

Implementation Experiences of Competency-Based Master's Level Curriculum of Public Health in Nepal: Perceptions of Graduates and Their Employers

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ABSTRACT

Background

Patan Academy of Health Sciences (PAHS) is one of the first institutions of Nepal to deliver public health education through competency-based curriculum in an integrated modular framework.

Objective

To explore the perceptions of public health graduates and their employers regarding relevance and usefulness of curriculum of master of public health at Patan Academy of Health Sciences.

Method

A cross sectional, qualitative study was conducted among 18 public health graduates of Patan Academy of Health Sciences and eight employers through in-depth interviews. The interview guides were strategically designed based on Patan Academy of Health Sciences core competencies for Master of Public Health graduates and captured information on public health professionalism, workplace traits and interpersonal behavior. Transcriptions of the interviews were done and were translated in English. Thematic analysis was done. The study followed the COREQ guidelines to ensure standard reporting of the results.

Result

Master of Public Health graduates were found working across academia, health management, national health systems, research and international agencies. Initially, they found the diverse topics and syllabus structure confusing. However, as the program progressed, they appreciated the organized sequence of learning, covering health determinants, community assessment, planning, management, monitoring and evaluation, policy and financing modules, research, and two technical subjects. The module-based learning with different approaches as case-based learning, fostered them with self-directed learning, problem-solving, and adaptability. The managers consistently praised Patan Academy of Health Sciences graduates for their professionalism, creativity, diligence, and ability to meet tight deadlines, considering them indispensable team members.

Conclusion

The graduates were quite satisfied with their experiences and emphasized the relevance of theoretical and practical knowledge acquired at Patan Academy of Health Sciences. Similarly, the employers also expressed satisfaction with the graduates from Patan Academy of Health Sciences, especially the positive work experiences. Thus, competency-based curriculum in public health is beneficial for graduates by equipping them with practical, job-ready skills, and it provides employers with a workforce that has proven competencies and can effectively address real-world public health challenges.

KEY WORDS

Competency-based curriculum, Master of public health graduates, Modular framework, Patan academy of health Sciences, Pedagogical methods

INTRODUCTION

A skilled public health workforce is critical for improving the Sustainable Development Goals health index.¹ Academic institutions support cross-sectoral SDG implementation, yet the 2010 Lancet Commission noted fragmented curricula producing less competent graduates.^{2,3} The COVID-19 pandemic reinforced the need for well-equipped professionals globally and in South Asia.⁴

Competency-Based Education (CBE) a student-centric approach emphasizing practical skills and career readiness has gained global momentum.^{5,6} In Nepal, Patan Academy of Health Sciences (PAHS) adopted CBE at the master's level for public health, aiming to produce highly skilled professionals.⁷ Despite this, barriers persist: Nepal has 1,547 registered public health postgraduates, yet teaching methods often lack problem-solving and critical thinking.^{8,9}

CBE offers advantages like job preparedness, but implementation in Nepal faces unique socio-economic and health system challenges.^{5,10-12} PAHS pioneered a competency-based MPH curriculum, but evidence on pedagogical effectiveness and graduate workforce application is scarce.⁷ Documenting experiences of PAHS graduates and their employers is needed to assess curriculum appropriateness.

Thus, a study was designed to explore implementation experiences of the CBE curriculum among PAHS public health postgraduates and employer perceptions of graduate preparedness and effectiveness. Insights from both groups will help evaluate the curriculum's impact and guide improvements.

METHODS

A cross sectional, exploratory qualitative study was conducted among public health graduates of PAHS and their employers including both government and non-government institutions. To ensure the standard reporting, the study followed the consolidated criteria for reporting qualitative studies (COREQ) guidelines.¹³

Purposive sampling technique for In-depth Interviews (IDIs) was used to enroll the study participants. The sampling frame was prepared from document review for tracing the participants along with their past and current managers/managers. The study's participants were selected to ensure a representation of graduates, covering genders and employment sectors such as government, academia, non-governmental organizations, private organizations, research, and self-entrepreneurship. The number of interviews was guided by data saturation theory.¹⁴

Information saturation was achieved after interviewing the 16th graduate; to ensure thorough data saturation, two additional graduates were interviewed, resulting in a total of 18 graduates being interviewed using the interview guides. Whilst, eight managers, including immediate

managers of current graduates and managers from PAHS employing agencies with three months' experience, were recruited to cover the perceptions and experiences of employers.

The interview guideline was strategically designed for each set of the participants based on PAHS identified core competencies for MPH graduates. There were three sections in in-depth interview (IDI) guideline namely rapport building, generic remarks regarding PAHS graduates and thematic competencies of PAHS graduates. The guideline majorly captures the information – experiences of the participants' competencies as a public health professional, workplace traits and interpersonal behavior. The qualitative data was collected using face to face interviews through both in person and virtual platforms based on feasibility. The interviews with the participants were interviewed at their workplaces or preferred locations. The data was collected from June 2023 to December 2023.

The interviews were conducted by the authors SP (MSc. PH), SB (MPhil) and SN (MPH) who were proficient in taking the qualitative interview in Nepali language. The data analysis was conducted by SG (MPH), SP (MSc PH), RAS (MDS, MPH) KGC (MSc) and AA (MSc GPH) who were experienced in conducting qualitative studies. The overall procedure for qualitative data collection and analysis was supervised by the qualitative research expert MS (MPhil). The interview was conducted in a confidential environment without the presence of non-participants during the interview. The interviews ranged in duration from 40 minutes to 120 minutes.

