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Jhpiego
an affiliate of Johns Hopkins University

Health Professional Regulation in Ethiopia: A cross-sectional study

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ACRONYMS AND ABBREVIATIONS

AOR	Adjusted Odds Ratio
BPR	Business Process Re-engineering
CEU	Continuing Education Unit
CPD	Continuing Professional Development
COR	Crude Odds Ratio
FMHACA	Food, Medicine and Health Care Administration & Control Authority
FMOH	Federal Ministry of Health
HERQA	Higher Education Relevance and Quality Agency
HEW	Health Extension Worker
HRH	Human Resources for Health
HSDP	Health Sector Development Plan
HRIS	Human Resources Information System
HSTP	Health Sector Transformation Plan
ICN	International Council of Nurses
IRB	Institutional Review Board
IST	In-Service Training
KII	Key Informant Interview
MDG	Millennium Development Goals
NGO	Non-Governmental Organization
RHB	Regional Health Bureau
RRB	Regional Regulatory Bodies
SoP	Scope-of-practice
WFME	World Federation of Medical Education

GLOSSARY

- **Accreditation:** a quality assurance process in which potential continuing professional development (CPD) providers and courses are evaluated by an accreditor to determine if applicable standards are met.
- **Continuing professional development (CPD):** a range of learning activities through which health professionals maintain and develop skills throughout their careers to ensure they retain their capacity to practice safely, effectively, and legally within their evolving scope-of-practice (SoP).
- **CPD accreditor:** any body mandated by FMHACA, including professional associations, to pre-accredit CPD providers and courses for later approval by FMHACA.
- **CPD providers:** public or private institutions, including universities, health science colleges, professional associations, and other training institutions, that meet the criteria and have been accredited by FMHACA or its designated accreditor to present learning activities for Continuing Professional Development.
- **Continuing education unit (CEU):** a unit that indicates the value attached to a learning activity for CPD.
- **Certificate of competence:** a work license issued for a person to carry out food, medicine, health or health-related services or trade in accordance with standards set.
- **License:** a certificate issued for a health professional to provide medical or other health-related services.
- **Scope-of-practice:** the range of roles and responsibilities that can be performed safely and effectively by a health professional within a specific profession.
- **Task-shifting:** delegation of tasks by higher level health professionals to health workers with lower qualifications.

EXECUTIVE SUMMARY

STUDY PURPOSE

This study aimed to generate evidence on strengths and challenges of health care regulation in Ethiopia, with particular emphasis on health professionals' regulation and use evidence to improve systems, processes, and practices of human resource for health regulation, and ultimately improve quality and safety of health services in Ethiopia.

METHODS

A cross-sectional study design was used at a nationally representative sample of public health institutions in Ethiopia. Because of the multifaceted nature of the subject, both quantitative and qualitative approaches that complemented each other were used. Semi structured data collection tools were used to capture quantitative data, and key informant interview guides were applied to collect qualitative data. Among others, needed information on regulation systems, processes and practices-registration, licensure, continuing professional development (CPD), scope-of-practice (SoP), medical ethics, institutional capacity of potential CPD providers and accreditors, facilitators, and barriers of compliance to regulatory standards were gathered.

This nationwide study recruited multidisciplinary professional categories comprising medical doctors, health officers, nurses, midwives, medical laboratory professionals, pharmacy professionals, and anesthesia professionals. Sampling of health professionals was calculated with assumptions of a 95% level of confidence, maximum variability attributes with proportion of 0.5, design effect of 1.2 (because there was no previous similar study to estimate the design effect), and anticipated nonresponse rate of 10%, plus or minus 10 percentage points of relative errors. Based on the assumption above, a total sample of 554 health professionals was recruited from a total of 73,514 targeted health professionals in Ethiopia. Sampling of health facilities was calculated using the minimum number of five sample health professionals per health center (except medical doctors and anesthetists) and seven health professionals per hospital to find representative data. Hence 102 sample facilities were identified (22 hospitals and 80 health centers).

In addition, key informants representing key stakeholders were identified, including 23 health professional associations, 35 in-service training centers, 11 Regional Health Bureaus (RHB), the Federal Ministry of Health (FMOH), the Food, Medicine and Health Care Administration and Control Authority (FMHACA), 11 Regional Regulatory Bodies (RRB), and 11 health facility managers. Data were collected March 16 through March 31, 2015, and quantitative data was analyzed using STATA Version 13 statistical software package. Descriptive and inferential statistical analysis was performed for the quantitative part. Qualitative data was thematically analyzed using Open Code Software version 3.6 statistical software package.

KEY FINDINGS

- **Registration and licensure:** Close to 68% of respondents reported that they were registered at an authorized Regulatory Body and were permitted to practice their current profession. Professionals who served for at least five years and have an up-to-date/renewed professional license accounted for only 27.2%; 73% did not currently have a renewed professional license. Almost all key informants representing regulatory bodies at national and subnational levels reported some challenges related to registration and licensing, including fraudulent academic credentials including Certificate of Competency, lack of automated registration and licensure system, unavailability of adequate and skilled human resource, lack of a robust human resource information management system that networks registration, and licensure practices between national and subnational regulatory bodies.
- **CPD:** In the 12 months preceding the study, the uptake of CPD or Continuing Medical Education activities among health professionals was 59.2%. Involvement of universities in funding, organizing, or conducting CPD activities stands low (1.5% of the CPD activities).
- **Scope-of-practice:** Awareness of health professionals' scope-of-practice directive drafted by the Food, Medicine and Health Care Administration and Control Authority (FMHACA) in 2014 was 48%; among those who were aware of this directive, 88% read the draft document. About 22% of respondents ever practiced beyond the perceived scope-of-practice, and nearly 44% of respondents reported that they encountered other professionals practicing beyond their scope-of-practice. Reported reasons for practice beyond perceived scope-of-practice include limited awareness, unavailability of scope-of-practice directive, lack of clearly demarcated job descriptions that inform scope-of-practice, lack of engagement of health professionals when new reforms are introduced, limited ownership of health care regulation among facility leadership, lack of resources on regulation and guidelines, and inadequate involvement of stakeholders or partners in health care regulation efforts.
- **Medical ethics:** Many professionals were unaware of the professional code of conduct released by the regulatory body. No professional ethics guidelines were available at regional levels and health facilities.

CONCLUSIONS

- Current professional registration and licensure practices do not comply with national regulatory standards, and a majority of professionals practicing at public health facilities did not renew their professional license. Registration and licensing practices at regions are not supported by an automated human resource management information system.
- Presenting fraudulent academic credentials and Certificate of Competency is not uncommon.
- Professionals' awareness of scope-of-practice is very limited. The Federal regulatory authority had not yet released the directive on scope-of-practice. Violation of scope-of-practice is pervasive.
- Uptake of CPD or Continuing Medical Education activities among health professionals was not optimum.
- Professional code of conduct and medical ethics guidelines were not available at health facilities.

- Level of involvement of key stakeholders concerned with health professional regulation was not encouraging.

KEY RECOMMENDATIONS

Key recommendations are summarized for health professionals, health care institutions, regulatory bodies, professional associations, and other stakeholders.

For health professionals:

- Health professionals are required to fulfill registration requirements set by the regulatory authority and renew their professional licenses at the recommended time, every five years.
- Health professionals need to be aware of scope-of-practice and its implication on patient care. When circumstances allow, every professional needs to keep an up-to-date job description and be aware of roles and responsibilities described therein.
- Health professionals need to plan and participate in relevant CPD activities to acquire up-to-date knowledge and maintain needed competency and to fulfill mandatory requirements for license renewal.
- Health professionals need to familiarize themselves with medical ethics legal frameworks, ethical codes of conduct, and ethics guidelines.

For health care institutions:

- Facilities need to make deliberate efforts to create awareness on key functions of health care regulation, such as registration, licensure, scope-of-practice, CPD, medical ethics, and duty to report, among other regulatory requirements.
- Health facilities need to establish and strengthen mechanisms to assess compliance and monitor the registration and licensure statuses of their employees in accordance with national regulatory requirements.
- Facilities need to periodically evaluate fitness-to-practice of professionals. Thus, facilities need to lay out a compliance audit, monitoring and evaluation mechanisms for registration and licensure, SoP, Certificate of Competency, continuing professional development, and ethics.
- Facilities are required to collect and maintain evidences on professional registration and license documents, medical error records, and medical evaluation reports in every professional folder.
- In collaboration with stakeholders, facilities need to systematically review competency and performance of professionals and develop a need-based CPD program and activities.
- Facilities need to include regulatory requirements in new employee orientation packages and monitor on-job compliance.

For regulatory bodies:

- The capacity of regulatory bodies must be strengthened in all aspects. This capacity building support should be available at regional and health facility levels to improve harmonization of professional regulation and practice. Regulatory bodies need to establish a functional structure manned with adequate staff to ensure compliance with health care regulations.
- Regulatory bodies need to enforce requirements and standards mandatory to optimize quality and safe health care practices at public health institutions.
- It is highly recommended that national and subnational registration and licensure systems are automated and networked.
- Immediate action needs to be taken to establish a system to verify and authenticate academic credentials, Certificate of Competency, and requirements for professional registration.
- In an effort to increase coverage of licensure, regulatory bodies need to support establishment of an effective CPD program at national and subnational levels. To this end, regulatory bodies need to identify and build capacity of potential professional associations and other stakeholders who may be involved in CPD course development, provision, and accreditation processes.
- FMHACA needs to produce national or generic statutory documents on scope-of-practice, code of conduct, and medical ethics guidelines to support implementation at public and private health facilities.
- Regulatory bodies need to create information, education, and communication platforms to improve access to statutory documents (proclamations, policies, guidelines, and directives) and create awareness among health professionals. It is encouraged to use print media, web pages, local radio transmission, and social media to reach a majority of health care professionals.
- Regulatory bodies need to lay out a robust compliance audit, monitoring, and evaluation mechanisms for registration and licensure, SoP, Certificate of Competency, continuing professional development, and ethics.
- Regulatory bodies may benefit from establishing an ethical review committee and a CPD accreditation committee supported by clearly written terms of reference and secure technical assistance from members, including professional associations.

For professional association and societies:

- Professional associations need to actively participate in ethical review committees and CPD accreditation committees established under the hospice of FMHACA.
- In an effort to increase coverage of CPD programs, professional associations and societies need to identify gaps in competency of their professional members in systematic fashion and design a need-based CPD course, provide CPD courses, and accredited courses.
- Professional associations are encouraged to promote and establish information, education, and communication platforms to improve awareness on health care regulation among their members using appropriate media outlets, such as print media, web pages, local radio transmission, and social media to reach a majority of health care professionals.

For other key stakeholders:

- Potential CPD providers and accreditors need to collaborate with regulatory bodies and increase their participation in the provision of CPD courses for health professionals at all levels of the health care system by adapting their CPD learning to the evolving health care needs of their communities and managing CPD on a continuing basis through the promotion of learning as an integral component of work. Thus this will introduce a culture of learning, rather than sporadic injections of fragmented training activities.
- Potential CPD providers and accreditors need to build human and institutional capacity to effectively plan CPD programs, and to implement, monitor, and evaluate CPD programs. A mechanism needs to be established to seek feedback from CPD participants and use feedback to inform the program. As such, improved interactivity through use of an audience feedback may improve learner engagement and subsequent willingness to participate in CPD activities, translating into potentially improved long-term education outcomes.
- Potential CPD providers must align their CPD programs with current national health sector training plans and national human resource plans to make sure learning is in compliance with national policies, strategies, laws, and regulations.
- Potential CPD providers must use a learning management system as a framework that handles all aspects of the CPD learning process, including instructional content, individual and organizational learning, and data for supervising the learning process of the CPD provider as a whole.
- Potential CPD providers must build monitoring and evaluation into all CPD programs, and results of CPD evaluations and lessons learned should be shared with stakeholders, development partners, and donors. CPD providers must evaluate the training program against clearly defined criteria, in consultation with all key stakeholders. CPD providers must measure the effects of CPD from a base of testing the relative effectiveness of different kinds of methodologies and presentations, to assessing the overall improvement of the participants in terms of stated course objectives, to evaluating the effect of the participants on the health programs in which they work, and to assessing the benefits to public health.
- Potential CPD providers must have a clearly articulated annual CPD course plan/schedule based on sound, evidence-based learning principles and methodologies that offer the best opportunity to produce sustainable performance improvement within the workplace; use the most effective, accessible, and cost-effective modality for delivering training in their setting as demonstrated by available evidence; adopt interdisciplinary team-based learning approaches to improve performance; select effective learning methodologies that foster active learning; design immersive learning so that the training supports the transfer and application of learning to the worksite; assess CPD participants on learning outcomes, not the length of time they spend in CPD, and ensure that the purpose, learning objectives, learning methods, and expectations of CPD courses are clearly described and explained to trainees.

CHAPTER ONE: INTRODUCTION

1.1. BACKGROUND

1.1.1. Human resources for health in Ethiopia

The strategies of successive Health Sector Development Programs (HSDP) helped Ethiopia achieve most of the health-related Millennium Development Goals (MDG). Drawing upon lessons learned in the past two decades, and acknowledging findings of a situational analysis conducted in 2013, Ethiopia developed a National Human Resources for Health (HRH) Strategic Plan for the period 2009 through 2020 (FMOH, 2009). This HRH plan aims to support the implementation of the Health Sector Transformation Plan (HSTP), and achieve Sustainable Development Goal (SDG) agendas (FMOH, 2015). The strategic themes include scaling up education and training of health workers; improving imbalances in professional skills mix and geographic distribution; improving quality of pre-service education and in-service training; strengthening leadership and governance capacity of the health workforce; optimizing utilization, retention and performance of the available health workforce; improving health workforce information and generation of evidence for decision-making; strengthening HRH regulatory capacity, and strengthening health workforce partnership and dialogue.

1.1.2. Regulation of human resources for health

Health care needs to be regulated to assure quality of health services and patient safety, and HRH is one of the critical elements of the health system building block (WHO, 2007). Regulation advances health protection through promoting delivery of safe, ethical and competent care by health professionals and thereby results in collective health security. Health regulation governing health professionals aims to ensure fitness-for-practice of health care providers and safeguard patients from unethical medical practices. Strategies used to regulate practice of health professionals include registration, licensure, adherence to scope-of-practice, continuing professional development, and medical ethics, among others. Licensing and re-licensing of health workers, for instance, can help countries increase performance and create responsive and resilient health systems at all points.

The Food, Medicine, Health Care Administration and Control Authority (FMHACA) is given a statutory authority by Proclamation Number 661/2009 to regulate activities in respect to food, medicine, environmental health, health professionals, health, and controllable health related institutions in the country (Federal Negarit Gazeta, 2009). The regulatory environment faces overarching challenges: poor supportive supervision and feedback system; limitations in public relations and communication work; inadequate integration and collaboration with regions, stakeholders, and concerned bodies; limited involvement of the community, and existence of inconsistent organizational structures across regional states. To overcome these challenges the regulatory authority has launched its five-year regulatory sector transformation plan (FMOH, 2015).

1.1.3. Approaches of health professional regulation

A number of health professionals' regulatory models exist—*professionally established model*¹, *professionally-led model*², *state-led model*, *arm-length body model*³, and *part of health ministry model*⁴ (ICN, 2014). A comprehensive regulatory approach or model enables the regulatory authority to establish and enforce standards and promote availability of competent and ethical health practitioners. Core functions of the regulator include registration, issuing licenses to qualified individuals, requiring periodic renewal, evaluating maintenance of competency, establishing health care standards, establishing codes of conduct and/or ethics, establishing and articulating the scope-of-practice, managing complaints, responding to consultations by government and professional councils, and collaboration and partnership with stakeholders. Successful regulatory practices may help to maintain public trust.

