When and where was the nurse educated/trained to perform the task?")*

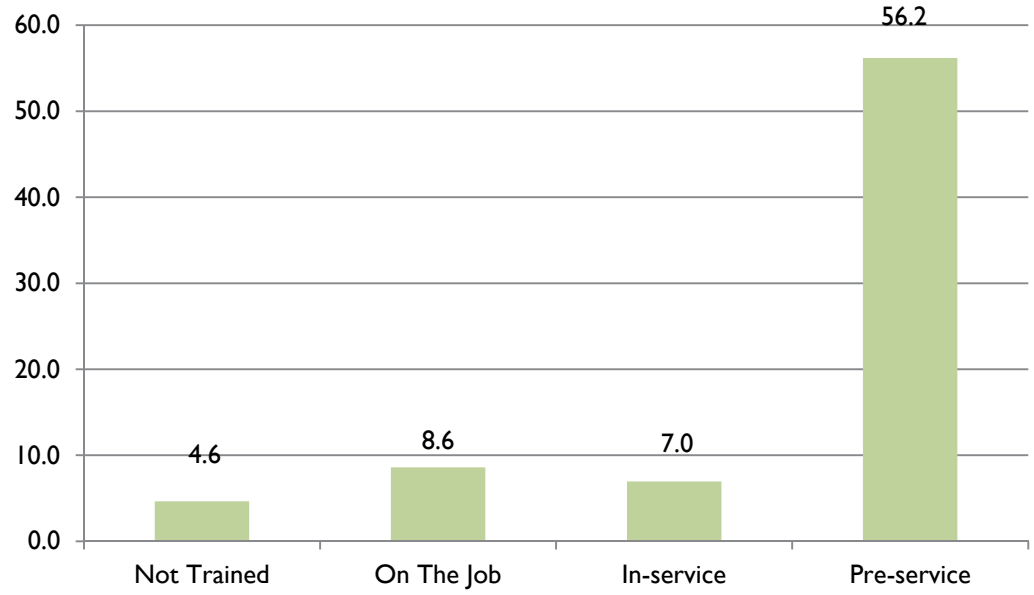
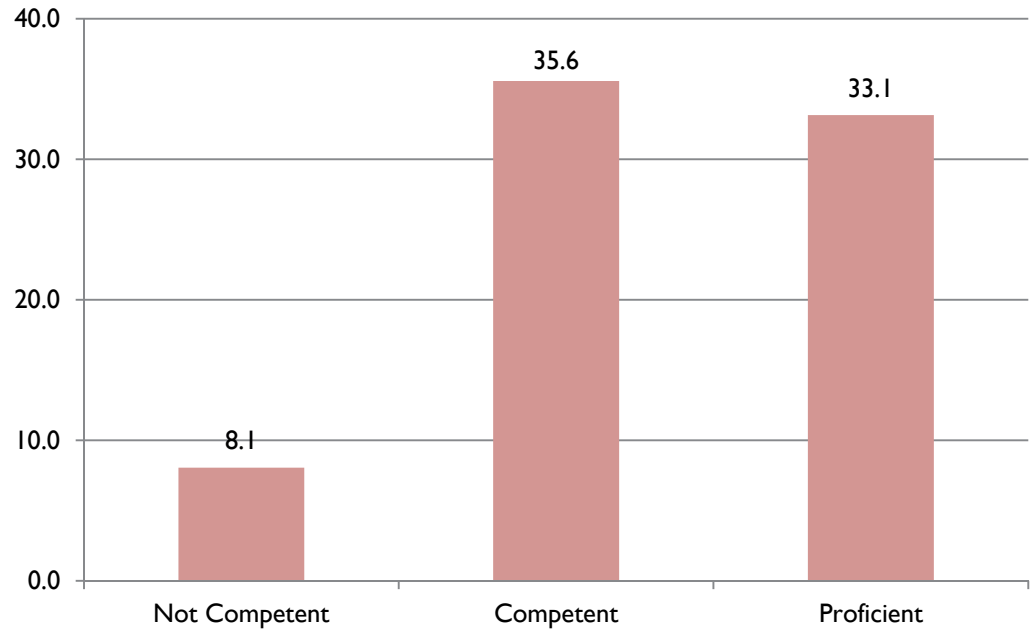


Figure 6: Average Number for Each Response to Task Measurement Area: Perceived Competence in PERFORMANCE *(for which the question asked was, "What level of competence does the nurse have in performance of the task?")*



FREQUENCY (TABLE A-3 IN THE ANNEX)

During data collection, participants were asked to rate how frequently they perform a task during their work based upon five choices: daily, weekly, monthly, rarely, or never. Frequency analysis was conducted according to tasks reportedly performed most often, combining daily and weekly for a percentage-participant calculation. Likewise, frequencies of "never" and "rarely" were performed separately as well as together to test the validity of the tasks within the context of the setting of Lesotho.

There were six tasks that more than 90% of all of the participants indicated they do at least weekly: Task 56 "protect confidentiality of patient information" (97.4%); Task 77 "document patient care" (97.4%); Task 66 "obtain health history" (96.1%); Task 65 "obtain vital signs" (96.1%); Task 55 "maintain therapeutic nurse-patient relationship" (94.8%); and Task 78 "administrate oral medication considering the 5 Rs" (90.9%). (Note: 5 Rs = Five rights for medication administration: right medication, right patient, right dose, right route, and right time.)

There were four tasks that more than half of the participants indicated they **never** did. These are listed in Table 6.

Table 6: Tasks Never Done: Those that More than Half of Participants Reported They Never Do

Task No.	Nursing Task	Total (n)	Never		Rarely		Monthly		Weekly + Daily	
			(n)	%	(n)	%	(n)	%	(n)	%
44	Distribute delivery kits to traditional birth attendants	77	70	**90.9%**	4	5.2%	2	2.6%	1	1.3%
43	Conduct home visits to ensure that antenatal care is being sought	77	58	**75.3%**	9	11.7%	5	6.5%	5	6.5%
48	Advocate and mobilize for community-organized emergency transport for obstetric emergencies	77	47	**61.0%**	13	16.9%	2	2.6%	15	19.5%
16	Provide and supervise school health program components	76	46	**59.7%**	19	24.7%	11	14.3%	0	0.0%

Only two tasks were **not** reported by any participant as "never" done; these were Task 65 "obtain vital signs" and Task 66 "obtain health history," indicating that all 77 participants reported doing these two clinical tasks at least rarely (2.6% and 1.3%, respectively), monthly (1.3% and 2.6%, respectively), weekly (3.9% and 2.6%, respectively), or daily (92.2% and 93.5%, respectively).

Only one task was reported **rarely** done by more than half of all participants: Task 9 "participate in clinical teaching of nursing students." Forty-one of the 101 tasks based upon nursing standards were reported to be **rarely or never** done by more than half of the participants. The five tasks least frequently done (rarely or never) are those four reportedly never done, as shown in Table 6, as well as Task 100 "care of child with congenital anomalies."

Disaggregating the data by type of workplace of the participant (health center, district hospital, specialized hospital, or referral hospital) provides a different picture regarding the tasks most frequently performed. Tasks performed by nurses working in hospitals often differ from those being performed by nurses working in health centers. Frequency responses (never, rarely, monthly, or daily + weekly) from participants from hospitals (district, referral, and specialized) were combined (n = 55) and compared to those from participants working at health centers. The Chi-square test was performed for each of the 101 tasks; frequency of performance for 43 of the tasks was found not to be independent of the type of facility where the participant worked ($p < .05$). The tasks for which there was a significant difference in frequency of performance relative to type of workplace (hospital vs. health center) are indicated with an asterisk in Table A-3 in the

Annex. The results for Task 21 "perform rapid test for HIV" are shown in Table 7 as an example.

Table 7: Measurement of Frequency for Task 21 "Perform rapid test for HIV" by Type of Facility

Type of Facility Where Participant Works	Frequency of Performing Task				
	Never	Rarely	Monthly	Daily + Weekly	**Total**
Hospital	21 (38.1%)	15 (27.2%)	0 (0%)	19 (34.5%)	55 (100%)
Health Center	5 (22.7%)	2 (9.0%)	1 (4.5%)	14 (63.6%)	22 (100%)
Total	26	17	1	33	77
DF 3, p = .028					

Nearly two-thirds of all participants (64.9%) reported doing Task 1 "demonstration of management skills: health center documentation, planning, organizing, staffing and supervising the provision of health services" at least weekly (daily + weekly). Differentiation by place of employment revealed that 90.9% of health center participants reported high frequency of doing this task, compared with only 54.5% of all hospital participants. Similarly, only 4.5% from health centers versus 32.7% from hospitals reported "never" doing the task. All participants working at the health center level reported themselves as "competent" (77.3%) or "proficient" (22.7%) in Task 1, whereas 20.5% working in general hospitals and 35.7% working at the referral hospital reported perceiving themselves as being "not competent" in performing this skill. Over half of all participants reported learning this skill during pre-service education (61.0%).

Figure A-1 in the Annex provides a visual representation of the variability of tasks performed according to type of workplace. The most notable differences are between health centers and the referral hospital, as shown in Table 8. The top three tasks most frequently done are highlighted in dark blue, tasks ranked 4th–6th in lighter blue, and tasks ranked 7th–10th in lightest blue. Although Task 63 "prevent pressure-related wounds" ranked first (most frequently performed, along with three other tasks—i.e., all are performed equally as frequently) for participants working at the referral hospital, it was ranked as the 67th most frequent task (daily or weekly) done by nurses working at health centers. District hospital participants were in the middle, with Task 63 ranking as the 33rd most frequently done. Similarly, Task 46 "encourage mothers to attend pre- and post-natal care" ranked first (along with two other tasks) for health center participants, whereas it ranked as the 21st and 39th most frequently performed task for district and referral hospital participants, respectively.

Table 8: Ranking by Percentage of Participants Reporting Doing the Task Daily or Weekly, by Type of Facility*

Task#	Nursing Task	All Facilities	Health Centres	District Hospitals	Referral Hospital
56	Protect confidentiality of patient information	1	1	4	1
77	Document patient care	1	4	1	7
66	Obtain health history	3	1	4	12
65	Obtain vital signs	3	11	1	1
55	Maintains therapeutic nurse-patient relationship	5	11	1	7
78	Adminstrate oral medication considering the 5 R's	6	26	4	12
73	Utilization of nursing theory when providing care to patients and clients	7	26	7	12
58	Advocate for patients	7	26	8	7
38	Provide counselling and education on healthy living	9	15	13	6
71	Appropriate use of aseptic techniques for infection prevention and control	10	26	14	1
4	Apply the team approach in the delivery of health services	10	30	12	11
74	Recognize when patient condition is beyond nursing scope of practice and refer	10	23	10	29
67	Assess/Examine a patient with courtesy and proper technique	10	34	8	12
19	Provide education on safe sex practices	14	6	19	23
57	Uphold principles of teaching, learning and communication when developing and implementing patient teaching plans	15	38	14	7
46	Encourage mothers to attend pre and post-natal care	16	1	21	39
29	Screening for TB based on patient symptoms	16	6	19	33
6	Maintain emergency equipment	18	40	25	1
50	Educate mothers on maternal nutritional requirements during pregnancy and breastfeeding	20	6	23	39
18	Provide STI counselling, testing and preventive services	22	6	36	27
96	Emphasize the importance of child nutrition for growth and development	25	4	33	60
26	Initiate ART for eligible HIV + patients	34	6	60	33
63	Prevent pressure related wounds	46	67	33	1

*Rankings are done such that if two tasks have the same percentage of participants reporting at least weekly (weekly + daily) performance of the task, both are given the same ranking. For example, the two tasks that 100% of all participants reported doing at least weekly (Tasks 56 and 77) are both ranked as #1. The next most frequent task is then listed as #3, as the #2 raking is skipped.

In terms of tasks that **at least 90%** of nurses reported doing **at least weekly,** there were 20 at the health center level, nine at the district hospital level, and 10 at the referral hospital level (rather than six found in the aggregated data). Only four of the tasks were ranked similarly in terms of frequency across types of facility: "maintain therapeutic nurse-patient relationship" (Task 55), "protect confidentiality of patient information" (Task 56), "obtain vital signs" (Task 65), and "document patient care" (Task 77). One high-frequency task was shared among health center and referral hospital participants: more than 90% reported frequent performance of Task 38 "provide counseling and education on healthy living." Both district and regional hospital participants reported at least weekly performance of Task 63 "prevent pressure related wounds," and health center and district hospital participants reported frequent performance of Task 66 "obtain health history." The other high-frequency tasks (> 90% responding weekly or daily), disaggregated by level of facility, can be found in Table A-3 of the Annex.

Similar to tasks that were reported the most frequently (daily + weekly) done by the largest number of participants, tasks that were reported most infrequently done (rarely + never) varied greatly according to type of workplace. Table 9 provides details of the 10 tasks reported rarely or never done by the largest percentage of participants. The top three tasks most infrequently performed are highlighted in dark purple, tasks ranked 4th–6th in lighter purple, and tasks ranked 7th–10th in lightest purple. Task 44 was reported rarely or never done by 96.1% of all participants, and Tasks 43 and 16 were reported infrequently done by 87.0% and 85.5% of all participants, respectively.

Table 9: Ranking by Percentage of Participants Reporting Doing the Task Never or Rarely, by Type of Facility

Task#	Nursing Task	All Facilities	Health Centres	District Hospitals	Referral Hospital
44	Distribute delivery kits to traditional birth attendants	1	2	1	1
43	Conduct home visits to ensure that antenatal care is being sought	2	17	3	1
16	Provide and supervise school health programme components	3	17	2	4
100	Care of child with congenital anomalies	4	7	4	40
48	Advocate and mobilise for community-organised emergency transport for obstetric emergencies	5	29	7	1
99	Care of child exposed to poison	5	11	9	20
85	Provide spiritual care of patient and family during death and dying	7	7	17	20
47	Screen for cervical cancer	8	27	11	6
60	Describe the essentials of credentialing in nursing (licensure, registration, certification and accreditation)	9	11	17	20
94	Care of patient with anaphylactic reaction	9	15	17	20
61	Maintain involvement in professional nursing organization	11	10	23	27
83	First aid treatment of mental health emergencies	12	22	6	27
82	Educate families on roles in the care & support of patients with mental disability	13	22	9	40
51	Educate men and women on gender-based violence	15	38	7	7
13	Assess nutritional status of the community and design interventions to alleviate deficits	17	40	15	7
84	Care of body after death	17	5	40	27
88	Maintains resuscitation record	20	4	42	27
31	Trace defaulters within the communities	23	65	5	4
9	Participate in clinical teaching of nursing students	24	6	25	74
86	Care of terminally ill patients	28	7	42	59
92	Care of patient who is unconscious	30	3	49	76
90	Provide care to critically ill patient in the hospital setting	35	1	70	76
53	Screens pregnant mothers for HIV	58	81	42	9
54	Link HIV+ pregnant mothers to PMTCT services	59	83	49	9

Notably, Task 54 "link HIV+ pregnant mother to PMTCT services" was reportedly the 9th **least frequent** task done by nurses working at the referral hospital, and the 49th and 83rd least frequent at district hospitals and health centers, respectively. Although Task 43 "conduct home visits to ensure that antenatal care is being sought" was one of the three least frequent activities reported by nurses working at district and referral hospitals, it ranked 17th based on responses from health center nurses. One-quarter of all participants reported that they "participate in clinical teaching of nursing students" (Task 9) on a daily basis, 50.6% that they rarely do, and 11.7% that they never do. However, a substantial difference is apparent when viewing the data disaggregated by type of workplace. Eleven of 14 participants from the referral hospital (78.6%) reported participating in clinical teaching of nursing students at least weekly (daily + weekly), whereas 13.6% and 20.5% of nurses at health centers and district hospitals reported mentoring students frequently. The results for Task 9 are shown in Table 10 as an example.

Table 10: Measurement of Frequency for Task 9 "Participate in clinical teaching of nursing students" by Type of Facility

Type of Facility Where Participant Works	Frequency of Performing Task					
	Never	Rarely	Monthly	Weekly	Daily	Total
District Hospitals	1 (2.6%)	25 (64.1%)	5 (12.8%)	0 (0%)	8 (20.5%)	**39**
Health Center	8 (36.4%)	10 (45.5%)	1 (4.5%)	1 (4.5%)	2 (9.1%)	**22**
Referral Hospital	0 (0%)	3 (21.4%)	0 (0%)	2 (14.3%)	9 (64.3%)	**14**
Specialized Hospital	0 (0%)	1 (50.0%)	1 (50.0%)	0 (0%)	0 (0%)	**2**
Total	*9*	*39*	*7*	*3*	*19*	**77**

Interpersonal violence, including gender-based violence, is the fourth leading cause of YLL in Lesotho. However, results from this study indicate that educating men and women on gender-based violence is infrequently done at hospitals, presumably where a majority of victims of violence would present for care. Similarly, screening for cervical cancer is predominantly done at the referral hospital in Lesotho, yet this is one of the 10 least-performed activities as reported by participants from that level of care.

Surprisingly, 18 of 77 (23.4%) of participants reported frequent "care of patients with animal, snake, or insect bite" – Task 91 (18.2% daily, 5.2% weekly), and 16.9% of participants reported frequent "care of a patient with anaphylactic reaction" – Task 94 (11.7% daily, 5.2% weekly). Acute care skills are purportedly essential, particularly considering that 37.7% of participants reported frequent "resuscitation of patients" – Task 87 (27.3% daily, 10.4% weekly). Over half of participants reported frequently "following protocol for administration of emergency medication" – Task 89 (48.1% daily, 7.8% weekly), although it is not clear what participants considered as "emergency medication."

CRITICALITY (TABLE A-4 IN THE ANNEX)

During data collection, participants were asked how critical the timely and effective performance of each task is to the outcome for the client or for general public health. There were three choices for response: high, moderate, and low importance, or CRITICALITY. Separate frequency analyses were conducted according to tasks reported as "high" and "low" criticality.

After excluding data from the specialized hospital (only two participants for each task), at least 40% of participants ranked every task as "high" criticality. There were ten tasks that neither of the two participants from the specialized hospital rated as highly critical: Tasks 5, 52, 60, 75, 76, 84, 86, 93, 97, and 100.

When looking at the data disaggregated by the type of facility where the participant works (hospital vs. health center), there were 22 tasks that **none** of the hospital-based participants reported as "low" criticality, whereas there were 60 tasks that **none** of the health center-based participants reported as "low" criticality. In addition, **all** of the health center-based participants reported eight tasks as "high" criticality (not low or moderate): Tasks 17, 29, 35, 45, 46, 67, 70, and 102. Hospital-based staff did not report "high" criticality exclusively for any task.

