



ORIGINAL RESEARCH

Professionalization of Public Health – an exploratory case study

Hilke Mansholt^{1,2}, Katarzyna Czabanowska^{2,3}, Robert Otok⁴, Jascha de Nooijer⁵

¹ Department of New Public Health, Osnabrück University, Osnabrück, Germany;

² Department of International Health, CAPHRI, Faculty of Health, Medicine and Life Sciences, Maastricht University, Maastricht, The Netherlands;

³ Institute of Public Health, Faculty of Health Sciences, Jagiellonian University, Krakow, Poland;

⁴ Association of Schools of Public Health in the European Region (ASPHER), Av de Tervueren 153, 1150 Brussels, Belgium;

⁵ School of Health Professions Education, Maastricht University, Maastricht, The Netherlands.

Corresponding author: Hilke Mansholt, M.Sc.; Department of New Public Health, Osnabrück University;

Address: Barbarastraße, 22c 49076 Osnabrück, Germany;

Telefon: +49 (0)541 969-2078; Email: hilke.mansholt@uni-osnabrueck.de

Abstract

Introduction: Public health is continuously challenged by a shortage of workforce. There are various reasons for this: 1) public health is less visible than traditional health professions and people may be unfamiliar with the nature and opportunities involved in entering this career field; 2) lack of official recognition of public health as a professional category; and 3) no umbrella organization that supports its members and governs professional standards as is the case of other more established professions. To adequately address the challenges of public health for the 21st century, a key policy element will need to focus on adequately cultivating, training and growing the future workforce of professionals in the field. The aim of this study was to examine why professionalization of public health in Europe is not as robust as it deserves to be and what steps can be taken to assure an adequate supply of professionals with the proper education and training background, and career guidance to tackle the public health needs of the future.

Method: A case study approach was used collecting data via a scoping literature review, a focus group with public health students and interviews with public health experts for convergence. Data was analysed using directed content analysis and pattern matching logic.

Results: Public health fulfilled five out of seven attributes of a profession, such as skills, training and education, certification and an altruistic service. Recognition of Public Health as multidisciplinary and multi-professional field, derived from the interviews as an additional characteristic. A code of ethics and professional conduct and a formal organization were missing.

Conclusion: Public health professionals and organisations that govern best practices in this field should consider introducing a shared code of ethics and professional conduct as well as establishing a coordinated body to help advance the public status as a the profession to increase interest in studying and specializing in this area.

Keywords: *professionalization, public health workforce, qualitative study*

Conflicts of interest: None declared.

Introduction

Healthcare is one of the largest economic sectors in the European Union (EU) – accounting for around 17 million jobs (1). Most of these jobs are done by the public health workforce (PHW), “people who are involved in protecting, promoting and/or restoring the collective health of whole or specific populations” – and thus distinct from other medical practices (2). The PHW is multidisciplinary and multi-professional in character (3), encompassing a core PHW that identifies with a primary public health role and a wider PHW including health professionals and others who impact on population health (4-5). According to Czabanowska et al. the main task of public health professionals is to focus on the provision of Essential Public Health Operations (EPHOs) and thus display a more focused set of skills while providing leadership that ensures networking, coherence, synergy and strategic impact. The authors further perceive the public health workforce not only as “professionals in traditional public health occupations (such as medical doctors specialized in preventive medicine and public health, food safety inspectors, environmental health officers, communicable disease control staff, etc.) [...] but also a range of “new” practitioners working in the broad field of public health protection, prevention, promotion, service delivery and quality assurance, such as those involved in projects and programmes (e.g., the Healthy Cities and Health-Promoting Schools movements)” (6).

Today, Europe is faced with a shortage of PHW due to many factors, such as low fertility rates and aging population leading to an imbalance between patients/overall population size and public health staff (7). Further, the inconsistency in defining the PHW has an impact on the shortage of workforce, demonstrating a significant challenge for European health systems. But the declining interest in

the profession among young people is to be expected given the informal and fragmented nature of the public health profession, underlining the importance of a clear definition. Cioffi et al. (8) claim that, “the fact that the public health workforce is not a single profession, but rather a fabric of many professions dedicated to a common endeavour, creates challenges to any singular approach to workforce development”.