1.1.4. Registration and licensure

Registration, licensure, and re-licensure are effective and time-tested regulatory approaches used to regulate health care worldwide. For a health professional to enter into practice and receive license, minimum regulation standards need to be met for a work permit. To renew a license, one needs to present evidences to demonstrate maintenance of competency, evidence of work experience, absence of gross ethical breaches, and certificate of health fitness. Article 33 of Proclamation No. 661/2009 of FMHACA states: (1) No person shall practice as a health professional without having obtained a professional practice license issued by the appropriate organ; (2) Professional practice license given to any health professionals shall be renewed every five years upon ethical and competence evaluation; (3) A health professional whose license has been suspended or revoked shall be prohibited to practice his profession, and (4) The appropriate organ shall notify to the public the list of health professionals whose licenses have been suspended and revoked (Federal Negarit Gazeta, 2009).

In line with this, FMHACA released Health Professionals Registration and Licensing Directive (FMHACA, 2014) with three aims: (1) to protect the public through strengthening health professionals' registration and licensure system; (2) to enable the public to get quality health care service with competent and ethical health professionals, and (3) to make the registration and licensure system more accountable and transparent.

1.1.5. Continuing professional development

The World Federation for Medical Education defines continuing professional development as the period of education and training of [health professionals] commencing after completion of basic [health] education and postgraduate training, thereafter extending throughout each professional working life (World Federation of Medical Education, 2003).

A plethora of evidence shows that health professionals must maintain, update, and enhance their knowledge, skills, and attitude to deliver quality and safe health care. This is particularly important because of rapidly evolving new medicines, new diagnostic technologies, and

¹Pure self-regulation exists where any direct control on members of an occupation is voluntarily imposed and administered by practitioners themselves.

²A co-regulatory model where an arm's-length body is established by the state, usually through legislation.

³In this model, it is often the health of ministry that acts as the interface with the body, and it is the health minister who appoints the members of the governing body.

⁴Here, the health ministry may develop a section to exercise its duty to protect the interests of the public.

changing epidemiology and reemergence of long-gone diseases. There is also a need for CPD to fulfill increasing public expectations and greater accountability (World Federation of Medical Education, 2003).

According to Ethiopian FMHACA, a continuing professional development shall mean a range of learning activities through which health professionals maintain and develop throughout their career to ensure that they retain their capacity to practice safely, effectively, and legally within their scope-of-practice (FMHACA, 2013). FMHACA's CPD accreditation directive underpins that every health professional shall complete the specified continuing education unit (CEU) of CPD each year and shall ensure possession of a certificate of attendance for every CPD attended and keep these for at least five years (FMHACA, 2013). In this regard, FMHACA in collaboration with Jhpiego and other key partners developed a legal framework, Directive on Continuing Professional Development for Health Professionals, and a guideline, the Continuing Professional Development (CPD) Guideline for Health Professionals in Ethiopia.

1.1.6. Scope-of-practice

In most parts of the world, the authority for oversight of health care services lies within the purview of state law and regulation, and scope-of-practice changes are among the most highly charged policy issues facing state legislators and health care regulators. 'Scope-of-practice' is defined as the kind of activities and extent that an individual health care practitioner or group of practitioners is permitted to perform within a specific profession or professional category (Kleinpell et al., 2012). Scope-of-practice is often indicated in the curriculum and comprises the list of learning objectives or graduate profile. Scope-of-practice can be influenced by a variety of factors, including: changing demands of health care, turnover of the health care workforce, introduction of new or emergency health programs, geographic and economic disparities in access to health care, economic incentives for health professionals, and consumer demand. Requests to create, change, or expand a particular scope-of-practice need to be justified by evidence or emanates from a systematic task analysis, work load review, or health priorities of a nation. Cognizant of the importance of demarcating professional boundaries and promoting integrity of the health professions, FMHACA, in 2014, drafted a Scope-of-practice Directive (FMHACA, 2014). The draft directive states that the appropriate regulatory authority evaluates adherence to scope-of-practice and upon diagnosis of violation an administrative measure shall be taken.

Medical Ethics: Article 35 of FMHACA Proclamation No. 661/2009 states “(1) any health professional shall perform his professional duties in accordance with the relevant code of ethics; (2) the code of conduct for health professionals shall be determined by regulations to be issued pursuant to this Proclamation.” Health professionals need to establish and maintain effective work relationships with their patients, respect patients' autonomy, and act in a manner in which patient dignity is preserved. To date, neither code of conduct nor ethics directive is enforced.

Strengthening human resource for health program: Through the USAID-funded Strengthening Human Resources for Health Project, Jhpiego provides technical and financial support to FMOH, FMHACA and Higher Education Relevance and Quality Agency (HERQA) to strengthen Ethiopia's health and education sector. In particular, intensive support is provided to the regulatory authority to strengthen health professional regulation systems, processes, and finalize legal frameworks and guidelines on CPD, scope-of-practice, and medical ethics. At

subnational levels, Jhpiego is providing support to strengthen human resource for health management and establish an ethics review committee.

1.2. PURPOSES OF THE STUDY

1.2.1. Overall objective

The study aimed to generate evidence on strengths and challenges of health care regulation in Ethiopia with particular emphasis on health professionals' regulation and use evidence to improve systems, processes, and practices of human resource for health regulation, and ultimately improve quality and safety of health services in Ethiopia.

1.2.2. Specific objectives

1. To assess current health professional registration, licensure, and re-licensure practices at different levels of the health care system;
2. To assess current continuing professional development practices;
3. To investigate institutional capacity of potential CPD providers, CPD accreditors, and other key stakeholders to design, provide, and regulate continuing professional development in the country;
4. To assess current practices in regulation of scopes-of-practice (SoP) of health professionals at different levels of the health care system, and
5. To assess the current practices in enforcing and monitoring fitness-to-practice (ethics and competence review).

1.3. STUDY QUESTIONS

1. Licensure and registration
 - ◆ What are the processes and requirements for licensure and registration?
 - ◆ What are the processes and requirements for renewing professional license?
 - ◆ How is the licensing and registration practice structured at national and regional level?
 - ◆ Who are the stakeholders for registration and licensing?
 - ◆ What are the required resources in terms of technical, human, material, and financial to strengthen licensing and registration of health professionals?
2. Continuing professional development
 - ◆ How do health workers maintain their work related competence and stay up-to-date?
 - ◆ Do the institutional capacities of potential CPD providers, accreditors, and other stakeholders built to enable them provide, enable, and regulate continuing professional development?
 - ◆ What are the required resources in terms of technical, human, material, and financial to strengthen capacity of CPD providers, accreditors, and regulators?

3. Scope-of-practice

- ◆ How is regulation of scopes of practice (SoPs) structured at the national and regional level?
- ◆ What is the awareness and perception of professionals about SoP applicable to their category?
- ◆ How common is violation of SoP described for particular professionals?

4. Fitness to practice

- ◆ What is included in the definition of fitness-to-practice?
- ◆ What are the formal processes and procedures in handling ethical and competence complaints filed by clients and families?
- ◆ What sanctions/disciplinary measures are commonly taken in cases of lapses in fitness to practice?
- ◆ Who is responsible for investigating and passing a verdict for lapses in fitness to practice?
- ◆ Have health professionals heard of an ethical code of conduct?

1.4. SCOPE OF THE STUDY

This study was set out to investigate regulation of health professionals in Ethiopia. A cross-sectional study design was used to evaluate professional regulation systems, procedures, and practices with particular emphasis on registration and licensure, continuing professional development, scope-of-practice, ethical code of conduct, and overall fitness to practice.

1.5. ORGANIZATION OF THE REPORT

This report is divided into four main chapters. The first chapter discusses the introduction part; the second chapter deals with the design and methodology of the study; the third chapter discusses the results of the study; and the last chapter contains the conclusions and recommendations emanating from this study.

CHAPTER TWO: METHODS

2.1. STUDY DESIGN

In this study, a cross-sectional study design was used. Because of the multifaceted nature of the subject, both quantitative and qualitative approaches that complemented each other were used. Quantitative and qualitative methodologies enabled the study team to gather comprehensive and in-depth information on the health professionals' regulations at different levels of the health care system in Ethiopia. The study was primarily based on data generated through interviews using structured questionnaires and key informant interviews. The main intended users of the findings of the study are the Federal Ministry of Health, Food, Medicine, Health Care Administration and Control Authority, Regional Regulatory Bodies, Regional Health Bureaus, professional associations, and other stakeholders. The study was undertaken in all regions of Ethiopia in the second half of March 2015.

2.2. SAMPLE SIZE AND SAMPLING PROCEDURE

This study provided a nationally representative information from targeted sample health professionals including medical doctors, health officers, nurses, midwives, medical laboratory professionals, pharmacy professionals, and anesthesia professionals on scope-of-practice, CPD, registration/licensure, and ethical code of conduct. These health professional cadres represent the largest client-provider interactions in the country. To make the data representative of the country, a two-stage stratified cluster sample design was used to select health facilities in the first stage and health professionals in the second stage.

The minimum sample size of health professionals required to conduct the study was calculated with assumptions of 95% level of confidence; maximum variability attributes with proportion of 0.5 (because there was no previous similar study to estimate the prevalence); design effect of 1.2 (because there was no previous similar study to estimate the design effect and use the measure evaluation recommendation); anticipated non-response rate of 10%; plus or minus 10 percentage points of relative errors (which is equivalent to 5% absolute margin of error). Based on these assumptions, the total sample health professionals for the study was calculated to be 554 of a total of 73,514 targeted health professionals in Ethiopia.

Sampling of health facilities was calculated using the minimum number of five sample health professionals per facility. Hence 102 sample health facilities were identified to enroll the minimum number of health professionals required for the study. The number sample of hospitals (22) and health centers (80) was determined using power allocation.

Selection of sample health facilities was based on a sampling frame (lists of public hospitals and health centers across the country) obtained from Federal Ministry of Health. Hence sample health facilities were selected randomly from the total lists of facilities. Through this process, the required sample sizes of public hospitals and health centers were identified (22 public hospitals and 80 public health centers). The next procedure was to identify health professionals, given the distribution of five health professionals from health centers and seven from hospitals. This procedure was conducted in consultation with the selected health facility managers. The data collector randomly identified health professionals from the list of professionals provided by facility managers. In situations where the selected health facilities were not operational or did not have the required health professional, other nearest health facilities were substituted. Those health professionals who have been at the selected facility for at least six months before the study

were considered for the sampling procedure. Additionally, health professionals were required to be full-time, permanent employees in the selected health facilities. Verbal consent was used to administer the questionnaire through trained interviewers.

Respondents from 26 professional associations and potential accrediting organizations were purposely selected. Managers or their delegates from these organizations (potential CPD providers and accreditors) were invited to conduct the interviews.

Apart from the quantitative components of the study, qualitative methods were applied to explore the shared perceptions and experiences with regard to the regulation of health professionals in Ethiopia. The use of key informant interviews was designed to supplement the quantitative techniques by answering the why and how questions. In this regard, key informant interview (KII) guides were prepared by taking account of the target populations under consideration. The target populations of the KII were managers from FMOH, FMHACA, Regional Health Bureaus (RHBs) and Regional Regulatory Bodies (RRBs). Two key informant interviews were considered from each of the 11 regions. In addition, one KII from each of the Federal Institutes (i.e., FMOH and FMHACA) was undertaken. A total of 11 key informant interviews were carried out (one from each region) with hospital managers (directors). In general, a total of 31 KIIs were conducted during the study period (March 2015) out of the expected 35 KIIs; four KII were not conducted because of the busy schedules of heads of the RHBs of Afar, Benishangul-Gumuz, Gambella, and Harrari regional states. About 80% of key informant interviews were audio recorded after getting consent from each interviewee. The inclusion criteria used for identifying health managers were full time employees in FMOH, FMHACA, RHBs, RRBs, and selected hospitals with at least six months of service in their respective places of employment. Their willingness (through verbal consent) also was a criterion for selection.

2.3. DATA COLLECTION TOOLS

Three study tools (questionnaires) were used to capture the quantitative data, and two tools (key informant interview guides) were applied to collect qualitative data. The first questionnaire, which was devoted to examine the practice of Ethiopian health professionals, consisted of five sections: identification of health facilities, health professional profile, continuing professional development, scope-of-practice, and ethics/licensure/registration. A total of 72 questions (both closed- and open-ended) were used in this tool, which was the major component of the fieldwork. The study subjects (health professionals) who were eligible in this first part of the study were: physicians (including specialists), health officers, midwives, anesthetists, nurses, pharmacy professionals, and medical laboratory professionals.

The second questionnaire was designed to assess the institutional capacity of potential CPD providers. Chairpersons or delegates of health professional associations and in-service training centers were eligible to participate in this part of the study. Apart from the CPD provider identification data, a total of 43 questions were used to address all issues relating to the provision of CPD activities, including physical facilities and staff profile, follow-up/evaluation of the effectiveness of CPD, measures to be taken on those health professionals who do not participate in CPD, and opportunities and challenges to implement CPD in Ethiopia.

The third questionnaire was intended to examine the institutional capacity of potential CPD accreditors. Human resource managers from FMHACA, FMOH, Regional Health Bureaus and Regional Regulatory Bodies took part in this particular interview. In addition to the identification

part of the questionnaire, a total of 29 questions were used to address all issues relating to reviewing of training courses, including mechanisms used for recognition of CPD providers, monitoring/evaluating CPD programs/providers, collaboration with other organizations, choosing CPD, measures to be taken on those health professionals who do not participate in CPD, and opportunities and challenges to implement CPD in Ethiopia.

All three questionnaires were developed so that the regulation of health professionals in Ethiopia would be quantitatively measured and that the survey questions were sufficiently addressed. Particularly, the what, where, when, how many, etc., questions were properly answered in this quantitative approach.

Apart from the quantitative components of the study, qualitative methods were applied to explore the shared perceptions and experiences of the target populations with regard to the regulation of health professionals in Ethiopia. The use of key informant interviews was designed to supplement the quantitative techniques by answering the why and how questions. In this regard, the fourth and fifth tools (checklists) were prepared by taking account of the target populations under consideration. The key informant guide for regulatory bodies (the fourth tool) was used to interview the potential CPD accreditors and included questions that were closely related to those of the third tool of the quantitative method. On the other hand, the key informant interview guide for health managers (the fifth tool), the last tool of the research work, gave emphasis to CPD, scope-of-practice, ethics, and competence related questions. In both cases (the fourth and fifth tools), semistructured interview questions were used and the field supervisors were responsible for carrying out the intended key informant interviews.

2.4. DATA COLLECTION PROCEDURE

A total of 24 data collectors and 14 supervisors were given a two-day, intensive training and were involved in the fieldwork. The data collectors and supervisors were selected based on their academic qualification and experience in similar undertakings. All had Bachelor's or Master's degrees. During the training, which included studying and critically examining the survey instruments, checklists, and other tools necessary for the fieldwork, data collectors and supervisors were told that no mistakes would be acceptable in relation to the collection of the quantitative data. In this regard, to increase the validity of the collected data, apart from the conduct of thorough training that included mock-interview and pre-testing of the survey instrument, there was strict supervision at the time of the actual fieldwork. Apart from adequate number of supervisors deployed by the consultant, technical staff from Jhpiego were assigned in each region to facilitate data collection, oversee data quality assurance, and ensure ethical conduct of the study. Actual data collection was conducted March 16–31, 2015.

2.5. DATA MANAGEMENT AND ANALYSIS

Paper-based data cleaning was made before data entry, which involved checking for completeness of questionnaires and consistency of responses. Responses for open ended questions were re-coded uniformly. Quantitative data were entered into the computer using *Epi Info* version 3.5.1. Data were then exported to STATA Version 13 to carry out the necessary analysis. Data cleaning was performed using both *Epi Info* and STATA before undertaking the required statistical analysis. Analysis of variables was made using descriptive statistics (basic summaries of respondent characteristics), simple logistic regression to look into the association between main outcome variables and socio-demographic variables, and multivariable logistic regression analysis to adjust values of the dependent variables for the influence of the likelihood

of potential confounding variables. Multivariable logistic regression analysis was done only for variables with p-value less than or equal to 0.25 during simple logistic regression. A p-value of less than 0.05 was used for all statistical significant decisions.

