Perceived Competencies and Training Needs of Public Health Nurses in the Philippines: Basis for the Development of NurseLEAD: A Leadership Course on Advanced Practice Nursing in Public Health

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ABSTRACT

Background and Objective. Public health nurses (PHNs) perform more than the provision of direct care to clients. They are also expected to perform roles as leaders, managers, and collaborators in different settings, especially in areas where there are no physicians. Their continuous professional development must be facilitated to empower them to lead the delivery of health programs and services in pursuit of universal healthcare. This study aims to determine the perceived competencies of public health nurses and describe their training needs.

Methods. A descriptive, cross-sectional study was utilized, where an online survey was administered to PHNs across the Philippines to determine their self-perceived competencies and training needs based on the eight domains of core competencies of public health professionals. Descriptive statistics was used to summarize the data.

Results. A total of 330 PHNs answered the survey. The results showed that at baseline, PHNs perceived themselves to be competent (from most to least) in the following: communication, analytical/assessment, community dimensions of practice, policy development/ program planning, leadership and systems thinking, cultural competency skills, public health science, and financial planning and management. In terms of training needs, the enablers mentioned include a supportive work environment that can provide a work schedule that is inclusive of time for professional development and work-life balance; a learning environment where colleagues and supervisors support the need for training and innovation; strong internet connection; and enough equipment to participate and submit deliverables for courses taken.

Conclusion. Filipino public health nurses perceived themselves to be competent in the areas of communication and community practice, but less competent in public health science, and financial planning and management. Future capacity-building programs must be designed to meet this demand. Furthermore, to make training programs truly responsive to the needs of nurses, steps must be taken to promote capacity-building enablers.

Keywords: public health nursing, universal healthcare, nursing, leadership, policy development

INTRODUCTION

In 2017, the World Health Organization (WHO) identified major challenges that prevent nurses from reaching their potential to make significant contributions to universal health care (UHC). WHO cited seven critical challenges: limited availability of career opportunities, poor worker retention, low recognition, inadequate and unsupportive working conditions and environments, absence of educational standards, varying educational entry-level requirements for community health nursing programs, and a lack of consensus

on the scope of practice for community health nurses.[1] These challenges remain relevant and are captured in the WHO Global Strategic Directions for Nursing and Midwifery 2021–2025 where the four policy focus areas are education, jobs, leadership, and service delivery.[2]

In 2018, the Quad Council Coalition produced a set of competencies in public health nursing for guiding and revolutionizing practice, education, research, and policy at all levels.[3] Notably, nurses serve as frontliners when health systems are confronted by various health issues and challenges. The contribution of nurses in the reach and quality of health service delivery, as the largest profession that makes up the human resources for health, cannot be disregarded. There is an opportunity where trained nurses can take the lead role in planning, designing, implementing, and evaluating programs and services towards UHC. However, there is still a gap between the current competencies and the major demand for roles and responsibilities of public health nurses (PHNs).[4] This is further complicated by the disconnect between public health nursing practice and government expectations of PHNs' roles.[5]

Locally, the Department of Health (DOH) is determined in its efforts to reorganize the health system with primary health care as its foundation. International and local studies report that advanced competencies are needed in order for nurses to be effective in mainstreaming UHC in their localities.[4,5] This study therefore aims to contribute to responsive health workforce strengthening by assessing the competencies and training needs of public health nurses (PHNs) in the Philippines.

OBJECTIVES

This study aimed to determine the competencies of PHNs vis-a-vis the core competencies of public health professionals across eight domains. Moreover, it intended to identify their training needs to further strengthen the delivery of primary health care services, managing population-based programs, carrying out leadership and management responsibilities, advocating for health policy and regulations, and fostering interprofessional and collaborative practice.

METHODS

Study Design

This study utilized a descriptive, cross-sectional research design, wherein a questionnaire was used to assess the needs for training and the current competencies of public health nurses. Particularly, an online survey was utilized to reach the wider population of PHNs in the Philippines.

Setting and Participants

The setting for this study included the offices/sites that the participant is currently affiliated with, may it be a national or regional office, local government unit (LGU), or non-government organization in the Philippines. The online survey ran from August 2021 to February 2022.