The audio and video recording was done with the participants during these interviews after obtaining the informed consent. During the interviews, notes were recorded in addition to audio recordings. Member checking was used to increase conformability and credibility. This includes posing follow-up questions and repeatedly rephrasing comments made throughout the interviews to guarantee accuracy. Following the interviews, participants were asked about the findings to ensure they understood the concepts presented and to provide input. Interviews with participants were not conducted again.

The recorded Nepali-language interviews were transcribed and translated into English by researcher competent in both Nepali and English language. Interviewees were given codes to protect their anonymity, and interviews were kept confidential by being kept in a password-protected laptop folder. The English translation was verified by all the independent research team member for quality and completeness.

The verified English translated interviews were used for the data analysis. The research team analyzed the information in accordance with data analysis plan for manuscript preparation. The verified transcripts in the English language were imported into the qualitative data analysis software

i.e., Dedoose and codes were generated according to the analysis plan. The data was analysed based on the themes under the competency based curriculum.

The findings and interpretations were presented to selected study participants, who agreed with the results presented, thereby testing the findings. The trustworthiness of the data was ensured through conformability, credibility, dependability, and transferability.¹⁵ Confidentiality and anonymity of the research participants were maintained at all stages of the research process. The study protocol was approved (Ref: chs2305091720 dated 9/05/2023) from the PAHS IRC.

RESULTS

Current responsibilities and contribution to Public Health

Interview findings of graduates show that upon completion of their MPH degrees, the graduates are actively making meaningful contributions to the field of Public Health, operating within both governmental and non-governmental sectors. In their current roles, a majority of the graduates are positioned in roles integral to planning public health and research projects. They are extensively involved in project design and leadership, project implementation, oversight of field activities, coordination, and communication with partners, provision of technical support for data management and quality, capacity building, as well as the monitoring and evaluation of project activities.

".....make proposals on topics like communicable, non-communicable disease, tropical disease, social issues, submit these proposal for ethical approval, revising the feedbacks that provided from ethical approval committee, identifying field enumerators for data collection based on the type of reach method like quantitative , qualitative or mixed method, providing them training, sending them to field, collecting data ourselves as well, data analysis, report write-up, planning for dissemination and dissemination the outputs, making policy briefs, press release. Majorly these are the works in research. Along with these if we also have to organize the consultative meetings or workshops. I also provide training as a research person on qualitative research" (a graduate from 1st batch MPH)

"And in this project as a clinician and having knowledge of public health I am working as a consultant in the project. In this project I am involved in project designing, project execution and reports i.e holistically I have been involved in project conduction." (a graduate from 3rd batch MPH)

Furthermore, these public health professionals are actively engaged in generating scientific evidence and disseminating it.

"Main roles include doing public health research along with research in animal health, environment health etc. Project development from planning, implementation and evaluation should be done. Briefly saying; developing proposals, preparing data collection tools, searching

literatures, sending applications in NHRC. Coordinating with stakeholders for implementation in case the research is funded by donors, regular field visits, monitoring and evaluation, checking whether data collection is being done as per our protocol or not, addressing challenges ,communicating with stakeholders. In most of the researches, I didn't have to be directly involved in analysis process. But we do basic preliminary analysis and interpretation. Dissemination materials, presentations, reports, drafts reports and presenting in front of stakeholders are the work that is done mostly." (a graduate from 2nd batch MPH)

"My duties include preparing and submitting proposals for the many grant opportunities, working with both external and internal partner's organization, carrying out research activities in the period that a grant is awarded, and supervising and tracking these activities. I also supervise the program's execution, perform data analysis, write reports, and publish scholarly articles. Each of these responsibilities is based on research. In addition, I mentor research interns and assist in resolving their problems with research. (a graduate from 1st batch MPH)

Additionally, they play a crucial role in policy and strategic planning, participating in policy development, contributing to policy briefs, engaging stakeholders, reviewing policies, and advocating for change.

".....I mainly look into policy and supervision works.....Not only that we have to review all the policies of departments (Department of Health Science, Department of Ayurveda and Alternative medicine, and Department of Drug administration) , analyze all those policies whether correction is needed or not. And if needed correcting it and after that approving that policy." (a graduate from 3rd batch MPH)

"My responsibilities in the Health Section are implementation of basic health facilities as illustrated in the Constitution of Nepal, making policies and plans related to it, municipality makes work plans and works accordingly. So overall, regulating health in the municipality, implementation, and evaluation are the main works" (a graduate from 1st batch MPH)

Some graduates hold high managerial positions in governmental hospitals, significantly contributing to healthcare delivery at the district level by efficiently managing hospital operations. Some have entered academia, contributing to academic planning, teaching, coordinating field activities, and supervising graduates. Furthermore, a few graduates have ventured into entrepreneurship, establishing profit-making organizations where they contribute to program design, business planning, logistics management, and managerial responsibilities, blending their public health knowledge with business practices. These multifaceted contributions span various areas of public health, including maternal and child health, nutrition, WASH, communicable and non-communicable

diseases, health-seeking behaviour, vaccination, neglected tropical diseases, showcasing the diverse impact of PAHS public health graduates across the field.