When following the definition of Cruess et al. (9) who define a profession as “an occupation whose core element is work based upon the mastery of a complex body of knowledge and skills”, public health seems to be a profession. However, compared to medicine or pharmacy, public health does not enjoy the benefits of the Directive 2005/36/EC (10) such as: recognition of professional qualifications by the EU Member States, professional mobility or the assimilation of workers in the single market which apply only to regulated professions (11-12). The lack of professional categorisation and recognition at the regulatory level becomes apparent in the context of attracting prospective employees or students to pursue this field of study. Bjevgovic-Mikanovic et al. (13) see an additional problem in the existence of many different study programmes that focus on individual aspects of public health rather than providing a broader and basic knowledge. This makes it difficult to state what the public health discipline really is, and where decision-makers can seek advice. Therefore, there is a need for an authorised public health profession founded on graduation from comprehensive public health education (13). The establishment of public health as a profession follows with regulation and formal recognition as a “category” among the “listed” professions of Europe and their taxonomy. The purpose of the taxonomy is to facilitate the systematic

characterisation of the public health workforce. Currently, the International Standard Classification of Occupation (ISCO-88), has two sub-major groups (health professionals and health associate professionals) within which only a few occupational titles refer explicitly to public health (14). There are several pathways to establishing a profession. Professional status can be achieved via training and education resulting in a specific degree. In this respect public health follows the Bologna process, an initiative that adjusts and harmonizes study programmes. Moreover, there are social processes that transform an occupation into a profession, empowered by either employees and service users (bottom-up process) or employers and government (top-down process) (15). For the employers, the professional status of an occupation means that they can require a diploma or certificate, which ensures, that the applicant possesses specific skills and knowledge. For the government, professionalization can require the development of educational standards and a unified curriculum. Moreover, a professional status requires a code of professional conduct, which can help to enhance the quality and security of and for employees. Additionally, degrees and diplomas can function as an assurance for customers, increasing their trust and confidence in making use of a service (16). Although professionalization and formal recognition of the public health field may be a way to elevate the status of the public health profession and stir international interest, little has been done in the European Region to address this pressing need. The current exploratory case study aims to find out hoand why public health is understood and recognised as a profession using multiple data sources: literature, public health experts and students of public health in view of the theory of professionalization (17).

Methodology

This study uses a case study approach which investigates a contemporary phenomenon, in this case “*professionalization*”, within its real-life context, in particular when the boundaries between the phenomenon and the context are not clearly evident. It relies on multiple sources of evidence to converge in a triangulating fashion. It assumes a relativist orientation acknowledging multiple meanings, which are observant dependent (18). The study uses the theoretical propositions of the theory of professionalization to guide data collection and analysis (19-20). The propositions which represent the characteristics of a profession include:

- skills based on abstract knowledge which is certified/licensed and credentialed;
- provision of training and education, usually associated with a university;
- certification based on competency testing;
- formal organization, professional integration;
- adherence to a code of conduct;
- altruistic service.

The data were collected using: 1) a scoping literature review, 2) a focus group with public health students and 3) individual interviews with public health experts for convergence. The data were analysed using directed content analysis (21) and pattern matching logic (20, 22). If empirical patterns appear to be similar, the results can help a case study to strengthen its internal validity (20).

Scoping review

The scoping review (23-24) included articles which: 1) focus on the process of professionalization in relation to public health occupations; 2) are published in English and German; and 3) cover the period from 1st of January 1920 – 1st of July 2017. The following key words and their combinations were used:

professionalization, profession, skills, education, training, certificate, formal organization, professional integration, altruism, professional code of conduct, public health, workforce, health occupations and Europe. The study made use of the following databases: PubMed, PsychINFO, ERIC, Springer, BioMed Central, Science Direct, Google Scholar and the websites of the European Commission (EC) and World Health Organization (WHO). The information obtained guided the focus group and expert interviews.

Focus group

The focus group (FG) aimed to get a deeper understanding of how the missing professional status of public health might affect future workforce expectations and how graduate students perceive this issue (25). In total, ten students (males n=4, females n=6) of the Bachelor (B-EPH) and Master of European Public Health (M-EPH) at Maastricht University (NL) participated, representing two levels of higher education. Thereby, the B-EPH programme mainly focuses on the determinants of health and concrete health issues and how they are tackled in different countries. In comparison, the M-EPH approaches public health from a perspective of collective action for sustained population-wide health improvement and reduction of inequalities within the institutional, legal and administrative boundaries of health systems. Both programmes have a strictly public health focus

and an international student population. Students were selected on a voluntary basis via the electronic learning environment. During the FG, the moderator led the discussion following an interview guide referring to the awareness and recognition of the professionalization dimensions in relation to public health profession (Table 1).