The following inclusion criteria were required for the participant to be recruited: (1) must have served in the rural health unit or health center in the past year, assuming role/s in the public health setting or health service delivery programs; and (2) have Internet connection or access. Participants were excluded if they had any condition causing physical or mental disabilities that would prevent their participation in and completion of the procedures in the study. There were no withdrawal criteria. Participants may withdraw at any time from the study without the need to explain why and without prejudice.

Sample Size

Total enumeration sampling design was used in the study to recruit participants in different health facilities/ institutions. The computed sample size is 372 PHNs based on 95% confidence level, 5% margin of error, 50% response distribution and an estimated population size of 11,390 public health nurses. Such estimation is based on the recommended PHN to population ratio (Philippine population in 2022: 113.9 million) prescribed by the DOH for the National Objectives for Health.[6] However, despite the survey being available online for six months, the total number of participants recruited in the study was 330, which is 88.7% of the computed sample size. There are no incompletely answered surveys; hence, none were excluded from the study.

Instruments

The research instrument was divided into three parts: demographic section (e.g., items regarding participants' age, sex, working years, etc.); competency assessment; and training needs assessment.

For the assessment of core competencies, the research utilized an online survey questionnaire based on the Council on Linkages between Academia and Public Health Practice's Modified Version of the Core Competencies for Public Health Professionals,[7,8] an open-source document available on the official website of the Public Health Foundation (PHF) and can be modified as necessary to meet local needs. This is a simplified version for assessing the core competencies for use of workforce development efforts and is used as a starting point in identifying professional development needs and developing training plans.

Competencies for public health professionals are categorized into three tiers: (1) frontline and program support responsibilities, (2) program management and supervisory responsibilities, and (3) senior management and executive leadership roles. Examples of responsibilities under Tier 1 include providing health education, coordinating meetings, and providing technical expertise. Tier 2 involves developing, implementing, evaluating, and improving programs, supervising and maintaining community partnerships, and managing timelines and budgets. Meanwhile, Tier 3

consists of setting strategy and vision for the organization, collaborating with policymakers and politicians, and leading organizational efforts to achieve health equity, and social and environmental justice. This study assessed the core competencies of Filipino PHNs using Tier 2 (program management/supervisory level) core competencies, which are designed and validated to be used by all public health professionals.[7]

The tool's item pool utilized questions and a variety of response options, such as multiple choice, single choice, Likert-scale, and open-ended, while also following the structure of the conceptual framework that includes eight domains (analytical/assessment skills, policy development/ program planning skills, communication skills, cultural competency skills, community dimensions of practice skills, public health sciences skills, financial planning and management skills, and leadership and systems thinking skills). The questionnaire was obtained from the PHF website (http://www.phf.org/resourcestools), and was converted to Google Forms. To understand the degree to which the nurses effectively engaged per competency, the Likert scale used the following definition of its scale from 1 to 4:

1 = None (I am unaware or have very little knowledge of the skill)
2 = Aware (I have heard of, but have limited knowledge or ability to apply the skill)
3 = Knowledgeable (I am comfortable with my knowledge or ability to apply the skill)
4 = Proficient (I am very comfortable, am an expert, or could teach this skill to others)

Prior to data collection, the tool was pre-tested among five faculty members teaching public health nursing for readability, local context, and cultural appropriateness. Results showed that the instrument used is appropriate for the educational attainment of the participants as they are professionals and have at least attained a bachelor's degree in nursing.

To facilitate a better understanding of the PHNs' competencies and training needs, contextual factors affecting their work environment were also collected. The factors include: (1) types of health programs they implement/ supervise; (2) healthcare workers they supervise; (3) other personnel/people they work with; and (4) time they spend on patient care, supervisory activities, management activities, and other public health nursing activities not mentioned above.

To further guide the design and implementation of a potential training program for PHNs, the research team inquired about the following factors related to the participants' training mode preferences: (1) preferred mode of learning, (2) learning style, (3) factors facilitating participation, (4) preferred schedule for synchronous activities, (5) preferred duration of synchronous activities, (6) perceived barriers from participation, and (7) additional training undergone for public health and public health nursing.

Data Collection

This study was done in compliance with the Data Privacy Act of 2012 and National Ethical Guidelines for Health and Health-Related Research (NEGHHR).[9] Collected data was managed, processed, and stored following the guidelines of University of the Philippines Manila Research Ethics Board (UPMREB). For ethical consideration, this study has been approved by the UPMREB. There is no anticipation of study-related injury/ health risks. It will not involve invasive procedures/treatment, medical or non-medical.