".....So overall management of this hospital ,treating and checking patients coming to this hospital along with management of other things in the hospital falls under my job description."(a graduate from 2nd batch MPH)

At the start I worked as a lecturer and taught 2 subjects. After 1 semester I started coordinating BPH 3rd year students. After working for 1 year as a coordinator I did work like planning students' academic activities, field activities, coordinating, taking classes, coordinating with external faculty to admit classes. (a graduate from 2nd batch MPH)

Experience while learning

The MPH program at PAHS was considered as a transformative journey by the graduates. In the initial phases, inclusion of diverse topics was overwhelming for the graduates but the structured learning approach with sequential modules provided comprehensive exposure to public health, emphasizing the practical relevance of theoretical and practical knowledge acquired at PAHS.

As the program progressed, graduates positively acknowledged the chronological sequence of learning, encompassing community assessment, planning, implementation, and leadership. The introduction of time-bound assignments and the focus on different competencies not only aids task completion but also allows graduates to showcase leadership skills, enriching the overall learning experience.

"Honestly speaking, at first I was confused because we were turned-out to study syllabus and micro syllabus. So, I felt that things were not clear, there were modules and all. But afterwards we were taught one module after another and then I got insight about project cycle and module based learning. Towards the end of study, I felt that everything from community assessment to planning, implementing the planned thing, leadership came into chronological sequence and I liked it a lot." (a graduate from 2nd batch MPH)

The school used to impart a wide array of knowledge to ensure that graduates wouldn't encounter entirely unfamiliar subjects in their professional endeavors.

"our teacher used to say, 'Public health is unimaginably diverse so we are trying to provide diverse exposure', That exactly came as a reality to us." (a graduate from 3rd batch MPH)

Perception on self-job performance and areas of improvement

The findings provide insights into individuals' self-perception regarding job performance and confidence across different aspects of their work. Noteworthy themes include the

acknowledgment of competence and confidence in diverse fields, particularly in software tools. The recurring motif centres on a commitment to continuous learning, with individuals actively seeking exposure to new areas like qualitative and quantitative research and collaborating for skill enhancement. Proficiency in research and teaching is highlighted, emphasizing unique teaching approaches and the assimilation of learned concepts. Project management skills, including data analysis and training, are confidently expressed, albeit with a recognition of potential areas for improvement, particularly in the implementation phase. Despite challenges, individuals demonstrate a positive outlook, viewing obstacles as learning opportunities and emphasizing the importance of excelling in skills and performance within a dynamic work environment.

"I have the confidence to use the software and if I could nurture this more than it would make me more confident. I already know how to use STATA, R, RQDA, GIS, Excel and I did my thesis on it as well so I have that confidence in me" (a graduate from 3rd batch MPH)

"During the course, we also did some projects, analysis, used many soft-wares but though we have capacity to use it, big donors with whom we are working with they don't have confidence in us and they prefer expert statisticians. I take it as a learning opportunity. Directly I can sit with statisticians and see their work though they don't let me work. I have tried it at home as well thinking maybe I could do this too." (a graduate from 3rd batch MPH)

The graduates highlight several areas for self-improvement, expressing a desire to enhance quantitative skills and focus on software-related abilities. They acknowledge challenges in professional working language proficiency, working culture in different organizations, and different context. Furthermore, graduates recognize the need for improvement in epidemiological analysis, managerial skills, and writing. Despite extensive learning, resource constraints pose challenges, but the graduate is dedicated to self-study to overcome limitations, outlining a comprehensive approach to enhance technical skills, language proficiency, confidence, and leadership abilities.

"Though I know a lot of things about research, I still have so much to learn. This era is all about implementation research. I am learning about how to develop proposals, identify strategies, and how to implement and evaluate the implementation research." (a graduate from 1st batch MPH)

"pursuing for higher studies such as a PhD, these skills like research proposal development, research conduct, data analysis, article publication, etc. are a requirement and I worry for it and I am trying to improve it." (a graduate from 2nd batch MPH)

Features stand out PAHS graduate from other public health graduate

PAHS graduates distinguish themselves in several key

aspects compared to their counterparts from other institutions. Notably, they exhibit skills in software usage for data analysis, infer knowledge and its application.

The teaching learning pedagogies (e.g. Case Based Learning, field exposures, journal clubs, practical skill labs, guest lectures etc along with competency and module-based learning) adopted by PAHS fosters self-directed learning, problem-solving, and adaptability. This approach seems to have equipped them with skills that extend beyond traditional lecture-based learning, making them more adaptable and competent in real-world scenarios. Graduates are recognized for their meticulous and detail-oriented approach, coupled with critical thinking skills and a continuous learning attitude. The graduate's express confidence in applying what they learned during their MPH program in real-world scenarios. This confidence is seen in their ability to contribute to work discussions, provide insights based on practical assignments, and handle various challenges in their professional roles.

"I do stand out because I have practical knowledge as well as the competency and because of it I have confidence to tackle any unanticipated situation." (a graduate from 3rd batch MPH)

"In my workplace, people remark that PAHS graduates are proficient in conducting qualitative research..... So the main differences are, we know how to do qualitative analysis, how to use advanced level soft-wares (in both qualitative and quantitative soft-wares) and we don't have confusion while doing analysis." (a graduate from 1st batch MPH)

Graduates mention the practical knowledge gained during the two-year program which includes skills related to communication, project coordination, proposal development, and handling various situations and conflicts in the workplace.

"I think; I have better critical reasoning skills than graduates from other institutes" (a graduate from 3rd batch MPH)

"A competency-based approach, in module-based learning, has equipped us at the planning and implementation levels." (a graduate from 1st batch MPH)

"Yes there are differences. During Nepal Health Professional Council (NHPC) license exam, my colleagues from other university had felt that they had not studied many contents. So, I taught them to qualify the exam. I felt I had learned a lot of things and we were different from others" (a graduate from 2nd batch MPH)

Competency of PAHS curriculum

a) Professionalism

The MPH graduates hold a positive self-perception regarding their professionalism and competence in the workplace. The requirement to adhere to a set schedule during their education at PAHS instilled a commitment

to punctuality, which they now consider a fundamental aspect of professionalism in their professional lives.

"I am always punctual, I behave well with my colleagues, I listen others, I take decision what I know clearly. I take feedbacks from boss, colleagues and other associates as appropriate. I guess these might be many things I do to maintain professionalism." (a graduate from 2nd batch MPH)

Collaborative group work during their studies at PAHS helped the graduates recognize the importance of being reliable team players. They stress the value of communication, honest assessment of one's capabilities, and sharing of knowledge within a team. This collaborative approach, emphasizing the recognition and utilization of individual strengths, is viewed as essential for achieving successful project outcomes. Their emphasis on ethical standards, integrity, and maintaining a positive and respectful attitude toward colleagues is another theme running through their perspectives.

"PAHS has taught us many things.....at first we learned discipline. We used to stay from 8 am to 5 pm in PAHS, thus I reached office on time." (a graduate from 2nd batch MPH)

"We always did most of our projects in teamwork (in PAHS). There used to be a lot of journal clubs, individual presentations and in that process also we felt like 'I can do this or I should do this' so there was a sense of responsibility because of that. With that it helped me to be confident and independent about myself." (a graduate from 3rd batch MPH)

In the workplace, the graduates emphasize the importance of leading by example and being a good team player. They mention scenarios where they actively lead teams, assign tasks, and focus on achieving goals collectively.

"Rather than saying I am punctual, how others take it is important. I am maintaining ethics in professionalism which is my self-evaluation." (a graduate from 1st batch MPH)

Regarding professionalism, the managers express consistently express a highly favorable perception of the professionalism exhibited by the PAHS graduates in their workplace. The graduates have proven to be an indispensable team member, lauded for creativity, diligence, and adeptness in meeting tight deadlines. Their adaptability to short notice and the creation of a positive work environment are noted positively.

The graduate also esteemed as a valuable asset to the government level as Ministry, excelling in behavior, work, and skills. Emphasis is placed on their independence, readiness for parliamentary questions, and consistent professionalism in daily tasks. Overall, managers' express satisfaction with the PAHS graduates, commending their exceptional work ethic, adaptability, and positive contributions across diverse projects and responsibilities.

"he is very good to accomplished certain tasks assigned

to him. Let me give you an example, Ministers in the parliament meeting have to give answers the questions asked by the members of parliament. In one of the Upper House meeting he was alone to support Minister of Health and Population. He prepared possible questions along with the answers to the questions. So he works like that and he knows nicely about the system.In the 12 months' work interval he has lessened asking me questions as he has the same level of information as mine." (a manager of a graduate working in Government)

"I don't know if this is his personal skill or this has been developed by PAHS but he is professional compared to others..... As he chose to work in Humla himself. He used to work in many hilly areas of Humla where there was lack of internet and in that condition also our overall team didn't cheat whether it be financially, technically or in work. They went to the most difficult place so we can't question him about work commitment" (a manager of a graduate working in INGO)

b) Working with the general people and disadvantaged community

The MPH graduates expressed that they engage with the general population and disadvantaged communities with a commitment to respect and value them.

"I have worked with disadvantaged populations. I try to support them and think about empowering them in the mainstream. I feel that I am very accountable towards treating people equally, we have to give them opportunities, and if they have to be involved in some work then their capacity should be built up. While designating positions to certain disadvantaged populations I have faced a problem that in some scenarios they cannot exactly pick up the work. I always feel accountable and I have to do mainstreaming and that kind of environment is also being created." (a graduate from 2nd batch MPH)

"..... we were working on a project which involved the people living with disability and related to gender inequality. We listened to their voice regarding their feeling ,their experience and the problems they faced while accessing health care especially in physical rehabilitation centers. In our projects we are more focused on all groups of people, especially marginalized people. We keep in mind that we have to focus on equity." (a graduate from 1st Batch MPH)

While some respondents' express limitations in direct outreach, citing research-focused roles, others detail active involvement in addressing social inequalities and health disparities.

"I don't think I am in a position to out rightly do certain kinds of things for the people. I don't think it is much relatable in my current work..... Not till now but we are going to do it soon as we are conducting research on children" (a graduate from 3rd batch MPH)

"wedon'tgotocommunitylevelforprogramimplementation but for monitoring and evaluation or to make assessments we go for field visits in the community..... When we generate evidence from our program's data, we segregate data according to sub groups and do analysis. Further when we design planning , we follow "reaching down reach" strategy to plan programs in hard to reach areas and support them. Since we have generated according to our strategy we obviously have input in it." (a graduate from 1st batch MPH)

Graduates describe their experiences in fieldwork, underscoring the importance of understanding the realities of marginalized populations. The graduates express a dedication to equity, focusing on disadvantaged groups, and emphasizing the need for interventions that benefit all segments of society. Moreover, they also share insights into the challenges faced by marginalized populations. They discuss the significance of understanding the unique needs of different groups, citing examples of how interactions differ based on community characteristics and socioeconomic conditions.

"We have been conducting research in disadvantaged groups and checking how effective our programs will be. There are still many things in awareness. If we could only conduct the program in a simple way, then also it will be beneficial. These are the things that I have experienced while working with general community." (a graduate from 2nd batch MPH)

Additionally, the graduates highlight the importance of working with community and rapport-building. They describe strategies for approaching communities, explaining study benefits, providing medical interventions, and assuring participants of the study's positive impact. While some graduates express a current focus on system-related work, they acknowledge the necessity of working closely with health workers and communities. The graduates stress the importance of humility in working with marginalized populations, emphasizing the need to respect their views and recognize the power dynamics at play.

c) Public Health Reasoning

The graduate's perceptions of their public health reasoning capacity, reveal a nuanced spectrum of self-awareness and development. They acknowledge the diversity within public health and emphasize efforts in critical reasoning despite limited experience. Graduates highlight the importance of working in diverse organizational settings, dealing with various populations and donors, and recognizing the growth in reasoning.

"Now, I always use evidence and logic before speaking. We don't always need p-value as many papers might not have it but there should be presence of logic....." (a graduate from 2nd batch MPH)

The consistent emphasis on evidence, logic, and critical thinking underscores the central role these elements play in shaping their understanding and application of public health principles. Overall, the graduates exhibit a dynamic and evolving perspective on their public health reasoning capacities, demonstrating a commitment to ongoing learning and the application of critical skills in their professional contexts.

"For two years we learned critical appraisal and it had helped a lot for reasoning capacity. It has helped to look at different angles." (a graduate from 3rd batch MPH)

In the other hand, the employers commend the graduates for their exceptional capacity to generate ideas, showcasing creativity and an open-minded approach. The graduate's strong understanding of community-based research in the realm of public health is acknowledged as exemplary. Additionally, the graduates were praised for effective planning through considering various factors. However, challenges are noted in few graduate's communication (reasoning) skills, specifically in situations where public speaking induces nervousness, despite possessing knowledge of the content.

"She is very open minded and is very creative. I have worked with other people as well and I had to spoon feed them but that is not the case with her..... So from the public health aspect in community based research she is the best." (a manager of a graduate working in NGO)

"Because she has been brought up following a system, she is very scared. If we ask why this is like that, she can't speak and is speechless." (a manager of a graduate working in Research/INGO PAHS)

d) Practical Skills

MPH graduates have honed various practical skills throughout their program and subsequent professional experiences. In workplace settings, they have exhibited practical skills, including planning, budgeting, and conflict management, showcasing competence in project management. A commitment to self-reflection and continuous learning is emphasized, acknowledging areas for improvement and recognizing the ongoing learning process for personal and professional growth. Those in leadership roles stress skills related to team leadership, decision-making, coordination, and effective communication, underlining the importance of confidence and professionalism.

".....my professional skills have grown because I worked in team for program management. I still have a lot more to learn as I am not that professional. (a graduate from 3rd batch MPH)

IT skills, encompassing familiarity with software demonstrate adaptability to technological advancements, is highlighted, especially in non-managerial positions.

"..... we know how to use soft-wares and do data analysis. Every university has their own limitations to which extent they can teach. While comparing with colleagues of the same level and batch I feel that we are ahead in that matter." (a graduate from 1st batch MPH)

Graduates showcase the adaptability of their skills across diverse professional contexts, reflecting versatility in various roles.

"..... not all skills are utilized in all professions. But recently while working in M&E, many practical knowledge related to program planning designing has been used." (a graduate from 1st batch MPH)

In corollary, managers viewed the graduates' positive attitude toward skill development. Despite being new to their roles, the graduates are commended for approaching challenges in a logical manner. Additionally, the acknowledgment of areas of uncertainty is viewed positively. Overall, they express satisfaction with the graduates' practical skills, adaptability, and commitment to continuous learning and improvement.

"I like her performance. We have given her add-on works which happens in most organizations. Based on her performance I am satisfied." (a manager of a graduate working in Research/INGO)

e) Communication Skills

The graduates' communication skills, reveal a multifaceted and nuanced understanding of its pivotal role in their professional lives. Their openness to self-improvement sets the stage for a dynamic and evolving communication skill set.

They witnessed the transformative power of experiences in shaping their communication competencies. The journey from introversion to extroversion is a common thread, with practical engagements such as presentations, thesis work, and interviews playing a pivotal role. This competency underscores the profound impact of hands-on experiences in fostering a positive evolution in their communication styles.

"When I was doing under graduation in medical, I was poor in public speaking. With the immense amount of self-directed learning and presentation, my communication skills definitely improved." (a graduate from 3rd batch MPH)

Contextual awareness emerges as a key competency, emphasizing the need to tailor communication approaches based on diverse situations. Whether navigating in-person interactions or virtual communication, the graduates showcase a keen understanding of the adaptability required in various professional settings.

"..... I now know whom to coordinate with, how to coordinate and in which approach, so that I can stand out and I could reflect what the project wants to do." (a graduate from 3rd batch MPH)

Managers have diverse perception regarding communication skill of graduates. Some are good i.e. being polite, gentle, and adept at dealing with stakeholders, while other are acknowledged to tailoring communication to different audiences and addressing nervousness.

"He is a very gentle guy. He is very polite. I have only heard good about his communication with internal and external partners or stakeholders. So that's a good attribute." (a manager of a graduate working in Government)

f) Scholarly quality

The graduates are actively engaging in research and academic pursuits. Their approach involves a deep understanding of evidence-based practices, emphasizing a commitment to sharing findings through manuscript writing. However, collaborative group work poses challenges, with varying levels of interest potentially affecting individual contributions. Despite these challenges, the graduates demonstrate a dedicated and proactive involvement in scholarly endeavors.

"I have prepared a manuscript of the scientific article using thesis data to disseminate the result to the audience as the paper demands" (a graduate from 3rd batch MPH)

In evaluating the scholarly qualities of the graduates, the employer's express positive views. The graduates are praised as are showcasing a self-learning approach to address challenges and ensure successful project analysis. The importance of a learning attitude is highlighted as a key factor in professional development, allowing individuals to study, grow, and comprehend competencies.

"Looking at the early indication there is a learning attitude. Learning new things, gaining new knowledge with the help of team members can be seen in her." (a manager of a graduate working in Research/NGO)

g) Leadership Quality

Many graduates are overseeing projects, and successfully managing conflicts within their teams. Graduates express a commitment to leading by example, actively participating in the tasks they assign, and maintaining open communication with their teams.

"I work by leading most of the work. Along with that I listen to different staff's opinions by conducting staff meetings and discussing with them and I take best possible decisions." (a graduate from 3rd batch MPH)

The managers hold mixed perspectives on the leadership skills of the graduates. Some graduates are highly dedicative, reliable, and effective project management. The managers highlight proactive and forward-thinking approaches. On the other hand, other were poor in ownership and leadership, attributed to hesitancy and a lack of self-confidence.

"Currently she is leading a project. I don't have to look at the project that she is leading because of her dedication

and reliability. She has smoothly run her team. As a team she had done an extremely good job." (a manager of a graduate working in NGO)

"I won't say that he knows every leadership skill now but he'll learn it while working. The leadership quality that he has been giving is perfect for us to work" (Manager of a graduate working in Government)

h) Community and Equity Oriented

It is evident that graduates are deeply committed to community and equity-oriented approaches in their careers. They emphasize a shift from merely understanding diseases to focusing on determinants, addressing the root causes of health problems, and conducting thorough analyses.

"..... I put my focus on determinants. Even when a health issue comes up in the news or from any other sources then there is a talk about multiple domains. The tendency to do root cause analysis of certain health problems has increased." (a graduate from 3rd batch MPH)

Graduates highlight their engagement with marginalized populations, demonstrating a commitment to equity. They actively incorporate Gender Equality and Social Inclusion (GESI) perspectives, emphasizing the need to address vulnerabilities.

"I first look at who is being affected, of which age group, which area or place do they live in, what are they exposed to which created that health issue. Previously where I used to work, in many programs there was like we have to mainstream GESI." (a graduate from 3rd batch MPH)

They underscore the importance of tailoring interventions to specific communities, acknowledging the diversity in Nepal and the need for context-specific approaches. They emphasized the significance of community engagement, recognizing one-size-does not fit-all approaches. Graduates discuss experiences with projects designed to ensure equity.

"Previously when somebody brought some problem then I used to look after the problem only but now I look at so what so what of the problem. I look after the determinants of health like where does that person come from, their background, their perception. To address some problems, we not only have to look at the patient's illness but also should address other factors as well." (a graduate from 2nd batch MPH)

Equity is consistently integrated into their work, whether it be through designing projects, providing services to disadvantaged populations, or considering the social determinants of health. Graduates actively seek community input, recognizing the importance of community perspectives and needs in shaping interventions. The emphasis on equity extends to participant selection in research studies, with a focus on marginalized communities.

While some graduates acknowledge challenges, such as limited resources impacting their ability to achieve equity, there is a strong awareness of the importance of equitable service distribution. The graduates demonstrate a clear understanding of health disparities, social determinants of health, and the need to address the unique challenges faced by different communities.

Regarding the community and equity oriented, the managers provided the mixed views on the graduates. Some graduates are praised for their flexibility and commitment to community-oriented work. Conversely, some graduate's evaluation centers on managerial and paperwork tasks rather than direct involvement with communities. The manager acknowledges potential constraints such as responsibilities and the nature of work, recognizing the limits on direct community engagement. Overall, the managers provide a nuanced perspective, taking into account factors like contextual understanding, willingness to work in challenging areas, and the balance between managerial responsibilities and direct community interaction when assessing the graduates' community and equity-oriented competencies.

"So while looking at it, he had a good understanding of the health system. And another thing is he had the desire to work wherever he was sent. Some of the friends said while we were interviewing that if we are to work in Humla we won't go there. But was first selected for urban municipalities but when he was asked if he would go to Humla then he was ready" (a manager of a graduate working in an INGO)

Positive response towards PAHS

Graduates express positive aspects of their learning experience at PAHS. They concede the institution's recognition as a prestigious brand that has contributed to their professional standing. The modular-based approach is commended for providing diverse exposure to public health, enabling graduates to seamlessly apply their knowledge in the field. The curriculum, including project-based learning, skill development workshops, and case-based discussions, has equipped them with practical and theoretical knowledge. Graduates appreciate the emphasis on independence and confidence-building in PAHS's education system. They note the institution's role in shaping their reasoning skills, critical thinking, and the ability to find information, all of which prove beneficial in their workplaces. The graduates also highlight PAHS's support beyond graduation, including the provision of materials and ongoing assistance from teachers. Overall, the positive feedback underscores the effectiveness of PAHS in preparing graduates for impactful roles in the public health sector.

"I feel that PAHS's education system teaches graduates to be more independent and has build more confidence." (a graduate from 3rd batch MPH)

"One good thing about PAHS is that they have provided us with materials and teachers also help us anytime we ask for help. So in these aspects PAHS is forward from other institutions in Nepal. People can forget if they are taught only once. Resource persons are teachers and if we go there and ask them to teach us about something that thing is also big for us and teachers of PAHS helps us anytime and this culture is good in PAHS" (a from 2nd batch MPH)

The employers also express satisfaction with public health professionals from PAHS, emphasizing positive experiences working with graduates. The employers highlight the quality of graduates, noting their effectiveness in various projects and their positive reputation among colleagues. One employer mentions the absence of complaints, showcasing the professionalism and competence of the PAHS graduate.

The employers appreciate PAHS's initiative to track and stay connected with its graduates, fostering a sense of respect and continued support. The employers commend PAHS for producing graduates who contribute meaningfully to different areas, acknowledging their skills, learning attitude, and career orientation. The positive feedback affirms the favorable impression of PAHS graduates in the workplace.

"This is my first time working with a public health professional from PAHS and I am quite satisfied.....I think that these types of professionals will help to make public health better." (manager of a graduate working in Government)

"I think it's good. Firstly, I am glad that you are tracking your graduates which is very helpful in many ways. They may feel respected personally, and also have the feeling that PAHS is still with us even though we have graduated. It's a good initiative to know how your graduates are doing." (Manager of a graduate working in Research/ INGO)

Recommendation for PAHS

The graduate provides constructive suggestions for enhancing the educational experience at PAHS. The graduate recommends dedicating more time to modules related to statistics, particularly for research interests. They propose increasing the graduate quota, improving exposure to management topics, and incorporating GIS, systematic analysis, and review into the curriculum.

The recommendation includes providing exposure to local levels, extending duration in municipalities for better understanding, integrating public service exam content, and addressing communication and coordination skills. Overall, the graduate offers valuable insights to refine PAHS's curriculum and educational approach.

"I feel that we were taught less about management or how to run an organization. Though we had done a case based on one hospital but in terms of management it would be better if it was in dept." (a graduate from 3rd batch MPH)

“... thing that should be added is GIS. Another thing is that they should teach about systematic analysis and review which wasn’t in our curriculum. Overall it’s good, other people also say wow it would have been better if we had studied there but it would be if these were incorporated” (a graduate from 2nd batch MPH)

“We only have academic knowledge but we don’t have much exposure outside. Outside world is different, they have different knowledge, different perceptions so we have to understand them. This is lagging in PAHS. There should be frequent exposure with community people.” (a graduate from 3rd batch MPH)

From the employer’s perspective, the program at PAHS is viewed positively, but there are specific recommendations for improvement. They emphasize the importance of lobbying to make public health more widespread and assert that the health system should not solely rely on Auxiliary Health Worker levels. Managing human resources is identified as a significant challenge, and the employer recommends collaboration among universities, academia, and other agencies to produce the needed professionals.

“I think that the program has been running well in PAHS. But my only concern is that the country cannot retain many professionals so people will go abroad for more opportunities. We have thought of enrolling professionals in public health like 1 in each rural municipality, in urban municipalities as per need 1, 2 or 3 professionals and to implement this we need lobbying. PAHS should not only produce but also take lobbying side by side” (a manager of a graduate working in Government)

Another feedback suggests that while PAHS excels in community-based health research, there is a deficiency in knowledge of pure or lab-based research. Furthermore, the employer recommends introducing exposure to clinical trials in the curriculum, especially as clinical trials are expanding in Nepal. They propose allowing graduates sufficient time, perhaps six months, for research during their master’s program, providing them with practical exposure and benefiting both graduates and employers.

“One feedback that I would like to give to PAHS’s program is that it is best in community based health research but the knowledge of pure or lab based research is still lacking and is not sufficient.” (Manager of a graduate working in NGO)

“I don’t know about the curriculum of public health. But I am sure there aren’t things about clinical trials. So because of that it was difficult for her in the beginning. I think clinical trials are expanding in Nepal, in the beginning we only used to do it but there are many clinical trials happening now.” (Manager of a graduate working in Research/PAHS)

Additionally, they suggest motivating graduates for self-learning and focusing on personal growth alongside academic growth to produce highly motivated employees. The employer emphasizes the need for competency-

based curricula aligned with the changing global public health context and suggests involving alumni in curriculum revision workshops.

“All institutions should look whether we are making a balance of theoretical and practical balance or not. My suggestion would be if you can call them one day, have a workshop with all the 48 graduates you have produced. They are the ambassador to your curriculum revision than any other professionals. Because they know what they have learned and they know what they are delivering and they can suggest if there is a gap. The curriculum needs to be revised on this basis.” (a manager of the graduate working in Research/INGO)

Finally, the employer suggests incorporating system exposure during thesis publication, using data from health management information systems (HMIS) and logistics management information systems (LMIS) to familiarize graduates with real-world challenges and prepare them for public health administration roles.

“In masters they should be given a chance to assess the system then after they pass out nothing will be new for them. If they learn about information systems or HMIS then they can know the whole program.” (a manager of a graduate working in INGO)

DISCUSSIONS

PAHS is striving to improve the health of people with limited resources through innovative approaches in education, service, and research. It has been equipping its public health graduates with the skills needed to advocate for public health, engage in policy development, manage health programs, ensure equitable access to quality healthcare, and conduct applied research.⁶ A multi-country study has showed that such approaches work for continuous professional development in new public health incumbents in LMICs.¹⁶ The School of Public Health has outlined 16 competencies to empower its students in contributing to improved health outcomes and equity through education, social change, and professional empowerment which are similar to other studies.^{7,17,18}

The study revealed that PAHS graduates are working in a domain like academia, research, policy, program and practice through program planning, implementing and evaluation in government and non-government sectors. They are working in the range of job positions like managers, policy, researcher, medical health personnel, academic, and other. A study conducted in India has also showed similar findings.¹¹ The scenario of in Europe and America is a bit different where about one fifths were employed in business.¹⁹ The MPH enrolled in Nepal is confine in human health sciences backgrounds, while it is generally open in Europe and USA.^{19,20}

PAHS equipped MPH graduates with a broad spectrum of knowledge to prepare them for their professional endeavors, employing a structured learning approach focused on project cycles. Graduates acclaimed the academic endeavor at PAHS for its enriching experience, underlining the imperious to overhaul traditional teaching and learning methodologies.¹⁷ This new approach in public health education equip graduates with the ability to assess and create valuable contributions as competitive public health professionals.^{20,21}

Regarding job performance appraisal, the graduates expressed confidence in their skills in program management and research. They noted that these skills are applicable across various aspects of public health projects, similar to findings from a Canadian study conducted in 2014.²² The innovation in teaching learning modality like project cycle approach, equipped them for competitive career opportunities as well as advancing to further study.^{23,24} This modality has built them for self-directed learning, problem-solving, and making them more adaptable and competent in real-world scenarios which is similar in studies related competency based education and outcomes framework.^{6,18,25,26}

PAHS's public health education stands out for its multidimensional and dynamic approach, ensuring graduates not only fulfill job requirements but also possess essential competencies and skills applicable to their personal and professional facets. This educational model prioritizes outcome-based learning over traditional knowledge dissemination or time-in-seat.^{25,26}

PAHS's educational method in public health has cultivated ethical norms and fosters a favorable disposition towards coworkers. This culture leads to team members being esteemed for their innovation, dedication, and aptitude in meeting deadlines, making them invaluable assets to professionalism.²⁷

Regarding the effectiveness of public health practices, and actions, gaining public trust professional standards was appraised by graduates and their managers. Be it working at policy level or disadvantage communities, graduates have attempted to improve the performance.¹⁸ They attempted to respond to a situation which highlights the importance of having an ethical framework to drive decision making.^{28,29}

In terms of public health reasoning, system thinking; the graduates demonstrated a practical skill understanding the intertwined relationship between health and societal and economic influences to achieve the common objective of ensuring health coverage for all.²⁵ They actively sought to involve all stakeholders in improving population health and reshaping public health systems and services, recognizing the increasing urgency of this endeavor.³⁰

This research revealed that PAHS graduates demonstrated leadership and equity-related skills across various professional settings. These skills, recognized globally, empowered graduates to carve out distinctive identities in their respective professional arenas.²⁹

CONCLUSION

The MPH program at PAHS has evolved since 2017 to meet national needs. It spans two years, with eleven modules and a thesis component. Each module teaches specific skills using various methods like skill development workshop, case-based discussion, field visit followed by didactic sessions. Graduates excel in research and promoting healthy lifestyles. Both graduates and their supervisors appreciate the curriculum's effectiveness in public health training and research. They were satisfied with their experiences and emphasized the relevance of theoretical and practical knowledge acquired at PAHS. Similarly, the employers also expressed satisfaction with the graduates from PAHS, especially the positive work experiences.

The competency-based curriculum in public health is not only achievable and practical but also crucial for preparing graduates by equipping them with practical, job-ready skills with a workforce to meet the complex demands of the public health sector in Nepal. The managers of PAHS graduates are proud bystander of their proficiency.

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