The questions were open, in-depth and semi-structured, meaning that they were adapted or added with the progress of the FG. Further, the 90-minute FG, was audio-taped

Expert interviews

Four in-depth interviews were carried out at the Association of Schools of Public Health in the European Region (ASPHER) Deans and Directors' Retreat in May 2017. Experts were selected, representing leading PH organisations (World Health Organization (WHO), European Centre for Disease Prevention and Control (ECDC), Agency for Public Health Education Accreditation (APHEA) and a university providing PH educational programmes). The interviewer followed an interview protocol with open-ended, in-depth and semi-structured questions (Table 2). Each interview took about forty-five minutes and was audio-taped. Both the students and the experts signed the informed consent and were offered to review the analysed results for validation. They were assured of the ethical principles including anonymity and confidentiality to increase honest answers.

Table 1. Focus Group guiding questions

Examples of questions for students

- Why did students choose a bachelor or master in public health?
- What are future job perspectives of public health students?
- How do studies in public health prepare students for the job market?
- How can studies in public health be improved?
- How necessary is a specialization in public health?
- What are characteristics of a profession?
- Is public health a profession? Which characteristics are missing?
- How is the public health workforce supported?
- What are concerns regarding the future of public health?

Table 2. Individual interview guiding questions

Examples of questions for public health experts

- Is public health a profession?
- Which characteristics of a profession is public health missing?
- How can studies in public health be adapted to the job market?
- How can public health students be supported (to enter the job market)?
- Will public health at the European level change in the future?
- Is public health prepared to keep up with changes in knowledge and practices?
- Is public health taken seriously on the European level or by the population?
- How to raise the importance of public health?

Directed Content analysis and Pattern Matching

The data of the FG and interviews were analysed using a directed content analysis based on predetermined codes representing the constructs from the attribute models and one additional code *Public health as a profession*, which was derived from the data (18). The FG and interview data were matched with the results of the literature review to “provide predictions about the variables of interest,

which helped to determine the initial coding scheme” (20), and to assure credibility and pattern matching, which is a strategy for aligning data to the theoretical propositions (22) and finally, providing theoretical explanations and developing the research outcome. The analysis and interpretation of the results were discussed among the researchers until consensus was reached to reduce a potential bias.

Results

Scoping review

Comparison of the literature with the predicted pattern shows that both patterns match only partly. Similarities and differences are explained hereafter.

Regarding *a defined set of skills*, major work was done by ASPHER, starting with defining a system of core competencies which could be applicable to public health education, research and practice throughout Europe (26). Since the start of the programme in 2006, much consideration was given to whether the skills taught in schools and programmes of public health reflect what is needed in reality (14, 27-29). That led to further analyses and the development of the latest edition of the “European List of Core Competences for the Public Health Professional” (30). The most recent “WHO-ASPHER Competency Framework for Public Health Workforce in the European Region” (31) is an example of a tool to support public health workforce development, professional self-assessment and staffing.

Regarding *education and training*, effective pedagogy and a public health curriculum that balances theoretical and practical education is essential to enable core competencies for future professionals. The seventh out of the ten EPHOs aims to “ensure that there is a relevant and competent public health workforce sufficient for the needs of the population it is designed to serve” (32). EPHOs self-assessment tools were developed and answered by public health services in 41 countries, to detect issues regarding the public health workforce and to give recommendations with respect to training, curriculum, core competencies, accreditation or continued professional development (34). In the following, ASPHER established the European Degrees in

Public Health project group to design a European Master Programme in Public Health (EMPH). The aim of this project was training harmonization, a recognition of degrees without restrictions and thus free movement of specialists within the European Union; public health schools and programmes were invited to apply this curriculum and adapt their education (35). Although further numerous initiatives took place to strengthen public health education and training (36-37), it illustrates a quite heterogeneous topic (34). Therefore, public health follows other harmonizing frameworks like the Bologna process or the European Higher Education Area. Thus, the basic education and training offer in public health is in place; further effort is required to ensure its comprehensiveness, including strong continuous professional development (CPD) – essential for the professional status. After successful finalisation of the studies in public health, schools of public health have to deliver a certificate that acknowledges the completion of the programme (38). Further, certificates help to test the competencies and reveal whether a person, based on his or her skills and education, can be seen as a professional in the field and fulfils the requirements needed for the position. However, since programmes are not harmonized, certificates are not always comparable and may have a varying degree of significance. This makes the job application process more difficult for both employers and applicants. Therefore, some initiatives, for instance by the US National Board of Public Health Examiners or the UK Faculty of Public Health, are being undertaken to support academic certification with professional credentialing systems in public health.