Qualitative data were transcribed verbatim, and the procedure used to process the qualitative data for the purposes of classification, summarization, and tabulation was thematic analysis. The basic idea was to identify the extracts of data that are informative in some way and to sort out the important messages hidden in the mass of each key informant interview. To this end, the basic steps (principles) governing the analysis of qualitative data (data immersion, coding, displaying data, data reduction and interpretation) were used. Open Code 3.6 qualitative data analysis software was applied to summarize the qualitative data.

2.6. DATA QUALITY ASSURANCE

During the course of this study, every effort was made to maintain the quality of data optimal, including its validity, reliability, objectivity, integrity, and utility through various processes. In line with this, the survey instruments were prepared by taking an account of the current and future strategy of CPD, the scope-of-practice, and registration and licensure of health professionals. Furthermore, the study tools were pre-tested before data collection was commenced to ensure the reliability and validity of the questionnaires.

The two-day, intensive training that was conducted in a convenient environment had given the supervisors and data collectors a thorough understanding of the tools and techniques of interviewing. On top of the above measures, the continuous supervision made both by the consultant and Jhpiego played a significant role in maintaining quality data that reflected the views and perceptions of the study participants. Moreover, the strenuous techniques followed in data entry and cleaning contributed in minimizing the bias that would affect the interpretations of the findings.

2.7. ETHICAL CONSIDERATIONS

This study has gone through appropriate scientific and ethical reviews and acquired the necessary clearance from Johns Hopkins Bloomberg School of Public Health Institutional Review Board (IRB) ahead of initiation of any data collection. Federal Ministry of Health and regional health bureaus provided approval letters to conduct the study. Data collectors, field supervisors, and study subjects were informed fully about the purpose, methods, and intended uses of the study, what their participation in the research entails, and what risks would be involved through verbal informed consent. The confidentiality of information supplied by study subjects and the anonymity of respondents had been respected. The study team also ensured that study subjects participated voluntarily, free from any coercion.

2.8 LIMITATIONS OF THE STUDY

Of the proposed 35 KIIs, 26 interviews were audio recorded and five interviews were conducted using paper because of unwillingness of interviewees for audio recording. Four interviews were not conducted with RHB representatives of Afar, Benishangul Gumuz, Harari, and Gambella regions. The main reason for this was the busy schedule of officials.

With regard to the quantitative data, though the response rate for health professionals and in-service training centers is 100%, three questionnaires were not administered to health

professional associations and two questionnaires were not administered to regulatory body human resource managers.

Some questions rely on memory recall of respondents, and forgetfulness may induce recall bias for a few questions; for instance, “Was feedback given for your last CPD activity?”

CHAPTER THREE: RESULTS AND DISCUSSION

3.1. RESPONSES FROM HEALTH PROFESSIONALS

Sociodemographic characteristics

As Table 1 indicates, 554 health professionals currently working in the nine regions and two city administrations participated in this study with a 100% response rate. The largest number of respondents (72.2%) practiced at health centers, and the remaining 154 (27.8%) practiced at hospitals. With regard to sex of respondents, 52.5% were males and 47.5% of respondents were females. Participants evenly represented most categories of professionals; health officers, nurses, midwives, and pharmacy and medical laboratory professionals accounted for 18.4% of respondents each. Regarding the educational attainment of respondents, 52% had diplomas, 46% had a first degree, and only 1.6% completed post-graduate or specialization training programs. As to work experience of respondents, the highest numbers of respondents (nearly 29%) had four to seven years of experience.

Table 1. Sociodemographic characteristics of health professionals, March 2015

Variable	Number of health professionals (n=554)	% of health professionals
Region		
Tigray	54	9.7
Afar	12	2.2
Amhara	89	16.1
Benishangul-Gumuz	12	2.2
Oromia	160	28.9
Gambella	7	1.3
SNNPR	111	20.0
Somali	22	4.0
Harari	7	1.3
Dire Dawa	7	1.3
Addis Ababa	73	13.2
Type of health facility		
Hospital	154	27.8
Health Center	400	72.2
Sex of respondent		
Male	291	52.5
Female	263	47.5
Age of respondent in years		
20–29	383	69.1
30–39	120	21.7
40 and above	51	9.2

Variable	Number of health professionals (n=554)	% of health professionals
Current respondent qualification/profession		
Medical Doctor	22	4.0
Health Officer	102	18.4
Midwife	102	18.4
Anesthetist	22	4.0
Nurse	102	18.4
Pharmacy	102	18.4
Medical Lab	102	18.4
Highest level of educational attainment		
Diploma	291	52.6
First degree	254	45.8
Postgraduate degree /specialization	9	1.6
Respondent total years of work experience in Years		
Less than 2 Years	108	19.5
2 to less than 4 years	125	22.6
4 to less than 7 years	160	28.9
7 to less than 10 years	64	11.6
≥10 years	97	17.5

3.1.1. Registration and licensure

The national standard regarding health professional registration states that no health professional is authorized to practice without getting registered by a statutorily authorized organ (FMHACA, 2014). Table 2 contains results on health professionals' registration, licensure, and re-licensure/re-certification. The Ethiopian Health Professional Registration and Licensure Guideline requires every health professional to renew his/her license every five years. Of the health professionals interviewed, 44.4% had at least five years of work experience; of those, only 27.2% have a renewed professional license. This is in violation of the regulatory standards (FMHACA, 2014). The main reason for re-licensure was compliance with a requirement of employers, constituting 40%. So far, close to 50,000 health professionals throughout the country were registered. In the previous five years, *Sene* 2002 to *Sene* 2007 Ethiopian calendar, the Federal Authority itself has electronically registered a total of 16,600 professionals. SNNPR RRB registered more than 8000 clinical nurses and 1000 health officers, 3000-4000 lab technicians, and 6000 druggists, and Gambella RRB registered 596 health professionals.

With regard to the evidences required for registration and re-licensure of health professionals, the findings from the qualitative part of the study are consistent with the findings from the quantitative study. The requirements for registration and re-licensure is almost similar for all regions. One of the requirements for registration includes providing educational certificates. If the health professional is graduated from a private higher education institution, he/she is supposed to come with a Certificate of Competence (COC) and his/her details have to be found on the list of COC institutes, besides educational certificates. In addition, the professionals have to come with medical certificates for registration and re-licensure to indicate that they are physically fit; this is consistent with the findings from the quantitative study. To do all this, professionals that were graduated from both kinds of higher education institutions (public and

private institutions) should appear in person and fill out the form or send a legal proxy to carry out the process for them. Moreover, higher education institutions have to send the list of graduates to regulatory bodies. It is only when the professional's academic credentials and related information are found in the list that the licensure would be carried out.

Regarding re-licensure, all key informants said that re-licensure is possible only when the professionals have practiced for a minimum of five years. In addition, they should practice within two years (preceding the date of re-licensure).

For a long time, the registration and licensure process was paper based and retrieval of health professionals' records was done manually. Registration has never been automated nor supported by a robust human resources information management system. At present, regulatory bodies at national and regional levels use an electronic human resources information system (HRIS). Still, most of the interviewees representing RRBs do not analyze information and produce synthesis of information on professionals they have registered. FMHACA is building capacity of RRBs to support implementation of the HRIS. For instance, a respondent from the Amhara RRB said, *"the data is not completely entered into a computerized database yet. But we have taken a database training and installed the software. Amhara RRB have even entered some of the data onto the database. We are getting support from Center for Disease Control and prevention (CDC) to enter the data. All registered/licensed professionals have their own records. The networking process has not started yet."* A key informant from Tigray RRB similarly replied, *"The work of the database is in progress. Tigray RRB already entered the profiles of 11,000 health professionals to computer, and there are around 7,000 health professional profiles that are not entered into the computer yet."*

Registration requirements are enforced by RRBs. All key informants from regulatory bodies said that they ensure the professionals in health facilities are registered, licensed, and relicensed by prohibiting the health facilities from hiring professionals that are not registered, licensed, or relicensed. RRBs often pass *circulars* to facilities and inform them about the prohibition. They take action on facilities that violate these prohibitions. An interviewee from Tigray RRB said, *"If there is any health institution that hired a staff without a license, strict measure such as closing the institution will be taken immediately. Therefore, all the health professionals who are working at governmental or private health facilities are hired after being identified and known by a regulatory body."*

Regulatory bodies often reject licensure applications when the applicant does not fulfill the requirements, though the magnitude of rejected applications is not known nor investigated in a systematic manner. One of the major reasons for rejected applications of registration/licensure is failure to fulfill the required documents, and another reason is submission of fraudulent applications. Only one interviewee said that there was not a fraudulent application submitted to his bureau, but all other RRBs encountered fraudulent applications. The most alarmingly severe observation was reported by the RRB in SNNPR, *"COC frauds have occurred 11 times in a month on average. And, on rough estimation, we come across seven COC frauds in a month."*

Such prevalent acts need immediate attention, and systems and procedures need to be put in place to verify originality or authenticity of academic credentials and certificates of work experience upon which registration and licensure relies. Failing to do so will bring harm to patients and health professionals. Drawing upon lessons learned, the SNNPR RRB is vigilant and

communicates higher learning institutions to verify the documents. The RRB also checks the COC website to verify whether the applicant has passed the COC examination.

Additional challenges related to the registration process include limited awareness on requirements among professionals' lack of adequate and skilled human resource, unavailability of networking between regions, and limited budget.

3.1.2. Ethics and competence review system

Health sector regulation was declared by the FMHACA proclamation No. 661 and put in place in 2009. This study also inquired if respondents had ever come across an ethical code of conduct relevant to their profession. As Table 2 shows, 54.9 % of respondents have read a document related to ethical code of conduct, and the remaining 45.1% did not.

Most respondents reported that neither an officially endorsed document nor legal framework on ethical code of conduct exists. Even though the ethical code of conduct document has not been yet established at the national level, about half of the key informants representing RRB and health facilities said that they do regulate ethics and fitness for practice. A respondent from Mekelle pointed out that his hospital (a university affiliated hospital) has a unit that deals with ethics and fitness for practice. *“To strengthen fitness for practice, there is a division in the college of health sciences called ‘Health Professional Unit,’ which consists of five sub units,” he said.*

The processes being used to ensure ethical code of conduct are not standardized and not uniformly implemented across regions. A respondent from Tigray RHB, for example, said, *“Concerning ethics and competence, we monitor whether health professionals are working in the level of their license. We have our own ethics guideline at regional level. But there is no a national document to ensure uniformity across regions of Ethiopia.”*

Implementation of an ethics program is heterogeneous. For instance, the SNNPR RRB stated that professional ethics and competence is being regulated and reinforced by use of multidisciplinary ethics codes. In Gambella, however, health professionals' ethics and competence review is not rolled out yet. Likewise, Somali, Dire Dawa, Afar, and Oromia RRBs acknowledge that no mechanism is applied to check fitness for practice.

The SNNPR RRB often conducts field visits to health facilities to ensure ethical code of conduct at all levels. They ask health professionals to bring a letter from their health facilities stating that they are fit to practice for the coming five years to renew their licenses. The respondent from SNNPR RRB stated, *“We annually go to the institutions to confirm whether proper ethical code of conduct is applied at these institutions. But licensure is done once every five years. We ensure if they are physically and mentally fit by requesting medical certificate issued in the last six or lesser months. We also make sure that they bring the letter-graded recommendation from their institutes.”*

The most common challenge reported by RRBs in regulating an ethical code of conduct is lack of standard or code for regulation of health professional ethics. In addition, many RRBs have acknowledged lack of competency in medical ethics. Limited awareness among professionals is another challenge. For instance, the Amhara RHB said, *“Creating awareness and giving orientation on what is expected from each health professional must be done frequently.*

Monitoring and evaluation of the task especially about competence and ethics, plus filling the identified gaps by providing training, is important.”

The Oromia RHB recommended that professional associations and executive organs should become involved in critiques of the draft ethical and competence standard. Along the same lines, the SNNPR RRB recommended a serious need for standardized guidelines and training of the staff to inspire the spirit of accountability among health professionals. SNNPR RRB also recommended to work toward patient rights. In addition, the Tigray RHB stated that carrying out research is important to understand the exact demand and need on the ethics and competence of health professionals in addition to clear guidelines and collaboration with different partners.

Table 2. Experiences of health professionals in Ethiopia on ethical issues, registration, and licensing, March 2015

Variable (relating to Ethics, Registration and Licensure)	Number of health professionals	% of health professionals
Last registration of the respondent for his/her current profession (Ethiopian calendar) (n=374)		
2005 to 2007	145	38.8
2002 to 2004	150	40.2
1997 to 2001	63	16.8
1992 to 1996	7	1.8
Before 1992	9	2.4
Re-licensure (n=246)		
Yes	67	27.2
No	179	72.8
Requirements (evidence) the respondent was asked for re-licensure*		
Certificate of any in-service training	24	30.8
CPD credit hours	11	14.1
Evidence for fitness for practice (ethical and competence letter and medical certificate)	47	60.3
Not asked for any evidence for re-licensing	18	23.1
For those who relicensed, reason to relicense: (n=67)		
Personal interest	21	31.3
Required by the institution s/he is working	27	40.3
Because it is a rule	11	16.4
Others	8	11.9
Ever the respondent read any ethical code of conduct for health professionals? (n=554)		
Yes	304	54.9
No	250	45.1
Responses of participants regarding a malpractice of their own and of other professionals? (n=554)		
Took no action	109	19.7
Reported to supervisor or facility manager	210	37.9
Gave advice (counseled) not to repeat it again	235	42.4

* Totals are greater than 100% because the percentage is derived from multiple responses

The percentage of health professionals who have not ever read any document related to health professionals' ethical code of conduct ranges from 22.7% among medical doctors to 50% among anesthetists. Generally speaking, a substantial percent of health professionals (22.7% to 50%) along all sociodemographic characteristics have never read any document related to ethical code of conduct. As presented in Table 3 below, the association between the levels of various demographic variables with the criterion variable was found statistically insignificant.

Table 3. Response of health professionals whether they have ever read the ethical code of conduct, classified by sociodemographic characteristics, March 2015

Variable (Sociodemographic characteristics)	Ever read any document related to ethical code of conduct			COR (95% CI)	AOR (95% CI)***
	Yes	No			
	Number (%)	Number (%)			
Type of Health Facility (n=554)					
Hospital*	90 (58.4)	64 (41.6)		0.82 (0.56–1.19)	
Health Center	214 (53.5)	186 (46.5)			
Sex of respondent (n=554)					
Male*	162 (55.5)	130 (44.5)		0.65 (0.68–1.32)	
Female	142 (54.2)	120 (45.8)			
Age of respondent in years (n=554)					
20 -29*	211 (55.1)	172 (44.9)			
30-39	61 (50.4)	60 (49.6)		0.83 (0.55–1.25)	
40 and above	32 (64.0)	18 (36.0)		1.45 (0.79–2.67)	
Current respondent qualification/profession (n=554)					
Medical Doctor*	17 (77.3)	5 (22.7)		0.34 (0.12–1.00)	
Health Officer	55 (53.9)	47 (46.1)		0.31 (0.10–0.89)**	
Midwife	52 (51.0)	50 (49.0)		0.29 (0.08–1.08)	
Anesthetist	11 (50.0)	11 (50.0)		0.37 (0.13–1.087)	
Nurse	57 (55.9)	45 (44.1)		0.39 (0.13–1.13)	
Pharmacy	58 (56.9)	44 (43.1)		0.33 (0.11–0.96)**	
Medical Lab	54 (52.9)	48 (47.1)			
Highest level of educational attainment (n=554)					
Diploma	154 (53.1)	137 (46.9)		0.86 (0.61–1.20)	
First degree*	150 (56.8)	113 (43.2)			
Total work experience (n=554)					
Less than two years*	59 (54.6)	49 (45.4)		0.87 (0.52–1.46)	
2 to less than 4 years	64 (51.2)	61 (48.8)		0.97 (0.59–1.58)	
4 to less than 7 years	86 (53.8)	74 (46.3)		0.94 (0.51–1.749)	
7 to less than 10 years	34 (53.1)	30 (46.9)		1.41 (0.80–2.46)	
≥ 10 years	61(62.9)	36 (37.1)			

*Reference category

** Significant association

***All variables had p-value greater than 0.25 at COR

3.1.3. Continuing professional development

3.1.3.1. Health professionals' experience related to CPD

Enforcing CPD programs is one of the approaches used by regulatory bodies, and now education credit units are one of the few mandatory requirements to renew one's professional license. Evidences show that health professionals must maintain, update, and enhance their knowledge, skills, and attitude to adequately deliver quality health care. This is particularly important because of a changing disease pattern in which diseases that had been eradicated are now reemerging. There is also a need for CPD to maintain professional competence in an environment of numerous challenges, rapid organizational changes, information technology, increasing public expectations and demand for quality, and greater accountability (WFME, 2003). Likewise, FMHACA's CPD accreditation directive underpins that every health professional shall complete the specified continuing education unit (CEU) of CPD each year, shall ensure possession of a certificate of attendance for every CPD attended, and keep these for at least five years. Table 4 shows findings on experience of CPD activities among health professionals—that only 59.2% (328 of 554) of health professionals were engaged in any CPD activities 12 months preceding the study.