All but four of the 101 tasks evaluated were rated as "high" criticality by more than half of the participants. Similarly, four tasks had the largest number of individuals rating them as "low" criticality: Task 61 "maintain involvement in a professional nursing organization" (39%), Task 44 "distribute delivery kits to traditional birth attendants" (31.2%), Task 84 "care of body after death" (27.6%), and Task 76 "provide comfort care measures (such as therapeutic massage)" (15.6%). More than one-quarter of the 101 tasks evaluated (29 tasks, representing 28.7% of all tasks) were rated as "high" criticality by more than 90% of participants.

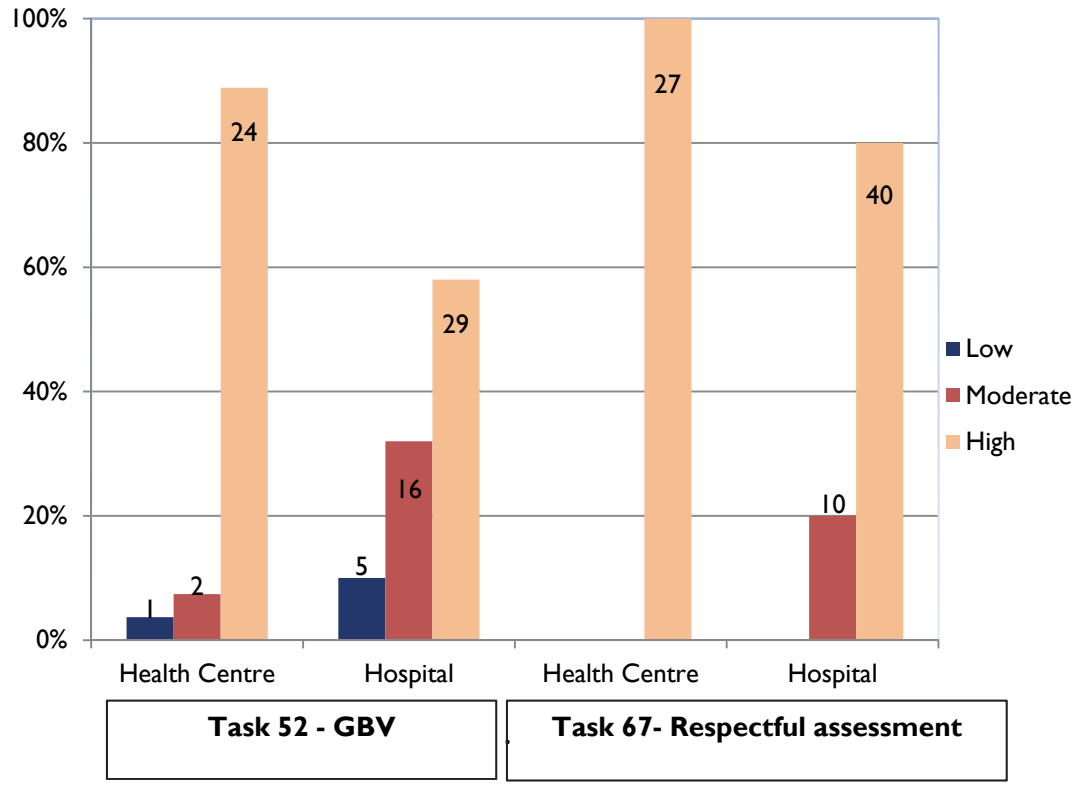
Contingency table development by disaggregation by the type of facility (hospital vs. health center) and report of "criticality" revealed only two tasks for which results are statistically significant on Chi-square analysis ($p < .05$), suggesting that perception of criticality may differ depending on workplace. These are Task 52 "care of patient who has experienced gender-based violence" and Task 67 "assess/examine a patient with courtesy and proper technique." Results for

Tasks 52 and 67 are shown in Table 11. (These tasks are also noted with an asterisk in Table A-4 in the Annex). The same data are presented as graphs in Figure 7.

Table 11: Tasks with Statistically Significant Difference in Criticality as Rated by Participants from Different Facility Types *(Hospital vs. Health Center)*

Task 52 – "Care of patient who has experienced gender-based violence"				
Type of Facility Where Participant Works	**Criticality of Task**			
	Low	Moderate	High	**Total**
Hospital	5 (10.0%)	16 (32.0%)	29 (58.0%)	50 (100.0%)
Health Center	1 (3.7%)	2 (7.4%)	24 (88.9%)	27 (100.0%)
Total	6	18	53	77
DF 2, p =. 020				
Task 67 – "Assess/examine a patient with courtesy and proper technique"				
Type of Facility Where Participant Works	**Criticality of Task**			
	Low	Moderate	High	**Total**
Hospital	0 (0.0%)	10 (20.0%)	40 (80.0%)	50 (100.0%)
Health Center	0 (0.0%)	0 (0.0%)	27 (100.0%)	27 (100.0%)
Total	0	10	67	77
DF 1, p = .045				

Figure 7: Criticality of Tasks 52 and 67 Disaggregated by Type of Facility



In both examples, a larger percentage of participants working in health centers rated the task as "high" criticality than those working in hospitals. For "care of a patient who has experienced gender-based violence" (Task 52), 68.8% and 58.0% of health center and hospital participants, respectively, rated the task as "high" criticality. "Assess/examine a patient with courtesy and proper technique" (Task 67) was rated as 'high" criticality by 100% of health center participants and 80% of hospital participants.

SETTING OF EDUCATION/TRAINING (TABLE A-5 IN THE ANNEX)

Participants were asked to select the setting where they were first exposed to education or training related to task performance. The options were pre-service, in-service, on the job (informally), or not trained. Participants could select one option only. Frequency analyses were conducted according to tasks for which participants reported "not trained" as well as "pre-service education." The majority of participants reported learning to perform most tasks during pre-service education (Table A-5). There was only one task for which more than half of the participants indicated they were never trained to perform—Task 44 "distribute delivery kits to traditional birth attendants." The second task for which the largest number of participants reported never being trained was "advocate and mobilize for community-organized emergency transport for obstetric emergencies" (n = 23, 29.9%). There were four tasks that more than 20% of participants indicated they had not been trained to perform:

- Task 44 – distribute delivery kits to traditional birth attendants
- Task 48 – advocate and mobilize for community-organized emergency transport for obstetric emergencies
- Task 45 – encourage traditional birth attendants to refer mothers for delivery
- Task 60 – describe the essentials of credentialing in nursing (licensure, registration, certification, and accreditation)

Other tasks for which participants reported never being trained include: Task 30 "contact tracing of TB-positive patient family members" and Task 31 "tracing [TB] defaulters within the community"—no training for either reported by 16.9% of participants; and Task 51 "educating men and women on gender-based violence" and Task 13 "assessing the nutritional status of the community to design interventions to alleviate deficits"—no training for either reported by 14.3% of participants.

More than half of the participants reported having been trained during pre-service education for about 90% of the tasks. Table A-5 in the Annex shows the setting in which the remaining individuals (50.6%–70.1% of participants) were trained (if at all) on the specified skills—if they were not trained during pre-service education.

Contingency table development by disaggregation by the type of facility (hospital vs. health center) and report of "education/training" revealed 10 tasks for which results were statistically significant on Chi-square analysis ($p < .05$). Tasks 30 and 31 (both related to TB services) are among the top 10 tasks for which participants reported not being trained during pre-service education. Results for these tasks are shown in Table 12. (These tasks are also noted with an asterisk in Table A-5 in the Annex.)

Table 12: Tasks with Statistically Significant Difference in Setting of Education/Training, as Rated by Participants from Different Facility Types *(Hospital vs. Health Center)*

Task 30 – "Contact tracing of TB positive patient family members including sputum sample collection"					
Type of Facility Where Participant Works	**Setting of Education/Training**				
	Not Trained	On the Job	In-service	Pre-service	Total
Hospital	11 (20.0%)	6 (10.1%)	13 (23.6%)	25 (45.5%)	55 (100.0%)
Health Center	2 (9.0%)	10 (45.5%)	4 (18.2%)	6 (27.3%)	22 (100.0%)
Total	13	16	17	31	77
DF 3, p = .009					
Task 31 – "Trace [TB] defaulters within the communities"					
Type of Facility Where Participant Works	**Setting of Education/Training**				
	Not Trained	On the Job	In-service	Pre-service	Total
Hospital	12 (21.8%)	12 (21.8%)	11 (20.0%)	20 (36.4%)	55 (100.0%)
Health Center	1 (4.5%)	13 (59.1%)	2 (9.0%)	6 (27.3%)	22 (100.0%)
Total	13	25	13	26	**77**
DF 3, p = .012					

There were 23 tasks for which 100% of hospital-based participants reported they were trained at some point (on the job, in-service, pre-service) and 48 for which 100% of health center-based participants reported having been trained. Fifteen tasks were similar between the two groups—for which 100% of both hospital- and health center-based participants stated they had been trained.

There was only one task that more than one-third of participants reported learning on the job: Task 2 "inventory of health facility supplies" (31 of 77 participants or 40.3%). However, disaggregation by facility type found 10 tasks that more than one-third of health center participants reported learning on the job (excluding the specialized hospital as there were only two participants responding for each task). These included Tasks 1, 2, 11, 12, 28–32, and 34. Tasks that at least half of participants reported learning on the job are shown in Table 13. For referral and district hospitals, there were two tasks each that more than one-third of participants reported learning on the job: Tasks 2 and 10 (referral) and Tasks 2 and 17 (district).

Table 13: Tasks Learned "On the Job" by at Least Half of Participants, Disaggregated by Facility Type *(excluding the specialized hospital with two participants)*

Task No.	Nursing Task	Total (n)	Not Trained		On the Job		In-service		Pre-service	
			(n)	%	(n)	%	(n)	%	(n)	%
31	"Trace [TB] defaulters within the communities"	**75**	12	16.0%	24	32.0%	13	17.3%	26	34.7%
	Health Center	**22**	1	4.5%	**13**	**59.1%**	2	9.1%	6	27.3%
	District Hospital	**39**	10	25.6%	9	23.1%	7	17.9%	13	33.3%
	Referral Hospital	**14**	1	7.1%	2	14.3%	4	28.6%	7	50.0%
2	"Inventory of health facility supplies"	**75**	8	10.7%	30	40.0%	11	14.7%	26	34.7%
	Health Center	**22**	0	0.0%	**11**	**50.0%**	5	22.7%	6	27.3%
	District Hospital	**39**	8	20.5%	13	33.3%	3	7.7%	15	38.5%
	Referral Hospital	**14**	0	0.0%	6	42.9%	3	21.4%	5	35.7%
12	"Train and supervise community health workers on health education and promotion activities"	**75**	8	10.7%	20	26.7%	4	5.3%	43	57.3%
	Health Center	**22**	1	4.5%	**11**	**50.0%**	1	4.5%	9	40.9%
	District Hospital	**39**	5	12.8%	8	20.5%	2	5.1%	24	61.5%
	Referral Hospital	**14**	2	14.3%	1	7.1%	1	7.1%	10	71.4%
32	"Counsel TB patients and immediate contacts, e.g., family on adherence"	**75**	8	10.7%	22	29.3%	14	18.7%	31	41.3%
	Health Center	**22**	0	0.0%	**11**	**50.0%**	3	13.6%	8	36.4%
	District Hospital	**39**	7	17.9%	7	17.9%	8	20.5%	17	43.6%
	Referral Hospital	**14**	1	7.1%	4	28.6%	3	21.4%	6	42.9%

PERCEIVED COMPETENCE IN PERFORMANCE (TABLE A-6 IN THE ANNEX)

Participants were asked to self-evaluate their ability to perform each task as "proficient," "competent," or "not competent." Of the 101 tasks reviewed, there were nine for which all participants (n = 77) reported competence or proficiency. There were an additional six tasks for which only one person reported herself to be "not competent"; five tasks for which two people reported themselves to be not competent; and seven tasks for which three people reported themselves to be not competent.

The only task in which more than 50% of participants reported themselves to be not competent was "distribute delivery kits to traditional birth attendants" (Task 44). More than one-third of participants perceived themselves as being not competent in Task 60 "describe the essentials of credentialing in nursing (licensure, registration, certification, and accreditation)" (36.4%) and Task 83 "provide first aid treatment of mental health emergencies" (35.1%). The top 10 tasks for which the largest percentage of participants rated themselves as not competent are shown in Table 14.

Table 14: Tasks for which the Largest Percentage of Participants Perceived Themselves as "Not Competent"

Task No.	Nursing Task	Total (n)	Not Competent		Competent		Proficient	
			(n)	%	(n)	%	(n)	%
44	Distribute delivery kits to traditional birth attendants	77	41	**53.2**	21	27.3	15	19.5
60	Describe the essentials of credentialing in nursing (licensure, registration, certification, and accreditation)	77	28	**36.4**	31	40.3	18	23.4
83	First aid treatment of mental health emergencies	77	27	**35.1**	34	44.2	16	20.8
37	Screen for cancer	76	23	**30.3**	34	44.7	19	25.0
61	Maintain involvement in professional nursing organization	76	23	**30.3**	35	46.1	18	23.7
16	Provide and supervise school health program components	76	21	**27.6**	33	43.4	22	28.9
31	Trace [TB] defaulters within the communities	77	21	**27.3**	35	45.5	21	27.3
48	Advocate and mobilize for community-organized emergency transport for obstetric emergencies	77	18	**23.4**	40	51.9	19	24.7
47	Screen for cervical cancer	76	17	**22.4**	39	51.3	20	26.3
5	Identify nursing research priorities and collect and analyze data	76	17	**22.4**	47	61.8	12	15.8

Nearly one-half of the 101 tasks (43%), which were identified by the expert panel as appropriate to include on the task list for new graduate nurses in Lesotho, elicited a "not competent" response from at least 10% of participants. Of particular note, 11.7% of participants reported that they were not competent to perform venipuncture (Task 68), 16.9% to educate men and women on gender-based violence (Task 51), 19.5% to perform contact tracing of TB-positive patient family members including sputum sample collection (Task 30), and 27.3% to trace [TB] defaulters within communities (Task 31).

The tasks for which the largest number of participants rated themselves as "proficient" (80.5%) were "administrate oral medication considering the 5 Rs [Rights]" (Task 78) and "obtain vital signs" (Task 65). More than three-quarters of participants (76.6%) also reported themselves proficient on Task 71 "appropriate use of aseptic techniques for infection prevention and control" and Task 77 "document patient care."

Whereas a majority of individuals self-reported competence in caring for patients who have experienced gender-based violence (74.0%), this was the task in which the lowest number of participants viewed themselves as proficient.

Contingency table development by disaggregation by the type of facility (hospital vs. health center) and report of self-perceived competence in performance revealed 11 tasks that are statistically significant on Chi-square analysis ($p < .05$). Three of the tasks—23, 53, and 54—are related to HIV services. Results for all 11 tasks are shown in Table 15. (These tasks are also noted with an asterisk in Table A-6 in the Annex.)

Table 15: Tasks with Statistically Significant Difference in Self-Perceived Competence in Performance, as Rated by Participants from Different Facility Types *(Hospital vs. Health Center)*

Task 23 – "Providing counseling, testing, and education regarding HIV transmission"				
Type of Facility Where Participant Works	**Self-Perceived Performance**			
	Not Competent	Competent	Proficient	Total
Hospital	0 (0.0%)	35 (63.6%)	20 (36.4%)	55 (100.0%)
Health Center	0 (0.0%)	7 (31.8%)	15 (68.2%)	22 (100.0%)
Total	0	42	35	77
DF 1, p = .040				
Task 53 – "Screen pregnant mothers for HIV"				
Type of Facility Where Participant Works	**Self-Perceived Performance**			
	Not competent	Competent	Proficient	Total
Hospital	5 (10.0%)	26 (52.0%)	19 (38.0%)	50 (100.0%)
Health Center	0 (0.0%)	5 (18.5%)	22 (81.5%)	27 (100.0%)
Total	5	31	41	77
DF 2, p = .002				
Task 54 – "Link HIV+ pregnant mothers to PMTCT services"				
Type of Facility Where Participant Works	**Self-Perceived Performance**			
	Not competent	Competent	Proficient	Pre-service
Hospital	7 (14.0%)	27 (54.0%)	16 (32.0%)	50 (100.0%)
Health Center	0 (0.0%)	6 (22.2%)	21 (77.8%)	27 (100.0%)
Total	7	33	37	77
DF 2, p = .0007				

A larger percentage of participants from health centers (68.2%) rated themselves as "proficient" in providing counseling, testing, and education regarding HIV transmission (Task 23) as compared with hospital-based participants (36.4%). None of the participants from any facility reported themselves as "not competent" in this task.

Tasks 53 and 54 are related to HIV services for pregnant women: "screen pregnant mothers for HIV" and "link HIV+ pregnant mothers to PMTCT services," respectively. The difference between self-perceived performance based upon type of facility remains significant even when the responses of two participants from the specialized mental health hospital are excluded from analysis. No health center-based participants reported themselves as "not competent" on either of the tasks and a majority rated themselves as "proficient" (81.5% and 77.8%, respectively).

All health center-based participants (100%) reported themselves as either "competent" or "proficient" (i.e., none reported "not competent") in 33 tasks, whereas 100% of hospital-based participants reported competence/proficiency in 11 tasks. Nine tasks were the same for health center- and hospital-based participants in terms of 100% self-perceived competence/proficiency.

Finally, when disaggregated by type of facility where the participant works, 37 of 38 participants (97.4%) working at district hospitals reported themselves as "proficient" in performing Task 78 "administrate oral medication considering the 5 Rs," whereas 20 of 27 (74.1%) at health centers and three of 10 (30.0%) at the referral hospital reported proficiency in this task. Twenty of 22 participants (90.9%) working at health centers reported themselves as "proficient" in Task 15 "administration of immunization according to Lesotho guidelines," whereas four of 14 (28.6%) at the referral hospital and 23 of 39 (59.0%) at district hospitals reported proficiency in this task.

CROSS-TABULATIONS OF FOUR TASK MEASUREMENT AREAS AND IMPLICATIONS

The frequencies of each of the four areas of the task analysis were ranked so that the top 20 tasks and their disaggregates by type of health facility could be cross-tabulated. With reference to Table 2 in the Methods section, Table 16 provides an overview of how responses were defined, ranked, and grouped.