Many organizations play a role and contribute to the European public health agenda representing different groups of stakeholders.

There is the European Public Health Association (EUPHA) – an umbrella organisation for national public health associations (39), and the European group within the International Association of National Public Health Institutes (IANPHI) (40). There are also the following networks: the European Public Health Alliance (EPHA) – consisting of non-governmental organisations and focusing on a wide range of advocacy efforts (41), the EuroHealthNet – another not for profit partnership – of organisations, agencies and statutory bodies working to contribute to a healthier Europe by promoting health and health equity between and within European countries (42), and ASPHER, “a key independent European organisation dedicated to strengthening the role of public health by improving education and training of public health professionals for both practice and research” (43). This is only a selection of five out of many organizations striving to improve and support different functions of public health in Europe. However, one formal organization that covers and combines all aspects of public health and is responsible as well as representative to achieve a professional integration was missing.

Several attempts have been made to create guidelines and frameworks for the PHW. Nevertheless, a strict code of conduct that employees as well as employers working in the field of public health have to obey and follow when conducting their job, was lacking. This constitutes a problem because public health illustrates the need to “guide the behaviour of practitioners in the field, especially when it comes to morally or ethically ambiguous activities” (15).

Conversely, for epidemiological research, which is inter-related to public health, the Declaration of Helsinki is mandatory (44). Consequently, with respect to the profession-

alisation of public health, Foldspang (45) argued that “in each country, we should discuss the shaping of an authorised profession and about what that means in concrete terms, including, for example, the development of agreed public health professional standards and ethical rules”.

Concerning altruistic service, people within a profession should strive for the same goal and thus put the interest of the society over their own personal gain which is often described as a paradox, double role of professions as officers and servants of society. Literature that described this altruism specifically in connection with public health was not found. However, according to Yach and Bettcher (46), in public health altruism was intersecting with self-interest. One example for this is globalization and the fact that “in a world of shared global problems, the moral imperatives of addressing these problems also bring mutual benefits” because nowadays poor and wealthy countries affect each other more and more and should therefore build “knowledge partnerships” to support as well as profit from each other (47).

Focus group

Similarity was found in the fact that students agreed that a certain set of skills is required for a professional status. They found that public health provides an insight into a broad range of topics, sectors and stakeholders having an effect on health and the width of public health made a career more accessible and attractive but also caused uncertainty since in an academic setting practical knowledge is often missing. The students feared not getting an adequate position or that some parts of the studies might change in the future or the degree might become less relevant. While a master degree in public health is perceived to have high relevance by the students, a bachelor degree seems to be less important and

vague. Nevertheless, the students concur that the degree offers flexibility and the opportunity to switch between various careers.

According to the students, a representing professional body or organization is a requirement for a profession but it is missing in public health. The field of public health is emerging but is also lacking appreciation since outcomes are often not linked to the field. Thus, the students emphasised the need for establishing a formal organization which could provide guidance for and promotion of the expanding field of public health and enforce awareness by the society. The students mentioned that a profession is characterized by a set of rules and guidelines one needs to follow when working in this field. However, none of the participants was aware of a specific code of conduct for public health. When studying public health, students have a certain way of thinking and the shared goal to improve the health and well-being of other humans, creating some kind of identity. Although outcomes are not immediately visible and are often not linked to the work of public health professionals, they still continue and try to improve the health of a population.

Expert interviews

The characteristics described by the experts are similar to the proposition of a public health profession with respect to four characteristics (skills, education/training, certification, and altruism). Experts mentioned the need for a variety of skills and the need to use this broad knowledge to show flexibility. Also, experts stressed the usefulness of a degree in public health, demonstrating knowledge in many fields that graduates, as well as employers, should see as a positive characteristic. Further, increasing numbers of courses offered in public health is leading to younger generations that will be trained in

public health and ensuring that the importance of a degree is rising and that jobs handling public health issues are occupied by professionals with an educational background in the field. A more specified job within public health will add, adjust or deepen certain skills, going beyond the basic education. Further, experts recommended the involvement of major stakeholders in public health (e.g. employers, alumni) to connect education and work life. Experts consequently recommended job fairs and improved career services within study programmes.

