

ORIGINAL ARTICLE

Public Health Bachelor's Perception of Skills Needed to Work in the Health Office: A Qualitative Study among Alumni from Universitas Negeri Malang

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ABSTRACT

Introduction: Health is a dynamic, emerging, and interdisciplinary field. To address current health problem challenges, we need a public health workforce constantly adaptable and equipped with the newest skills. This study was to explore the skills needed by public health bachelor's to work in the health office. **Methods:** We used qualitative methods. A total of six participants took part in this study. Interviews were held virtually via Zoom Platform in September 2022 using a semi-structured interview guide. Interviews were audio-visual recorded, and transcribed verbatim. The transcripts were coded by members of the research team and a thematic analysis was conducted. **Results:** The majority of participants get jobs in the office through different work entrances. Our study identifies that participants need technical and interpersonal skills to support their job in the health office. Outside learning contributes to developing skills needed by participants. **Conclusion:** This study represents an initial endeavor to identify the core work-related skills for public health graduates who work in the health office. Future research is needed for longitudinal larger scale quantitative studies to confirm our qualitative findings. In addition, our findings promote transformations on learning for Bachelor of Public Health Program more comprehensively.

Malaysian Journal of Medicine and Health Sciences (2023) 19(4):225-230. doi:10.47836/mjmhs19.4.33

Keywords: Human resources management, Workforce development, Workforce skills, Public health workforce, Public health education

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INTRODUCTION

The Fourth Industrial Revolution creates a massive impact on employment, skills, and education. The rapidly evolving technologies result in major disruptions to labor markets. Employment and how people work have transformed, many jobs are lost, while new categories of jobs emerge, partly or wholly displacing others (1). The skill sets needed in both old and new occupations will change in most institutions. With the advent of the Fourth Industrial Revolution came a paradigm shift built on core work-related skills (2). It also calls for education reforms so students are well prepared to face the workforce. In an effort to address this new paradigm, recommendations in higher education for the creation of more practical and applied curricula or user-oriented ways to help students develop the competencies required (3,4).

The growth of undergraduate public health education is most prominent in Indonesia. The first Bachelor of Public Health Program was opened in Indonesia with a collaboration between Universitas Indonesia and the United States Agency for International Development in 1965 (5). Until 2010, a total of 142 Bachelor of Public Health Program was provided, therefore the Director of Higher Education, Ministry of Education decided moratorium for these program based on recommendation from the Indonesian Public Health Association (6). Now, There are 174 colleges and universities that offer Bachelor of Public Health Program and have been accredited by the Indonesian Accreditation Agency For Higher Education in Health (7).

Universitas Negeri Malang is the only university that provides a Bachelor of Public Health program in Malang, East Java. In 2013, The Bachelor of Public Health program was formed and located in the Faculty of Sport Sciences (8). More than 200 graduates have been produced since it was first established (9). While some students choose to enroll in a Master of Public Health program after they have earned their undergraduate degree, many enter

the workforce. Public health graduates from Universitas Negeri Malang successfully work in government and non-government sectors. Tracer study data collected by the Department of Public Health shows that graduates get jobs in various worksite such as healthcare facilities (e.g. public health centers, clinics, and hospitals), health offices, companies or industries, and non-governmental organizations (10).

Public health is a broad term encompassing several areas, such as epidemiology, health policy, nutrition, maternal and child health, and infectious diseases. Career in public health tends to focus on helping various populations become healthier, it typically involves many different types of work (11). But in most cases the major focus of the public health workforce has been on governmental public health since public health may traditionally be thought of as the domain of government (12). An effective public health system relies heavily on the workforce capacity of national, state, and local health departments. At the local level, local health department staff carry out a wide array of responsibilities to promote and preserve the health of their communities (13).