To decrease the selection bias, a representative sample was pursued despite not having a full list of public health nurses by endorsing the study and survey through government offices, email, nursing associations, networks, and the university pages in social media. A poster inviting participants from the public health setting was also shared with the stakeholders of the researchers' institution. The study also made a standardized questionnaire to decrease information bias.

Data Analysis

Quantitative data collected from the questionnaire survey was imported into SPSS version 22 after coding for analysis. Descriptive statistics to summarize the gathered data, particularly, frequency and percentage were used to describe the participants' demographic characteristics and their training needs. Meanwhile, mean and standard deviation were used to summarize the perceived competencies of the PHNs.

RESULTS

Characteristics of Participants

A total of 330 PHNs (66.7% females and 33.3% males), answered the survey (Table 1). Most of the participants are Nurse II in their respective LGUs. Their average years of service in the public health setting is 7.8 years. Their mean age is 35.6 years. The highest educational attainment of the majority of participants is Bachelor's degree (63%). Forty-two (12.72%) of the nurses graduated from Bachelor's degree in Nursing before the year 2000. One hundred ninety-seven (59.69%) graduated from 2000-2010 while 91 (27.57%) graduated from 2011 onwards.

Perceived Competencies and Training Needs of PHNs

Results showed the top three domains that the nurses rated themselves as most competent, which include the following: communication skills, community dimensions of practice skills, and analytical/assessment skills (Table 2). Meanwhile, they have relatively lesser scores in the following domains: financial planning and management skills, public health sciences skills, and cultural competency skills. Interestingly, the resulting scores among all descriptive statistics indicators per domain were consistently close to each other. For instance, the averages have a narrow range of 2.6 to 2.9.

Factors Related to PHN Competencies and Training Needs

Contextual Factors (Work Environment)

Participants reported managing various DOH and LGU programs, which include the National Tuberculosis Control Program, National Immunization Program (including COVID-19), STI HIV/AIDS Program, Maternal and Child Health, Rabies Prevention and Control, Water Sanitation and Hygiene, Non-communicable Diseases, Mental Health, Philippine Field Health Service Information System (FHSIS), LGU scorecard, Basic Life Support (BLS) training, Disaster Risk Reduction and Management for Health (DRRM-H), Philippine Integrated Disease Surveillance and Response (PIDSR), Nutrition, and PhilHealth.

PHNs also indicated managing other healthcare workers, such as BHWs, midwives, and co-nurses. They also noted working with other community stakeholders, such as barangay volunteers, local leaders (BHERT/local health board members), physicians, other medical and non-medical health human resources, and other key stakeholders like institutional representatives, and non-health professionals from different sectors and departments.

Nurses estimated an average time of four hours spent on patient care; four hours on supervisory activities; four hours on management activities; and three hours on other public health nursing activities not mentioned above (Figure 1). Direct patient care, management, and supervisory activities almost equally take up the same amount of time (three to six hours each) of the nurses' day. These are still in addition to duties not mentioned above which, as reported, take almost as much time at two to five hours. The time calculation did not include responses stating that their time expenditure varies/ could not be estimated. Notably, results showed that nurses work 15 hours a day in average regardless of their affiliation. Although the researchers failed to collect the specific type of affiliation of nurses who reported "others", these are assumed to be nurses on contract of service (COS), job order, or similar situations.

Preferences Toward Training Mode

Participants' preferences toward various aspects of a training program for public health nurses are shown in Table 3. Majority (63.6%) of the PHNs preferred the online mode of training. Their learning style preference suggested that they could learn best from varied teaching-learning strategies, as more than 50% of the nurses selected each learning style (visual, kinesthetic, reading, auditory) as their preference.

For factors that could affect their training participation, nurses indicated that a certification program should meet their learning goals and interests, while also providing adequate challenge. PHNs preferred attending training on weekends and with shorter duration of four hours on Saturdays and Sundays (80.3%). This result is consistent with their perceived barrier to training participation, which is primarily their

Table 1. Profile of Public Health Nurse Participants in the Philippines, 2022 (N=330)

Demographic Parameters	Freq (%)	Mean (SD)
Age (Range: 22 - 63)		35.55 (7.26)
Sex		
Female	220 (66.7)	
Male	110 (33.3)	
Highest educational attainment		
Doctor's Degree	5 (1.5)	
Earning Doctoral units	1 (0.3)	
Master's Degree	101 (30.6)	
Diploma	7 (2.12)	
Earning masteral/diploma units	5 (1.5)	
Bachelor's Degree	209 (63)	
Affiliation		
Local Government Unit	162 (49.1)	
Department of Health	138 (41.8)	
NGO, Private, Others	30 (9)	
Job Title		
Nurse II	112 (33.9)	
Nurse I	93 (28.2)	
Others	74 (22.4)	
Nurse III	24 (7.3)	
Nurse V	9 (2.7)	
Development Management Officer	8 (2.32)	
Nurse IV	6 (1.8)	
Nurse VI	4 (1.2)	
Year of graduation from BSN		
Before 2000	42 (12.72)	
2000-2010	197 (59.69)	
2011 onwards	91 (27.57)	
Years of overall professional experience in Nursing		11.20 (6.71)
0 - 5 years	41 (12.42)	
6 - 10 years	147 (44.54)	
11 - 15 years	99 (30)	
16 - 20 years	13 (3.94)	
More than 21 years	30 (9.09)	
Years of professional experience in Public Health Nursing		7.84 (6.10)
0 - 5 years	132 (40)	
6 - 10 years	130 (39.39)	
11 - 15 years	40 (12.12)	
16 - 20 years	6 (1.82)	
More than 21 years	22 (6.67)	

Table 2. Self-rated Competency Levels of PHNs in the Philippines (N=330)

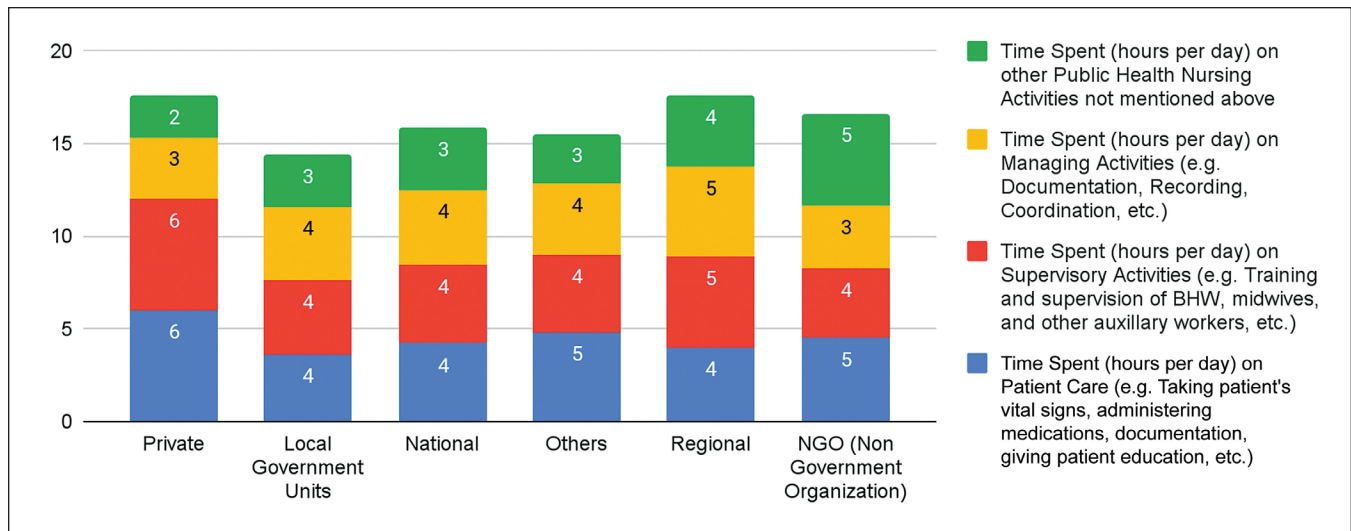| Domain	Mean	SD
Communication skills	2.99	0.58
Community dimensions of practice skills	2.95	0.61
Analytical/assessment Skills	2.92	0.56
Policy development/ program planning skills	2.89	0.58
Leadership and systems thinking skills	2.88	0.62
Cultural competency skills	2.75	0.67
Public health sciences skills	2.72	0.62
Financial planning and management skills	2.68	0.61

Figure 1. Average time spent (hours per day) by participants on common public health nursing activities.

work schedule (80.6%). With their preferences toward online learning, an unstable Internet connection could also serve as a significant barrier to training (65.2%).