Public health education is a very fragmented system. The experts indicated that public health schools are often small departments within a large medical faculty, causing constant pressure to prove their usefulness. Thus, collaboration between medicine and public health on an equal level should be achieved. Additionally, experts felt it was necessary that public health schools develop more independently, not as small sections of a large medical faculty and with freedom to collaborate with other departments.

Public health is changing continuously and therefore education and training should be updated by increasing communication, also including younger generations. Moreover, the ongoing changes that public health is confronted with, clarified that education has to be adjusted on a constant basis, illustrating the importance of continuous professional development. Further, education in public health should focus more on public communication and leadership skills, making professionals more flexible and adaptable to future changes.

In the opinion of the experts, studying and working in the field of public health clearly demonstrates an altruistic service. From their point of view, people in public health look out for the interest of others by preventing,

promoting and enhancing health and welfare more than for a high income or appreciation. Regarding professional organisation and the code of conduct, the pattern found amongst experts differed from the proposition. Experts agreed that a professional association and advocacy are necessary prerequisites to increase awareness about the field. However, when public health services are provided efficiently in a country, they become invisible and often go unnoticed by the population giving the impression that services lack importance and appreciation, making it difficult to promote public health. Although a failure in public health can have huge impact on

other sectors (e.g. economy), public health ranks low within the political context. Therefore, much clearer guidance is needed on how to advocate for the evidence-based importance of public health, by e.g. demonstrating the cost-effectiveness of interventions. The question whether there is a code of conduct public health professionals can follow, caused uncertainty for the experts, who perceived it as a challenge. So far, no one was aware of a specific code of conduct, but they referred to ethics and the altruistic service that are present in public health. Table 3 presents the excerpts of data assigned to the constructs of the professionalization theory.

Table 3. Excerpts from the focus groups and expert interviews assigned to the six theoretical constructs related to professionalization advanced with a new derived category

Constructs	Citation
Skills	"...once you have your basic academic profession there is a common ground, there are competencies that are common in public health and of course depending on what area of public health you are working in, it may look different. [...] I think it is important too, within each domain of a larger public health, to define what are the competencies and then make sure that each of the professions that are working in that segment of public health have those additional competencies that go beyond their basic profession."
Training & education	"In many places, departments of public health are just a small piece of a much larger medical faculty and they are constantly under pressure to prove a usefulness. [...] So yes, in several European countries, more needs to be done in structural terms to keep public health independent." "This master [...] is based on networking and connections that it should be super easy for them to have like a job fair, specifically for public health students [...]. At least if not a job they can just give us connections for us to go forward."
Certificate	"There are two ways to look at it. One is to say that the glass is half empty [...] I would say the glass is half full or at least three quarters full, because the advantage that you as public health graduates have is that you have some knowledge in a lot of fields. If I were an employer, not knowing what the future actually brings, I would rather have graduates who are able to think in various fields rather than graduates who are focused on a very narrow field but have some in depth knowledge."
Formal organization	"Definitely, we need a strong professional association and strong institution, we need strong advocates. And there are strong advocates from the EU level or NGOs working in the public health arena but not maybe doing that much public health work themselves but are lobbying and supporting." "Advocacy that is taking a strong role in the public debate. I think as a public health profession, we are very good at talking and communicating within a bubble. But we are less good at talking outside the bubble."
Code of conduct	"I think this is an interesting topic to pursue. So I take this as a challenge." "I mean to my knowledge there is no formal code of conduct, at least I haven't seen one. I mean it might be that it is out there but, no visible to me."
Altruistic service	"...those who chose public health do it because there is an adherence involved of making something good for the society." "I think that only because you have a degree in public health for example that just shows for me at least that you have a certain way of thinking."
Recognition of Public Health as multidisciplinary and multi-professional	"I think that there is a public health profession. But I recognize the risk of excluding people and the definition of public health should be about inclusion. [...] That places us in this unique position to have a broad leadership role in the whole system." "To me, I think it would be hard to say that it is one profession. I see it more as a coalition of various professions, [...] different competencies working together."

Discussion

By using pattern matching and directed content analysis we attempted to triangulate multiple data sources to describe the extent to which public health can be considered a true profession. The findings coming from the three sources (literature review, student focus group, and expert interviews) were overlapping and consistent with each other. They indicate that public health, as a profession, is not yet fully developed although various aspects required for a profession are fulfilled. The validation of the results against the theoretical model shows that four out of six professionalization dimensions (18) including: skills, education and training, certification, and altruistic service are fulfilled by public health, while formal organization and a professional code of conduct are lacking. However, the results reveal a separate category: *Recognition of Public Health as a multi-disciplinary and multi-professional field*. While the majority of the participants did not perceive public health as a single profession but more as a job field or a coalition of different professions and multiple agencies, they still argued that it would be beneficial if the field were precisely defined.