Today's, public health workforce faces challenges from the Covid-19 pandemic and it has placed this critical workforce in the spotlight now more than ever. The increasing complexity of disease patterns, interventions, partnerships, and technologies requires a broad skill set among the public health workforce. Perceptions of graduates who have worked are the significant mechanism to provide a baseline for improvement in the education received during university days. University must first understand the employee's need so that the graduates present with the required qualities. Thus, this study sought to explore the skills needed by public health bachelor's to work in the health office. This study focuses on health offices because it absorbs more workforce from public health graduates than other institutions.

MATERIALS AND METHODS

Study design and setting

A cross-sectional qualitative study was conducted in September 2022. This study was carried out in six local health offices in East Java that are divided into district areas namely Malang, Mojokerto, Tuban, and city areas namely Surabaya, Madiun, Pasuruan.

Participants

Participants were recruited using announcements in the alumni WhatsApp Group in July 2022. We collaborated with alumni to distribute the study announcement to their group WhatsApp. The study announcement included a study protocol, eligibility screening, and the option to leave contact information if interested in participating in the interviews. We purposively selected participants from alumni of Bachelor of Public Health

Universitas Negeri Malang who have worked in the health office for a minimum of one year. Participants who indicated interest in being interviewed were contacted by WhatsApp to schedule the interviews. Participants included six people, three of them from the district health office and the other three representing the city health office.

Data collection

All interviews were conducted online using the video conferencing platform Zoom by the first author (DM) and lasted between 60 and 90 minutes. The interviews were semi structured based on topic guides (Table 1) consisting of open-ended questions covering how graduates get a job in the health office?, what are skills needed to work in the health office?, and how does learning in the university contribute to the skills needed to work in the health office?. In addition, some basic socio-demographic questions (e.g. age, gender, marital status, education, and employment status) were asked.

Table 1: Interview guide

Focus area	Questions
How graduates get a job in the health office?	a. Where did you know about job vacancies in the health office? b. What work entrance did you use to get a job in the health office
What are skills needed to work in the health office	a. What skills are frequently used to work in the health office? b. How do you improve these skills?
How does learning in the university contribute to the skills needed to work in the health office?	a. What learning experience in the university supported skills to work in the health office? b. How should a learning conducted by the university to prepare the skills of graduates who will work in the health office?

Data analysis

Socio-demographic characteristics were calculated to describe the study participants. All interviews were transcribed verbatim from audio-visual recordings. No transcripts were returned to participants for correction, as it took a prolonged period to ensure all participants corrected the transcripts. The transcripts were read several times to understand contents and contexts. The transcripts also were coded manually and analyzed inductively using thematic analysis.

Ethical considerations

Written informed consent was obtained from each participant. Ethical approval was granted by the Health Research Ethics Committee of State Polytechnic of Health Malang (Approval No. 651/KEPK-POLKESMA/2022).

RESULTS

Characteristics of study participants

Of the six study participants, three of them were male and the other three were female, four were single. All

study participants were aged under 30 years old. Most study participants were graduates from bachelor's programs with various public health specialties. All except one of our study participants were on a temporary contract. Four of our study participants were employed in the health office as data managers. The vast majority of study participants have worked in the health office for two years. A summary of the socio-demographics characteristics of the study participants is presented in Table II.

Work entrance of public health bachelor's in the health office

The majority of study participants described that information about job vacancies in the health office is obtained through alumni and classmates networking. As mentioned by this participants:

'A lot of job vacancies gain from the alumni WhatsApp group. Seniors and classmates often share job fair and job vacancies anywhere through WhatsApp groups' (P1)
'Incidentally, I have classmates who work in the health office. Their work unit still requires additional staff to help. Therefore, they contacted me to offer this job' (P2)

All study participants have different work entrances in the health office. Approximately half of all study participants reported that they were contracted by the health office on behalf of the local government. Some participants were recruited by partnership of the Ministry of Health and Global Fund which were placed in district/city health offices in Indonesia. Additionally, there is one participant who works in the health office through a civil employee scheme. As illustrated by this participants:

'Once upon a time, the health office opened a big recruitment for contract workers with various categories such as nurse, midwifery, public health, and others. So, I try to apply' (P3)

'I heard the announcement about recruitment for HIV data officers funded by the Global Fund. Then, I joined the program and placed in the health office until now' (P5)

'I participated in the civil servants selection and was accepted as a permanent employee at the city health office' (P4)

Skills needed by public health bachelor's in the health office

Most study participants described two types of skills that are often applied when they work in the health office. First, technical skills related to the public health field namely data analysis, and management. Second, soft skills that refer to character traits and interpersonal skills that will influence how a person works or interacts with others including communication, critical thinking, and problem solving. As stated by this participants:

'In my opinion, data analysis is a skill that I frequently use to support my job. How to process raw data into readable data, how to analyze and interpret the data, how to transform data into information to support policy making' (P2)

'Not only data analysis, management also is very important. The health office has functions to manage health financing, take responsibility on planning and evaluation of health programs and various assessment so management must really be mastered" (P1)

'I think communication is an essential skill for all workers, not only for alumni from health promotion specialties. This skills also train us for public speaking and increase self-confidence if we coordinate with other people' (P5)

'Critical thinking and problem solving are vital skills. We need critical thinking to analyze health problem in

Table II: Socio-demographics characteristics of study participants

Participants	Gender	Age (years)	Marital status	Highest level of education	Public health specialties	Location of health office where they work	Current position in health office	Employment status in health office	Number of years worked in health office
1	Male	24	Single	Bachelor's degree	Occupational health and safety	District	Data manager	Temporary contract	2
2	Male	24	Single	Bachelor's degree	Health promotion and behavior	District	Data manager	Temporary contract	1
3	Female	25	Single	Bachelor's degree	Reproductive health	District	Data manager	Temporary contract	2
4	Male	28	Married	Master's degree	Epidemiology	City	Health administrator	Civil employee/permanent	2
5	Female	26	Single	Master's degree	Epidemiology	City	Data manager	Temporary contract	2
6	Female	27	Married	Bachelor's degree	Health promotion and behavior	City	Health administrator	Temporary contract	2

community, and use problem solving for formulating the best solution' (P3)

The ability to adapt quickly with the worksite is a challenge for fresh graduates who are just starting their careers. Upgrading skills become a demand to support the occupation. All study participants make several efforts to improve their skill such as attending training, mentoring from senior staff, and independent learning. As remarked by this participants:

'I regularly attend training organized by the office. Through these activities, I hope that I can improve my skills' (P1)

'I feel really shocked and clueless when I begin work in the health office. Alhamdulillah, I have senior staff who willing to teach me so that I become understanding the whole of my job' (P3)

'When I got a task to analyze data for the first time, I didn't know how. Then, I used Google to find the solution. Finally, I learned again and can solved it' (P5)

Contribution of learning in the university for public health bachelor's skills

The majority of study participants reported that the greatest contribution from learning experiences in the university to working skills in the health office did not come from lectures in the classroom but from outside learning such as field learning practices (community), internships (institution), activities of student organization, and lecturers projects. As communicated by this participants:

'Field learning practices and internships were the most useful learning experiences for me. From field learning practices, I can meet many people with various characters, and find real health problems, it is very exciting. I also get the opportunity to explore health programs and to analyze and make solutions for health problems when internships' (P3)

'Field learning practices relate to the community. While I mostly work in the office, I don't interact directly with the community. So, internship experiences help my job a lot' (P2)

'The activities of student organizations have a tremendous impact on today's workforce. Practice coordinating with many people. Moreover, the work in the health office is dominated by coordination activities with stakeholders such as meetings public health centers' (P4)

'I feel that there are two learning experiences that are really helpful for my job. First, participating in a lecturer project gives much learning for me, especially public health competence, administration, and networking skills. Second, the activities of student organizations that

teach bureaucracy, lobbying, and public speaking skills' (P5)

Learning recommendation for university

All study participants commented that working in the health office is not enough just to rely on theory, practice is also very much needed. The learning in the university is suggested to integrate theory and practice to prepare the skills of graduates who will work in the health office. As explained by this participants:

'Theory and practice complement each other. Before practice, we must have a basic understanding first. We can also compare whether the practice is in accordance with the theory or not' (P2)

'Competencies that are very relevant to the workforce are skills obtained from practice. Nevertheless, theory is still needed to strengthen our knowledge' (P5)

DISCUSSION

This study explained data analysis, and management as main duties for public health graduates who work in the health office. Both of these duties are in line with the role of the health office which manages the health sector in provincial and local governments (14). The functions of the health office include formulating health policies and delivering health services (15). To support the implementation of these tasks, public health graduates frequently use data analysis and management skills. This aligns with other studies that found knowledge about tools which are often assumed more relevant with the workforce such as biostatistics, computer applications, planning and evaluation, and management (16).

The results from this study conducted with public health graduates who work in the health office indicate that communication, critical thinking, and problem solving skills are highly valued. Communication was rated as one of the most important skills for ensuring that health policies and programs are well managed (17). Other studies reported that effective communication was identified by all public health practitioners as essential skills in their field, as public health does not function through individual efforts (18). In a recent study intended to assess workforce development needs and priorities across all disciplines within public health, the investigators identified systems thinking, communicating persuasively, change management, information and analytics, problem solving, and working with diverse populations as priority cross-cutting areas (19). Other important skills for training and preparation of the public health workforce included public health knowledge, transferable and specialized skills (20).

With the growing recognition of the importance of core competency development, public health agencies, including local health departments, have set workforce

development as a priority. The core competencies consists of analytical or assessment, policy development or program planning, communication, cultural competency, community dimensions of practice, basic public health science, financial planning and management, and leadership and systems thinking (21). Previous literature has provided evidence on the core competencies as a tool for evaluating competencies of the public health workforce (22).

In addition, public health education should increase emphasis on communication, financing, systems thinking, and other management skills among their graduates (23). Undergraduate public health education would provide trained individuals to fill entry level positions in public health agencies (24). Public health education also plays a role in preparing graduates to enter public health broader employment destinations (25). The public health education curriculum is designed to develop the skills of graduates for early career professionals (26). Public health education programs that require contact hours with a public health institution offer a unique opportunity for local health departments to influence the education and training of public health students (27). Contact hours via internships and externships allow students to learn vital skills that may not be taught by their public health classes. Efforts to improve human resources for health contribute to health system performance (27). The reality of public health work in the modern era and the constraints on undergraduate-level lead to our conclusion that the liberal education framing is a more optimal way to design the degree program (28).

In general, technical skills and soft skills are key factors affecting public health graduates' success in the workplace. If public health bachelor's have inadequate skills, it will significantly impact the alumni, the educational institution, and the health office. Lack of skills makes alumni difficult to conduct their job. The low quality of graduates reduces the level of trust and satisfaction of graduate users on educational institutions. The poorly performing employee contribute to the bad performance of institutions.

CONCLUSION

The present study shows that public health bachelor's get jobs in the health office through alumni and classmates networking. This study also concludes that technical skills (data analysis, management) and soft skills (communication, critical thinking, problem solving) are needed by public health bachelor's to help their job in the health office. In addition, this study finds outside learning from field learning practices (community), internships (institution), and activities of student organization, and lecturers projects highly contribute to the development working skills in the health office. This study also reports learning in the

university greatly contributes for development skills needed in the worksite. Our findings inform future research for longitudinal larger scale quantitative studies to confirm our qualitative findings. There is an urgent need for transformations on learning for the Bachelor of Public Health Program more comprehensively to ensure public health graduates get skills needed at work.

ACKNOWLEDGEMENTS

Authors would like to thank all participants for their time. The current study was supported by Faculty of Sports Science, Universitas Negeri Malang (Grant reference number: 18.5.60/UN32/KP/2022).

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