While Table 1 earlier showed that participants had a mean public health experience of seven to eight years, Table 3 revealed that majority (54.5%) of the PHNs did not undergo any additional/specific training for public health and public health nursing. For participants that underwent additional trainings, they reported the following examples: leadership development course for public health nurses, basic epidemiology course for health workers, COVID-19 vaccination training, orientation and training on the different health services and programs such as Tuberculosis-Directly Observed Treatment Short Course (TB-DOTS), Integrated Management of Childhood Illnesses (IMCI), The First 1000 Days (maternal and newborn health/nutrition), and the like.

DISCUSSION

The study investigated the perceived competencies and training needs of public health nurses in the Philippines, with the results indicating that PHNs are aware of the gap between their level of capability and the set of competencies they need to develop. These suggest that nurses recognize the need for upskilling to fill in gaps in their competencies. Hence, it is important to define the specific roles and responsibilities of public health nurses to match their training needs. Training programs must be sensitive to the competencies the nurses aim to develop.

The competencies (communication skills, community dimensions of practice skills, and analytical/assessment skills) with the highest rating among participants reflect their constant exposure to fieldwork and contact with various types of patients. Meanwhile, the least rated competencies (financial planning and management, public health sciences,

and cultural competency) signify PHN roles associated with health systems focus.[7,8] These results suggest that while PHNs are taking up roles in resource management, public health administration, and decision-making in the health systems, they might not be adequately trained for such. Potential reasons for these findings include misalignment of curriculum for nurses versus their expected roles when they enter public health, lack of training for PHNs on cultural competencies, financial management, and public health sciences, and lack of recognition that nurses are fulfilling roles that require these higher-level competencies.

Learning and growth are the second foundations of the DOH's Health Human Resource (HRH) Masterplan 2020-2040 Results Framework. Particularly, investing in the competencies, professional development, and promotion of positive work environment of HRH could result to the establishment of functional and integrated information systems, undertaking of appropriate researches, improved HRH governance, strengthened stakeholder institutional capacity, and HRH co-developed plans/ coherent policies.[11] The future directions for nurses are further detailed in the WHO's state of the world's nursing (SOWN) report in 2020. The fourth direction calls for nurse education and training programs that drive primary health care and universal health coverage.[12] Local capacity needs assessment studies have also identified a general need to train registered nurses on leading, managing, and collaborating to implement health service delivery in the community setting.[13-15]

While the nurses had an average of 7.8 years of overall experience in public health, it is concerning that more than half of them reported never undergoing training for public health and public health nursing before. Moreover, the results of the competency self-efficacy assessment revealed that Filipino PHNs are generally rendering services at program management and supervisory levels. It is worth assessing if

Table 3. Preferences toward the Training among PHNs in the Philippines (N = 330)

Individual Factors	Freq (%)
Preferred mode of learning	
Online	210 (63.6)
Face-to-Face	120 (36.4)
Learning style	
Visual (watching videos, films, etc.)	301 (91.2)
Reading (reading texts, websites, etc.)	259 (78.5)
Kinesthetic (demonstration in laboratory, field visits, etc.)	224 (67.9)
Auditory (listening to podcasts, recordings, etc.)	209 (63.3)
Factors facilitating participation	
Learnings	319 (96.7)
Certification	254 (77.0)
Interests	244 (73.9)
Challenges	240 (72.7)
Others	13 (3.9)
Preferred schedule for synchronous activities	
Saturday	184 (55.8)
Friday	138 (41.8)
Sunday	116 (35.2)
Thursday	79 (23.9)
Wednesday	59 (17.9)
Tuesday	56 (17.0)
Monday	51 (15.5)
Preferred duration for synchronous activities	
4 hours (twice a week)	265 (80.3)
8 hours (once a week)	65 (19.7)
Perceived barriers from participation	
Work schedule	266 (80.6)
Internet connection	215 (65.2)
Limited resources	52 (15.8)
Learning space/environment	50 (15.2)
Institutional support	49 (14.9)
Computer	33 (10)
Personal mindset/motivation	25 (7.6)
Lack of technical skills	20 (6.1)
Others	7 (2.1)
Additional training undergone for public health and public health nursing	
Did not have additional training	180 (54.5)
Had additional training	150 (45.5)

the level of nursing education and roles are optimized within the health and academic systems. Furthermore, it must not be neglected to support PHNs in their professional development as they continuously serve to meet population health needs.

For their training preferences, participants emphasized the significance of a non-conflicting work schedule, a conducive learning environment, and adequate facilities (e.g., Internet) that enable participation. Participants also highlighted the potential of online platforms to facilitate their training despite the distance from the National Capital Region. Moreover, PHNs emphasized the importance of utilizing the lessons from the training in their own workplace.

However, if the nurses spend an average of 15 hours a day fulfilling their direct patient care, supervisory, managerial, and other supporting roles, there might not be enough time left for training, as the latter activities might also deplete individual factors, such as cognitive ability, self-efficacy, and motivation.[16,17]

Meanwhile, the utility of e-learning in healthcare education became significantly prominent during the COVID-19 pandemic, as more people realized the importance of flexibility in learning and addressing the limitations of face-to-face classes. Nevertheless, participants from remote or rural areas may encounter challenges, such as unreliable internet connectivity, inadequate access to learning resources, and geographical isolation.[18] It is interesting to note though that while poor internet connectivity affects more than half of the participants, only 15% are affected by limited learning resources, inadequate learning environment, and lack of institutional support. It is worth studying whether these three factors occur almost always together. Moreover, training developers must ensure that resources and support mechanisms (e.g., technical, financial, logistical) are readily available for PHNs to maximize their training participation.

Within the ever-changing health care system, healthcare professionals must update their knowledge and skills to maintain their practice competence. There is growing recognition for "training transfer" to be observed which is the extent to which knowledge, skills, and attitudes learned are applied on the job and maintained over a certain time.[17,19] To facilitate this, factors affecting transfer of learning must be considered. Under contextual factors, results showed that the nurses managed all types of DOH and LGU individual and population-based programs. Hence, the training content should consider the programs that the nurses are handling. The opportunity for use and locus of control of the nurses might be limited if training content is made without consideration of their program implementation.

In addition, nurses coordinate with various local leaders and healthcare workers, both from public and private agencies. Training design must consider this so that the learning absorbed by nurses can be transferred horizontally or vertically. Horizontal transfer refers to training transfer across different settings with the same context, while vertical transfer denotes the transfer of training across all levels of the organizational system.[17,19] Without weighing this, the effectiveness of training could decrease due to less supervisor or peer support, less perceived utility, and fewer performance opportunities.

Building capacities of PHNs cannot exist solely through designing and implementing training programs. Responsive health workforce strengthening must come with the promotion of supportive working conditions and environment, good HRH governance, structured educational standards, and a formal career pathway. This data may contribute to the effective formulation of training programs to ensure transfer of training in different work settings.

In designing sustainable solutions for health workforce shortage or coverage gap, the findings of this study could be used to ensure that the needs and preferences of the nurses are considered to promote responsive health workforce strengthening that is oriented to achieve efficient workforce governance, leadership, distribution, retention, and a scaled-up career path for nurses.[20]

Limitations

The best grasp of competency assessment would need observation of skill demonstration. The present study is limited to reports of perceived training needs and self-rated efficacy level of the nurses on the competencies of public health professionals. While the current study is the first to assess the competencies of public health nurses in the country, a small sample size lowers the generalizability of the study, and a total enumeration sampling with no particular strategy to ensure representation puts a high risk of selection bias. These limitations should be addressed in future studies by utilizing better recruitment strategies and having a larger sample size with adequate representation of various types of community settings. Qualitative investigations could also contribute relevant data to explore other factors that influence the competencies and training needs of PHNs in the country.

CONCLUSION

Most Filipino public health nurses render services on a program management and supervisory level. In their practice, they are aware of the gap between their level of capability and the set of competencies they need to develop. Particularly, PHNs perceived themselves to be more competent in communication and community practice, but less proficient in public health science and financial planning and management. Their advancements towards these skills would require a responsive training design that fits their needs, such as a supportive work environment that can provide an inclusive time for professional development and work-life balance; a supportive learning environment where colleagues and supervisors understand and support the need for training and innovation; adequate facilities to support online learning (stable internet connection); and enough resources to participate and submit deliverables for the training courses. To promote skill application, the design of training programs should consider the current events and different community contexts, while accommodating the participants' learning styles.

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Statement of Authorship

All authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

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