The fact that public health is very broad leads to uncertainty among the students who may sometimes doubt whether they are well prepared for later jobs as well as fear that they can be replaceable and disadvantaged compared to the students from more defined health fields. On the contrary, the experts considered the broad range of skills students are equipped with, as a benefit enabling students to be flexible and adaptable to new situations and challenges instead of being “stuck” in a narrow field. Since today’s careers develop more horizontally, such an optimistic approach should be advertised in relation to public health study programmes to

eliminate the fear in current and future students and present public health as a secure future.

Bjegovic-Mikanovic et al. (14) state that the curriculum and skills have to be adapted to real work-life by the involvement of stakeholders, employers, and alumni. This was confirmed by the student respondents, who stated that experiences during their practical placements made it clear that focus on some skills should have been made more comprehensive within their classroom studies. It means that public health also needs to balance the scientific and social/relational aspects and enhance training in public communication and leadership. Regarding education and training, many public health schools follow initiatives leading to the harmonization of study programmes. This enables easier application and recognition processes and thus increases the flexible movement of professionals. It is worth noting that all participants of the study agreed that altruistic service is a feature of public health, indicating that a person who works in public health aims to improve the health and well-being of other humans and puts the interests of others as their first priority rather than appreciation or financial gains.

While on one hand the results of the study proved that there is no specific formal organization for the public health profession that the interviewees were aware of except for the United Kingdom (UK Faculty of Public Health or Public Health England), on the other they stressed the importance of such an organization for public health. It could help to ensure professional integration, increase advocacy and enhance the significance of public health within the political context to enable compliance with regulatory or legal requirements as well as issues related to salary, high quality study programmes, core

competencies and skills; consequently increasing the significance of public health degrees. Moreover, a formal organization could promote public health and help to raise the awareness of the field within society thus building public trust and confidence.

Although the presented study is direction setting, there are limitations and it remains only exploratory. This is owing to a small sample size of the focus group and expert interviews although the focus group and the interviews were in-depth, providing rich descriptions and using more than one data source contributed to increasing the validity of the study (48).

This study used two theoretical models often related to as “traits” theories. Theorising of the professions, for many years, has been strongly shaped by twentieth century professional developments and societies. These approaches have highlighted universal ‘traits’ and functions of the professions (17, 49). However, the scholarly discussion on professionalization shows many different views concerning the professionalization process (49) and the “traits” approaches seem to be less adequate to describe contemporary processes of professionalization. More recently, the studies of professions have paid greater attention to the diversity of professional groups and to a wider range of factors that may promote successful professionalization. Several authors have illustrated the benefits of a governance approach, as defined by WHO and others, and applied in cross-country comparison to health workforce research, thereby bringing health systems-based factors into view. For instance, cross-country comparative research shows that health systems vary in how they shape and target both organisations-based and professions-based reform strategies (7).

The results of this study can be useful for educationalists, employers, accreditation agencies and public health schools to realise that putting public health into a clearer and more defined context will help to improve European public health systems and services and increase its importance and recognition as well as resources.

Conclusion

The feeling of uncertainty and lack of trust as to whether public health is seen as a legitimate profession can be ameliorated by making public health more attractive. Thereby, the interest in public health can be enhanced to convince the future workforce that it is a field with a secure future, worth studying, working and to staying in.

Public health professionals and organisations that govern best practices in this field should consider introducing a shared code of ethics and professional conduct as well as establishing a coordinated body to help advance the public status as a the profession to increase interest in studying and specializing in this area.

Acknowledgement

We would like to thank the public health experts for their time and reflection on the issue of professionalization thus contributing to the interviews. The interviewees represented some ASPHER member schools and collaborating organisations such as WHO Regional Office for Europe, ECDC, and APHEA. Furthermore, we would also like to thank the students of the Bachelor and Master of European Public Health from Maastricht University for their very communicative and honest participation during the focus group.

Appendix

The directed content analysis of the focus group and the expert interviews, as well as the informed consents of the participants, can be delivered upon request.