Table 16: Ranking of Tasks for Each of the Four Task Measurement Areas

What Is Measured	How It Is Defined	How It Is Measured	Range	Top Tasks* (in descending order)
Most Frequently Performed Tasks	Frequent task = weekly + daily response to frequency	Top 20 tasks for which the largest percentage of all participants reported "weekly" or "daily"	100% – 72.7%	56, 77, 65, 66, 55, 78, 58, 73, 38, 4 67, 71, 74, 19, 57, 29, 46, 6, 35, 50
Least Frequently Performed Tasks	Infrequent task = rarely + monthly response to frequency	Top 20 tasks for which the largest percentage of all participants reported "rarely" or "monthly"	59.7% – 39.5%	9, 52, 61, 99, 11, 12, 91, 100, 60, 94 82, 93, 5, 85, 87, 92, 7, 81, 2, 16
Most Critical Tasks	"High" response to criticality	Top 20 tasks for which the largest percentage of participants reported "high"	98.7% – 92.2%	102, 70, 79, 90, 6, 54, 80, 91, 92, 101, 46, 53, 87, 89, 98 99, 14, 15, 17, 29, 65, 71, 78
Least Critical Tasks	"Low" response to criticality	Top 20- tasks for which the largest percentage of participants reported "low" criticality	39.0% – 6.5%	44, 84, 61, 76, 85, 16, 3, 60, 10, 2, 57, 39, 49, 1, 13, 43, 51, 52, 9, 12, 22, 41, 42
Never Trained	"Not trained" response to setting of education/training	Top 20 tasks for which the largest percentage of participants reported "not trained"	57.1% – 10.4%	44, 48, 45, 60, 16, 30, 31, 9, 13, 51, 97, 3, 47, 40, 83, 37, 2, 10, 12, 32, 43, 52
Not Trained during Pre-service Education	"Pre-service" response to setting of education/training	Top 20 tasks for which the smallest percentage of participants reported "pre-service"	29.9% – 58.4%	44, 31, 2, 30, 32, 28, 27, 48, 10, 26, 25, 29, 9, 34, 8, 3, 51, 45, 12, 54, 60

What Is Measured	How It Is Defined	How It Is Measured	Range	Top Tasks* (in descending order)
Low Perceived Performance	"Proficient" response to performance	Top 20 tasks for which the smallest percentage of participants reported "proficient"	13.0% – 28.9%	52, 5, 81, 44, 3, 83, 7, 82, 100, 1, 60, 61, 48, 94, 37, 47, 31, 87, 93, 16
Low Perceived Performance	"Not competent" response to performance	Top 20 tasks for which the largest percentage of participants reported "not competent"	53.2% – 16.9%	44, 60, 83, 37, 61, 16, 31, 48, 5, 47, 7, 81, 2, 30, 84, 3, 51, 1, 13, 85

*Some "top 20s" include more than 20 tasks, as many tasks may have the same percentages of participants giving them the same ranking (e.g., there may be seven tasks deemed highly critical and all will be ranked 17th if that is where they fall relative to the ranking of other tasks).

Tables 17 to 20 present the cross-tabulations for all participants, relevant to recommendations to improve education, practice, and regulation for the nursing cadre in Lesotho. The results for disaggregation by type of facility are also included, as there are substantial differences in results based upon this information. The absolute number of tasks in the disaggregated analysis varies, as the high/low percentage described above for **all** participants was used as the cut-off point (rather than ranking of top 20 for disaggregated data).

Tasks that were reportedly performed infrequently but considered highly critical (Table 17) should be considered for prioritization when developing training plans. Tasks rated as highly critical and that may lead to high morbidity and mortality rates if inappropriately/not performed (e.g., Task 87 "provide resuscitation") are an example. As would be expected, tasks related to emergencies, such as provision of resuscitation or care of an acutely ill patient (exposed to poison, with insect bite, unconscious) are infrequently done yet rated highly critical.

Table 17: Cross-Tabulation for the Top 20 Tasks Reported as Low Frequency, High Criticality

Task	Percentage (%) Infrequent	Percentage (%) Highly Critical
All Participants		
87 – Provide resuscitation	44.2	93.5
91 – Care of patients with animal, snake or insect bite	51.9	94.8
92 – Care of patient who is unconscious	44.2	94.8
99 – Care of child exposed to poison	53.2	93.5
Health Center Participants		
64 – Safe patient lifting	55.6	92.6
79 – Administrate intravenous therapies, including rehydration fluids and blood, according to protocol	51.9	96.3
87 – Provide resuscitation	51.9	92.6
91 – Care of patients with animal, snake or insect bite	51.9	96.3
92 – Care of patient who is unconscious	51.9	96.3
Referral Hospital Participants		
75 – Monitor and calculate intake and output	47.1	100.0
83 – First aid treatment of mental health emergencies	40.0	100.0
87 – Provide resuscitation	60.0	100.0
91 – Care of patients with animal, snake or insect bite	70.0	100.0
99 – Care of child exposed to poison	40.0	100.0

Task	Percentage (%) Infrequent	Percentage (%) Highly Critical
District Hospital Participants		
92 – Care of patient who is unconscious	44.7	94.7%
93 – Care for patient with trauma from a foreign body	39.5	94.7%
99 – Care of child exposed to poison	50.0	97.4%

Some high-frequency, low-criticality tasks (Table 18) may be considered for removal from pre-service education curriculum if it is feasible that they will be learned on the job with minimal risk to patients. Although Tasks 1, 56, and 57 are foundational principles in nursing rather than actual "skills" that are performed, they should not be removed from curriculum. Tasks 68 and 71 may be considered for de-emphasis in pre-service education, whereas high-frequency, low-criticality tasks must be closely assessed, as frequent performance of a particular task may contribute to providers' viewing it as less critical.

Table 18: Cross-Tabulation for the Top 20 Tasks Reported as High Frequency, Low Criticality

Task	Percentage (%) Frequent	Percentage (%) "Low" Criticality
All Participants		
57 – Uphold principles of teaching, learning, and communication when developing and implementing patient teaching plans	77.9	10.4
Health Center Participants		
1 – Demonstration of management skills: health center documentation, planning, organizing, staffing, and supervising the provision of health services	90.9	9.1
Referral Hospital Participants		
71 – Appropriate use of aseptic techniques for infection prevention and control	100.0	10.0
District Hospital Participants		
56 – Protect confidentiality of patient information	94.7	7.9
57 – Uphold principles of teaching, learning, and communication when developing and implementing patient teaching plans	78.9	13.2
68 – Perform venipuncture	84.2	7.9

Tasks that participants considered highly critical but for which they reported never having been trained should be carefully considered during curriculum review. This is also the case with highly critical tasks that are not covered in pre-service education. Tellingly, as shown in Table 19, five of the critical tasks for which a majority of health center participants reported not being trained are related to providing TB services (Tasks 29–32, 34) and three are related to maternal health care (Tasks 45, 48, 54)—both of which are essential components of primary health care services in Lesotho. Emergency services (Tasks 6, 94, 99) also need to be considered across facilities, as do HIV-related care (Tasks 25, 27, 54) and cervical cancer screening (Task 47).

Table 19: Cross-Tabulation for Top 20 Tasks Reported as High-Criticality, Never Trained or Not Trained in Pre-service *(criticality cross-tabulated with either training response)*

Task	Percentage (%) Highly Critical	Percentage (%) "Never Trained"	Percentage (%) Pre-service
All Participants			
29 – Screening for TB based on patient symptoms	92.2	-	51.9
54 – Link HIV+ pregnant mothers to PMTCT services	94.8	-	58.4
Health Center Participants			
29 – Screening for TB based on patient symptoms	100.0	-	40.9
30 – Contact tracing of TB positive patient family members including sputum sample collection	95.5	-	27.3
31 – Trace defaulters within the communities	95.5	-	27.3
32 – Counsel TB patients and immediate contacts e.g. family on adherence	95.5	-	36.4
34 – Administer initial and follow-up DOTS TB treatment	95.5	-	54.5
45 – Encourage traditional birth attendants to refer mothers for delivery	100.0	13.6	50.0
48 – Advocate and mobilize for community-organized emergency transport for obstetric emergencies	95.5	22.7	45.5
54 – Link HIV+ pregnant mothers to PMTCT services	96.3	-	51.9
94 – Care of patient with anaphylactic reaction	92.6	11.1	-
Referral Hospital Participants			
6 – Maintain emergency equipment	100.0	-	46.2
25 – Initiate ART for eligible HIV+ patients	100.0	-	42.9
27 – Refer HIV+ patient for CD4 test	100.0	-	50.0
47 – Screen for cervical cancer	100.0	14.3	-
District Hospital Participants			
47 – Screen for cervical cancer	92.3	15.4	-
54 – Link HIV+ pregnant mothers to PMTCT services	94.7	-	55.3
99 – Care of child exposed to poison	97.4	10.5	-

Tasks viewed as highly critical but with a low level of self-perceived competence in performing them require focus and attention for practicing nurses as well as nursing students about to be deployed. As shown in Table 20, there are three highly critical tasks in which at least 20% of referral hospital participants considered themselves proficient, and a few in which a high percentage considered themselves not competent. Excluding Task 83, which is not clearly worded, two relevant skills that should be considered for clinical updates at the referral hospital are emergency equipment maintenance (Task 6) and comprehensive HIV care of adults and children, including navigating the HIV care and treatment referral systems. Updates in cardiopulmonary resuscitation should be offered routinely to all practicing nurses and nurse-midwives, and cervical cancer screening should be expanded to at least the district hospital level—if the health system supports this service.

Table 20: Cross-Tabulation for Top 20 Tasks Reported as High Criticality, Low Self-Perceived Competence in Performance *(criticality cross-tabulated with either performance response)*

Task	Percentage (%) Highly Critical	Percentage (%) Not Competent	Percentage (%) Proficient
All Participants			
87 – Provide resuscitation	93.5	-	27.3
Health Center Participants			
48 – Advocate and mobilize for community-organized emergency transport for obstetric emergencies	95.5	18.2	-
83 – First aid treatment of mental health emergencies	92.6	33.3	22.2
87 – Provide resuscitation	92.6	-	14.8
89 – Follow protocol for administration of emergency medications	96.3	-	22.2
91 – Care of patients with animal, snake or insect bite	96.3	-	25.9
Referral Hospital Participants			
6 – Maintain emergency equipment	100.0		14.3
14 – Promote the prevention and control of communicable diseases at the community level	92.9		7.1
15 – Administration of immunizations according to Lesotho guidelines	92.9	-	28.6
19 – Provide education on safe sex practices	92.9	-	28.6
21 – Perform rapid test for HIV	92.9	-	28.6
24 – Link HIV+ individuals to care and treatment services	92.9	-	21.4
25 – Initiate ART for eligible HIV+ patients	100.0	-	21.4
26 – Assess HIV+ patient for WHO guideline staging	92.9	-	21.4
27 – Refer HIV+ patient for CD4 test	100.0	-	21.4
64 – Safe patient lifting	100.0	-	20.0
74 – Recognize when patient condition is beyond nursing scope of practice and refer	100.0	-	0.0
80 – Provide pre, intra and post-operative care	100.0	20.0	-
83 – First aid treatment of mental health emergencies	100.0	30.0	-
89 – Follow protocol for administration of emergency medications	100.0	-	20.0
98 – Care of child with HIV/AIDS	100.0	-	20.0
102 – Assess diarrheal diseases and associated dehydration with ORS Sachets or home-made ORS	100.0	22.2	22.2
District Hospital Participants			
47 – Screen for cervical cancer	92.3	35.9	23.1

Discussion and Conclusions

Nursing practice and education must focus on country health priorities, and regulatory mechanisms should contribute to ensuring safe, quality-assured care for all Basotho. The results of the task analysis provide an overview of what tasks are frequently done by nurses currently in practice in Lesotho, as well as which tasks participants in the sample regarded as critical to

patient/public health outcome, if and where the necessary skills were learned to perform the task, and their self-perceived level of competence in performing the task. In addition, through the data analysis, some gaps were revealed between education/training or self-perceived competence in various tasks and the nation's health care priorities. For instance, given the high burden of HIV, TB, and cervical cancer in Lesotho, one might expect responses to suggest appropriate education/training and self-perceived competence in related tasks; when data show that this is not the case, as was often revealed in this task analysis, a "gap" is identified.

NURSING PRACTICE AND EDUCATION

Given the inevitable limitations of time and resources during training and education, difficult decisions must be made about prioritizing certain tasks over others. The concept of criticality is helpful in this regard. Nurses should be educated first and foremost in competently addressing those issues that are most critical in terms of patient outcomes and public health impact—for example, first aid training should be prioritized over bed making. Such prioritization will help ensure that nurses have the skills that will result in the highest positive impact on health outcomes. Low-frequency tasks are less likely to be mastered in a typical working environment, making training for the task more vital in terms of gaining and maintaining competence at the task.

As is typical with task analysis studies conducted in the United States, all tasks were rated by at least some portion of participants as highly critical. A possible explanation is that participants may not understand the definition of "criticality" or cultural differences may exist in terms of how the importance of various responsibilities is defined. As results showed, for 22% of the tasks, none of the hospital participants reported low criticality compared with 60% of tasks among health center participants. The results of task analyses provide information to assist in decision-making about education, practice, and regulation, but do not dictate what should be included.

In Lesotho, the frequency at which a clinical nursing task is done has been shown to be largely dependent on the type of facility where the participant works. A majority of nurses working at health centers did one-fifth of the tasks frequently, where "frequently" is defined as at least weekly (i.e., participant reply of daily or weekly). In contrast, the majority of referral and district hospital participants reported doing 10% and 7% of the tasks frequently, respectively. Tasks that are not frequently done by a majority of a particular cadre of health care provider may not be relevant enough to teach in detail to all students during pre-service education. Rather, it may be more effective and efficient to teach the fundamentals (basics) of these tasks during formal education and go into more detail for each task during an internship before, or at, deployment. It may also be appropriate to reserve specific tasks that require more critical thinking or advanced skills for post-basic education.

Tasks listed under community health nursing (Table A-2, Annex), with an emphasis on health promotion and disease prevention, are undoubtedly performed much more frequently at health centers than hospitals, in accordance with the health systems structure of Lesotho. Tasks included in the category of essential clinical nursing skills, however, are not as specific to a particular level of care (e.g., Task 69 – "proper use of restraints" is not applicable to health centers nor, possibly, some district hospitals) and as such may be more appropriately taught in-service, after deployment. The largest differences in reported frequency with which tasks were performed are between participants from health centers and those at referral or district hospitals. For example, 90.9% of nurses at health centers reported frequently demonstrating management

skills (Task 1), whereas only 57.1% of those from referral hospitals and 51.3% of those from district hospitals reported doing this task at least weekly. Performance of "child assessments: immunization history and growth charts" (Task 17) was not reported as frequently done by referral hospital participants (14.3%), but was reported as very frequent activity for health center participants (90.9%). Another example is preventing pressure related wounds (Task 63). Whereas 100% of referral hospital participants reported doing this at least weekly, only 60.5% of district hospital and 33.3% of health center participants reported doing this task at least weekly.

One finding is particularly relevant for the clinical teaching of students. Task 9 "participate in clinical teaching of nursing students" was reportedly rarely done by more than half of all participants. In itself, this is not surprising given the small proportion of all practicing nurses in Lesotho that were sampled, but the disaggregation by type of facility provides evidence that nursing students are not getting adequate exposure to clinical practice in health centers. Nearly 80% of participants from referral hospitals reported working with students at least weekly, compared with 20% or less of those at district hospitals and health centers. Only 5% of nursing staff in the country are employed at the tertiary institution (referral hospital), yet students spend a considerable amount of time at this facility during their training. Although exposure to various specialties is an important aspect of education, preparing students for the work they will be performing upon graduation should take priority. Given that a majority of care provided in the country is at health center level, every effort should be made to ensure adequate exposure to health care provision at these facilities for nursing and midwifery students.

There are several fundamental nursing tasks that a majority of participants (≥ 90%) reported doing frequently (weekly or daily), irrespective of type of facility (health center, referral hospital, district hospital). These include protecting confidentiality of patient information (Task 56), documenting patient care (Task 77), obtaining vital signs (Task 65), and maintaining a therapeutic nurse-patient relationship (Task 55). These and other tasks reportedly performed with high frequency for all deployed nurses are assumed to be fundamental to the vocation of nursing and should be included in the basic nursing curriculum.

Tasks that a majority of participants reported "never" performing need to be further explored, taking into consideration the health priorities of Lesotho and whether nursing standards are actually addressing the needs of the population. The standards reflected in these tasks may no longer be relevant to the current health care challenges or to the nursing profession—as health care services mature and become more specialized. Alternatively, perhaps these standards should be implemented but are not due to lack of resources (training, equipment, supplies) or political will.

The data related to setting of education/training are most useful for understanding which tasks may need to be strengthened in pre-service education. Table A-5 (Annex) lists the 10 tasks that more than half of participants reported not learning or learning outside of pre-service education. Nine of these tasks should be discussed by nurse educators at each of the nursing education institutions during the next scheduled curriculum review (Task 44 excluded due to the lack of applicability to current nursing practice in Lesotho). Information regarding the schools where participants were trained was not included in the data collection; therefore, it is not possible to determine whether particular institutions are providing training on a given nursing task. Curriculum targeting competencies related to Task 12 "train and supervise community health workers (CHWs) on

health education and promotion activities" should also be reviewed, as half of health center participants report learning this on the job (Table 13) rather than in the pre-service setting.

Tasks that a majority of participants reported learning "on the job" require particular attention. Although didactic training might not be relevant to all skills, essential nursing skills—such as "inventory of health supplies" (Task 2), "trace [TB] defaulters within the communities" (Task 31), "train and supervise CHWs on health education and promotion activities" (Task 12), and "counsel TB patients and immediate contacts" (Task 32)—should be covered during pre-service education, particularly given the importance of procurement and distribution of essential drugs and supplies, as well as the burden of TB, in Lesotho.

HIV/AIDS

Another perspective on interpreting the results of this task analysis is one of scope of practice and quality assurance. If there are nursing tasks not frequently done that perhaps should be—such as HIV testing in a country where nearly one-quarter of adults are living with the virus—then reasons for reportedly low frequency of performing these tasks should be explored. Irrespective of where a new nurse is deployed, given the high burden of disease, all nurses should be sensitized during pre-service education to key clinical care areas relevant to reversing the HIV epidemic. Every nurse and nurse-midwife in Lesotho should graduate with a comprehensive education in all areas of HIV testing, care, treatment, and support—including navigating referral systems.

In the case of Task 21 "perform rapid test for HIV," 21 of 55 (38.2%) hospital-based participants reported they never do this task and 15 (27.3%) reported rarely doing it, whereas five of 22 (22.7%) health center participants reported never performing the rapid test and two (9.0%) reported rarely doing it. Provider-initiated testing and counseling (PITC) is an essential component in the expansion of HIV care and treatment services; the HIV status of an individual must be known in order for providers to give the appropriate care. It is possible that this task has shifted to another cadre, such as a lay counselor or CHW. If this is the case, the task "perform rapid test for HIV" must be modified to adequately encompass all aspects of care for the required competency—which might include training, supervision, and quality assurance of the testing and counseling done by CHWs. Skills that are not directly related to patient care, such as these, are often overlooked in nursing pre-service education even though they might be fundamental to provision of health care services. Performing inventory of health facilities (Task 2), tracing TB defaulters within communities (Task 31), coordinating follow-up care of HIV-positive patients (Task 28), and maintaining census for various health-related events (Task 10) are further examples of "nonclinical skills" and are four of the five tasks that the highest percentage of participants reported learning "on the job."

According to results of the task analysis, screening pregnant mothers for HIV (Task 53) and linking HIV-positive pregnant mothers to PMTCT services (Task 54) do not frequently occur at the referral hospital (20.0% and 10.0%, respectively). Review of HIV-related content in nursing curriculum across educational institutions is warranted, as only 58.4% of participants reported learning Task 54 during pre-service, yet it ranked among the top 20 high-criticality tasks (94.8% of participants rated this task as "high" criticality).

Similarly, participants from the referral hospital rated several HIV-related tasks as "high" criticality but low in terms of self-perceived competence or proficiency in performing them. All

referral hospital participants (100%) reported Task 25—"initiate [antiretroviral therapy] ART for eligible HIV+ patients"—as highly critical, yet less than one-quarter (21.4%) rated themselves as proficient in doing this skill. The same is true for Task 27 "refer HIV+ patient for CD4 test" and Task 98 "care of child with HIV/AIDS."

MATERNAL AND CHILD HEALTH

Task 44 "distribute delivery kits to traditional birth attendant" is presumably not routinely done in Lesotho, as less than half of the participants reported ever learning the skill. If it were a routine task performed by nurses/nurse-midwives, training would have occurred at some point in their career, even if not in pre-service education, as "on the job" training encompasses informal learning in the workplace. Most participants (90.9%) reported never doing this task. More than one-third ranked this task as "low criticality," and more than half (53.2%) said they were not competent in performing it. Possibly, this activity is not widely understood to be a core nursing task and further dissemination of information about it is required. In any case, further exploration as to the role of traditional birth attendants (in terms of policy and practice) is required to determine the actual relevancy of the task, particularly given current recommendations—by the World Health Organization and other global technical bodies—emphasizing the importance of facility births with skilled personnel.

Pre-term birth complications are the sixth leading cause of YLL in Lesotho, and HIV in pregnancy is a significant cause of maternal and neonatal morbidity and mortality. Three-quarters of participants reported never doing Task 43 "conduct home visits to ensure that antenatal care is being sought," yet 70.1% considered the task to have "high" criticality and 80.5% reported having learned the task during pre-service education. Presumably Task 43 needs emphasis in education and practice, particularly at the health center level, as 59.1% of health center participants reported never doing it. Further exploration is required to determine if nurses are expected to perform this task and have sufficient resources to do so (e.g., vehicles for outreach), or if they should be supervising community volunteers or others lay health workers to perform the task.

Nearly two-thirds of participants reported never doing Task 48 "advocate and mobilize for community-organized emergency transport for obstetric emergencies," yet 85.7% considered it to have "high" criticality. This discrepancy may be explained in part by the fact that 29.9% of participants reported never having been trained to perform the task and one-quarter considered themselves not competent in performing the task—meaning they are perhaps unlikely to attempt it. Whatever the reason, further exploration into current education and practice is warranted as one measure to help address the exorbitantly high maternal mortality ratio in the country. Task 48 is deemed one of the most critical tasks by health center participants (95.5% rated as highly critical), yet 22.7% reported never having been trained in it, and only 45.5% reported learning the skill during pre-service education. Another important pregnancy-related task that warrants further exploration is Task 45 "encourage traditional birth attendants to refer mother for delivery." All health center participants reported this as highly critical, yet only half reported learning the skill in pre-service education and 13.6% said they were never trained to do it.

Lower respiratory infections are the second leading cause of YYL in Lesotho and pneumonia is the leading cause of death of children under 5 years of age globally.[31] However, the Pediatric Nursing tasks list (Table A-2, Annex) did not include skills related to diagnosis and treatment of respiratory illnesses. As this is a task predominantly performed at the health center level, further

inquiry into how and where nurses learn skills related to respiratory health and how competent they rate themselves in these skills is warranted. The high criticality and frequency of lower respiratory infections is evidenced by the burden of disease in the country. Prevention of pneumonia is covered under the Community Health Nursing section (Table A-2) in Task 17 "perform child assessments: immunization history and growth charts," as vaccination against *H. influenza* is a component of the Expanded Program on Immunization (EPI) as part of a pentavalent vaccine.[32] Vaccination against *S. pneumoniae,* the most common cause of pneumonia in children, has not yet been rolled out in country (but is planned for 2014).[33]

Diarrheal diseases are the third leading cause of YYL in the country. Task 102 "assess diarrheal diseases and associated dehydration with ORS sachets or home-made ORS" was considered a "high" criticality task by almost all participants (98.7%) and 100% of health center participants. It is also one of the tasks that was rated as highly critical but with lowest self-perceived competence in performing it for referral hospital participants—22.2% of participants viewed themselves as "not competent," whereas only 22.2% reported "proficiency." The low perceived performance combined with high criticality of this task necessitates the initiation of in-service continuing professional development and consideration for pre-service education updates.

TUBERCULOSIS

One of the most telling results in this task analysis is the need to strengthen TB service delivery in Lesotho. Upon cross-tabulation, TB screening is one of two tasks that were reported by most as highly critical (92.2%) with only a low percentage of participants reporting the skill being covered during pre-service education. While 92.2% of all participants rate Task 29 as highly critical, only about half (51.9%) reported pre-service exposure. Health center participants, the individuals most likely to deliver continuous services for people living with TB, rated all five of the TB-related tasks as having high criticality, yet these five tasks are also among the tasks most frequently reported as not being covered in pre-service education.

Task 31 "trace [TB] defaulters within the communities" is reported as "never" done by nearly half of all participants, yet all but three individuals rated the task criticality as "high" or "moderate." Only one-third report pre-service as the setting of education/training, with a similar percentage learning the skill "on the job" and one-quarter reporting self-perceived lack of competence in performing the task. Further investigation into understanding why nurses are not performing this task and why it is not adequately covered in pre-service education despite the high incidence of TB in Lesotho—among the highest in the world—should be considered. Even if this task is not something nurses would physically do themselves, they should undoubtedly be involved in ensuring that it is competently performed (e.g., through training and supervising CHWs to do the task).

Lesotho faces TB rates of 632 cases per 100,000 and has the additional burden of multidrug resistant tuberculosis (MDR-TB); an estimated 10% of smear-positive TB patients are resistant to at least two of the four drugs of first-line TB treatment.[34] With the high burden of HIV in the country and the increased risk of HIV-positive patients developing TB, all nurses and nurse-midwives should have comprehensive knowledge of TB to be able to appropriately screen, diagnose, and promptly initiate treatment, as well as support patients in adhering to treatment. The nurses' role in identification and management MDR-TB needs to be further explored, given the

high rates of disease. In addition, they need to know how to minimize occupational exposure and understand the importance of administrative, environmental, and personal protective controls.

Task 71 "appropriate use of aseptic techniques for infection prevention and control" does not specifically reference respiratory infection control, emphasizing rather blood-borne diseases (aseptic technique). This task is one of the 20 tasks most frequently performed, as per all participant data, and. was rated in the top 20 highly critical tasks/most frequently performed tasks and over 75% of participants rated themselves as proficient. Worryingly, however, for referral hospital participants, it was also the one task reportedly performed with high frequency while also being regarded as having low criticality. This apparent lack of appreciation for the criticality of the task may be due to the fact that its everyday performance makes it seem less important. These results indicate that in-service updates—particularly at the referral hospital level—should be considered. Further inquiry into knowledge, attitudes, and skills related to infection prevention and control should also be considered to find out what existing perceptions exist on why it is considered less critical.

CERVICAL CANCER

While Lesotho national guidelines recommend yearly cervical cancer screening of HIV-positive women, this was one of the 10 least frequently performed tasks according to the task analysis. Students are taught to screen for cervical cancer in pre-service education (pap smears), but this service is not offered in most facilities in the country. Nearly one-quarter (22.4%) of all participants reported they are not competent to screen for cervical cancer, and only 26.3% reported proficiency. Both referral and district hospital participants rated this skill as one of highest criticality (100.0% and 92.3%, respectively), yet 14.3% and 15.4%, respectively, reported that they had never been trained on it. Reasons for low frequency of performance of the task are likely related to health systems issues and lack of availability of necessary equipment and supplies. Further exploration into strengthening this essential service should be considered.

OTHER HEALTH PRIORITIES

School Health

Nearly two-thirds of participants reported never doing Task 16 "provide and supervise school health program components," even though a similar percentage learned the skills during pre-service education. There are only nine tasks that are less frequently rated as having "high" criticality. The role of nursing staff in public and private health care facilities, from a policy perspective, needs to be further explored to understand the relevance of school health in basic nursing education. It may be a task that a small number of nurses need to perform so that learning can be achieved through in-service training and mentorship.

Acute Care

Tasks that were reported as infrequently done (rarely or monthly) and not deemed critical to the health of the nation may be de-emphasized within the pre-service curriculum. On the other hand, tasks that are reported as infrequently performed but highly critical may need more emphasis in pre-service education and in in-service updates to ensure that competence is maintained. An example such as task is providing advanced life support. In many countries, recertification for cardiopulmonary resuscitation (CPR) is required biannually for all health care providers working in any health care facility. Low-dose, high-frequency, in-service technical

updates using periodic drills or practice sessions at the work site are a time- and cost-efficient way for continuing professional development.

The cross-tabulation of tasks reported as low-frequency, high-criticality revealed that four skills related to the provision of acute care are within the top 20 tasks for high criticality and the top 20 performed least frequently: Task 87 "provide resuscitation;" Task 91 "care of patients with animal, snake or insect bite;" Task 92 "care of patient who is unconscious;" and Task 99 "care of child exposed to poison." Only one-quarter of all participants reported themselves proficient in providing resuscitation (Task 87). All referral hospital participants (100.0%) reported maintaining emergency equipment (Task 6) as highly critical, yet less than half (46.2%) reported learning this skill during pre-service education. This is an example of a task that may not need to be covered in-depth during pre-service education, particularly given that the type of equipment available at facilities differs across levels of care, as well as types of facility administration (government, CHAL, Netcare). The basics and importance of maintaining equipment should be covered in pre-service education, leaving equipment-specific details to be learned on the job.

Mental Health Emergencies and Interpersonal Violence

One-third of participants reported themselves "not competent" to provide first aid treatment of mental health emergencies (Task 83). This result may be due to the language used in the question, as the interpretation of "mental health emergency" may vary widely among participants. Training and performance in this area should be further explored.

Interpersonal violence is the fourth leading cause of YYL in Lesotho, yet Task 51 "educate men and women on gender-based violence" is one of the top 10 tasks for which participants reported never having been trained. It is also a task rated least critical by participants, as well one of top 20 in which participants considered themselves not competent. Task 52 "care of a patient who has experienced gender-based violence" is one of two tasks for which the rating of criticality seemed to correlate with type of facility where the participant works—health center participants considered the task to have higher criticality than hospital participants. Gender-based violence is potentially a hidden epidemic that needs further attention, warranting further investigation to understand what practicing nurses and nurse-midwives at different levels of care are currently doing to identify, treat, and support victims of violence.

NURSING REGULATION

The Lesotho Nursing Council (LNC) has been building their regulatory capacity over the last five years to strengthen the professional practice of nurses in the country, ultimately raising the standards of nurses and improving the quality of health care. More than one-third of all participants reported themselves as "not competent" to describe the essentials of credentialing in nursing—licensure, registration, certification, and accreditation (Task 60). Task 61 "maintain involvement in a professional nursing organization" was the one task that the largest percentage of participants (39.0%) reported to be "low criticality." This provides evidence of the importance of work being done by several implementing partners in Lesotho to strengthen the LNC and Lesotho Nursing Association.

Core responsibilities of a regulatory body include assuring that practitioners are safe and competent through: setting requirements related to registration and licensure; establishing,

monitoring, and enforcing national practice and education standards; and establishing national entry-to-practice competencies for nurses and nurse-midwives. Public protection is thus increased as all nurses and nurse-midwives are initially registered and licensed and then periodically renew their licenses.

LNC data from 2012 indicate that 40% of nurses registered in Lesotho were not currently licensed at that time. The LNC has launched a continuous professional development program linked to re-licensure requirements to assist nurses and nurse-midwives in maintaining skills and competencies. Nurses and nurse-midwives need to be aware of and involved in their professional associations and regulatory agencies. Licensure is a key responsibility and an essential component in nurses' maintaining competence, remaining current in their practice, and continuing to practice in accordance with legal requirements. Nurses need to understand their personal responsibility and accountability as articulated in the LNA Code of Ethics and the LNC Code of Professional Conduct. Both documents were recently developed and set standards for nurses' professional and ethical behavior; the codes make up part of the standards to which nurses and nurse-midwives will be held by the LNC when "fitness to practice" issues are brought to its attention.

Results from the task analysis illustrate a need for the LNC to improve its outreach and advocacy strategies to educate new nursing and midwifery graduates—as well as those already in the workforce—on professional practice, licensure, and registration. Furthermore, the LNC should focus on strategies to improve the registration and licensure status of the nurses and nurse-midwives.

STUDY STRENGTHS AND LIMITATIONS

There were several strengths to the study, including a large number of participants, very little missing data, and a high response rate despite a large number of tasks analyzed. Given an estimated 2,888 RNs in the country, the study sampled an estimated 5% of them at least. Participants were from all four levels of the health care system, representing all ten districts.

There were also a number of limitations to the study, including several missing/unreadable data sheets from one district (Thaba Tseka), which decreased the sample size by 8.2%. There was also an over-sampling of referral hospitals and an under-sampling of health centers, considering where the majority of care is provided in Lesotho.

The methodology used to develop the task list represents another limitation. Although official, national government documents were the foundation of the task list, they are not necessarily an accurate reflection of the work environment and resources available. In settings with this critical a shortage of human resources, scopes of practice are often expanded before supportive legislation and capacity-building have taken place—as has been the case with scale-up of HIV testing, treatment, care, and support services in much of sub-Saharan Africa. The need for these specific services increased, and health care providers and communities had to "do things differently" to meet the demand. Lay people began testing, counseling, and providing treatment support, while nurses and nurse-midwives treated opportunistic infections and managed ART for people living with HIV—often before guidelines specified these new nurses' roles.

Another limitation was that the expert panel was presented with a pre-determined list for modification. This method, rather than "starting from scratch," may have precluded broad discussions about essential tasks (i.e., brainstorming) and contributed to the omission of pneumonia and respiratory infection control from the list. Additionally, the panel only included two practicing nurses, a nursing officer from the psychiatric mental health specialized hospital, and the manager of the Lesotho Nurses Association Wellness Center in Maseru. There were no representatives from district hospitals or health centers. For future task analyses, a qualitative assessment should be considered before the development of the task list. Practicing providers could be interviewed in a variety of settings to ensure balance between perceived and actual practice.

The methodology could be modified to enable a numerical prioritization, whereby participants rank all tasks in order of importance. Methods to ensure that participants understand the task described, as well as the differences among the optional responses (e.g., high vs. moderate vs. low criticality), should be continually sought. Finally, the limited collection of demographic data in this study did not allow for the disaggregation of data by length of time in clinical service. The survey also did not capture the length of time in clinical service that new nurse-midwives had completed as nurses before they returned for their midwifery degrees.

Recommendations

Lesotho's predominantly rural population faces significant health challenges within a setting of inadequate human resources for health. It is essential that nurses and nurse-midwives, who together form the largest health workforce in the country, be adequately prepared to address country health priorities in the settings where they work upon deployment. Nursing education institutions must continually ensure that relevant content is included in the curriculum; moreover, health delivery agencies—whether government, faith-based organizations, or private facilities—must strive for competent health care providers through continuing education opportunities.

Tasks performed by nurses at health centers are considerably different from those performed by nurses working in district, referral, and specialized hospitals. This is to be expected given the limited availability of human resources for health and the different focuses of hospital care (inpatient care and treatment of ill patients) versus health care (health promotion, disease prevention, treatment of common acute and chronic illnesses, and community outreach). As the decentralization of services continues in Lesotho, utilizing the Essential Service Package for different levels of care, the scope of practice, and required educational development of nurses working at different types of facilities should be assessed. The cost-effectiveness and efficiency of training all nurses on the same skills in basic nursing education, despite divergence in practice upon deployment, should be considered.

To address the shortage of human resources for health in Lesotho, substantial effort has been made through donor support to increase the output of nursing and midwifery graduates. Comparable, if not increased, emphasis should be placed on the competence of these graduates upon graduation—ensuring that they are able to "hit the ground running" and can be deployed into the workforce as competent and confident practitioners who have the necessary knowledge and skills to provide safe beginning-level care. The task analysis results highlight some key areas

that may need to be addressed in both pre- and in-service education, particularly in the areas of MCH, TB, HIV/AIDS, interpersonal violence (including gender-based violence), and nursing regulation. Pre-service education curriculum should focus on leading causes of YLL in Lesotho and ensure that these health priorities are integrated through the national competencies, course content, and clinical and learning objectives. Meanwhile, in-service updates are important to ensure that nurses, in their current practice, are able to respond to the present needs and health priorities of their patient populations and communities; this can be achieved by focusing the updates on those tasks identified in the task analysis as highly critical, but performed infrequently and, traditionally, with a low level of training. The results of the task analysis provide evidence warranting further exploration into how well nursing and midwifery education and practice are harmonized with country health priorities. Points to consider:

- Strengthening the **engagement of communities** in addressing country and community health care priorities is critical. This strategy is particularly important given the high rates of morbidity and mortality combined with the fact that the majority of the country's population lives in rural areas. Community-related tasks across several technical areas have been highlighted in the task analysis results, including: conducting home visits to ensure that pregnant women seek ANC, advocating for community-organized emergency transport, tracing TB defaulters within communities, training and supervising CHWs on health education and promotion activities, and performing contact tracing of TB patient family members.

  Action Items:

  - Provide mentorship support to in-service nurses to build community programs and involvement in their health facilities.
  - Ensure that nursing and midwifery students have strong clinical experiences within the community so they value community involvement.
  - Build the skills of in-service nurses and nurse-midwives to train and supervise community cadres of health care workers to help establish relationships between the health center and community.
  - Explore the role of nurses in school health programs and determine what should be covered in pre-service education.

- HIV/AIDS is the leading cause of YYL in Lesotho, yet many skills required are not taught in pre-service education. Referral hospital participants in particular reported low proficiency in many of the HIV-related tasks, indicating that perhaps in-service updates should be considered at this level facility.

  Action Items:

  - Review the pre-service curriculum to ensure that core competencies, learning objectives, and clinical objectives are comprehensive in all areas of HIV testing, care, treatment, and support. Curriculum should emphasize the importance of linking HIV-positive patients to care and treatment, as well as the importance of client adherence education.
  - Review pre-service *clinical* education components to ensure that they include clear learning objectives on all aspects of HIV care, including PITC, community engagement, and training and supervision of CHWs. Students should be exposed in clinical rotations to the HIV treatment guidelines and competencies related to HIV clinical staging, drug

regimens, common side effects of ART, and signs of treatment failure and opportunistic infections.

- Provide in-service HIV updates to nurses and nurse-midwives in the hospitals. Explore the use of different low-dose, high-frequency methodologies for these updates, including e-learning modules, short in-service trainings, mentorship, or on-the-job training. In-service training is particularly important given the rapidly changing health care environment in which clinical protocol modifications are made frequently in the various technical areas.

- Nursing and midwifery tasks related to MCH and ANC should be strengthened based on task analysis results to address the extremely high maternal mortality ratio Lesotho faces. This strategy should also include examining activities aimed at strengthening community engagement, as described above.

Action Items:

- Provide resources and mentorship support to nurses and nurse-midwives to increase community engagement and set up home visits to ensure that pregnant women are seeking ANC.
- Advocate and mobilize for community-organized emergency transport for obstetric emergencies.
- Assess the need to strengthen community programs to bring pregnant women into care with innovative programs such as the Reaching Every District Approach (RED). RED is an approach developed to improve immunization systems in areas with low coverage, which can be modified to also strengthen ANC, MCH, and PMTCT services. Through the RED approach, communities with large numbers of pregnant women can be identified and CHWs and the community at large are mobilized to play a proactive role in bringing pregnant women—and, later, their infants—into care.
- Conduct in-service training on child health diseases including assessment and treatment of pneumonia and diarrheal diseases and associated dehydration with ORS sachets.
- Explore why screening pregnant mothers for HIV and linking HIV-positive pregnant mothers to PMTCT services do not frequently occur at the referral hospital level. Assess the need to strengthen systems approaches to improve screening and linkage tasks, as well as provide in-service trainings to hospital staff.

- Tuberculosis-related services should be strengthened across cadres and health facilities. An important component of this is strengthening the community involvement in TB care and treatment. TB activities should be incorporated into community programs (see recommendations above on community engagement).

Action Items:

- Explore why TB tasks are not covered comprehensively in pre-service education. This effort should include expert interviews with educators and clinicians.
- Review pre-service curriculum to ensure that core competencies, learning objectives, and clinical objectives are comprehensive in all areas of TB care, including screening, referral, diagnosis, treatment, and support. Curriculum should emphasize the importance of

working with the community and successful methods for tracing TB defaulters within the communities, along with tasks related to increasing case finding.

- Review pre-service *clinical* education components to ensure that they include clear learning objectives on all aspects of TB care. Clinical experiences in pre-service need to provide students with experience in TB screening, treatment of TB patients, community TB programs, case findings, and tracing of TB defaulters.
- Provide in-service updates to nurses and nurse-midwives in the hospitals, emphasizing the importance of identification of individuals with TB symptoms. Explore the use of different low-dose, high-frequency methodologies for these updates, including e-learning modules, short in-service trainings, mentorship, or on-the-job trainings.

- Cervical cancer screening task analysis results showed there is a gap between education and practice; nurses are taught about screening during pre-service, but most do not have the opportunity to perform the skill upon deployment. Visual inspection with acetic acid (VIA) is a low-cost, feasible screening method that can be performed at the most peripheral level of the health care system; this approach should be considered if cervical cancer screening is to be equitably available to all women of Lesotho.

  Action Items:

  - Cervical cancer screening needs to be nationally scaled up. This will require specific resources related to laboratory equipment, personnel, referral systems, and clinical equipment.
  - Cervical cancer screening should be incorporated into the national practice standards and competencies.
  - Once the health system is prepared to support screening and treatment, an in-service training package should be developed to upgrade the skills and competence of nurses and nurse-midwives in the "single visit approach" to cervical cancer prevention: using VIA to screen for pre-cancerous lesions and treating these lesions with cryotherapy, a freezing technique, during the same client visit.
  - Pre-service education curriculum should be reviewed to ensure that the minimum standards and competencies related to cervical cancer screening are in line with service delivery standards.

- Acute care skills—such as resuscitation, caring for an unconscious patient, and caring for a child exposed to poison—are deemed highly critical, but are infrequently done. Therefore, regular updates are required for those clinicians expected to provide these essential services (presumably any health care provider).

  Action Items:

  - Further explore the types and frequency of acute events to design relevant training.
  - Provide in-service updates to nurses and nurse-midwives in the specific skills listed above.
  - Explore the use of different low-dose, high-frequency methodologies for these updates including e-learning modules, short in-service trainings, mentorship, or on-the-job trainings.

- **Interpersonal violence (including gender-based violence)** is the fourth leading cause of YYL in Lesotho, yet the task analysis determined that this is a key area that needs strengthening.

  Action Items:

  - Perform a desk review to determine the extent to which this topic is integrated throughout national guidelines and pre-service education materials.
  - Incorporate international competencies into national pre-service standards and competencies.
  - Explore the use of CHW involvement in client education, support groups, and other relevant activities.
  - Provide in-service trainings on this issue.

- Establish **internship/mentorship programs** to ensure competence in essential skills for nurses transitioning to a new position and/or for new graduates. New graduate mentorship programs can provide an important bridge from graduation to active deployment, and an orientation with an internship can assist nurses beginning work in a new setting that requires specialized skills (e.g., a nurse working in an adult medicine ward at a district hospital takes a position in a pediatric outpatient department).

  Action Items:

  - Considering the differences between nursing tasks at the hospital level versus the PHC level, develop new graduate mentorship programs to prepare nurses for their specific deployment role.
  - Use task analysis results to guide the development of competencies and standards that make up the outline of a new mentorship program.
  - Ensure that such a program for a new nurse deployed at a health center incorporates the tasks that were found to be "critical" in the health center, as well as those that were reportedly done "frequently." In addition, tasks that participants reported as having never learned or learned outside of pre-service should be included in the new mentorship program design.

- **Strengthen nurses' and nurse-midwives' knowledge of nursing regulation to help ensure that they are legally registered and licensed to work, as well as to emphasize the importance of the LNC.**

  Action Items:

  - Introduce education about the role of the LNC and the responsibility of nurses and nurse-midwives to register with the LNC and hold a current license in all pre-service education programs. In addition, through new staff orientation and CPD, update the current nursing and midwifery workforce on the subject.
  - Ensure that every student has a personal copy of the LNA Code of Ethics and the LNC Code of Professional Conduct.

- Develop a competency framework for each level of nurse and the nurse-midwife using the International Council of Nurses framework as a starting point and incorporating the results of this task analysis to establish appropriate LNC curriculum guidelines.
- Review and update job descriptions in light of the task analysis results and the adapted competency frameworks.
- Post LNC standards and the Code of Professional Conduct on the LNC website.

Annex

Table A-1: Expert Panel for Validation of Task List

Name	Institution	Title
Malindiwe Monikazi	Maluti College of Nursing	Nurse Educator
Matlelima Adam	MOH - Ministry of Health	HRO - Human Resources Officer
Mamello 'Moleli-Habi	Puisano	Independent Consultant
Rethabile T'sita	Scott College of Nursing	Nurse Educator
Mannuku Mokebisa	Lesotho Nursing Association	Deputy President
Monaphathi Moroka	Lesotho Nursing Association/National University of Lesotho	President
Shoeshoe Lemphane	Ministry of Health, Nursing Directorate	Head, Public Health Nursing Services
Lerato Mohlakore	Christian Health Association of Lesotho	HRO – Human Resources Officer
'Mapule Maema	HRAA = Human Resource Alliance for Africa	Expert Tutor
'Malethola Makhakhe	National Health Training College/Independent Midwives Association of Lesotho	Senior Midwifery Tutor
Lydia Keketsi Mokotso	Lesotho Nursing Council/Roma College of Nursing	Credentials/Nurse Educator
Doreen Chaoana-Mapetja	Lesotho Nursing Council/LNA Wellness Center	Nurse, PCC Member
Flavia Moetsana-Poka	Lesotho Nursing Council	Registrar
Peter Johnson	Jhpiego, USA	Director, Global Learning Office
David Schulman	Jhpiego, Swaziland	Pre-service Education Advisor
M. Monethi	Jhpiego, Lesotho	Pre-service Education Advisor
Mpoetsi Makau	Ministry of Health	Head, Clinical Nursing Services

Table A-2: Lesotho Nursing Task List (August 24, 2012; components, sub-components, and 101* tasks analyzed)

1 Essential Nursing Services	
Health Administration, Management, and Improvement	
1	Demonstration of management skills: health centre documentation, planning, organizing, staffing, and supervising the provision of health services
2	Inventory of health facility supplies
3	Demonstrate knowledge of the various levels of the institutional organization of healthcare in Lesotho
4	Apply the team approach in the delivery of health services
5	Identify nursing research priorities and collect and analyse data
6	Maintain emergency equipment
7	Demonstrate knowledge on disaster planning and preparedness activities
8	Direct quality improvement activities
9	Participate in clinical teaching of nursing students
Community Health Nursing	
10	Maintain census for various health related events (such as birth and death registration or disease monitoring forms)
11	Mobilise the community to address health issues
12	Train and supervise community health workers on health education and promotion activities
13	Assess nutritional status of the community and design interventions to alleviate deficits
14	Promote the prevention and control of communicable diseases at the community level
15	Administration of immunisations according to Lesotho guidelines
16	Provide and supervise school health programme components
17	Perform child assessments: Immunisation history and growth charts
2 Nursing Communicable Disease Control Activities	
Sexually Transmitted Infections (STIs)	
18	Provide STI counselling, testing and preventive services
19	Provide education on safe sex practices
20	Screen for STIs and treat symptoms
HIV/AIDS	
21	Perform rapid test for HIV
22	Provide home-based care and support for people living with HIV/AIDS and those affected
23	Provides counselling, testing and education regarding HIV transmission
24	Link HIV+ individuals to care and treatment services
25	Initiate ART for eligible HIV+ patients
26	Assess HIV+ patient for WHO guideline staging
27	Refers HIV+ patient for CD4 test
28	Coordinate follow up care of HIV+ patient
3 Tuberculosis (TB)	
29	Screening for TB based on patient symptoms
30	Contact tracing of TB positive patient family members including sputum sample collection
31	Trace defaulters within the communities
32	Counsel TB patients and immediate contacts e.g. family on adherence

*33**	*Train communities and community health workers on the administration to and supervision of patients on DOTS*
34	Administer initial and follow-up DOTS TB treatment
3 Nursing Non-Communicable Disease Control Activities	
Screening for non-communicable diseases	
35	Screen for hypertension
36	Screen for diabetes
37	Screen for cancer
Prevention of non-communicable diseases	
38	Provide counselling and education on healthy living
39	Provide learning materials on non-communicable diseases and their complications
40	Educate patients on smoking cessation
41	Dispense drugs for treatment of skin and eye diseases
42	Educate on personal hygiene to avoid skin and eye diseases
4 Nursing Sexual and Reproductive Health Services	
Pregnancy and Delivery Services	
43	Conduct home visits to ensure that ante-natal care is being sought
44	Distribute delivery kits to traditional birth attendants
45	Encourage traditional birth attendants to refer mothers for delivery
46	Encourage mothers to attend pre and post-natal care
47	Screen for cervical cancer
48	Advocate and mobilise for community-organised emergency transport for obstetric emergencies
Family Planning Services	
49	Provides family planning counselling and services including contraceptive methods
50	Educate mothers on maternal nutritional requirements during pregnancy and breastfeeding
51	Educate men and women on gender-based violence
52	Care of patient who has experienced gender-based violence
Prevention of Mother to Child Transmission of HIV (PMTCT)	
53	Screens pregnant mothers for HIV
54	Link HIV+ pregnant mothers to PMTCT services
5 Nursing Professional Conduct	
Patient-centered Care	
55	Maintain therapeutic nurse-patient relationship
56	Protect confidentiality of patient information
57	Uphold principles of teaching, learning, and communication when developing and implementing patient teaching plans
58	Advocate for patients
59	Provide care to elderly patients, considering physiological, social, mental and emotional changes undergone by the elderly
Nursing Professionalism	
60	Describe the essentials of credentialing in nursing (licensure, registration, certification and accreditation)
61	Maintain involvement in professional nursing organization

6 Essential Clinical Nursing Skills	
Basic nursing skills	
62	Perform oral care
63	Prevent pressure related wounds
64	Safe patient lifting
65	Obtain vital signs
66	Obtain health history
67	Assess/Examine a patient with courtesy and proper technique
68	Perform venipuncture
69	Proper use of restraints
70	Check patient blood sugar level with glucometer
71	Appropriate use of aseptic techniques for infection prevention and control
72	Discharge patient with appropriate educational materials
73	Utilization of nursing theory when providing care to patients and clients
74	Recognize when patient condition is beyond nursing scope of practice and refer
75	Monitor and calculate intake and output
76	Provide comfort care measures (such as therapeutic massage)
77	Document patient care
Medication Administration	
78	Administrate oral medication considering the 5 R's
79	Administrate intravenous therapies, including rehydration fluids and blood, according to protocol
Surgical Nursing	
80	Provide pre, intra and post-operative care
Care of the Mentally Ill	
81	Apply the nursing process in caring for patients who are mentally ill
82	Educate families on roles in the care & support of patients with mental disability
83	First aid treatment of mental health emergencies
End of Life Care	
84	Care of body after death
85	Provide spiritual care of patient and family during death and dying
86	Care of terminally ill patients
Adult Nursing	
87	Provide resuscitation
88	Maintains resuscitation record
89	Follows protocol for administration of emergency medications
90	Provide care to critically ill patient in the hospital setting
91	Care of patients with animal, snake or insect bite
92	Care of patient who is unconscious
93	Care for patient with trauma from a foreign body
94	Care of patient with anaphylactic reaction
Pediatric Nursing	
95	Educate family on oral/dental health
96	Emphasize the importance of child nutrition for growth and development
97	Practice in accordance with Child's Bill of Rights

98	Care of child with HIV/AIDS
99	Care of child exposed to poison
100	Care of a child with congenital anomalies
101	Educate parents on prevention of child death related to suffocation while breastfeeding or sleeping
102	Assess diarrheal diseases and associated dehydration with ORS Sachets or home-made ORS

*Task 33 was removed from the list of tasks prior to data collection, therefore there were 101 tasks assessed

Table A-3: Reported Frequency at Which Tasks Are Performed

(Tasks arranged by most frequently reported as being performed "weekly" or "daily" by the largest number/percentage of participants)

Task No.	Nursing Task	Total	Never		Rarely		Monthly		Weekly		Daily		Weekly + Daily	
		(n)	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%
56	Protect confidentiality of patient information	77	1	1.3%	0	0.0%	1	1.3%	1	1.3%	74	96.1%	75	97.4%
77	Document patient care	77	1	1.3%	0	0.0%	1	1.3%	1	1.3%	74	96.1%	75	97.4%
65	Obtain vital signs	77	0	0.0%	2	2.6%	1	1.3%	3	3.9%	71	92.2%	74	96.1%
66	Obtain health history	77	0	0.0%	1	1.3%	2	2.6%	2	2.6%	72	93.5%	74	96.1%
55	Maintains therapeutic nurse-patient relationship	77	1	1.3%	2	2.6%	1	1.3%	7	9.1%	66	85.7%	73	94.8%
78	Administrate oral medication considering the 5 R's	77	5	6.5%	1	1.3%	1	1.3%	2	2.6%	68	88.3%	70	90.9%
58	Advocate for patients	77	1	1.3%	5	6.5%	3	3.9%	7	9.1%	61	79.2%	68	88.3%
73	Utilization of nursing theory when providing care to patients and clients	77	2	2.6%	7	9.1%	0	0.0%	3	3.9%	65	84.4%	68	88.3%
38	Provide counselling and education on healthy living	76	1	1.3%	6	7.8%	3	3.9%	9	11.7%	57	74.0%	66	86.8%
4	Apply the team approach in the delivery of health services	77	3	3.9%	5	6.5%	5	6.5%	4	5.2%	60	77.9%	64	83.1%
67	Assess/Examine a patient with courtesy and proper technique	77	3	3.9%	6	7.8%	4	5.2%	10	13.0%	54	70.1%	64	83.1%
71	Appropriate use of aseptic techniques for infection prevention and control	77	3	3.9%	6	7.8%	4	5.2%	4	5.2%	60	77.9%	64	83.1%
74	Recognize when patient condition is beyond nursing scope of practice and refer	77	5	6.5%	5	6.5%	3	3.9%	10	13.0%	54	70.1%	64	83.1%
19	Provide education on safe sex practices	77	2	2.6%	13	16.9%	0	0.0%	6	7.8%	56	72.7%	62	80.5%
57	Uphold principles of teaching, learning and communication when developing and implementing patient teaching plans	77	5	6.5%	5	6.5%	7	9.1%	21	27.3%	39	50.6%	60	77.9%
29	Screening for TB based on patient symptoms	77	4	5.2%	10	13.0%	4	5.2%	4	5.2%	55	71.4%	59	76.6%
46*	Encourage mothers to attend pre and post-natal care	77	7	9.1%	9	11.7%	2	2.6%	8	10.4%	51	66.2%	59	76.6%
6	Maintain emergency equipment	77	6	7.8%	8	10.4%	5	6.5%	15	19.5%	43	55.8%	58	75.3%
35	Screen for hypertension	76	5	6.5%	9	11.7%	5	6.5%	3	3.9%	54	70.1%	57	75.0%
50*	Educate mothers on maternal nutritional requirements during pregnancy and breastfeeding	77	8	10.4%	12	15.6%	1	1.3%	13	16.9%	43	55.8%	56	72.7%
70	Check patient blood sugar level with glucometer	77	6	7.8%	11	14.3%	4	5.2%	16	20.8%	40	51.9%	56	72.7%

Task No.	Nursing Task	Total	Never		Rarely		Monthly		Weekly		Daily		Weekly + Daily	
		(n)	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%
18*	Provide STI counselling, testing and preventive services	77	6	7.8%	15	19.5%	2	2.6%	8	10.4%	46	59.7%	54	70.1%
59	Provide care to elderly patients, considering physiological, social, mental and emotional changes undergone by the elderly	77	7	9.1%	12	15.6%	4	5.2%	16	20.8%	38	49.4%	54	70.1%
68	Perform venipuncture	77	14	18.2%	8	10.4%	1	1.3%	13	16.9%	41	53.2%	54	70.1%
20	Screen for STI's and treat symptoms	77	8	10.4%	13	16.9%	3	3.9%	6	7.8%	47	61.0%	53	68.8%
96*	Emphasize the importance of child nutrition for growth and development	77	14	18.2%	8	10.4%	2	2.6%	12	15.6%	41	53.2%	53	68.8%
27*	Link HIV+ individuals to care and treatment services	77	6	7.8%	12	15.6%	7	9.1%	8	10.4%	44	57.1%	52	67.5%
72*	Discharge patient with appropriate educational materials	76	11	14.3%	12	15.6%	2	2.6%	6	7.8%	45	58.4%	51	67.1%
24*	Assess HIV+ patients for WHO guideline staging	77	8	10.4%	12	15.6%	6	7.8%	8	10.4%	43	55.8%	51	66.2%
1*	Demonstration of management skills: health centre documentation, planning, organizing, staffing and supervising the provision of health services	77	19	24.7%	4	5.2%	4	5.2%	9	11.7%	41	53.2%	50	64.9%
23*	Provides counselling, testing and education regarding HIV transmission	77	10	13.0%	14	18.2%	3	3.9%	10	13.0%	40	51.9%	50	64.9%
102*	Assess diarrheal diseases and associated dehydration with ORS Sachets or home-made ORS	76	11	14.3%	13	16.9%	4	5.2%	12	15.6%	36	46.8%	48	63.2%
15*	Administration of immunisations according to Lesotho guidelines	77	12	15.6%	12	15.6%	5	6.5%	9	11.7%	39	50.6%	48	62.3%
8	Direct quality improvement activities	77	8	10.4%	10	13.0%	12	15.6%	6	7.8%	41	53.2%	47	61.0%
26*	Initiate ART for eligible HIV + patients	77	17	22.1%	10	13.0%	3	3.9%	8	10.4%	39	50.6%	47	61.0%
17*	Perform child assessments: Immunisation history and growth charts	77	15	19.5%	11	14.3%	5	6.5%	7	9.1%	39	50.6%	46	59.7%
54*	Link HIV+ pregnant mothers to PMTCT services	77	26	33.8%	2	2.6%	3	3.9%	9	11.7%	37	48.1%	46	59.7%
79*	Administrate intravenous therapies including rehydration fluids and blood, according to the protocol	77	10	13.0%	18	23.4%	3	3.9%	7	9.1%	39	50.6%	46	59.7%
25	Refer HIV+ patients for CD4 count	77	14	18.2%	9	11.7%	9	11.7%	10	13.0%	35	45.5%	45	58.4%
53*	Screens pregnant mothers for HIV	76	27	35.1%	2	2.6%	3	3.9%	10	13.0%	34	44.2%	44	57.9%
101*	Educate parents on prevention of child death related to suffocation while breastfeeding or sleeping	76	22	28.6%	10	13.0%	1	1.3%	14	18.2%	29	37.7%	43	56.6%

Task No.	Nursing Task	Total	Never		Rarely		Monthly		Weekly		Daily		Weekly + Daily	
		(n)	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%
42*	Education on personal hygiene to avoid skin and eye diseases	77	12	15.6%	21	27.3%	1	1.3%	3	3.9%	40	51.9%	43	55.8%
49	Provides family planning counselling and services including contraceptive methods	77	23	29.9%	10	13.0%	1	1.3%	4	5.2%	39	50.6%	43	55.8%
89	Follows protocol for administration of emergency medications	77	10	13.0%	20	26.0%	4	5.2%	6	7.8%	37	48.1%	43	55.8%
98	Care of child with HIV/AIDS	77	17	22.1%	11	14.3%	6	7.8%	15	19.5%	28	36.4%	43	55.8%
63*	Prevent pressure related wounds	77	12	15.6%	19	24.7%	4	5.2%	4	5.2%	38	49.4%	42	54.5%
64*	Safe patient lifting	77	7	9.1%	24	31.2%	4	5.2%	5	6.5%	37	48.1%	42	54.5%
36	Screen for diabetes	77	10	13.0%	22	28.6%	4	5.2%	9	11.7%	32	41.6%	41	53.2%
10	Maintain census for various health related events (such as birth and death registration or disease monitoring forms)	77	12	15.6%	7	9.1%	19	24.7%	6	7.8%	33	42.9%	39	50.6%
62	Perform oral care	77	9	11.7%	23	29.9%	6	7.8%	12	15.6%	27	35.1%	39	50.6%
75*	Monitor and calculate intake and output	77	22	28.6%	14	18.2%	3	3.9%	4	5.2%	34	44.2%	38	49.4%
80*	Provide pre-, intra and post-operative care	77	22	28.6%	12	15.6%	5	6.5%	7	9.1%	31	40.3%	38	49.4%
32*	Counsel TB patients and immediate contacts e.g. family on adherence	77	17	22.1%	18	23.4%	5	6.5%	6	7.8%	31	40.3%	37	48.1%
76*	Provide comfort care measures (such as therapeutic massage)	77	20	26.0%	18	23.4%	2	2.6%	11	14.3%	26	33.8%	37	48.1%
3	Demonstrate knowledge of the various levels of the institutional organization of healthcare in Lesotho	77	14	18.2%	18	23.4%	9	11.7%	10	13.0%	26	33.8%	36	46.8%
34*	Administer initial and follow-up DOTS TB treatment	77	25	32.5%	10	13.0%	6	7.8%	3	3.9%	33	42.9%	36	46.8%
97	Practice in accordance with Child's Bill of Rights	77	21	27.3%	19	24.7%	1	1.3%	5	6.5%	31	40.3%	36	46.8%
2*	Inventory of health facility supplies	77	12	15.6%	12	15.6%	19	24.7%	14	18.2%	20	26.0%	34	44.2%
40	Educate patients on smoking cessation	77	17	22.1%	21	27.3%	5	6.5%	5	6.5%	29	37.7%	34	44.2%
41*	Dispense drugs for treatment of skin and eye diseases	77	18	23.4%	21	27.3%	4	5.2%	5	6.5%	29	37.7%	34	44.2%
21*	Perform rapid test for HIV	77	26	33.8%	17	22.1%	1	1.3%	7	9.1%	26	33.8%	33	42.9%
90*	Provide care to critically ill patient in the hospital setting	77	24	31.2%	17	22.1%	4	5.2%	6	7.8%	26	33.8%	32	41.6%
28	Coordinate follow up care of HIV+ patient	77	18	23.4%	9	11.7%	19	24.7%	12	15.6%	19	24.7%	31	40.3%
69	Proper use of restraints	77	19	24.7%	21	27.3%	6	7.8%	8	10.4%	23	29.9%	31	40.3%

Task No.	Nursing Task	Total	Never		Rarely		Monthly		Weekly		Daily		Weekly + Daily	
		(n)	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%
95*	Education family on oral/dental health	77	16	20.8%	19	24.7%	11	14.3%	12	15.6%	19	24.7%	31	40.3%
45*	Encourage traditional birth attendants to refer mothers for delivery	76	24	31.2%	14	18.2%	8	10.4%	2	2.6%	28	36.4%	30	39.5%
14*	Promote the prevention and control of communicable diseases at the community level	77	23	29.9%	20	26.0%	4	5.2%	7	9.1%	23	29.9%	30	39.0%
93	Care for patient with trauma from a foreign body	77	12	15.6%	30	39.0%	5	6.5%	10	13.0%	20	26.0%	30	39.0%
87*	Provide resuscitation	77	14	18.2%	27	35.1%	7	9.1%	8	10.4%	21	27.3%	29	37.7%
30*	Contact tracing of TB positive patient family members including sputum sample collection	77	34	44.2%	14	18.2%	3	3.9%	5	6.5%	21	27.3%	26	33.8%
86	Care of terminally ill patients	77	25	32.5%	21	27.3%	6	7.8%	4	5.2%	21	27.3%	25	32.5%
92*	Care of patient who is unconscious	77	18	23.4%	26	33.8%	8	10.4%	8	10.4%	17	22.1%	25	32.5%
88*	Maintains resuscitation record	77	23	29.9%	27	35.1%	3	3.9%	6	7.8%	18	23.4%	24	31.2%
51	Educate men and women on gender-based violence	77	29	37.7%	24	31.2%	1	1.3%	6	7.8%	17	22.1%	23	29.9%
9*	Participate in clinical teaching of nursing students	77	9	11.7%	39	50.6%	7	9.1%	3	3.9%	19	24.7%	22	28.6%
13*	Assess nutritional status of the community and design interventions to alleviate deficits	77	35	45.5%	16	20.8%	5	6.5%	3	3.9%	18	23.4%	21	27.3%
81	Apply the nursing process in caring for patients who are mentally ill	77	24	31.2%	26	33.8%	6	7.8%	6	7.8%	15	19.5%	21	27.3%
37	Screen for cancer	76	31	40.3%	19	24.7%	7	9.1%	3	3.9%	16	20.8%	19	25.0%
11*	Mobilise the community to address health issues	77	18	23.4%	24	31.2%	16	20.8%	8	10.4%	11	14.3%	19	24.7%
39	Provide learning materials on non-communicable diseases and their complications	77	28	36.4%	26	33.8%	4	5.2%	3	3.9%	16	20.8%	19	24.7%
7	Demonstrate knowledge on disaster planning and preparedness activities	76	26	33.8%	23	29.9%	9	11.7%	6	7.8%	12	15.6%	18	23.7%
52	Care of patient who has experienced gender-based violence	77	17	22.1%	31	40.3%	11	14.3%	9	11.7%	9	11.7%	18	23.4%
84	Care of body after death	77	29	37.7%	22	28.6%	8	10.4%	2	2.6%	16	20.8%	18	23.4%
91	Care of patients with animal, snake or insect bite	77	19	24.7%	29	37.7%	11	14.3%	4	5.2%	14	18.2%	18	23.4%
22	Provide home-based care and support for people living with HIV/AIDS and those affected	77	32	41.6%	20	26.0%	8	10.4%	3	3.9%	14	18.2%	17	22.1%

Task No.	Nursing Task	Total	Never		Rarely		Monthly		Weekly		Daily		Weekly + Daily	
		(n)	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%	(n)	%
47	Screen for cervical cancer	76	36	46.8%	22	28.6%	3	3.9%	6	7.8%	9	11.7%	15	19.7%
48*	Advocate and mobilise for community-organised emergency transport for obstetric emergencies	77	47	61.0%	13	16.9%	2	2.6%	3	3.9%	12	15.6%	15	19.5%
82	Educate families on roles in the care & support of patients with mental disability	77	26	33.8%	28	36.4%	8	10.4%	3	3.9%	12	15.6%	15	19.5%
83	First aid treatment of mental health emergencies	77	35	45.5%	20	26.0%	7	9.1%	4	5.2%	11	14.3%	15	19.5%
5*	Identify nursing research priorities and collect and analyze data	76	28	36.4%	11	14.3%	23	29.9%	5	6.5%	9	11.7%	14	18.4%
31*	Trace defaulters within the communities	77	37	48.1%	12	15.6%	14	18.2%	6	7.8%	8	10.4%	14	18.2%
85	Provide spiritual care of patient and family during death and dying	77	29	37.7%	30	39.0%	4	5.2%	2	2.6%	12	15.6%	14	18.2%
61	Maintain involvement in professional nursing organization	76	22	28.6%	33	42.9%	8	10.4%	1	1.3%	12	15.6%	13	17.1%
94	Care of patient with anaphylactic reaction	77	26	33.8%	31	40.3%	7	9.1%	4	5.2%	9	11.7%	13	16.9%
60	Describe the essentials of credentialing in nursing (licensure, registration, certification and accreditation)	77	27	35.1%	30	39.0%	8	10.4%	4	5.2%	8	10.4%	12	15.6%
99	Care of child exposed to poison	77	25	32.5%	35	45.5%	6	7.8%	4	5.2%	7	9.1%	11	14.3%
100	Care of child with congenital anomalies	77	26	33.8%	35	45.5%	5	6.5%	6	7.8%	5	6.5%	11	14.3%
12*	Train and supervise community health workers on health education and promotion activities	77	32	41.6%	13	16.9%	27	35.1%	2	2.6%	3	3.9%	5	6.5%
43	Conduct home visits to ensure that antenatal care is being sought	77	58	75.3%	9	11.7%	5	6.5%	4	5.2%	1	1.3%	5	6.5%
44	Distribute delivery kits to traditional birth attendants	77	70	90.9%	4	5.2%	2	2.6%	0	0.0%	1	1.3%	1	1.3%
16	Provide and supervise school health programme components	76	46	59.7%	19	24.7%	11	14.3%	0	0.0%	0	0.0%	0	0.0%

*Tasks for which there was a significant difference in reported frequency of performance when disaggregated by place of work (hospital vs. health center)

Table A-4: Reported Criticality of Tasks Performed

(Tasks arranged by order of "high" criticality, as reported by the largest number/percentage of participants)

Task No.	Nursing Task	Total (n)	Low		Moderate		High	
			(n)	%	(n)	%	(n)	%
102	Assess diarrheal diseases and associated dehydration with ORS Sachets or home-made ORS	76	1	1.3%	0	0.0%	75	98.7%
70	Check patient blood sugar level with glucometer	77	0	0.0%	2	2.6%	75	97.4%
79	Administrate intravenous therapies including rehydration fluids and blood, according to the protocol	77	0	0.0%	2	2.6%	75	97.4%
90	Provide care to critically ill patient in the hospital setting	77	1	1.3%	2	2.6%	74	96.1%
6	Maintain emergency equipment	77	2	2.6%	2	2.6%	73	94.8%
54	Link HIV+ pregnant mothers to PMTCT services	77	1	1.3%	3	3.9%	73	94.8%
80	Provide pre-, intra and post-operative care	77	2	2.6%	2	2.6%	73	94.8%
91	Care of patients with animal, snake or insect bite	77	0	0.0%	4	5.2%	73	94.8%
92	Care of patient who is unconscious	77	0	0.0%	4	5.2%	73	94.8%
101	Educate parents on prevention of child death related to suffocation while breastfeeding or sleeping	76	0	0.0%	4	5.3%	72	94.7%
46	Encourage mothers to attend pre and post-natal care	77	0	0.0%	5	6.5%	72	93.5%
53	Screens pregnant mothers for HIV	77	1	1.3%	4	5.2%	72	93.5%
87	Provide resuscitation	77	0	0.0%	5	6.5%	72	93.5%
89	Follows protocol for administration of emergency medications	77	1	1.3%	4	5.2%	72	93.5%
98	Care of child with HIV/AIDS	77	0	0.0%	5	6.5%	72	93.5%
99	Care of child exposed to poison	77	0	0.0%	5	6.5%	72	93.5%
14	Promote the prevention and control of communicable diseases at the community level	77	0	0.0%	6	7.8%	71	92.2%
15	Administration of immunisations according to Lesotho guidelines	77	2	2.6%	4	5.2%	71	92.2%
17	Perform child assessments: Immunisation history and growth charts	77	3	3.9%	3	3.9%	71	92.2%
29	Screening for TB based on patient symptoms	77	0	0.0%	6	7.8%	71	92.2%
65	Obtain vital signs	77	1	1.3%	5	6.5%	71	92.2%

Task No.	Nursing Task	Total (n)	Low		Moderate		High	
			(n)	%	(n)	%	(n)	%
71	Appropriate use of aseptic techniques for infection prevention and control	77	1	1.3%	5	6.5%	71	92.2%
78	Administrate oral medication considering the 5 R's	77	1	1.3%	5	6.5%	71	92.2%
45	Encourage traditional birth attendants to refer mothers for delivery	76	0	0.0%	6	7.9%	70	92.1%
47	Screen for cervical cancer	76	2	2.6%	4	5.3%	70	92.1%
26	Initiate ART for eligible HIV + patients	77	2	2.6%	5	6.5%	70	90.9%
27	Link HIV+ individuals to care and treatment services	77	1	1.3%	6	7.8%	70	90.9%
30	Contact tracing of TB positive patient family members including sputum sample collection	77	4	5.2%	3	3.9%	70	90.9%
35	Screen for hypertension	77	0	0.0%	7	9.1%	70	90.9%
18	Provide STI counselling, testing and preventive services	77	2	2.6%	6	7.8%	69	89.6%
19	Provide education on safe sex practices	77	0	0.0%	8	10.4%	69	89.6%
32	Counsel TB patients and immediate contacts e.g. family on adherence	77	2	2.6%	6	7.8%	69	89.6%
34	Administer initial and follow-up DOTS TB treatment	77	2	2.6%	6	7.8%	69	89.6%
66	Obtain health history	77	1	1.3%	7	9.1%	69	89.6%
73	Utilization of nursing theory when providing care to patients and clients	77	0	0.0%	8	10.4%	69	89.6%
77	Document patient care	77	2	2.6%	6	7.8%	69	89.6%
83	First aid treatment of mental health emergencies	77	2	2.6%	6	7.8%	69	89.6%
74	Recognize when patient condition is beyond nursing scope of practice and refer	77	0	0.0%	9	11.7%	68	88.3%
96	Emphasize the importance of child nutrition for growth and development	77	3	3.9%	6	7.8%	68	88.3%
37	Screen for cancer	76	3	3.9%	6	7.9%	67	88.2%
21	Perform rapid test for HIV	77	1	1.3%	9	11.7%	67	87.0%
24	Assess HIV+ patients for WHO guideline staging	77	0	0.0%	10	13.0%	67	87.0%
31	Trace defaulters within the communities	77	3	3.9%	7	9.1%	67	87.0%
36	Screen for diabetes	77	3	3.9%	7	9.1%	67	87.0%
67*	Assess/Examine a patient with courtesy and proper technique	77	0	0.0%	10	13.0%	67	87.0%

Task No.	Nursing Task	Total (n)	Low		Moderate		High	
			(n)	%	(n)	%	(n)	%
88	Maintains resuscitation record	77	2	2.6%	8	10.4%	67	87.0%
93	Care for patient with trauma from a foreign body	77	1	1.3%	9	11.7%	67	87.0%
94	Care of patient with anaphylactic reaction	77	4	5.2%	6	7.8%	67	87.0%
20	Screen for STI's and treat symptoms	77	1	1.3%	10	13.0%	66	85.7%
48	Advocate and mobilise for community-organised emergency transport for obstetric emergencies	77	3	3.9%	8	10.4%	66	85.7%
7	Demonstrate knowledge on disaster planning and preparedness activities	76	2	2.6%	9	11.8%	65	85.5%
25	Refer HIV+ patients for CD4 count	76	4	5.3%	7	9.2%	65	85.5%
4	Apply the team approach in the delivery of health services	77	2	2.6%	10	13.0%	65	84.4%
58	Advocate for patients	77	1	1.3%	11	14.3%	65	84.4%
100	Care of child with congenital anomalies	77	2	2.6%	10	13.0%	65	84.4%
23	Provides counselling, testing and education regarding HIV transmission	77	1	1.3%	12	15.6%	64	83.1%
50	Educate mothers on maternal nutritional requirements during pregnancy and breastfeeding	77	4	5.2%	9	11.7%	64	83.1%
64	Safe patient lifting	77	3	3.9%	10	13.0%	64	83.1%
75	Monitor and calculate intake and output	77	2	2.6%	11	14.3%	64	83.1%
59	Provide care to elderly patients, considering physiological, social, mental and emotional changes undergone by the elderly	77	1	1.3%	13	16.9%	63	81.8%
82	Educate families on roles in the care & support of patients with mental disability	77	0	0.0%	14	18.2%	63	81.8%
28	Coordinate follow up care of HIV+ patient	77	3	3.9%	12	15.6%	62	80.5%
63	Prevent pressure related wounds	77	4	5.2%	11	14.3%	62	80.5%
9	Participate in clinical teaching of nursing students	77	5	6.5%	11	14.3%	61	79.2%
68	Perform venipuncture	77	3	3.9%	13	16.9%	61	79.2%
81	Apply the nursing process in caring for patients who are mentally ill	77	1	1.3%	15	19.5%	61	79.2%
55	Maintains therapeutic nurse-patient relationship	77	3	3.9%	14	18.2%	60	77.9%
8	Direct quality improvement activities	76	4	5.3%	13	17.1%	59	77.6%

Task No.	Nursing Task	Total (n)	Low		Moderate		High	
			(n)	%	(n)	%	(n)	%
72	Discharge patient with appropriate educational materials	76	3	3.9%	15	19.7%	58	76.3%
97	Practice in accordance with Child's Bill of Rights	77	2	2.6%	17	22.1%	58	75.3%
12	Train and supervise community health workers on health education and promotion activities	77	5	6.5%	15	19.5%	57	74.0%
13	Assess nutritional status of the community and design interventions to alleviate deficits	77	6	7.8%	14	18.2%	57	74.0%
56	Protect confidentiality of patient information	77	3	3.9%	17	22.1%	57	74.0%
40	Educate patients on smoking cessation	77	4	5.2%	17	22.1%	56	72.7%
86	Care of terminally ill patients	77	3	3.9%	18	23.4%	56	72.7%
1	Demonstration of management skills: health centre documentation, planning, organizing, staffing and supervising the provision of health services	77	6	7.8%	16	20.8%	55	71.4%
11	Mobilise the community to address health issues	77	4	5.2%	18	23.4%	55	71.4%
22	Provide home-based care and support for people living with HIV/AIDS and those affected	77	5	6.5%	17	22.1%	55	71.4%
69	Proper use of restraints	77	4	5.2%	18	23.4%	55	71.4%
43	Conduct home visits to ensure that antenatal care is being sought	77	6	7.8%	17	22.1%	54	70.1%
38	Provide counselling and education on healthy living	76	2	2.6%	21	27.6%	53	69.7%
10	Maintain census for various health related events (such as birth and death registration or disease monitoring forms)	77	9	11.7%	15	19.5%	53	68.8%
52*	Care of patient who has experienced gender-based violence	77	6	7.8%	18	23.4%	53	68.8%
2	Inventory of health facility supplies	77	8	10.4%	17	22.1%	52	67.5%
41	Dispense drugs for treatment of skin and eye diseases	77	5	6.5%	20	26.0%	52	67.5%
49	Provides family planning counselling and services including contraceptive methods	77	7	9.1%	18	23.4%	52	67.5%
39	Provide learning materials on non-communicable diseases and their complications	77	7	9.1%	19	24.7%	51	66.2%
42	Education on personal hygiene to avoid skin and eye diseases	77	5	6.5%	22	28.6%	50	64.9%

Task No.	Nursing Task	Total (n)	Low		Moderate		High	
			(n)	%	(n)	%	(n)	%
57	Uphold principles of teaching, learning and communication when developing and implementing patient teaching plans	77	8	10.4%	19	24.7%	50	64.9%
95	Education family on oral/dental health	77	1	1.3%	26	33.8%	50	64.9%
51	Educate men and women on gender-based violence	77	6	7.8%	23	29.9%	48	62.3%
16	Provide and supervise school health programme components	76	11	14.5%	18	23.7%	47	61.8%
62	Perform oral care	76	3	3.9%	27	35.5%	46	60.5%
85	Provide spiritual care of patient and family during death and dying	77	12	15.6%	20	26.0%	45	58.4%
3	Demonstrate knowledge of the various levels of the institutional organization of healthcare in Lesotho	77	10	13.0%	23	29.9%	44	57.1%
60	Describe the essentials of credentialing in nursing (licensure, registration, certification and accreditation)	77	10	13.0%	25	32.5%	42	54.5%
5	Identify nursing research priorities and collect and analyze data	76	4	5.3%	33	43.4%	39	51.3%
61	Maintain involvement in professional nursing organization	76	21	27.6%	18	23.7%	37	48.7%
44	Distribute delivery kits to traditional birth attendants	77	30	39.0%	15	19.5%	32	41.6%
84	Care of body after death	77	24	31.2%	21	27.3%	32	41.6%
76	Provide comfort care measures (such as therapeutic massage)	77	12	15.6%	35	45.5%	30	39.0%

*Tasks for which there was a significant difference in reported degree of criticality when disaggregated by place of work (hospital vs. health center)

Table A-5: Reported Education/Training for Tasks Performed

(Tasks arranged in descending order by the largest number/percentage of participants reporting not having been previously trained or educated/trained on the job, in-service, or pre-service)

Task No.	Nursing Task	Total (n)	Not trained		On the job		In-service		Pre-service	
			(n)	%	(n)	%	(n)	%	(n)	%
44	Distribute delivery kits to traditional birth attendants	77	44	57.1	6	7.8	4	5.2	23	29.9
48	Advocate and mobilise for community-organised emergency transport for obstetric emergencies	77	23	29.9	12	15.6	7	9.1	35	45.5
45	Encourage traditional birth attendants to refer mothers for delivery	75	16	21.3	8	10.7	8	10.7	43	57.3
60	Describe the essentials of credentialing in nursing (licensure, registration, certification and accreditation)	77	16	20.8	9	11.7	7	9.1	45	58.4
16	Provide and supervise school health programme components	76	14	18.4	5	6.6	7	9.2	50	65.8
30*	Contact tracing of TB positive patient family members including sputum sample collection	77	13	16.9	16	20.8	17	22.1	31	40.3
31*	Trace defaulters within the communities	77	13	16.9	25	32.5	13	16.9	26	33.8
9	Participate in clinical teaching of nursing students	76	11	14.5	17	22.4	8	10.5	40	52.6
13	Assess nutritional status of the community and design interventions to alleviate deficits	77	11	14.3	7	9.1	10	13.0	49	63.6
51	Educate men and women on gender-based violence	77	11	14.3	10	13.0	12	15.6	44	57.1
97	Practice in accordance with Child's Bill of Rights	77	11	14.3	7	9.1	2	2.6	57	74.0
3	Demonstrate knowledge of the various levels of the institutional organization of healthcare in Lesotho	77	10	13.0	15	19.5	9	11.7	43	55.8
47	Screen for cervical cancer	77	10	13.0	6	7.8	9	11.7	52	67.5
40	Educate patients on smoking cessation	77	9	11.7	3	3.9	5	6.5	60	77.9
83	First aid treatment of mental health emergencies	77	9	11.7	9	11.7	1	1.3	58	75.3
37	Screen for cancer	76	8	10.5	9	11.8	6	7.9	53	69.7
2	Inventory of health facility supplies	77	8	10.4	31	40.3	11	14.3	27	35.1
10	Maintain census for various health related events (such as birth and death registration or disease monitoring forms)	77	8	10.4	22	28.6	9	11.7	38	49.4
12*	Train and supervise community health workers on health education and promotion activities	77	8	10.4	20	26.0	4	5.2	45	58.4
32*	Counsel TB patients and immediate contacts e.g. family on adherence	77	8	10.4	23	29.9	14	18.2	32	41.6
43	Conduct home visits to ensure that antenatal care is being sought	77	8	10.4	2	2.6	5	6.5	62	80.5

Task No.	Nursing Task	Total (n)	Not trained		On the job		In-service		Pre-service	
			(n)	%	(n)	%	(n)	%	(n)	%
52	Care of patient who has experienced gender-based violence	77	8	10.4	15	19.5	8	10.4	46	59.7
61	Maintain involvement in professional nursing organization	76	7	9.2	5	6.6	4	5.3	60	78.9
1*	Demonstration of management skills: health centre documentation, planning, organizing, staffing and supervising the provision of health services	77	7	9.1	14	18.2	9	11.7	47	61.0
22	Provide home-based care and support for people living with HIV/AIDS and those affected	77	7	9.1	7	9.1	8	10.4	55	71.4
34	Administer initial and follow-up DOTS TB treatment	77	7	9.1	18	23.4	10	13.0	42	54.5
39	Provide learning materials on non-communicable diseases and their complications	77	7	9.1	9	11.7	9	11.7	52	67.5
42	Education on personal hygiene to avoid skin and eye diseases	77	7	9.1	2	2.6	4	5.2	64	83.1
85	Provide spiritual care of patient and family during death and dying	77	7	9.1	2	2.6	1	1.3	67	87.0
11*	Mobilise the community to address health issues	77	6	7.8	13	16.9	6	7.8	52	67.5
53	Screens pregnant mothers for HIV	77	6	7.8	10	13.0	8	10.4	53	68.8
82	Educate families on roles in the care & support of patients with mental disability	77	6	7.8	3	3.9	0	0.0	68	88.3
99	Care of child exposed to poison	77	6	7.8	7	9.1	3	3.9	61	79.2
41	Dispense drugs for treatment of skin and eye diseases	77	5	6.5	11	14.3	4	5.2	57	74.0
89	Follows protocol for administration of emergency medications	77	5	6.5	10	13.0	4	5.2	58	75.3
94	Care of patient with anaphylactic reaction	77	5	6.5	3	3.9	3	3.9	66	85.7
72	Discharge patient with appropriate educational materials	76	4	5.3	14	18.4	2	2.6	56	73.7
14	Promote the prevention and control of communicable diseases at the community level	77	4	5.2	3	3.9	10	13.0	60	77.9
18	Provide STI counselling, testing and preventive services	77	4	5.2	6	7.8	14	18.2	53	68.8
20	Screen for STI's and treat symptoms	77	4	5.2	5	6.5	15	19.5	53	68.8
26	Initiate ART for eligible HIV + patients	77	4	5.2	17	22.1	18	23.4	38	49.4
54	Link HIV+ pregnant mothers to PMTCT services	77	4	5.2	12	15.6	16	20.8	45	58.4
62	Perform oral care	77	4	5.2	1	1.3	2	2.6	70	90.9
68	Perform venipuncture	77	4	5.2	8	10.4	3	3.9	62	80.5

Task No.	Nursing Task	Total (n)	Not trained		On the job		In-service		Pre-service	
			(n)	%	(n)	%	(n)	%	(n)	%
91	Care of patients with animal, snake or insect bite	77	4	5.2	15	19.5	4	5.2	54	70.1
100	Care of child with congenital anomalies	77	4	5.2	5	6.5	1	1.3	67	87.0
67	Assess/Examine a patient with courtesy and proper technique	76	3	3.9	5	6.6	2	2.6	66	86.8
28	Coordinate follow up care of HIV+ patient	77	3	3.9	24	31.2	17	22.1	33	42.9
36	Screen for diabetes	77	3	3.9	9	11.7	9	11.7	56	72.7
49	Provides family planning counselling and services including contraceptive methods	77	3	3.9	3	3.9	3	3.9	68	88.3
57	Uphold principles of teaching, learning and communication when developing and implementing patient teaching plans	77	3	3.9	12	15.6	10	13.0	52	67.5
69	Proper use of restraints	77	3	3.9	11	14.3	5	6.5	58	75.3
76	Provide comfort care measures (such as therapeutic massage)	77	3	3.9	4	5.2	2	2.6	68	88.3
88	Maintains resuscitation record	77	3	3.9	9	11.7	7	9.1	58	75.3
8	Direct quality improvement activities	75	2	2.7	20	26.7	12	16.0	41	54.7
5	Identify nursing research priorities and collect and analyze data	76	2	2.6	9	11.8	6	7.9	59	77.6
6*	Maintain emergency equipment	76	2	2.6	11	14.5	11	14.5	52	68.4
7	Demonstrate knowledge on disaster planning and preparedness activities	76	2	2.6	4	5.3	6	7.9	64	84.2
38	Provide counselling and education on healthy living	76	2	2.6	6	7.9	6	7.9	62	81.6
101	Educate parents on prevention of child death related to suffocation while breastfeeding or sleeping	76	2	2.6	9	11.8	2	2.6	63	82.9
15	Administration of immunisations according to Lesotho guidelines	77	2	2.6	3	3.9	12	15.6	60	77.9
17	Perform child assessments: Immunisation history and growth charts	77	2	2.6	8	10.4	10	13.0	57	74.0
21	Perform rapid test for HIV	77	2	2.6	11	14.3	13	16.9	51	66.2
25	Refer HIV+ patients for CD4 count	77	2	2.6	20	26.0	16	20.8	39	50.6
27	Link HIV+ individuals to care and treatment services	77	2	2.6	19	24.7	22	28.6	34	44.2
29	Screening for TB based on patient symptoms	77	2	2.6	16	20.8	19	24.7	40	51.9
46	Encourage mothers to attend pre and post-natal care	77	2	2.6	4	5.2	6	7.8	65	84.4
55	Maintains therapeutic nurse-patient relationship	77	2	2.6	5	6.5	9	11.7	61	79.2

Task No.	Nursing Task	Total (n)	Not trained		On the job		In-service		Pre-service	
			(n)	%	(n)	%	(n)	%	(n)	%
56	Protect confidentiality of patient information	77	2	2.6	3	3.9	8	10.4	64	83.1
70*	Check patient blood sugar level with glucometer	77	2	2.6	7	9.1	3	3.9	65	84.4
74	Recognize when patient condition is beyond nursing scope of practice and refer	77	2	2.6	10	13.0	4	5.2	61	79.2
81	Apply the nursing process in caring for patients who are mentally ill	77	2	2.6	3	3.9	3	3.9	69	89.6
93	Care for patient with trauma from a foreign body	77	2	2.6	7	9.1	4	5.2	64	83.1
95	Education family on oral/dental health	77	2	2.6	4	5.2	3	3.9	68	88.3
98*	Care of child with HIV/AIDS	77	2	2.6	13	16.9	10	13.0	52	67.5
102	Assess diarrheal diseases and associated dehydration with ORS Sachets or home-made ORS	76	1	1.3	7	9.2	2	2.6	66	86.8
24	Assess HIV+ patients for WHO guideline staging	77	1	1.3	8	10.4	15	19.5	53	68.8
35	Screen for hypertension	77	1	1.3	6	7.8	8	10.4	62	80.5
50	Educate mothers on maternal nutritional requirements during pregnancy and breastfeeding	77	1	1.3	4	5.2	5	6.5	67	87.0
58	Advocate for patients	77	1	1.3	7	9.1	2	2.6	67	87.0
59	Provide care to elderly patients, considering physiological, social, mental and emotional changes undergone by the elderly	77	1	1.3	2	2.6	9	11.7	65	84.4
64	Safe patient lifting	77	1	1.3	4	5.2	3	3.9	69	89.6
84	Care of body after death	77	1	1.3	7	9.1	3	3.9	66	85.7
86	Care of terminally ill patients	77	1	1.3	6	7.8	2	2.6	68	88.3
87	Provide resuscitation	77	1	1.3	8	10.4	6	7.8	62	80.5
96*	Emphasize the importance of child nutrition for growth and development	77	1	1.3	3	3.9	6	7.8	67	87.0
63	Prevent pressure related wounds	77	0	0.0	2	2.6	3	3.9	72	93.5
4	Apply the team approach in the delivery of health services	77	0	0.0	10	13.0	10	13.0	57	74.0
19	Provide education on safe sex practices	77	0	0.0	3	3.9	19	24.7	55	71.4
23	Provides counselling, testing and education regarding HIV transmission	77	0	0.0	3	3.9	15	19.5	59	76.6
65	Obtain vital signs	77	0	0.0	1	1.3	2	2.6	74	96.1
66	Obtain health history	77	0	0.0	1	1.3	4	5.2	72	93.5

Task No.	Nursing Task	Total (n)	Not trained		On the job		In-service		Pre-service	
			(n)	%	(n)	%	(n)	%	(n)	%
71	Appropriate use of aseptic techniques for infection prevention and control	77	0	0.0	4	5.2	4	5.2	69	89.6
73	Utilization of nursing theory when providing care to patients and clients	77	0	0.0	3	3.9	0	0.0	74	96.1
75	Monitor and calculate intake and output	77	0	0.0	6	7.8	0	0.0	71	92.2
77	Document patient care	77	0	0.0	5	6.5	1	1.3	71	92.2
78	Administrate oral medication considering the 5 R's	77	0	0.0	2	2.6	0	0.0	75	97.4
79	Administrate intravenous therapies including rehydration fluids and blood, according to the protocol	77	0	0.0	8	10.4	4	5.2	65	84.4
80	Provide pre-, intra and post-operative care	77	0	0.0	5	6.5	3	3.9	69	89.6
90	Provide care to critically ill patient in the hospital setting	77	0	0.0	4	5.2	4	5.2	69	89.6
92	Care of patient who is unconscious	77	0	0.0	5	6.5	1	1.3	71	92.2

*Tasks for which there was a significant difference in reported training when disaggregated by place of work (hospital vs. health center)

Table A-6: Reported (Self-Perceived) Level of Competence in Tasks Performed

(Tasks arranged in descending order by the largest number/percentage of participants perceiving themselves as not competent in performing the task)

Task No.	Nursing Task	Total (n)	Not competent		Competent		Proficient	
			(n)	%	(n)	%	(n)	%
44	Distribute delivery kits to traditional birth attendants	77	41	*53.2*	21	*27.3*	15	*19.5*
60	Describe the essentials of credentialing in nursing (licensure, registration, certification and accreditation)	77	28	*36.4*	31	*40.3*	18	*23.4*
83	First aid treatment of mental health emergencies	77	27	*35.1*	34	*44.2*	16	*20.8*
37	Screen for cancer	76	23	*30.3*	34	*44.7*	19	*25.0*
61	Maintain involvement in professional nursing organization	76	23	*30.3*	35	*46.1*	18	*23.7*
16	Provide and supervise school health programme components	76	21	*27.6*	33	*43.4*	22	*28.9*
31	Trace defaulters within the communities	77	21	*27.3*	35	*45.5*	21	*27.3*
48	Advocate and mobilise for community-organised emergency transport for obstetric emergencies	77	18	*23.4*	40	*51.9*	19	*24.7*
5	Identify nursing research priorities and collect and analyze data	76	17	*22.4*	47	*61.8*	12	*15.8*
47	Screen for cervical cancer	76	17	*22.4*	39	*51.3*	20	*26.3*
7	Demonstrate knowledge on disaster planning and preparedness activities	76	16	*21.1*	44	*57.9*	16	*21.1*
81	Apply the nursing process in caring for patients who are mentally ill	77	16	*20.8*	48	*62.3*	13	*16.9*
2	Inventory of health facility supplies	77	15	*19.5*	37	*48.1*	25	*32.5*
30	Contact tracing of TB positive patient family members including sputum sample collection	77	15	*19.5*	39	*50.6*	23	*29.9*
84	Care of body after death	77	15	*19.5*	25	*32.5*	37	*48.1*
3	Demonstrate knowledge of the various levels of the institutional organization of healthcare in Lesotho	77	14	*18.2*	47	*61.0*	16	*20.8*
51	Educate men and women on gender-based violence	74	13	*17.6*	36	*48.6*	25	*33.8*
1*	Demonstration of management skills: health centre documentation, planning, organizing, staffing and supervising the provision of health services	77	13	*16.9*	46	*59.7*	18	*23.4*
13	Assess nutritional status of the community and design interventions to alleviate deficits	77	13	*16.9*	37	*48.1*	27	*35.1*
85	Provide spiritual care of patient and family during death and dying	77	13	*16.9*	37	*48.1*	27	*35.1*

Task No.	Nursing Task	Total (n)	Not competent		Competent		Proficient	
			(n)	%	(n)	%	(n)	%
22	Provide home-based care and support for people living with HIV/AIDS and those affected	77	12	*15.6*	37	*48.1*	28	*36.4*
43	Conduct home visits to ensure that antenatal care is being sought	77	12	*15.6*	30	*39.0*	35	*45.5*
82	Educate families on roles in the care & support of patients with mental disability	77	12	*15.6*	48	*62.3*	17	*22.1*
94	Care of patient with anaphylactic reaction	77	12	*15.6*	46	*59.7*	19	*24.7*
99	Care of child exposed to poison	77	12	*15.6*	42	*54.5*	23	*29.9*
45*	Encourage traditional birth attendants to refer mothers for delivery	76	11	*14.5*	23	*30.3*	42	*55.3*
89	Follows protocol for administration of emergency medications	77	11	*14.3*	43	*55.8*	23	*29.9*
91	Care of patients with animal, snake or insect bite	77	11	*14.3*	43	*55.8*	23	*29.9*
97	Practice in accordance with Child's Bill of Rights	77	11	*14.3*	39	*50.6*	27	*35.1*
100	Care of child with congenital anomalies	77	11	*14.3*	49	*63.6*	17	*22.1*
32*	Counsel TB patients and immediate contacts e.g. family on adherence	72	10	*13.9*	26	*36.1*	36	*50.0*
12	Train and supervise community health workers on health education and promotion activities	77	10	*13.0*	38	*49.4*	29	*37.7*
39	Provide learning materials on non-communicable diseases and their complications	77	10	*13.0*	37	*48.1*	30	*39.0*
52	Care of patient who has experienced gender-based violence	77	10	*13.0*	57	*74.0*	10	*13.0*
34	Administer initial and follow-up DOTS TB treatment	77	9	*11.7*	43	*55.8*	25	*32.5*
41	Dispense drugs for treatment of skin and eye diseases	77	9	*11.7*	39	*50.6*	29	*37.7*
68	Perform venipuncture	77	9	*11.7*	32	*41.6*	36	*46.8*
40	Educate patients on smoking cessation	76	8	*10.5*	30	*39.5*	38	*50.0*
26	Initiate ART for eligible HIV + patients	77	8	*10.4*	40	*51.9*	29	*37.7*
28	Coordinate follow up care of HIV+ patient	77	8	*10.4*	40	*51.9*	29	*37.7*
86	Care of terminally ill patients	77	8	*10.4*	46	*59.7*	23	*29.9*
88	Maintains resuscitation record	77	8	*10.4*	41	*53.2*	28	*36.4*
93	Care for patient with trauma from a foreign body	77	8	*10.4*	47	*61.0*	22	*28.6*
21	Perform rapid test for HIV	77	7	*9.1*	28	*36.4*	42	*54.5*

Task No.	Nursing Task	Total (n)	Not competent		Competent		Proficient	
			(n)	%	(n)	%	(n)	%
27	Link HIV+ individuals to care and treatment services	77	7	*9.1*	44	*57.1*	26	*33.8*
54*	Link HIV+ pregnant mothers to PMTCT services	77	7	*9.1*	33	*42.9*	37	*48.1*
69*	Proper use of restraints	77	7	*9.1*	35	*45.5*	35	*45.5*
76	Provide comfort care measures (such as therapeutic massage)	77	7	*9.1*	30	*39.0*	40	*51.9*
8	Direct quality improvement activities	76	6	*7.9*	47	*61.8*	23	*30.3*
10	Maintain census for various health related events (such as birth and death registration or disease monitoring forms)	77	6	*7.8*	40	*51.9*	31	*40.3*
14	Promote the prevention and control of communicable diseases at the community level	77	6	*7.8*	40	*51.9*	31	*40.3*
25	Refer HIV+ patients for CD4 count	77	6	*7.8*	33	*42.9*	38	*49.4*
42	Education on personal hygiene to avoid skin and eye diseases	77	6	*7.8*	39	*50.6*	32	*41.6*
49	Provides family planning counselling and services including contraceptive methods	77	6	*7.8*	33	*42.9*	38	*49.4*
50*	Educate mothers on maternal nutritional requirements during pregnancy and breastfeeding	77	6	*7.8*	24	*31.2*	47	*61.0*
67	Assess/Examine a patient with courtesy and proper technique	77	6	*7.8*	27	*35.1*	44	*57.1*
92	Care of patient who is unconscious	77	6	*7.8*	43	*55.8*	28	*36.4*
98	Care of child with HIV/AIDS	77	6	*7.8*	42	*54.5*	29	*37.7*
6	Maintain emergency equipment	77	5	*6.5*	39	*50.6*	33	*42.9*
9	Participate in clinical teaching of nursing students	77	5	*6.5*	37	*48.1*	35	*45.5*
11	Mobilise the community to address health issues	77	5	*6.5*	41	*53.2*	31	*40.3*
17	Perform child assessments: Immunisation history and growth charts	77	5	*6.5*	39	*50.6*	33	*42.9*
20	Screen for STI's and treat symptoms	77	5	*6.5*	39	*50.6*	33	*42.9*
36	Screen for diabetes	77	5	*6.5*	36	*46.8*	36	*46.8*
53*	Screens pregnant mothers for HIV	77	5	*6.5*	31	*40.3*	41	*53.2*
80	Provide pre-, intra and post-operative care	77	5	*6.5*	35	*45.5*	37	*48.1*
87	Provide resuscitation	77	5	*6.5*	51	*66.2*	21	*27.3*
15*	Administration of immunisations according to Lesotho guidelines	77	4	*5.2*	24	*31.2*	49	*63.6*

Task No.	Nursing Task	Total (n)	Not competent		Competent		Proficient	
			(n)	%	(n)	%	(n)	%
24	Assess HIV+ patients for WHO guideline staging	77	4	*5.2*	43	*55.8*	30	*39.0*
29	Screening for TB based on patient symptoms	77	4	*5.2*	36	*46.8*	37	*48.1*
57	Uphold principles of teaching, learning and communication when developing and implementing patient teaching plans	77	4	*5.2*	40	*51.9*	33	*42.9*
59	Provide care to elderly patients, considering physiological, social, mental and emotional changes undergone by the elderly	77	4	*5.2*	41	*53.2*	32	*41.6*
79	Administrate intravenous therapies including rehydration fluids and blood, according to the protocol	77	4	*5.2*	33	*42.9*	40	*51.9*
90	Provide care to critically ill patient in the hospital setting	77	4	*5.2*	44	*57.1*	29	*37.7*
72	Discharge patient with appropriate educational materials	76	3	*3.9*	28	*36.8*	45	*59.2*
101	Educate parents on prevention of child death related to suffocation while breastfeeding or sleeping	76	3	*3.9*	25	*32.9*	48	*63.2*
4	Apply the team approach in the delivery of health services	77	3	*3.9*	38	*49.4*	36	*46.8*
18	Provide STI counselling, testing and preventive services	77	3	*3.9*	42	*54.5*	32	*41.6*
46	Encourage mothers to attend pre and post-natal care	77	3	*3.9*	27	*35.1*	47	*61.0*
62*	Perform oral care	77	3	*3.9*	31	*40.3*	43	*55.8*
64	Safe patient lifting	77	3	*3.9*	29	*37.7*	45	*58.4*
102	Assess diarrheal diseases and associated dehydration with ORS Sachets or home-made ORS	75	2	*2.7*	30	*40.0*	43	*57.3*
63	Prevent pressure related wounds	77	2	*2.6*	23	*29.9*	52	*67.5*
75	Monitor and calculate intake and output	77	2	*2.6*	24	*31.2*	51	*66.2*
95	Education family on oral/dental health	77	2	*2.6*	31	*40.3*	44	*57.1*
96	Emphasize the importance of child nutrition for growth and development	77	2	*2.6*	35	*45.5*	40	*51.9*
38*	Provide counselling and education on healthy living	76	1	*1.3*	32	*42.1*	43	*56.6*
35	Screen for hypertension	77	1	*1.3*	31	*40.3*	45	*58.4*
71	Appropriate use of aseptic techniques for infection prevention and control	77	1	*1.3*	17	*22.1*	59	*76.6*
73	Utilization of nursing theory when providing care to patients and clients	77	1	*1.3*	45	*58.4*	31	*40.3*

Task No.	Nursing Task	Total (n)	Not competent		Competent		Proficient	
			(n)	%	(n)	%	(n)	%
77	Document patient care	77	1	*1.3*	17	*22.1*	59	*76.6*
78	Administrate oral medication considering the 5 R's	77	1	*1.3*	14	*18.2*	62	*80.5*
74	Recognize when patient condition is beyond nursing scope of practice and refer	77	0	*0.0*	45	*58.4*	32	*41.6*
19	Provide education on safe sex practices	77	0	*0.0*	34	*44.2*	43	*55.8*
23*	Provides counselling, testing and education regarding HIV transmission	77	0	*0.0*	42	*54.5*	35	*45.5*
55	Maintains therapeutic nurse-patient relationship	77	0	*0.0*	29	*37.7*	48	*62.3*
56	Protect confidentiality of patient information	77	0	*0.0*	22	*28.6*	55	*71.4*
58	Advocate for patients	77	0	*0.0*	37	*48.1*	40	*51.9*
65	Obtain vital signs	77	0	*0.0*	15	*19.5*	62	*80.5*
66	Obtain health history	77	0	*0.0*	22	*28.6*	55	*71.4*
70	Check patient blood sugar level with glucometer	77	0	*0.0*	20	*26.0*	57	*74.0*

*Tasks for which there was a significant difference in reported competence when disaggregated by place of work (hospital vs. health center)

Figure A-1: Comparison of Tasks That the Largest and Smallest Percentages of Participants Reported Conducting Weekly or Daily

*(Arranged by type of facility where participant works)**

Task #	56	77	66	65	55	78	58	73	38	74	71	4	67	19	57	46	29	6	35	50	70	18	59	68	96	20	27	72	24	1	23	102	15	26	8	54	17	79	25	53	101	42	98	49	89	63	64	36	10	62
All Facilities	1	1	3	3	5	6	7	7	9	10	10	10	10	14	15	16	16	18	19	20	20	22	22	22	25	25	27	28	29	30	30	32	33	34	34	36	36	36	39	40	41	42	42	42	42	46	46	48	49	49
Health Centres	1	4	1	11	11	26	26	26	15	23	26	30	34	6	38	1	6	40	24	6	38	6	34	48	4	15	15	58	30	15	15	21	24	6	50	11	15	73	30	14	21	36	43	44	62	67	72	53	53	66
District Hospitals	4	1	4	1	1	4	8	7	13	10	14	12	8	19	14	21	19	25	17	23	22	36	28	11	33	30	41	17	30	47	36	42	43	60	43	45	30	14	49	52	57	62	45	36	26	33	26	47	49	52
Referral Hospital	1	7	12	1	7	12	7	12	6	29	1	11	12	23	7	39	33	1	45	39	12	27	12	45	60	33	27	26	33	39	45	60	39	33	23	91	87	12	39	83	70	33	60	56	38	1	12	45	56	12

75	80	32	76	34	97	3	41	40	2	21	90	28	95	69	45	14	93	87	30	86	92	88	51	9	13	81	37	11	39	7	91	52	84	22	47	48	83	82	5	31	85	61	94	60	99	100	43	12	44	16	Task #
51	51	53	53	55	55	55	58	58	58	61	62	63	63	63	66	67	67	69	70	71	71	73	74	75	76	76	78	79	79	81	82	82	82	85	86	87	87	87	90	91	91	93	94	95	96	96	98	98	100	101	All Facilities
71	73	40	60	36	49	63	30	44	60	44	98	50	58	78	50	40	79	91	44	83	98	94	57	88	53	73	63	63	68	81	79	83	94	77	68	68	73	83	81	53	91	90	83	94	83	91	88	97	100	100	Health Centres
24	33	66	39	66	63	49	71	70	56	64	29	71	68	57	68	71	52	40	78	57	61	52	80	80	80	75	87	80	80	93	74	75	65	80	90	80	93	87	91	97	75	91	79	87	93	96	97	97	100	101	District Hospitals
54	12	68	55	68	45	56	75	45	56	75	29	45	45	12	75	87	29	60	80	60	29	60	87	23	95	70	80	87	80	39	91	45	83	75	94	97	70	70	75	97	83	60	91	70	83	60	97	95	97	97	Regional Hospital

*Rankings were done such that if two tasks have the same percentage of participants reporting at least weekly (i.e., weekly + daily responses), both are given the same ranking. For example, there were three tasks that 100% of participants from district hospitals reported doing at least weekly; therefore, they are all ranked as #1. The fourth most frequent task is then listed as #4 (and there are no #2 or #3 rankings, per se). Further detail for the most and least frequent tasks is found in the Results section (Tables 8 and 9).

Table A-7: Tasks, Disaggregated by Level of Facility, that ≥ 90% of Participants Reported Doing at Least Weekly *(weekly + daily responses)*

Task No.	Task Description	Health Center	District Hospital	Referral Hospital
55	Maintains therapeutic nurse-patient relationship	92.6%	100.0%	90.0%
56	Protect confidentiality of patient information	100.0%	94.7%	100.0%
65	Obtain vital signs	92.6%	100.0%	100.0%
77	Document patient care	96.3%	100.0%	90.0%
38	Provide counselling and education on healthy living	90.9%		92.9%
63	Prevent pressure related wounds		89.5%	100.0%
66	Obtain health history	100.0%	97.4%	
1	Demonstration of management skills: health centre documentation, planning, organizing, staffing and supervising the provision of health services	90.9%		
17	Perform child assessments: Immunisation history and growth charts	90.9%		
18	Provide STI counselling, testing and preventive services	95.5%		
19	Provide education on safe sex practices	95.5%		
20	Screen for STI's and treat symptoms	90.9%		
23	Provides counselling, testing and education regarding HIV transmission	90.9%		
26	Initiate ART for eligible HIV + patients	95.5%		
27	Link HIV+ individuals to care and treatment services	90.9%		
29	Screening for TB based on patient symptoms	95.5%		
46	Encourage mothers to attend pre and post-natal care	100.0%		
50	Educate mothers on maternal nutritional requirements during pregnancy and breastfeeding	95.5%		
53	Screens pregnant mothers for HIV	92.3%		
54	Link HIV+ pregnant mothers to PMTCT services #6	92.6%		
57	Uphold principles of teaching, learning and communication when developing and implementing patient teaching plans			90.0%
58	Advocate for patients			90.0%
67	Assess/Examine a patient with courtesy and proper technique		89.5%	
71	Appropriate use of aseptic techniques for infection prevention and control			100.0%
73	Utilization of nursing theory when providing care to patients and clients		92.1%	
78	Administrate oral medication considering the 5 R's		97.4%	
96	Emphasize the importance of child nutrition for growth and development	96.3%		
6	Maintain emergency equipment			100.0%

Table A-8: Tasks That More than Half of Participants Reported Not Learning or Learning Outside of Pre-service Education

Task No.	Nursing Task	Total (n)	Not trained		On the job		In-service		Pre-service	
			(n)	%	(n)	%	(n)	%	(n)	%
10	Maintain census for various health related events (such as birth and death registration or disease monitoring forms)	77	8	10.4	22	28.6	9	11.7	38	**49.4**
26	Initiate ART for eligible HIV + patients	77	4	5.2	17	22.1	18	23.4	38	**49.4**
48	Advocate and mobilise for community-organised emergency transport for obstetric emergencies	77	23	29.9	12	15.6	7	9.1	35	**45.5**
27	Link HIV+ individuals to care and treatment services	77	2	2.6	19	24.7	22	28.6	34	**44.2**
28	Coordinate follow up care of HIV+ patient	77	3	3.9	24	31.2	17	22.1	33	**42.9**
32	Counsel TB patients and immediate contacts e.g. family on adherence	77	8	10.4	23	29.9	14	18.2	32	**41.6**
30	Contact tracing of TB positive patient family members including sputum sample collection	77	13	16.9	16	20.8	17	22.1	31	**40.3**
2	Inventory of health facility supplies	77	8	10.4	31	40.3	11	14.3	27	**35.1**
31	Trace defaulters within the communities	77	13	16.9	25	32.5	13	16.9	26	**33.8**
44	Distribute delivery kits to traditional birth attendants	77	44	57.1	6	7.8	4	5.2	23	**29.9**

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