The majority of CPD participants stated that they engaged in a training organized by non-governmental organizations (NGOs) and FMOH/RHBs, either jointly or independently. Of the 328 CPD participants, 71.9% (234 of 328) reported that non-governmental organizations were involved in providing the training, 46.7% (153 of 328) said that FMOH/RHBs were involved in providing the training. It is revealed that the involvement of local universities in CPD provision stands low as they provided only 1.5% (5 of 328) of the CPD activities.

Similarly, NGOs took the lion's share in funding CPD activities by providing either full or partial financial assistance. It is worth noting that 63.7%⁵ of participants stated NGOs (local and international) as major funders for their CPD activities, and 28% said that the activities were sponsored either by FMOH or RHBs. Though employers of the respondents did sponsor 16.5% of CPD activities either partially or fully, only 1.5% were self-sponsored by the professional themselves.

The findings on the involvement of FMOH, RHBs and health facilities in providing or sponsoring CPD were substantiated by key informant interviews with facility managers, human resources heads of RHBs and FMOH. Even though direct involvement of facilities and RHBs in providing and sponsoring CPD was relatively low, almost all respondents of the qualitative study recognized its importance and are working in close collaboration with partners and regional teaching institutions to avail CPD for health workers.

Most respondents of the qualitative study also think that they are often involved in CPD in various ways including staff performance assessment and assigning the right people for the right CPD learning. They also responded that they undertake continuing professional development need assessment and avail adequate time for their employees' continuing professional development activities. When asked about the allocation of budget for CPD, most of the respondents said that they are not allocating enough budget from their treasuries, but are closely working with donors to secure budget for CPD implementation. A respondent from Felege Hiwot hospital in Amhara region, for instance, said, "*My hospital is always ready to avail CPD for*

⁵ The total is greater than 100% because the proportions are derived from multiple responses.

health workers by closely working with all stakeholders, both governmental and non-governmental organizations, and teaching institutions as we believe health science is an ever-growing science.”

Some respondents from the qualitative study, however, said that their involvement to provide or finance CPD for their employees is very minimal or almost nil. Their role is limited only to choose and send health workers for training when requested from partners. A key informant from Dupti hospital said, “So far, we don’t have any system to track staff involvement on CPD activities. There is no system to ensure and allocate enough time and budget for professionals to engage in CPD activities. If there is any invitation to send staff members for CPD activities, we will select using internal criteria and send the number required. Some staff members also identify CPD activities on their own, and we will allow them to participate.”

Several mechanisms are used to identify training events; often CPD activities are either self-initiated or extended by invitation of the organizer of a particular training. This study shows that a significant number of respondents (96%) participated in arranged CPD (i.e., CPD planned by CPD providers or employers) whereas a very small fraction (2%) of health professionals participated in self-identified CPD. For CPD activities to be effective, they should be need-based and tailored to fill real gaps in knowledge, skill, and abilities of health professionals. Though the national CPD program guideline dictates that CPD activities need to be need-driven and coordinated, training institutions, employers, regional health bureaus, development partners, and professional associations are encouraged to assess needs and identify relevant CPD courses for target learners.

Table 4. Experience of CPD activity among health professionals in Ethiopia, March 2015

Variable (relating to the experience of respondents)	Number of health professionals	% of health professionals
Engagement in any sort of continuing professional development (CPD) activity in the last 12 months (n=554)		
Yes	328	59.2
No	226	40.8
Provider of the training (CPD)* (n=328)		
Local NGO	41	13.1
International NGO	193	58.8
FMOH/RHB	153	46.7
Universities	5	1.5
Source of financial support for the last CPD activity (n=328)		
Self	5	1.5
Employer	54	16.5
NGO	209	63.7
FMOH/RHB	92	28.0
Arrangement of the CPD (training) (n=320)		
It was on demand	7	2.2
It was arranged for the participant	313	97.8

Variable (relating to the experience of respondents)	Number of health professionals	% of health professionals
Convenience of last CPD activity in terms of time? (n=327)		
Yes	271	82.9
No	56	17.1
Convenience of the last CPD activity in terms of place? (n=328)		
Yes	282	86.0
No	46	14.0
Convenience of the last CPD activity in terms of pace? (n=328)		
Yes	295	89.9
No	33	10.1

* Totals are greater than 100% because the percentage is derived from multiple responses

As Table 5 shows, health professionals working at health centers were more likely to participate in CPD compared with those at hospitals (COR=1.57, 95% CI=1.08-2.28). This association, however, was not statistically significant after adjusted for potential confounders (AOR=1.41, 95% CI=0.86-2.30). There were variations in terms of age of participants with CPD activities. Health professionals age 40 and older are less likely to participate in CPD than health professionals less than 30 years old (AOR=0.39, 95% CI=0.16-0.91).

Table 5. Participation of health professionals in any of CPD activities in the last 12 months preceding the survey classified by sociodemographic characteristics, March 2015

Variable (Socio-demographic characteristics)	Participation of Health Professionals in CPD activities in the last 12 months (n=554)			COR (95% CI)	AOR (95% CI)
	Yes	No			
	Number (%)	Number (%)			
Type of Health Facility					
Hospital*	79 (51.3)	75 (48.7)			
Health Center	249 (62.2)	151 (37.8)	1.57 (1.08–2.28)**	1.41 (0.86–2.30)	
Sex of respondent					
Male*	164 (56.2)	28 (43.8)			
Female	164 (62.6)	98 (37.4)	1.31 (0.93–1.84)	0.90 (0.60–1.33)	
Age of respondent in years					
20-29*	246 (64.2)	137 (35.8)			
30-39	64 (52.9)	57 (47.1)	0.63 (0.41–0.95)**	0.78 (0.45–1.35)	
40 and above	18 (36.0)	32 (64.0)	0.31 (0.17–0.58)	0.39 (0.16–0.91)	

Variable (Socio-demographic characteristics)	Participation of Health Professionals in CPD activities in the last 12 months (n=554)			COR (95% CI)	AOR (95% CI)
	Yes	No			
	Number (%)	Number (%)			
Current respondent qualification/profession					
Medical Doctor*	15 (68.2)	7 (31.8)			
Health Officer	55 (53.9)	47 (46.1)	0.55 (0.21–1.45)	0.57 (0.19–1.73)	
Midwife	74 (72.5)	28 (27.5)	1.23 (0.46–3.34)	0.90 (0.29–2.83)	
Anesthetist	8 (36.4)	14 (63.6)	0.27 (0.08–0.93)**	0.30 (0.08 -1.08)	
Nurse	74 (72.5)	28 (27.5)	1.23 (0.46–3.34)	1.21 (0.39–3.76)	
Pharmacy	41 (40.2)	61 (59.8)	0.31 (0.12–0.84)**	0.23 (0.08–0.72)**	
Medical Lab	61 (59.8)	41 (39.0)	0.69 (0.26–1.85)	0.56 (0.19–1.70)	
Highest level of educational attainment					
Diploma	184 (63.2)	107 (36.8)			
First degree and above*	144 (54.9)	119 (45.1)	1.40 (0.99–1.97)	1.13 (0.69–1.87)	
Total work experience					
Less than two years*	74 (68.5)	34 (31.5)			
2 to less than 4 years	83 (66.4)	42 (33.6)	0.91 (0.52–1.57)	0.88 (0.49–1.58)	
4 to less than 7 years	94 (58.8)	66 (41.2)	0.66 (0.39–1.09)	0.68 (0.39–1.20)	
7 to less than 10 years	37 (57.8)	27 (42.2)	0.63 (0.33–1.19)	0.70 (0.33–1.46)	
≥ 10 years	40 (41.2)	57 (58.8)	0.32 (0.18–0.57)**	0.50 (0.23–1.09)	

*Reference category

**significant association

3.1.3.2. Professionals' perception toward their last CPD

Table 6 presents results on responses of participants on relevance of last CPD to their professional work or day-to-day role. Among those who undertook CPD activities, 88.3% reported the last CPD activities were relevant to what they practice and 1.4% considered their last CPD activities irrelevant. The remaining 10.3% have not participated in any CPD activity.

Respondents also were asked if their last CPD consisted of the subject matter they wished to learn. About 97% of the respondents ascertained that the contents of CPD courses they took were according to their individual learning needs, which constituted the highest percentage. Strikingly, 95% of respondents reported that the CPD courses they have taken helped them build competencies and revisit their professional practices. This demonstrates that the central purpose of CPD activity was achieved, i.e., improved health care practices that can contribute to better quality of health care and, ultimately, better patient outcomes.

Table 6. Responses of participants (health professionals in Ethiopia) regarding their last CPD, March 2015

Variable (relating to the experience of respondents)	Number of health professionals	% of health professionals
Relevance of the last CPD (content used in the day to day role of the learner) (n=554)		
Relevant	489	88.3
Not relevant	8	1.4
Has not taken any CPD	57	10.3
Whether or not the last CPD was individualized (was the respondent given the subject matter s/he wished to learn) (n=497)		
Yes	484	97.4
No	12	2.4
Not sure	1	0.2
Whether or not the last training received helped the respondent to improve his/her practice (n=497)		
Yes	472	95.0
No	20	4.0
Not sure	5	1.0

As shown in Table 7 below, more health workers from health centers reported improvement in professional practice after CPD compared with their hospital counterparts at bivariate level. The difference was not statistically significant, however, after adjusted for confounding variables (AOR=2.19, 95% CI=0.69–6.00). The highest post-CPD improvement in professional practice was reported in the age group of 30–39 years (98%) compared with the age group of 20–29 years (97.7%), but the association was found to be statistically insignificant. Similar variations were observed along educational attainment as health professionals with a diploma (98%) were more likely to practice the theoretical knowledge and skills gained from their CPD participation compared with degree holders (94%) at bivariate level. The difference was not statistically significant, however, in the multivariate level (AOR=3.21, 95% CI=0.91-11.37).

Table 7. Response of health professionals whether the training they have received recently helped them improve their practice, classified by sociodemographic characteristics, March 2015

Variable (Sociodemographic characteristics)	CPD training improved respondents practice (n=492)		COR (95% CI)	AOR (95% CI)
	Yes	No		
	Number (%)	Number (%)		
Type of Health Facility				
Hospital*	115 (91.3)	11 (8.7)	3.79 (1.53–9.39)**	2.19 (0.69–6.00)
Health Center	357 (97.5)	8 (2.5)		
Sex of respondent				
Male*	239 (94.1)	15 (5.9)	2.92 (1.05–8.18)**	2.50 (0.80–7.85)
Female	233 (97.9)	5 (2.1)		

Variable (Sociodemographic characteristics)	CPD training improved respondents practice (n=492)		COR (95% CI)	AOR (95% CI)
	Yes	No		
	Number (%)	Number (%)		
Age of respondent in years				
20-29*	332 (97.7)	15 (3.3)	2.28 (0.51–10.15)	
30-39	100 (98.1)	2 (1.9)	0.59 (0.16–2.12)	
40 and above	39 (92.9)	3 (7.1)		
Current respondent qualification/profession				
Medical Doctor *	19 (90.5)	2 (9.5)		
Health Officer	80 (96.4)	3 (3.6)	2.81 (0.44–17.99)	1.27 (0.17–9.56)
Midwife	91 (94.8)	5 (5.2)	1.92 (0.35–10.62)	0.30 (0.04–2.00)
Anesthetist	13 (92.9)	1 (7.1)	1.37 (0.11–16.70)	1.18 (0.10–14.65)
Nurse	93 (97.9)	2 (2.1)	4.89 (0.65–36.94)	0.99 (0.12–8.58)
Pharmacy	83 (92.2)	7 (7.8)	1.25 (0.24–6.49)	0.33 (0.06–1.93)
Highest level of educational attainment				
Diploma	265 (97.8)	6 (2.2)		
First degree*	207 (93.7)	14 (6.3)	2.99 (1.13–7.91)*	3.21 (0.91–11.37)
Total work experience				
Less than two years*	81 (94.2)	5 (5.8)		
2 to less than 4 years	115 (97.5)	3 (2.5)	2.37 (0.55–10.18)	
4 to less than 7 years	143 (96.6)	5 (3.4)	1.77 (0.49–6.28)	
7 to less than 10 years	55 (96.5)	2 (3.5)	1.70 (0.32–9.06)	
≥ 10 years	78 (94.0)	5 (6.0)	0.92 (0.27 -3.46)	

*Reference category

**significant association

3.1.3.3. Knowledge and perceptions of health professionals on barriers of CPD

Table 8 displays results on importance, incentives, and sanctions of CPD. It also contains data about nature, documentation, barriers, and structure of CPD. Different incentives derive professionals' demand for and participation in CPD activities; 94% (from multiple response questions) of respondents reported that career development was the driving factor, and 68.2% reported building professional competency.

Asked on nature of enforcement of CPD programs, 87% of respondents said CPD should be voluntary and a minority, 11.9%, favored mandatory a CPD program. Regarding sanctions, 61.2% of respondents were against sanctions for not attending CPD activities, 32% were in favor of sanctions, and the remaining 7% were neither against nor in favor of sanctions. About 78% respondents who were in favor of sanctions recommended either official or verbal warning, and 20.3% favored suspending or revoking professional license.

Asking for whose role and responsibility it is to search for CPD activities relevant for health professionals, 61.4% reported that professionals themselves need to look for CPD activities relevant to them, and 40.1% said it is up to the employing institution and FMOH/RHB to identify CPD opportunities for their employees. Likewise, respondents were asked about who should define the learning needs of CPD, and 71.8% reported that CPD learning needs should be

defined by the professionals themselves. The rest of respondents, 28.2%, welcomed other stakeholders to assess competency gaps and define CPD program needs. This is in agreement with the national CPD standard operating procedure released by FMHACA (FMHACA, 2013). The guidelines also encourage key stakeholders, such as employers of health professionals, regional health bureaus, development partners, and professional associations, to define needs for CPD courses based on scientific and practical merits.

The study also asked respondents about the appropriate body to document the CPD activities and learning generated from the activities. As Table 8 shows, 65.9 % of the respondents said that professionals themselves should document the CPD activities to which they are enrolled, 44.7% said employers should document the activities and learning generated, and 28.3% of respondents put the responsibility onto the FMOH/RHBs. Here, one can see that there is huge variation of opinion as to which should be appropriate body to document CPD activities. The national CPD guideline indicates that institutions need to establish CPD program data management and monitoring systems and use data generated to improve planning and management of subsequent CPD activities. The objective of any system of documenting CPD activities should be to acknowledge actual learning, not mere participation in CPD activities (WFME, 2003).

Assessment of barriers to engage in CPD activity revealed that cost is a major barrier reported by 56% of respondents. Other barriers include shortage of time, lack of incentives, and not acknowledging the benefits of CPD activity. Study subjects also suggested areas for CPD implementation. The most important areas recommended by the respondents for CPD implementation include areas related to HIV (recommended by 38.5% of respondents), maternal health (35.6%), and tuberculosis (23.9%). Among respondents who suggested maternal health as an important area for CPD implementation, 43.8% are midwives, 30.4% are health officers, and 21.1% are nurses. Among those recommended HIV as an important area, 24.3% are health officers, followed by midwives (20%) and nurses (18%). Pharmacy professionals (94%) suggested drug supply and management as an important area for CPD implementation, and 85% of laboratory professionals suggested quality improvement and quality assurance as an important area for CPD implementation.

Table 8. Knowledge and perceptions on facilitators and barriers of CPD among health professionals in Ethiopia, March 2015

Variable (relating to the knowledge and perceptions of the respondents on CPD)	Number of health professionals	% of health professionals
Importance of undertaking CPD*		
Career development	465	93.6
Want to feel confident in my work/improve performance	339	68.2
It is not my request	8	1.6
Need for incentive/reward	9	1.8
Mandatory or voluntary CPD (n=554)		
Voluntary	483	87.2
Mandatory	66	11.9
Undecided	5	0.9

Variable (relating to the knowledge and perceptions of the respondents on CPD)	Number of health professionals	% of health professionals
Responsibility for choosing CPD*		
Professionals themselves	340	61.4
Professional association	139	25.1
FMOH/RHB	222	40.1
Employer	125	22.6
FMHACA	28	5.1
NGOs	6	1.1
Defining/identifying the professional's learning need*		
Professionals themselves	397	71.8
Professional association	97	17.5
FMOH/RHB	175	31.6
Employer	113	20.4
FMHACA	9	1.6
Incentives for participating in CPD*		
Re-certification	385	69.6
Pay raise (increase in fees)	279	50.5
Career promotion	310	56.1
Publication of list of practitioners who fulfilled the requirement	75	13.5
Agree to have sanctions on those who do not participate in CPD? (n=554)		
Yes	177	31.9
No	339	61.2
Neither agree nor disagree	38	6.9
Types of sanctions (n=177)		
Right to practice suspended or revoked	36	20.3
Official warning	138	78.0
Salary deduction and/or excluding from promotion	3	1.7
Documentation of the learning generated from CPD activities*		
Self-portfolio	364	65.9
Professional association	98	17.7
Employer	248	44.7
FMOH/RHB	157	28.3
FMHACA	23	4.2
Barriers for CPD implementation*		
Lack of incentive	162	29.2
Shortage of time	208	37.6
Cost implication	310	56.0
Lack of patient awareness	102	18.4
Not recognizing its importance	15	27.1

* Totals are greater than 100% because the percentage is derived from multiple responses

As shown in Table 9 below, the great majority of respondents working at health centers (88.9%) agreed for voluntary CPD participation, and 85.5% of health professionals working at hospitals agreed for voluntary CPD participation; this was not statistically significant, however, at bivariate and multivariate levels. Similarly, the findings indicated that mandatory CPD activity was not statistically associated with any of the levels of the demographic characteristics. The findings contradicted the national standard, which states that continuing professional development is one of the main pre-conditions for re-licensure and that no health professional may be re-licensed without fulfilling the required credit points (FMHACA, 2013).

Table 9. Response of health professionals whether CPD should be mandatory or voluntary classified by sociodemographic characteristics, March 2015

Variable (Sociodemographic characteristics)	Should CPD be mandatory? (n=549)		COR (95% CI)	AOR (95% CI)
	Yes	No		
	Number (%)	Number (%)		
Type of Health Facility				
Hospital*	22 (14.5)	130 (85.5)		
Health Center	44 (11.1)	353 (88.9)	0.74 (0.43–1.28)	
Sex of respondent				
Male*	42 (14.5)	247 (85.5)		
Female	24 (9.2)	236 (90.8)	0.60 (0.35–1.02)	1.68 (0.93–3.04)
Age of respondent in years				
20 -29*	50 (13.2)	330 (86.8)		
30-39	12 (10.0)	108 (90.0)	0.73 (0.38–1.43)	
40 and above	4 (8.2)	45 (91.8)	0.59 (0.20–1.70)	
Current respondent qualification/profession				
Medical Doctor *	2 (9.1)	20 (90.9)		
Health Officer	9 (8.9)	92 (91.1)	1.00 (0.20–4.88)	0.91 (0.18–4.58)
Midwife	14 (13.9)	87 (86.1)	1.61 (0.34–7.65)	0.44 (0.09–2.21)
Anesthetist	4 (18.2)	18 (81.8)	2.22 (0.36–13.62)	0.45 (0.07–2.76)
Nurse	3 (2.9)	99 (97.1)	0.30 (0.05–1.93)	2.66 (0.41–17.21)
Pharmacy	20 (20.0)	80 (80.0)	2.50 (0.54–11.59)	0.35 (0.08–1.65)
Medical Lab	14 (13.9)	87 (86.1)	1.61 (0.34–7.65)	0.56 (0.12–2.67)
Highest level of educational attainment				
Diploma	33 (11.5)	255 (88.5)		
First degree and above*	33 (12.6)	228 (87.4)	0.90 (0.54–1.51)	
Total work experience				
Less than two years	17 (16.1)	89 (83.9)		
2 to less than 4 years	18 (14.4)	107 (85.6)	0.88 (0.43–1.81)	
4 to less than 7 years	14 (8.8)	145 (91.2)	0.51 (0.24–1.08)	
7 to less than 10 years	8 (12.7)	55 (87.3)	0.76 (0.31–1.88)	
≥ 10 years	9 (9.4)	87 (90.6)	0.54 (0.23–1.28)	

*Reference Category

Table 10 shows that about 42% of health professionals working at hospitals are in favor of sanctions against those not participating in CPD compared with 32% of health professionals working at health centers who support sanctions, but this was not statistically significant. Health professionals in the age group 40 or above constitute the lowest number of respondents (33.3%) supporting sanctions. Regarding qualification/profession, medical doctors (50%) constitute the highest percentage of health professionals favoring sanctions and anesthetists constitute the lowest percentage (30%). Further analysis showed that there was only statistically significant association between the sanction with work experience.

Table 10. Response of health professionals whether there should be a sanction on those who do not participate in CPD classified by sociodemographic characteristics, March 2015

Variable (Sociodemographic characteristics)	Sanction on those who do not participate in CPD (n=516)			COR (95% CI)	AOR (95% CI)
	Yes	No			
	Number (%)	Number (%)			
Type of Health Facility					
Hospital*	59 (41.6)	83 (58.4)			
Health Center	118 (31.6)	256 (68.4)	0.65 (0.44–0.97)		
Sex of respondent					
Male*	94 (33.9)	183 (66.1)			
Female	83 (34.7)	156 (65.3)	1.04 (0.72–1.49)	1.02 (0.71–1.48)	
Age of respondent in years					
20 -29*	120 (33.6)	237 (66.4)	1.15 (0.74–1.79)		
30-39	42 (36.8)	72 (63.2)	0.99 (0.51–1.91)		
40 and above	15 (33.3)	30 (66.7)			
Current respondent qualification/profession					
Medical Doctor *	9 (50.0)	9 (50.0)			
Health Officer	30 (30.9)	67 (69.1)	0.45 (0.16–1.24)		
Midwife	31 (33.0)	63 (67.0)	0.49 (0.18–1.36)		
Anesthetist	6 (30.0)	14 (70.0)	0.43 (0.11–1.62)		
Nurse	29 (30.2)	67 (69.8)	0.43 (0.16–1.20)		
Pharmacy	37 (39.8)	56 (60.2)	0.66 (0.24–1.82)		
Medical Lab	35 (35.7)	63 (64.3)	0.56 (0.20–1.53)		
Highest level of educational attainment					
First degree and above*	96 (39.2)	149 (60.8)			
Diploma	81 (29.9)	191 (70.1)	0.66 (0.46–0.95)**	0.70 (0.47–1.05)	
Total work experience					
Less than two years*	28 (28.3)	71 (71.7)			
2 to less than 4 years	49 (41.5)	69 (58.5)	1.80 (1.02–3.19)**	1.80 (1.02–3.18)**	
4 to less than 7 years	43 (29.1)	105 (70.9)	1.04 (0.59–1.82)	1.04 (0.59–1.82)	
7 to less than 10 years	23 (37.1)	39 (62.9)	1.50 (.76–2.94)	1.49 (0.76–2.94)	
≥ 10 years	34 (38.2)	55 (61.8)	1.57 (.85–2.89)	1.57 (0.85–2.89)	

*Reference Category

**significant association

3.1.4. Scope-of-practice

As Figure 1 depicts, the majority of professionals (78%) have knowledge of their own professional job descriptions, 12% do not have knowledge of their own job descriptions, and the remaining 10% have partial knowledge. Following this, respondents were asked if they have heard of the draft health professionals' scope-of-practice document developed by FMHACA. As shown in Table 11, 48 percent of them heard about this draft statutory document, and 52% were unaware of it. The study team further probed to understand if those who said yes to the previous question looked at the draft document. The majority of these respondents (88%) have read the document, and 12% have not yet read it. Study participants also were asked if the scope-of-practice of their profession is properly indicated in this directive. Just more than 74% said their professional scope-of-practice is imbedded in the directive, and 25.8% do not find their SoP in the directive. Asked how they got the SoP directive, 41.2% got it from colleagues, and 27.9% got it from professional association publications. Only 21.5% got it from FMHACA sources—either from its website or publications. Access to the scope-of-practice document is limited, and the directive is not endorsed and widely disseminated by the regulatory body. Often health workers practiced based on their knowledge of scope from their pre-service training curriculum.

Violation of perceived scope-of-practice is not uncommon; nearly 44% respondents reported they witnessed when colleagues practiced beyond the scope. When asked what measures they took when they saw colleagues who practiced beyond their scope, 37% advised colleagues not to do the same again, 33% kept quiet, and 21% congratulated colleagues for practicing beyond their scope-of-practice. Among respondents themselves, 22% violated perceived scope. It is noteworthy that 65.6% of respondents justified practice beyond their scope because of lack of adequate and qualified professionals at their health facility.

When asked about what actions should be taken against those health professionals practicing beyond their scope, nearly 65% of health professionals preferred an awareness program to practice within the profession's scope and nearly 30% recommended that those health professionals practicing beyond their scope should be penalized. The remaining 4.9% said that no action should be taken against those practicing beyond their scope.

Most key informants from regional regulatory bodies said that they do not have any mechanism to ensure health professional compliance with their scope-of-practice at the moment as the directive from FMHACA has not yet been endorsed. More than half of the respondents said they often encountered conflicts between different professional groups because of lack of a scope-of-practice directive that governs every professional. A respondent from Harari region health bureau, for instance, stated, *“Druggists [professionals trained from two to three years at pre-service education] complain on not having medicines that pharmacists [professionals trained for five years at pre-service education] have. Nurses complain on not prescribing medicines like Health Officers.”* Similarly, a respondent from Oromia Regional Health Bureau said, *“There is a conflict between nurses and doctors. We also usually face conflict between emergency surgical officers and surgeons.”*

As there is no endorsed directive related to the scope-of-practice of each category of health workers, regional regulatory bodies and health facility managers sometimes use civil service proclamations to settle such conflicts. There also is a general consensus among different categories of professionals on their scope-of-practice, basically grounded on the pre-service training they received. The respondent from SNNPR Regional Health Bureau, for example, said,

“We do not have national policy documents. We do have a document sent from the federal office regarding what the scope-of-practice for the different levels of institutions. But as far as policy document for scope-of-practice of professionals is concerned, we have not come across one. But there is general and rough consensus among health professionals regarding reasonable scope in which certain professional groups should operate. We just follow those.”

Although most managers from health facilities stress the need for an endorsed scope-of-practice document, there are few managers who do not show interest in establishing a national directive on SoP of health professionals. Some facility managers even argue, considering that some categories of health workers are in short supply at a moment, setting clear SoP may put the life of a patient that needs immediate treatment in danger. A facility manager from Assosa hospital, for example, said, *“We usually allow professionals to practice beyond their SoP when needs arise and return them to their original duty when the right professional is found.”* Similarly, a health manager from Gambela said, *“If the patient is in shock and if the nurse waits for a doctor, it will be dangerous for the patient. Therefore we don’t form a clear border.”*

Figure 1. Health professionals’ knowledge of their own job descriptions

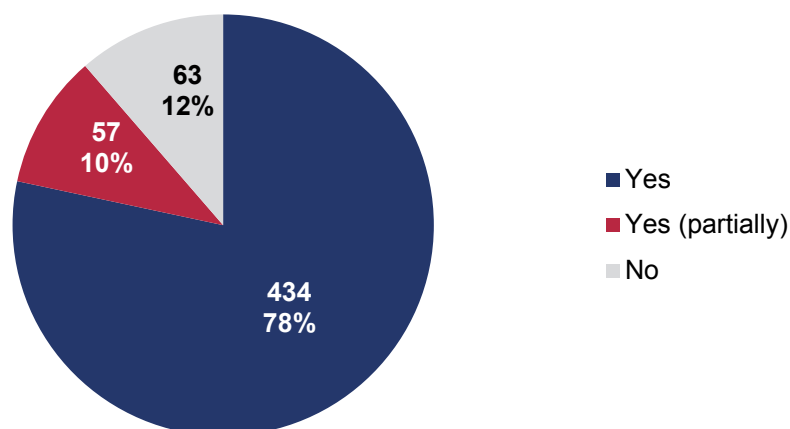


Table 11. Experiences on the Scope-of-practice among health professionals in Ethiopia, March 2015

Variable (relating to Scope-of-practice activities)	Number of health professionals	% of health professionals
Awareness about health professionals’ scope-of-practice in one’s area (n=554)		
Yes	266	48.0
No	288	52.0
Reading SoP document (n=266)		
Yes	233	87.6
No	33	12.4
Whether respondents’ profession is indicated in the SoP document (n=233)		
Yes	173	74.2
No	60	25.8

Variable (relating to Scope-of-practice activities)	Number of health professionals	% of health professionals
Source of information*		
FMHACA web site	17	7.3
FMHACA Publications	33	14.2
Professional Association Publications	65	27.9
Colleagues	96	41.2
MOH and Training institutions	79	33.9
Encounter of any professional practice beyond one's scope-of-practice? (n=554)		
Yes	240	43.3
No	314	56.7
Measures the respondent took the last time s/he encountered a professional practicing beyond his/her scope (n=240)		
Congratulated him	50	0.8
Told him/her not do it again	89	37.1
Reported to his supervisor	15	6.3
Reported to regulatory body	4	1.7
Kept quiet	79	32.9
Others	3	1.3
Ever carried out tasks not authorized to be performed (n=554)		
Yes	122	22.0
No	432	78.0
Possible reasons for performing tasks beyond one's profession's scope-of-practice (n=122)		
The absence of qualified professional	80	65.6
Included in my job description	2	1.6
Official delegation	4	3.3
In case of life threatening emergencies	66	54.1
Possible problems that the person might face during performing tasks beyond his/her professional scope-of-practice (n=122)		
Unintentional patient injury or harm.	9	7.4
Being held liable for malpractice	7	5.7
Conflict with other professionals	13	10.7
No problem	95	77.9
Perception of respondents whether practicing beyond one's scope-of-practice is appropriate (n=554)		
Appropriate	45	8.1
Not appropriate	509	91.9
Actions to be taken if someone is found doing things beyond his/her scope-of-practice(n=554)		
Should be penalized	165	29.8
Awareness program to practice within the profession's scope	362	65.3
No action should be taken	27	4.9

* Totals are greater than 100% because the percentage is derived from multiple responses

Table 12 shows that more female health professionals (90.8%) know their job descriptions than do their male counterparts (86.6%); this was not statistically significant. Availability of job description has no statistically significant association between levels of the various demographic variables.

Table 12. Knowledge of health professionals about their own “professional job description” classified by sociodemographic characteristics, March 2015

Variable (Sociodemographic characteristics)	Knowledge of respondents about their “professional job description” (n=554)		COR (95% CI)	AOR (95% CI)***
	Yes	No		
	Number (%)	Number (%)		
Type of Health Facility				
Hospital*	133 (86.4)	21 (13.6)		
Health Center	358 (89.5)	42 (10.5)	1.35 (0.77–2.36)	
Sex of respondent				
Male	253 (86.6)	39 (13.4)		
Female	238 (90.8)	24 (9.2)	1.53 (0.89–2.619)	
Age of respondent in years				
20–29*	347 (90.6)	36 (9.4)		
30–39	103 (85.1)	18 (14.9)	0.59 (0.32–1.09)	
40 and above	41 (82.0)	9 (18.0)	0.47 (0.21–1.05)	
Current respondent qualification/profession				
Medical Doctor *	21 (95.5)	1 (4.5)		
Health Officer	84 (82.4)	19 (17.6)	0.22 (0.03–1.76)	
Midwife	91 (89.2)	11 (10.8)	0.39 (0.05–3.22)	
Anesthetist	16 (72.7)	6 (27.3)	0.13 (0.01–1.16)	
Nurse	91 (89.2)	11 (10.8)	0.39 (0.05–3.22)	
Pharmacy	92 (90.2)	10 (9.8)	0.44 (0.05–3.61)	
Medical Lab	96 (94.1)	6 (5.9)	0.76 (0.09–6.67)	
Highest level of educational attainment				
Diploma	263 (90.7)	27 (9.3)		
First degree and above*	228 (86.4)	36 (13.6)	1.54 (0.91–2.61)	
Total work experience				
Less than two years*	92 (85.2)	16 (14.8)		
2 to less than 4 years	115 (92.0)	10 (8.0)	2.00 (0.87–4.615)	
4 to less than 7 years	143 (89.4)	17 (10.6)	1.46 (0.70–3.04)	
7 to less than 10 years	58 (90.6)	6 (9.4)	1.68 (0.62–4.54)	
≥ 10 years	83 (85.6)	14 (14.4)	1.03 (0.47–2.24)	

*Reference Category

***All variables had p-value greater than 0.25 at COR

Health professionals working at health centers are more likely to perform tasks beyond their scope compared with health workers at hospitals ($p=0.003$). This study also reveals that females (27%) are more likely to perform tasks beyond their scope than are their male counterparts (18%) ($p=0.012$). It was found that age of health professionals has no association to practicing

beyond their scope-of-practice (p=0.916). When we closely examine health professionals' response in terms of qualifications/professions, nurses are more likely to perform tasks beyond their scope compared with other professionals (p<0.01). All medical doctors selected for this study have never practiced beyond their scope. Qualitative results also show that practicing beyond the scope-of-practice is more common among mid-level health professionals. For instance, a facility manager from Tigray, *“Generally in Ethiopia most of the health professionals, especially the mid-level crews, practice way above their SoP. The first issue is caused by the traditional recognition of nurses in rural health sectors as physicians. When these nurses come to a district or a tertiary hospital, they will come with that self-understanding and they usually practice beyond their scope”*.

Some facility managers think that the root cause for mid-level professionals to practice beyond their scope is scarcity of well qualified professionals. This causes professionals to practice beyond their scope, sometimes after a direct instruction comes from the institution itself to work beyond their scope. One facility manager, for example, said, *“Since professionals work beyond their SoP with permission, they are not accountable to the problems caused. However, they will still be advised and warned not to make repetitive mistakes.”*

3.2. RESPONSES FROM POTENTIAL CPD PROVIDERS

3.2.1. Background characteristics of potential CPD providers

This study administered a questionnaire to 35 in-service training (IST) institutions and 23 health professional associations (HPA) throughout the nine regional states and two city administrations of Ethiopia. As shown in Table 13, all 23 health professional association respondents have come from Addis Ababa City Administration (as the headquarters for all professional associations are found in Addis Ababa), whereas in-service training center respondents have come from all regions.

Table 13. Distribution of CPD providers by region, March 2015

Region	CPD Providers included in the study			
	IST	HPA	Total (IST & HPA)	
			Number	%
Tigray	5	0	5	8.6
Afar	1	0	1	1.7
Amhara	6	0	6	10.3
Benishangul-Gumuz	1	0	1	1.7
Oromia	8	0	8	13.8
Gambella	1	0	1	1.7
SNNPR	6	0	6	10.3
Somali	1	0	1	1.7
Harari	1	0	1	1.7
Dire Dawa	1	0	1	1.7
Addis Ababa	4	23	27	46.6
Total	35	23	58	100.0

3.2.2. Accessibility, modalities, contents, and learning techniques of CPD

Table 14 shows experience of potential CPD providers in the provision of CPD; including contents, modalities, and learning techniques used. CPD providers comprise public or private institutions, including universities, health science colleges, professional associations, and other training institutions that meet the criteria and have been accredited by FMHACA or its designated accreditor to present learning activities for Continuing Professional Development (FMHACA, 2013). In line with this, this study asked potential CPD providers if they have ever provided or availed CPD. Ninety-three percent have provided or availed CPD, and 7% have never provided or availed CPD. The study also tracked potential CPD providers who did not provide or avail CPD and asked why they are not providing or availing CPD, and all of them mentioned lack of finance, lack of infrastructure, lack of policy guidance, and lack of awareness among regional health bureaus as major reasons. This study also asked potential CPD providers about what CPD activities they provided for health professionals. All of the 54 CPD providers conducted in-service training. The majority provided scientific conferences and workshops, lectures by guest speakers, and research projects. Only one of the 54 CPD providers provided online short courses.

This study also asked potential CPD providers about content of CPD courses. As Figure 2 shows, nearly 24% of the content of CPD falls under clinical sciences, nearly 19% of CPD courses fall under health ethics, and 13% fall under teaching. Other CPD contents include research methods, basic biomedical science, behavioral and social sciences, leadership and management, communication, capacity building and approaches training, community service, surgical technique training, primary health care, skill based training, standard based management and recognition (SBMR) training. The national standard underpins that the content of CPD courses 1) should be tailored to fill gaps in knowledge, skills and attitudes; 2) need to be diversified depending on each category of health professionals' nature of practice, and 3) may include theoretical knowledge and skills in the area of professionals' practice, team building and leadership, communication, professional ethics, teaching, research and administration (FMHACA, 2013). The CPD activity must also be based on evidence that is accepted within the discipline of health sciences.

The study also asked CPD providers about what learning modalities they use for their CPD. Nearly 93% use group based or face-to-face modality. Only 19% use enduring materials (CD-ROM) and online (e-mail, social media) as means of providing their CPD courses, and another 19% use online (email group and social media). An insignificant number of CPD providers (5%) use distance learning (print-based learning). Others use models and simulation-based training. The standard says that CPD courses should encompass integrated practical and theoretical components to enhance quality of health services, taking advantage of a variety of learning modalities, including courses, lectures, seminars, participation in conferences, research projects, and study visits. (Readers should bear in mind that Table 17 contains multiple responses.)

Finally, the study asked those CPD providers who provided in-service training about the training techniques they used to deliver CPD for health professionals. The standard is that in-service training providers must meet agreed educational quality requirements. The providers, in planning and conducting their IST activities, should demonstrate use of appropriate educational methods and technology. The respondents used various techniques including lecture, reading by learner, case studies, simulation, role-play, and clinical practice and coaching. The highest percentage of providers use lecture (98%), followed by case-based learning (82%). Others use reading by the

learner, simulation, role play, clinical practice and coaching, demonstration, guided practice, field visits, group discussion and presentation by the participants, lab demonstration, and project work.

Figure 2. Contents of CPD courses availed by CPD providers

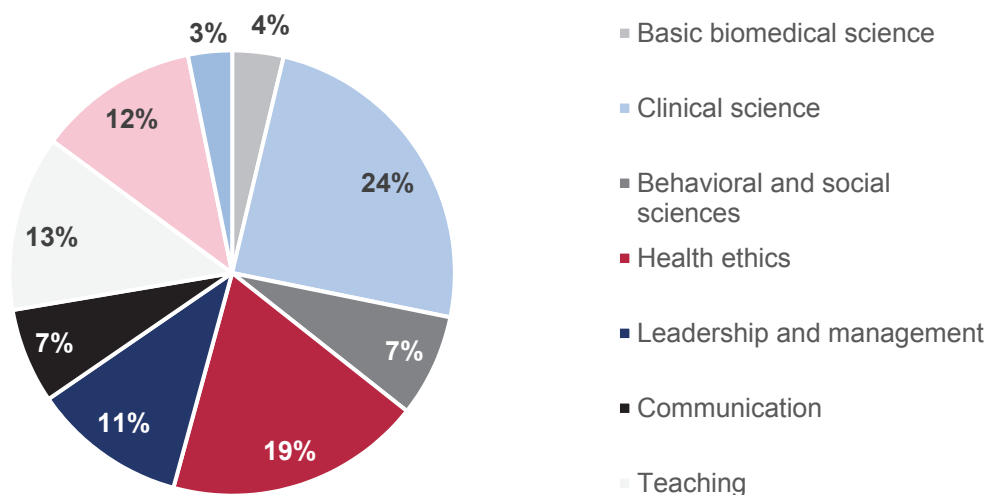


Table 14. Experience of potential CPD providers regarding the content and delivery of CPD activities, learning modalities, and training techniques, March 2015

Variable (relating to the experience of institutions about the CPD activities)	Number of CPD Providers	% of CPD providers
Ever provided or avail any continuing profession development (CPD) activities (n=58)		
Yes	54	93.1
No	4	6.9
For institutions that provided CPD activities, type of CPD activities (multiple responses allowed) (n=54)		
In-service training	54	100.0
On-line short courses	1	1.9
Scientific conferences, workshops	34	63.0
Research projects	17	31.5
Lectures by guest speakers	31	57.4
Study visits	10	18.5
For institutions that have not provided CPD activities, reasons for not undertaking CPD activities (n=4)		
Lack of finance	2	50.0
Lack of trained man power	0	0.0
Lack of infrastructure	2	50.0
Lack of policy guidance	2	50.0

Variable (relating to the experience of institutions about the CPD activities)	Number of CPD Providers	% of CPD providers
Learning modalities the institution used to deliver CPD (n=58)		
Group based or face to face	54	93.1
Distance (print-based)	3	5.2
E-learning (learning management system)	2	3.4
Enduring materials (CD-ROM)	11	19.0
On-line (e-mail group, social media)	11	19.0
If in-service training was used, which training techniques did the institution mostly use to deliver CPD? (n=54)		
Lecture	53	98.1
Reading by the learner	27	50.0
Case-based learning (case studies, case discussion)	44	81.5
Simulation	42	77.8
Role play	42	77.8
Clinical practice and coaching	38	70.4

3.2.3. Needs assessment, follow-up, monitoring, and evaluation of CPD

Table 15 displays results of experience of CPD providers in relation to needs assessment, follow-up, monitoring, and evaluation of CPD activities and learning. The study asked CPD providers if they did assessment to identify the overall needs of CPD. Forty-seven percent of respondents (n=27) conducted any kind of assessment, and 52% (n=30) did not conduct any kind of formal or systematic need assessment on CPD. The study also asked about the methodologies that CPD providers use to conduct CPD needs assessment (Table 15). CPD providers used a variety of methodologies to conduct need assessment. About 93% of them use formal assessment (tests of knowledge, skills, and attitudes), 57% use performance gap analysis through holding discussions with stakeholders, and 50% use systematic review of practices such as audit or event analysis. Others use reflection on practice, compilation of complaints and feedback, self-assessment in appraisal of service, and questionnaires. The standard suggests that effective CPD is characterized by the presence of three factors: (1) a clear need or reason for the particular CPD to be undertaken; (2) learning based on such an identified need or reason, and (3) follow-up provision made for reinforcing the learning accomplished (WFME, 2003).

Health professionals must thus find means—such as realistic monitoring and documentation of CPD activities—to prove that they are capable of effective practice. FMHACA also requires that every CPD provider monitor his/her CPD activities every six months and document the results of monitoring. Regarding monitoring of CPD undertakings, 82.1% of potential CPD providers monitor their daily learning in CPD activities, and 16.1% do not. The study also gathered data on the monitoring mechanism used by CPD providers to monitor their CPD activities. About 98% use daily evaluation/reflection by participants. The rest of CPD providers use logbooks, personal portfolio, attendance, debriefing, course evaluation, facilitators meeting, final evaluation/testing, pre-test/mid-test/post-test, and verbal method. A new development in CPD focuses on monitoring individual daily learning activities.

The best available evidence suggests effective CPD is characterized by follow-up provision made for reinforcing the learning accomplished. Follow-up of trainees after the CPD intervention is an important step in the process to determine if the intervention was effective and to learn

what changes might improve it in the future. This study also asked CPD providers about follow-up of their CPD activities. About 48% of CPD providers have ever done any follow-up of CPD activities, and 44.8% have never done any follow-up activities. Regarding follow-up mechanisms, 89% of CPD providers use supportive supervision as a major follow-up mechanism, and 46% use review meetings. Others use telephone follow-up, discussion on annual meeting, and post-training follow-up.

The study also examined CPD evaluation activities among CPD providers. CPD course evaluation should involve experts in subject matter and curriculum. It should also address the context of the learning process (including the organization and resources as well as learning environment), the structure and specific components of CPD (including program description and intended outcome) and learning outcomes (FMHACA, 2013). Evaluation based on generally accepted standards is an important incentive for improvement and for raising the quality of CPD and also to promote continuous improvement and development. Unlike monitoring or follow-up, CPD evaluation has a wider scope and can include the policy, social, organizational, and workplace contexts. CPD programs should integrate evaluation of CPD effectiveness from the outset so that there is a baseline against which to measure effectiveness in meeting identified needs and make improvements for future implementation. In line with this understanding, the study asked CPD providers if they have ever evaluated the effectiveness of their CPD activities. Only 33% have ever evaluated their CPD activities, and the majority of CPD providers (67%) have never evaluated their CPD activities. CPD providers use different evaluation mechanisms ranging from evaluating learners' competency to evaluating improvements in patient outcomes. About 89% of CPD providers evaluate their CPD through learners' attainment of competency, and 67% evaluate improvements in the quality and volume of health services. Others use other evaluation methods, such as evaluating improvements in patient satisfaction and in patient outcomes.

Table 15. Experience of the represented institutions regarding needs assessment, monitoring the daily learning activities and follow-up/evaluation of the effectiveness of the CPD, March 2015

Variable (relating to the experience of institutions about needs assessment/monitoring/follow-up/evaluation)	Number of CPD Providers	% of CPD providers
Any assessment carried out to identify the overall needs on CPD in general (n=58)		
Yes	27	46.6
No	30	51.7
Missing	1	1.7
Any need assessment carried out to undertake a specific CPD (n=58)		
Yes	14	24.1
No	42	72.4
Partially	1	1.7
Missing	1	1.7

Variable (relating to the experience of institutions about needs assessment/monitoring/follow-up/evaluation)	Number of CPD Providers	% of CPD providers
For institutions that undertook needs assessment, methodology used (n=14)		
Formal assessment (tests of knowledge, skills, and attitudes)	13	92.9
Systematic review of practices, such as audit or event analysis	7	50.0
From every day practice (reflecting on practice, complaints, and feedback)	5	35.7
Self-assessment in appraisal of service	2	14.3
Performance gap analysis holding discussion with stakeholders	8	57.1
Others	1	7.1
Monitoring of the daily learning in CPD activities (n=56)		
Yes	46	82.1
No	9	16.1
Do not know	1	1.8
For those institutions that monitored the daily learning in CPD activities, the mechanism for monitoring: (n=46)		
Daily evaluation/reflection by participants	45	97.8
Personal portfolio	11	23.9
Logbook	10	21.7
Others	11	23.9
Ever done any follow up to assure whether learning was accomplished or translated in practice: (n=58)		
Yes	28	48.3
No	26	44.8
Do not know	1	1.7
Missing	3	5.2
For those institutions who had follow-ups, type of follow-up carried out: (n=28)		
Supportive supervision	25	89.3
Telephone follow up	14	0.5
Review meetings	13	46.4
Ever evaluated the effectiveness of the CPD (n=54)		
Yes	18	33.3
No	36	66.7
For those institutions that evaluated the effectiveness of the CPD, how was the evaluation performed? (n=18)		
Evaluating learners' attainment of competency	16	88.9
Evaluating improvements in quality and volume of health services	12	66.7
Evaluating improvements in patient satisfaction	6	33.3
Evaluating improvements in patient outcomes	5	27.8

3.2.4. Physical, financial, and human resources requirements for CPD implementation

Table 16 shows results on financing, physical facilities, equipment, and HR requirements for CPD. This study asked CPD providers how their CPD programs are financed. Eighty-five percent of their CPD is financed by partners/NGOs, and 37% is financed by the government. CPD providers also were asked about availability of physical facilities and skills training equipment in their institution. Seventy-one percent of the providers have facilities and equipment appropriate for CPD, and 29% do not. Providers also were asked about the facilities and equipment they have. Eighty-eight percent have computers, 82% have learning materials, 77% have a teaching/conference hall, and 65% have tables and chairs. The CPD providers also have other physical amenities, such as human resources, LCD projector, over-head projector, surgical instruments, and other ICT gadgets. The national standard underscores that CPD activities have to be provided in settings and circumstances that are conducive to effective learning. Physical facilities, skills training equipment, clinical data, equipment, library, and IT facilities are all necessary for effective CPD activities. With respect to human resources, 72% of CPD providers have staff trained in writing CPD modules/designing courses, compared with 24% without a similar trained staff. The study also asked respondents about availability of staff trained in training skills. Ninety percent of CPD providers have staff trained in training skills. This study, however, reveals that significant number CPD providers (74%) do not have staff trained in designing interactive electronic CPD courses (online or enduring material). Sixty percent of CPD provider institutions also do not have staff trained in using learning technology/multimedia for learning. As Table 16 depicts, the number of staff trained on training skills, interactive course design, and multimedia stands low.

Table 16. Responses of the CPD providers regarding payment to run the CPD program, physical facilities, and staff trained in designing CPD courses, March 2015

Variable (in relation to finance, physical facilities and trained staff)	Number of CPD Providers	% of CPD providers
How are the CPD programs financed? (n=54)		
By participants	3	5.6
By their employers	6	11.1
By partners/NGOs	46	85.2
By government	20	37.0
Does the institution have physical facilities and skills training equipment appropriate for providing CPD? (n=58)		
Yes	41	70.7
No	17	29.3
For institutions with no physical facilities and training equipment, what facilities and equipment do you require? (n=17)		
Computers	15	88.2
Learning materials	14	82.4
Training/conference hall	13	76.5
Tables and chairs	11	64.7

Variable (in relation to finance, physical facilities and trained staff)	Number of CPD Providers	% of CPD providers
Does your institution have staff trained in writing CPD modules or designing courses? (n=58)		
Yes	42	72.4
No	14	24.1
Do not know	2	3.5
For institutions having staff trained in writing CPD modules or designing courses, the number of staff members: (n=42)		
1-2	18	42.9
3-5	11	26.2
6-10	6	14.3
>10	7	16.7
Does your institution have staff trained in training skills? (n=58)		
Yes	50	86.2
No	3	5.2
Do not know	5	8.6
For institutions having staff trained in training skills, the number of staff members: (n=50)		
1-2	13	26.0
3-5	12	24.0
6-10	6	12.0
>10	19	38.0
Does your institution have staff trained in designing interactive electronic CPD courses (online or enduring material)? (n=58)		
Yes	12	20.7
No	43	74.1
Do not know	3	5.2
For institutions having staff trained in designing interactive electronic CPD courses (online or enduring material), the number of staff members: (n=12)		
1-2	8	66.7
3-5	1	8.3
6-10	0	0.0
>10	3	25.0
Does the institution have staff trained in using learning technology or multimedia for learning? (n=58)		
Yes	19	32.8
No	35	60.3
Do not know	4	6.9
For institutions having staff trained in using learning technology or multimedia for learning, the number of staff members: (n=19)		
1-2	7	36.8
3-5	7	36.8
6-10	0	0.0
>10	5	26.3

3.2.5. CPD planning, feedback, review, and incentives

Table 17 presents results of data on CPD planning, feedback, review, incentives, and sanctions. Health professionals must have the ultimate responsibility for planning CPD for their individual needs. Providers of CPD activities also must seek information from health professionals as the basis for planning their CPD activities. The benefit from participation in CPD activities should be analyzed in relation to health professionals' needs. Without a reasonable understanding of the health workforce's education, its weaknesses, and its needs, the possibility that CPD will fill critical knowledge gaps is constrained (WFME, 2003). As Table 17 indicates, 52% of CPD providers seek information from health professionals to plan their CPD activities, and 45% do not. These CPD providers use different mechanisms to seek information for CPD planning, from promoting the course to conducting needs assessment and to creating an online registration system. The majority (87%) seek information from health professionals through conducting needs assessment, and 37% use promotion of CPD courses. As indicated in the table, 85% of CPD providers seek feedback from participants, and nearly all CPD providers (96%) act upon the feedback from CPD participants.

This study also examined the status of CPD providers in updating their CPD courses. The health profession must initiate procedures for regular review and updating of the structure, function, and quality of the CPD activities and rectify deficiencies. The process of review of CPD courses should be based on research. In so doing it should address the following issues: adaptation of the outcomes of CPD to the scientific, socioeconomic, and cultural development of the society; re-examining and defining the competencies required to incorporate medical scientific progress and the changing needs of the people; reviewing learning approaches and training methods to ensure that these are appropriate and relevant; development of methods of self-assessment and practice-based learning to facilitate health professionals life-long learning; development of the organizational and managerial structures to help health professionals to meet their patients' emerging needs and to deliver high quality care, and reflection and continual improvement of CPD contents and methodology (WFME, 2003). By contrast, the table below shows that only 46% of CPD providers update the quality of their CPD activities to rectify deficiencies, and 52% do not.

Time is a major factor that determines participation in CPD activities. To carry out CPD, health professionals must have protected time, opportunities for reflection on current practice and for in-depth studies with access to adequate professional literature, and opportunities for skills training (WFME, 2003). Awarding credits for CPD courses also takes into account the amount of time a health professional takes to complete the course, satisfying the purpose and/or learning objectives (FMHACA, 2013). In addition, credit-hour designation should be determined based on the estimated or reasonable amount of time spent for learning to occur. Almost 71% of CPD providers have planned time for CPD activities, and 24% do not allocate time for CPD activities.

Only 41% of CPD providers allow health professionals to choose CPD courses, and nearly 52% do not offer the privilege for health professionals to choose CPD courses based on their practical needs. CPD providers also were asked about who should be responsible for choosing CPD for health professionals. Eighty-three percent say CPD must be self-directed (or selected by professionals), nearly 71% say professional associations must choose CPD for health professionals, and 50% prefer FMOH to choose CPD courses for health professionals.

As to incentives for CPD, 93% of CPD providers respond that re-certification (re-licensure) should stand as the primary incentive, followed by career promotion (69%). This finding is in agreement with the response obtained from health professionals.

Table 17. Responses of the CPD providers in relation to planning, feedback, reviewing/updating/choosing the CPD activities and incentives for participating in CPD, March 2015

Variable	Number of CPD Providers	% of CPD providers
Ever sought information from the target health professional audience as a basis for planning CPD activities? (n=58)		
Yes	30	51.7
No	26	44.8
Do not know	2	3.5
For institutions that sought information from the target health professionals, how did they engage them? (n=30)		
Promoting the course	11	36.7
Conducting need assessment	26	86.7
Creating an online registration system	3	0.1
Institutions seeking feedback from participants of CPD? (n=54)		
Yes	46	85.2
No	8	14.8
Acting upon the feedback received from the participants? (n=46)		
Yes	44	95.7
No	2	4.3
Ever reviewing and updating the quality of the CPD activities and rectified deficiencies? (n=54)		
Yes	25	46.3
No	28	51.9
Do not know	1	1.9
A planned time for CPD activity? (n=58)		
Yes	41	70.7
No	14	24.1
Do not know	3	5.2
Allowing health professionals to choose and participate in CPD activities? (n=58)		
Yes	24	41.4
No	30	51.7
Do not know	4	6.9
Perception of the institution in taking responsibility for choosing CPD (defining the professional's learning need)? (n=58)		
Professional association	41	70.7
The ministry of health	29	50.0
Self-directed (professional)	48	82.8
Employer	24	41.4
FMHACA	17	29.3

Variable	Number of CPD Providers	% of CPD providers
Incentive for participating in CPD (n=58)		
Re-certification (Re-licensure)	54	93.1
Pay raise (increase in fees)	24	41.4
Career promotion	40	69.0
Publication of list of practitioners who fulfilled the requirement (Recognition)	38	65.5

3.2.6. Perceptions regarding opportunities, challenges, and sanctions in CPD implementation

Table 18 displays results regarding opportunities, challenges, and sanctions in CPD implementation. Nearly 64% of CPD providers support sanctions against health professionals not participating in CPD activities. When asked what type of sanctions to be enacted, 56.8% of them prefer official reprimand (warning) as a major sanction to be imposed, and 32.4% prefer that the right to practice be removed for health professionals who do not participate in CPD activities. CPD providers also were asked about opportunities available for CPD activities. Ninety percent mention partners' involvement as a major opportunity for CPD implementation, followed by those who mention government's commitment (88%) and availability of policy framework (74%). Others mention willingness of professionals, public awareness, job opportunity to staff, uniform and comprehensive CPD, and availability of facilities as opportunities for CPD implementation. CPD providers also were asked about the challenges in CPD implementation. Seventy-nine percent mention lack of finance as a major challenge in implementing CPD activities. The second and third biggest challenges in CPD implementation are lack of infrastructure and capacity of professional associations, constituting 57% and 53% of respondents, respectively. Other challenges mentioned by respondents include difficulty to address all professionals, absence of needs assessment, weak capacity of IST centers (not to standard), fear of discontinuation of government commitment for the program, employers' resistance, lack of reward or promotion, lack of commitment from RHBs, poor communication, and turnover of trained manpower.

Table 18. Responses of the CPD providers in relation to sanctions for not participating in CPD, opportunities and challenges for successful implementation of CPD in the country, March 2015

Variable (in relation to sanctions, opportunities and challenges)	Number of CPD Providers	% of CPD providers
Should there be a sanction in those who do not participate in CPD? (n=58)		
Yes	37	63.8
No	21	36.2
For respondents who agree on some form of sanctions, how should the sanction be? (n=37)		
Right to practice removed	12	32.4
Official warning	21	56.8
Others	4	10.8

Variable (in relation to sanctions, opportunities and challenges)	Number of CPD Providers	% of CPD providers
Currently available opportunities for successful implementation of CPD in this country? (n=58)		
Government's Commitment	51	87.9
Partners' involvement	52	89.7
Availability of policy framework	43	74.1
Don't see any	1	1.7
Others	9	15.5
Challenges foreseen that might hamper implementation of CPD program in this country? (n=58)		
Lack of finance	46	79.3
Lack of trained man power	27	46.6
Lack of infrastructure	33	56.9
Professional resistance	19	32.8
Capacity of FMHACA	24	41.4
Capacity of professional associations	31	53.4
Not recognizing its importance	14	24.1
Shortage of time–Professional	22	37.9
Others	16	27.6

3.3. RESPONSES FROM POTENTIAL CPD ACCREDITORS

Table 19 shows the distribution of regulatory bodies by region. The study selected 22 regulatory bodies from all regions, including FMHACA and FMOH. The following table shows distribution of these regulatory bodies by region. Eighteen percent of regulatory bodies are in the Addis Ababa City Administration.

Table 19. Distribution of institutions that accredit the provision of CPD activities by region, Ethiopia, March 2015

Region	Number of respondents from CPD accreditors included in the study	% of CPD accreditors included in the study
Tigray	1	4.5
Afar	2	9.1
Amhara	2	9.1
Benishangul-Gumuz	1	4.5
Oromia	2	9.1
Gambella	2	9.1
SNNPR	2	9.1
Somali	2	9.1
Harari	2	9.1
Dire Dawa	2	9.1
Addis Ababa*	4	18.2
Total	22	100.00

* Includes FMOH and FMHACA

3.3.1. Review and recognition of CPD by CPD accreditors

Table 20 presents results on the review of CPD courses and CPD providers by CPD accreditors. The national standard states that delegated CPD accreditors should: (1) review applications for CPD providers and CPD courses accreditation for pre-accreditation; (2) review the continuing education units (CEUs) allocated for courses by the CPD providers; (3) monitor the compliance of CPD providers with the guidelines, and (4) investigate complaints against accredited CPD providers and recommend appropriate administrative actions to be taken. FMHACA's CPD accreditation guideline also defines the roles and responsibilities of FMOH, FMHACA, and regional health bureaus. FMHACA will establish a CPD Accreditation Committee and will establish a CPD Accreditation Unit in the central office. In its turn, FMOH's human resources department directorate will facilitate continuing professional development of all health professionals in the country; create means that encourage and recognize participation in local, national and international CPD courses, scientific conferences, and other formalized activities; encourage professional associations and CPD providers in identifying CPD activities and courses; ensure in-service trainings considered as CPD courses with credit points, and organize CPD activities and identify means to fund and sustain CPD in collaboration with stakeholders. Regional Health Bureaus coordinate the undertaking of CPD need assessment under their jurisdiction, participate in the identification of CPD courses, facilitate continuing development of all health professionals in their region, and mobilize resources for in-service training and CPD activities of health professionals working in the region.

The study asked potential CPD accreditors if they review CPD courses. Nearly 55% of potential CPD accreditors do not conduct review of training courses of health professionals, and 36% do conduct review of training courses.

The study also asked potential CPD accreditors about recognition of CPD courses, as one of the overarching principles of CPD is the availability of an established system for recognition of CPD providers and individual CPD activities. Accreditation of CPD courses encompasses the processes through which FMHACA or its delegated accreditors ensure that CPD activities meet acceptable standards of education that help maintain standards of health care (FMHACA, 2013). Only 27% of accreditors put a recognition system in place, and almost 73% do not have such a system. All six regulatory bodies that have CPD providers' recognition system also have criteria for accrediting CPD providers. Of those regulatory bodies, 67% showed documentation that verifies criteria for recognizing CPD providers. Sixty-six percent of potential CPD accreditors with evident CPD criteria ensure that CPD providers meet agreed educational quality requirements.

The study also asked CPD accreditors about documentation activities. The national standard states that systems have to be established to document recognized CPD activities in a systematic and transparent way. Documentation of CPD must be used as a learning tool as well as providing feedback on relevance and quality for planning of CPD. Regulatory bodies also must ensure that all providers of CPD activities must meet agreed educational quality requirements in course design and delivery (FMHACA, 2013). As the table below depicts, 67% of regulatory bodies ensure that CPD providers meet the agreed educational quality requirements.

Table 20. Responses of managers of various institutions that accredit CPD activities regarding their experience on reviewing training courses and accrediting CPD providers, March 2015

Variable	Number of CPD Accreditors ⁶	% of CPD Accreditors
Does the institution review training courses in which health professionals participate? (n=22)		
Yes	8	36.4
No	12	54.5
Do not know	2	9.1
Institution with a system for recognition of CPD providers? (n=22)		
Yes	6	27.3
No	16	72.7
Criteria for accrediting CPD providers? (n=6)		
Yes	6	100.0
Availability of any documents verifying the criteria (n=6)		
Yes	4	66.7
No	1	16.7
Do not know	1	16.7
Meeting the agreed educational quality requirements for CPD (n=6)		
Yes	4	66.7
Do not know	2	33.3

CPD refers to any learning activities a health professional receives to maintain, update, and develop professional competency through different learning modalities.

3.3.2. M&E, documentation, and organizational structure of CPD accreditors

Table 21 shows results data about CPD accreditors' experience regarding CPD monitoring and evaluating (M&E), documentation, and organizational structure. Monitoring of the CPD accreditation process is helpful to improve the overall system, including maintaining standards of CPD. It can also be used to enforce accountability of key stakeholders in ensuring the quality and sustainability of CPD implementation (FMHACA, 2013). As Table 21 shows, only 23% regulatory bodies have a system for monitoring and evaluating CPD programs and providers, and 77% of the regulatory bodies do not have similar systems. Likewise, only 32% of regulatory bodies have systems for documenting recognized CPD activities compared with 68% without such a system.

The national standard also states that the appropriate infrastructure and human capacity needs to be set up by a CPD regulatory body to facilitate proper administration of records. This infrastructure includes access to the internet and fax services and dedicated administrative support (FMHACA, 2013). Fifty-nine percent of the regulatory bodies do have a structure within their institution designed to run CPD. A notable number of these bodies (69%), however, run CPD with teams or units along with other functions. The nine regulatory bodies that do not have structure for running CPD were asked if they have a plan to establish one. Twenty-two percent

⁶The role of the Accreditor is to review and pre-accredit applications for the provision of CPD activities and send the pre-accredited documents to FMHACA for approval, to monitor these activities, and to revise continuing education units (CEUs) allocated where the provider failed to comply with the rules and regulations of the CPD guidelines.

say they have a plan to establish a CPD unit, and 67% still have no a plan to establish such a unit. Of the seven CPD accreditors, 71% use an electronic system, and 29% use paper-based systems to document CPD activities.

This study also asked CPD accreditors about the structure designated to run CPD activities. Only 59% of the 22 CPD accreditors have a structure in place to run CPD activities. Of those 13 CPD accreditors with structure in place, 23% established a separate CPD unit, and a significant number of accreditors (69%) still run their CPD activities along with other functions.

Table 21. Experience of the selected institutions (CPD Accreditors) regarding monitoring and evaluating CPD programs and providers, documenting recognized CPD activities and organizational structure designed to run CPD activities, March 2015

Variable	Number of CPD Accreditors	% of CPD Accreditors
A system for monitoring and evaluating CPD programs and providers? (n=22)		
Yes	5	22.7
No	17	77.3
Established systems to document recognized CPD activities? (n=22)		
Yes	7	31.8
No	15	68.2
A system for documenting recognized CPD activities, the mechanisms put in place? (n=7)		
Already available training/course data base	5	71.4
Keeping their information in hard copy files	2	28.6
Any structure within the organization designated to run CPD activities? (n=22)		
Yes	13	59.1
No	9	40.9
For institutions having a structure within the organization designated to run CPD activities, how is it being run? (n=13)		
With established separate CPD unit	3	23.1
With teams or unit along with other functions	9	69.2
Other	1	7.7
Any move toward setting up such a unit within the institution? (n=9)		
Yes	2	22.2
No	6	66.7
Do not know	1	11.1

3.3.3. Experience of CPD accreditors regarding collaboration with other institutions

Table 22 contains results of data on CPD accreditors' experiences regarding their collaboration with other institutions. Collaboration plays a pivotal role in implementing effective CPD programs. As a principle of CPD collaboration, regulatory systems should recognize the legitimate roles and responsibilities of interested parties—the public, government, employers, and other professions consult with these parties and incorporate their perspectives in aspects of

standard-setting and administration of CPD (ICN, 2013). As the table shows, nearly 64% of CPD accreditors collaborate with other institutions on CPD activities, and 32% do not have any collaboration with other institutions on CPD. The study further asked the 14 regulatory bodies which organizations they collaborate with. The collaboration with development partners, government partners, and teaching facilities constitute 71%, 64%, and 57%, respectively, and the collaboration with professional associations, government health facilities, and private health facility employers stands very low. The majority of collaboration involved provision of technical support (71%), followed by financial support (50%) and participation in Technical Working Group (TWG) meetings (43%). Fifty-seven percent of the regulatory bodies also say that the involvement of partners in implementing CPD is fair and needs improvement, and 29% of respondents rated the involvement of partners in CPD as unsatisfactory. Regulatory bodies also were asked about the support they need to effectively implement CPD. CPD accreditors mentioned a variety of support needs, including financial (86%), technical (77%), and infrastructural (55%).

Table 22. Experience of the selected institutions (CPD Accreditors) regarding collaboration with other institutions and support needed in the implementation of CPD, March 2015

Variable	Number of CPD Accreditors	% of CPD Accreditors
Any collaboration with other institutions on CPD? (n=22)		
Yes	14	63.6
No	7	31.8
Do not know	1	4.6
For organizations having collaboration with other institutions, who are their partners? (n=14)		
Government partners	9	64.3
Developmental partners	10	71.4
Teaching facilities	8	57.1
Professional associations	4	28.6
Employers (government)/health facilities	3	21.4
Employers (private)/health facilities	2	14.3
For organizations having collaboration with other institutions, areas of collaboration? (n=14)		
Participate in TWG meetings	6	42.9
Provide financial support	7	50.0
Provide technical support	10	71.4
Delegated in accreditation process	3	21.4
For organizations having collaboration with other institutions, the involvement of partners in the implementation of CPD? (n=14)		
Satisfactory	2	14.3
Unsatisfactory	4	28.6
Fair and needs development	8	57.1
Does the organization need any support on CPD right now? (n=22)		
Yes	22	100.0
No	0	0.0

Variable	Number of CPD Accreditors	% of CPD Accreditors
Type of support required (for organizations who needed support on CPD right now)? (n=22)		
Technical	17	77.3
Infrastructure	12	54.5
Financial	19	86.4
Others ¹	3	13.6

¹ Capacity building (1), Guidance (2)

3.3.4. Perceptions of CPD accreditors on selection, incentive, and sanctions, and opportunities and challenges of CPD

As displayed in Table 23, regulatory bodies were asked who should be responsible for choosing CPD for health professionals. The majority of respondents (64%) say employers should choose CPD courses for their employees, 50% say FMOH must choose CPD for health professionals, and 41% say FMHACA should choose CPD courses. Regarding incentives for CPD, 73% of study subjects respond that re-certification should be the primary incentive for CPD participation, followed by pay rise and career promotion. As to sanctions, nearly 55% of study subjects support sanctions against health professionals not participating in CPD activities. Of those who support sanctions, 67% favor official reprimand (warning) as a major sanction to be imposed.

The study also asked CPD accreditors about the opportunities and challenges in CPD implementation. The respondents mention a multitude of opportunities, including government commitment (86%), partners' involvement (55%), commitment of professional associations (50%), and availability of policy framework (36%). Other opportunities mentioned by respondents include BSC implementation and availability of multimedia systems.

Table 23. Perceptions of the selected institutions (CPD Accreditors) regarding the responsibility for choosing CPD, incentives/sanctions for participating (or not participating) in CPD, opportunities and challenges in the implementation of CPD, March 2015

Variable	Number of CPD Accreditors	% of CPD Accreditors
Responsibility for choosing CPD? (n=22)		
Professional association	6	27.3
The ministry of health	11	50.0
Self-directed (professional)	8	36.4
Employer	14	63.6
FMHACA	9	40.9
Type of incentive for participating in CPD? (n=22)		
Re-certification	16	72.7
Pay raise (increase in fees)	10	45.5
Career promotion	10	45.5
Publication of list of practitioners who fulfilled the requirement	4	18.2

Variable	Number of CPD Accreditors	% of CPD Accreditors
Sanction for those who do not participate in CPD? (n=22)		
Yes	12	54.5
No	10	45.5
Type of sanction (for those who recommended a sanction)? (n=12)		
Right to practice removed	4	33.3
Official reprimand (warning)	8	66.7
Opportunities envisaged for successful implementation of CPD system in this country? (n=22)		
Government's Commitment	19	86.4
Commitment of professional associations	11	50.0
Partners' involvement	12	54.5
Availability of policy framework	8	36.4
Others	2	0.9
Challenges anticipated in the implementation of CPD		
Lack of finance	13	59.1
Lack of trained manpower	13	59.1
Lack of infrastructure	8	36.4
Professional resistance	8	36.4
Capacity of FMHACA	8	36.4
Capacity of professional associations	4	18.2
Not recognizing its importance	5	22.7

CHAPTER FOUR: CONCLUSION AND RECOMMENDATIONS

4.1. CONCLUSIONS

The overall aim of this study is to generate evidence on the existing FMOH and FMHACA's health professionals' regulation practices in Ethiopia to improve the performance of health care workers and ultimately improve health care delivery across the country. Health professionals, potential CPD providers, CPD accreditors, implementing partners, donors, and other CPD stakeholders constitute some of the intended users of the findings of this study.

This study indicated that about 59% of health professionals sampled have engaged in CPD activities in the past 12 months and that there were a lot opportunities and conducive policy environment, though they faced a lot of challenges in terms of ownership, choice, learning modalities, documentation, and monitoring and evaluation. This study also showed that the collaboration among CPD accreditors, CPD providers, professional associations, and training institutions need to be strengthened.

This study showed that nearly 44% of the respondents encountered someone who practices beyond his/her scope-of-practice and that 22 % of respondents themselves had ever practiced beyond their authorized role. This is further substantiated by the qualitative finding as the problem of practicing beyond authorized scope exists in almost all regions. The reasons include lack of clearly-demarked job descriptions offered to health professionals, resistance of health professionals to accept new reforms, lack of commitment from higher officials, negative attitude of professionals toward implementation of health professional scope-of-practice, lack of legal documents or guidelines, and lack of stakeholders or partners.

Almost 72% (179 of 246) respondents had never re-licensed their profession. Almost all of the respondents of the qualitative study mentioned challenges and problems in the registration and licensing of health professionals, such as fraudulent documents, lack of automated or networked registration and licensing system, human resource management problem, lack of uniform implementation process, and work load among health professionals.

This study also shows that for various statutory documents (written on scope-of-practice, CPD, code of ethics, and registration and licensure) were not broadly disseminated and adopted particularly by regional and local health institutions.

Regulation is the key to professional practice, protection, and safety of consumers of health care. Although this is being addressed by a range of initiatives in some countries, such as with the work of the Nurse Education Partnership Initiative (NEPI), the issue of regulation is getting little/very slow attention in many low income countries and hopefully may be overcome with the multiple approaches being used to encourage maintenance of standards in service delivery.⁷

Generally, meaningful and sustainable involvement of all stakeholders including FMOH, FMHACA, regional health bureaus, professional associations, teaching institutions, health facilities, and health professionals is crucial for effective regulation of health professional

⁷Roles of nurses in Sub-Saharan African region, 2013

practices. In addition, systematic documentation, monitoring, and evaluation at all levels of the health care system of continuing professional development, scope-of-practice, fitness to practice, and registration and licensure of health professionals plays a vital role to regulate the practices of health professionals.

4.2. RECOMMENDATIONS

For health professionals:

- Health professionals are required to fulfill registration requirements set out by the regulatory authority and renew their professional license, as recommended, every five years.
- Health professionals need to be aware on scope-of-practice and its implication on patient care. When circumstances allow, every professional needs to keep an up-to-date job description and be aware of the described roles and responsibilities.
- Health professionals need to plan and participate in relevant CPD activities to acquire up-to-date knowledge and maintain needed competency and to fulfill the mandatory requirement for license renewal.
- Health professionals need to familiarize themselves with medical ethics legal frameworks, ethical codes of conduct, and ethics guidelines.

For health care institutions:

- Facilities need to make deliberate efforts to create awareness on key functions of health care regulation, such as registration, licensure, scope-of-practice, CPD, medical ethics, and duty to report, among other regulatory requirements.
- Health facilities need to establish and strengthen mechanisms to assess compliance and monitor the registration and licensure statuses of their employees in accordance with national regulatory requirements.
- Facilities need to periodically evaluate fitness-to-practice of professionals. Thus facilities need to lay out a compliance audit, monitoring and evaluation mechanisms for registration and licensure, SoP, Certificate of Competency, continuing professional development, and ethics.
- Facilities are required to collect and maintain evidences on professional registration and license documents, medical error records, and medical evaluation reports in every professional folder.
- In collaboration with stakeholders, facilities need to systematically review competency and performance of professionals and develop a need-based CPD program and activities.
- Facilities need to include regulatory requirements in new employee orientation packages and monitor on-job compliance.

For regulatory bodies:

- The capacity of regulatory bodies must be strengthened in all aspects. This capacity building support should be available at regional and health facility levels to improve harmonization of professional regulation and practice. Regulatory bodies need to establish a functional structure manned with adequate number of staff to ensure compliance with health care regulations.

- Regulatory bodies need to enforce requirements and standards mandatory to optimize quality and safe health care practices at public health institutions.
- It is highly recommended that national and subnational registration and licensure systems are automated and networked.
- Immediate actions need to be taken to establish system to verify and authenticate academic credentials, Certificate of Competency, and requirements for professional registration.
- In an effort to increase coverage of licensure, regulatory bodies need to support establishment of an effective CPD program at national and subnational levels. To this end, regulatory bodies need to identify and build capacity of potential professional associations and other stakeholders who may be involved in CPD course development, provision, and accreditation processes.
- FMHACA needs to produce national or generic statutory documents on scope-of-practice, code of conduct, and medical ethics guidelines to support implementation at public and private health facilities.
- Regulatory bodies need to create information, education, and communication platforms to improve access to statutory documents (proclamations, policies, guidelines, directives) and create awareness among health professionals. It is encouraged to use print media, web pages, local radio transmission, and social media to reach a majority of health care professionals.
- Regulatory bodies need to lay out a robust compliance audit, monitoring and evaluation mechanisms for registration and licensure, SoP, Certificate of Competency, continuing professional development, and ethics.
- Regulatory bodies may benefit by establishing ethical review committees and CPD accreditation committees supported by clearly written terms of reference and secure technical assistance from members including professional associations.

For professional association and societies:

- Professional associations need to actively participate in ethical review committees and CPD accreditation committees established under the hospice of federal FMHACA.
- In an effort to increase coverage of CPD programs, professional associations and societies need to identify gaps in competency of their professional members in systematic fashion and design a need-based CPD course, provide CPD courses, and accredit courses.
- Professional associations are encouraged to promote and establish information, education, and communication platforms to improve awareness on health care regulation among their members using appropriate media outlets, such as print media, web pages, local radio transmission, and social media, to reach majority of health care professionals.

For other key stakeholders:

- Potential CPD providers and accreditors need to collaborate with regulatory bodies and increase their participation in the provision of CPD course for health professionals at all levels of the health care system by adapting their CPD learning to the evolving health care needs of their communities and managing CPD on a continuing basis through the promotion of learning as an integral component of work and thus introducing a culture of learning rather than sporadic injections of fragmented training activities.
- Potential CPD providers and accreditors need to build human and institutional capacity to effectively plan CPD programs, implement, monitor, and evaluate CPD programs. A mechanism needs to be established to seek feedback from CPD participants and use feedback to inform the program. As such, improved interactivity through use of an audience feedback may well improve learner engagement and subsequent willingness to participate in CPD activities, translating into potentially improved long-term education outcomes.
- Potential CPD providers must align their CPD programs with current national health sector training plans and national human resource plans to make sure that learning is in compliance with national policies, strategies, laws, and regulations.
- Potential CPD providers must use a learning management system as a framework that handles all aspects of the CPD learning process, including instructional content, individual and organizational learning, and data for supervising the learning process of the CPD provider as a whole.
- Potential CPD providers must build monitoring and evaluation into all CPD programs and results of CPD evaluations and lessons learned should be shared with stakeholders, development partners, and donors. CPD providers must evaluate the training program against clearly defined criteria, in consultation with all key stakeholders. CPD providers must measure the effects of CPD from a base of testing the relative effectiveness of different kinds of methodologies and presentations, to assessing the overall improvement of the participants in terms of stated course objectives, to evaluating the effect of the participants on the health programs in which they work, to assessing the benefits to public health.
- Potential CPD providers must have a clearly articulated annual CPD course plan/schedule based on sound, evidence-based learning principles and methodologies that offer the best opportunity to produce sustainable performance improvement within the workplace; use the most effective, accessible, and cost-effective modality for delivering training in their setting as demonstrated by available evidence; adopt inter-disciplinary team-based learning approaches to improve performance; select effective learning methodologies that foster active learning; design immersive learning so that the training supports the transfer and application of learning to the worksite; assess CPD participants on learning outcomes, not the length of time they spend in CPD, and ensure that the purpose, learning objectives, learning methods, and expectations of their CPD courses are clearly described and explained to trainees.

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