References

1. European Commission. Health Workforce, Brussels, Belgium. Available from: https://ec.europa.eu/health/workforce/overview_en (accessed: December 2, 2019).
2. Rotem A, Walters J, Dewdney D. The public health workforce education and training study. *Aust J Public Health* 1995;19:437-8.
3. Martin-Moreno JM, Harris M, Jakubowski E, Kluge H. Defining and assessing public health functions: A global analysis. *Annu Rev Public Health* 2016;37:335-55. doi:10.1146/annurev-publhealth-032315-021429.
4. Centre for Workforce Intelligence. Mapping the core public health workforce. Final Report. Available from: <https://www.gov.uk/government/publications/mapping-the-core-public-health-workforce> (accessed: September 10, 2019).
5. Centre for Workforce Intelligence. Understanding the wider public health workforce in England. Available from: <https://www.gov.uk/government/publications/understanding-the-wider-public-health-workforce-in-england> (accessed: September 10, 2019).
6. The Roadmap to Professionalising Public Health Workforce. WHO 2020 (working document).
7. Turner A. Population ageing: what should we worry about? *Phil Trans R Soc B Biol Sci* 2009;364:3009-21. doi: 10.1098/rstb.2009.0185.
8. Cioffi JP, Lichtveld MY, Thielen L, Miner K. Credentialing the public health workforce: An idea whose time has come. *J Public Health Manag Pract* 2003;9:451-8.
9. Cruess SR, Johnston S, Cruess RL. "Profession": A working definition for medical educators. *Teaching and Learning in Medicine. Teach Learn Med* 2004;16:74-6.
10. European Commission. Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications. Brussels: European Commission; 2005.
11. Laaser U, Schröder-Bäck P. Towards a Code of Conduct for the European Public Health Profession!. *SEEJPH* 2016;5. doi: 10.4119/UNIBI/SEEJPH-2016-88.
12. Laaser U, Schröder-Bäck P, Elakimu E, Czabanowska K. A code of ethical conduct for the public health profession. *SEEJPH* 2017. doi: 10.4119/UNIBI/SEEJPH-2017-177.
13. Bjegovic-Mikanovic V, Foldspang A, Jakubowski E, Müller-Nordhorn J. Developing the Public Health Workforce. *Eurohealth* 2015;21:32-5.
14. International Labour Office - C171 - Night Work Convention, 1990 (No. 171). Available from: <http://www.ilo.org/dyn/normlex/en/f?p=NORMLEX->

- PUB:12100:0::NO::P12100_INSTRUMENT_ID:312316 (accessed: December 1, 2019).
15. Kuhlmann E, Agartan TI, von Knorring M. Governance and professions. In: Dent M, Lynn Bourgeault I, Denis JL, et al., editors. *The Routledge Companion to the Professions and Professionalism*. London: Routledge; 2016.
 16. European University Association (EUA). Available from: <http://www.eua.be/policy-representation/higher-education-policies/the-european-higher-education-area-and-the-bologna-process> (accessed: November 8, 2019).
 17. Macdonald KM. *The Sociology of the Professions*. London: Sage Publications; 1995.
 18. Yin RK. *Case Study Research Design and Methods*. California: Sage Publications; 1994.
 19. Yin RK. *Case Study Research Design and Methods* (5th ed.). Thousand Oaks, CA: Sage Publications; 2014.
 20. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. *Qual Health Res* 2015;15:1277-88.
 21. Trochim W. *The research methods knowledge base* (2nd ed.). Cincinnati, OH: Atomic Dog; 2000.
 22. Arksey H, O'Malley L. Scoping studies: Towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19-32. doi:10.1080/1364557032000119616.
 23. Levac D, Colquhoun H, O'Brien KK. Scoping studies: Advancing the methodology. *Implement Sci* 2010;5:69. doi:10.1186/1748-5908-5-69.
 24. Nagle B, Williams N. *Methodology Brief: Introduction to Focus Groups*. Center for Assessment, Planning and Accountability; 2013.
 25. Birt C, Foldspang A. The Developing Role of Systems of Competences in Public Health Education and Practice. *Public Health Rev* 2011;33:134-47.
 26. Whittaker PJ, Pegorie M, Read D, Birt CA, Foldspang A. Do academic competences relate to 'real public health practice'? A report from two exploratory workshops. *Eur J Public Health* 2009;20:8-9.
 27. Foldspang A, Otok R. Competences based individual career and workforce planning in public health. *Eurohealth* 2016;22:21-6.
 28. Foldspang A. *From Potential to Action – Public Health Core Competences for Essential Public Health Operations. A Manual*. Brussels; 2016. Available from: <https://www.aspher.org/download/138/booklet-competencesephos-volume-3.pdf> (accessed: November 14, 2019).
 29. Otok R, Czabanowska K, Foldspang A. Public health educational comprehensiveness: The strategic rationale in establishing networks among schools of public health. *Scand J Public Health* 2017;45:720-2. doi: 10.1177/1403494817738498.
 30. Foldspang A, Birt CA, Otok R. ASPHER's European List of Core Competences for the Public Health Professional. *Scand J Public Health* 2018;46:1-52.
 31. WHO-ASPHER Competency Framework for Public Health Workforce in the European Region. WHO; 2020. [available from:

- <http://www.euro.who.int/en/health-topics/Health-systems/public-health-services/publications/2020/who-aspher-competency-framework-for-the-public-health-workforce-in-the-european-region-2020>]
32. World Health Organization - EPHO7: Assuring a sufficient and competent public health workforce. Copenhagen: WHO; 2017. Available from: <http://www.euro.who.int/en/health-topics/Health-systems/public-health-services/policy/the-10-essential-public-health-operations/epho7-assuring-a-sufficient-and-competent-public-health-workforce> (accessed: December 11, 2019).
 33. Martin-Moreno JM. Self-Assessment Tool for the Evaluation of Essential Public Health Operations in the WHO European Region. Copenhagen: World Health Organization, Regional Office for Europe; 2014.
 34. Cavallo F, Rimpela A, Normand C, Bury J. Public health training in Europe. Development of European masters degrees in public health. *Eur J Public Health* 2001;11:171-3.
 35. Otok R, Levin I, Sitko S, Flahault A. European Accreditation of Public Health Education. *Public Health Rev* 2011;33:30-8. doi:10.1007/BF03391619.
 36. Otok R, Czabanowska K, Foldspang A. Public health educational comprehensiveness: The strategic rationale in establishing networks among schools of public health. *Scand J Public Health* 2017;45:720-2. doi: 10.1177/1403494817738498.
 37. Laaser U, Bjegovic-Mikanovic V, Vukovic D, Wenzel H, Otok R, Czabanowska K. Education and training in public health: is there progress in the European region?. *Eur J Public Health* 2019. doi: 10.1093/eurpub/ckz210.
 38. Cavallo F, Rimpela A, Normand C, Bury J. Public health training in Europe. Development of European masters degrees in public health. *Eur J Public Health* 2001;11:171-3.
 39. European Public Health Association - Who we are. Available from: <https://eupha.org/who-we-are> (accessed: June 18, 2017).
 40. International Association of National Public Health Institutes (IANPHI) - Who we are. Available from: <http://www.ianphi.org/whoweare/index.html> (accessed: November 14, 2019).
 41. European Public Health Alliance - About us. Available from: <https://epha.org/about-us/> (accessed: December 11, 2019).
 42. EuroHealthNet - Who we are. Available from: <http://eurohealthnet.eu/about-us/who-we-are> (accessed: December 11, 2019).
 43. Association of Schools of Public Health in the European Region. ASPHER Mission, Functions and Objectives. Available from: <http://www.aspher.org/aspher-mission-functions-objectives.html> (accessed: December 18, 2019).
 44. World Medical Association. World medical association declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA* 2013;310:2191-4. doi:10.1001/jama.2013.281053.



45. Foldspang A. Towards a public health profession: The roles of essential public health operations and lists of competences. *Eur J Public Health* 2015;25:361-2. doi:10.1093/eurpub/ckv007.
46. Yach D, Bettcher D. The globalization of public health, II: The convergence of self-interest and altruism. *Am J Public Health* 1998;88:738-44.
47. Kuhlmann E, Lynn Bourgeault I. Gender, professions and public policy: New directions. *Equal Oppor Int* 2008;27:5-18. doi:10.1108/02610150810844901.
48. Leung L. Validity, reliability, and generalizability in qualitative research. *J Family Med Prim Care* 2015;4:324-7. doi:10.4103/2249-4863.161306.
49. Dent M, Bourgeault IL, Denis JL, Kuhlmann E. Introduction: The changing world of professions and professionalism. In: Dent M, Bourgeault IL, Denis JL, et al., editors. *The Routledge Companion to the Professions and Professionalism*. London: Routledge; 2016:1-10.

© 2020 Mansholt; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited