

## **Multiple concurrent understanding of public health: some implications for educators**

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### *Public health in the medical curriculum in South Africa*

The national meetings held at the PHASA conferences (2010 and 2011) and the national workshop on developing competencies in public health (2012) all had at their heart the same concern: How to include public health in the medical curriculum in South Africa?

Woodward describes very powerful arguments both for, and against, the inclusion of public health in the medical curriculum (1). In South Africa the Health Professions Council of South Africa (HPCSA) has opted for the inclusion of public health, thereby relieving medical educators of the necessity of this choice. But the certainty of having to include public health in the medical curriculum is not a precursor for certainty of what exactly that inclusion might contain. Such inclusions are well catered for in the model represented in the work of Masebe that is used as guideline for curriculum development at the University of Pretoria (UP) at macro level (2). The HPCSA describes the required inclusion: “Medical public health as a theme shall figure prominently throughout the curriculum” (3). Already in this simple statement the seeds of complexity are sown: What is medical public health? Does the HPCSA mean public health medicine rather? But if so, this would be against the global trend of including public health rather than the medical specialisation of public health medicine.

And if the HPCSA means public health, what does this term encompass? While topics such as surgery and paediatrics are quite clearly understood, public health is a far more ambiguous construct. Public health is often equated with care for the poor; for rural populations, care provided by the publically-funded institutions; primary health care; global health and family medicine, to name a few (4;5).

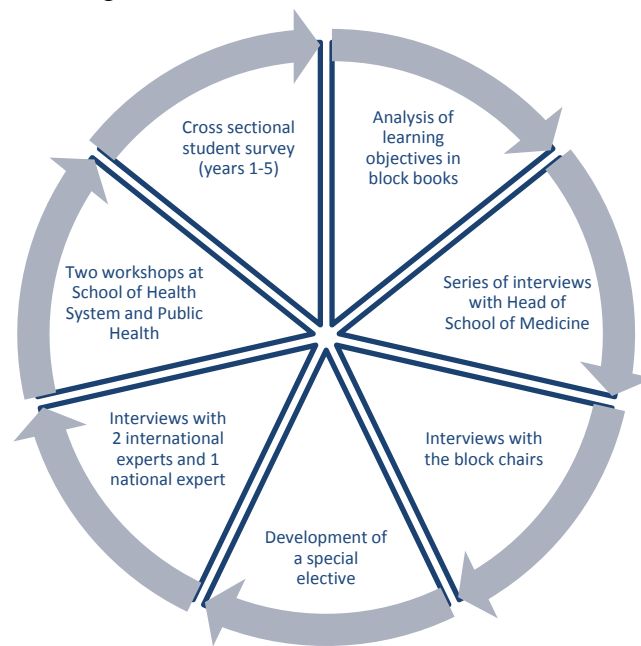
One approach to understand what is meant by the current usage of the term “public health” is to explore the multiple, complicated and complex understandings of public health among our students and ourselves. The aim of this short communication is to share what a cohort of medical students at the UP considers as public health. It is our intention that this short communication will stimulate other educators to explore their students’ understanding and add to the scholarship of public health.

*Survey: What is considered as public health?*

This research formed part of practitioner research that aims to develop a living theory of teaching public health to medical students. Action research living theory is a form of real-life theorising:

As we practice, we observe what we do and reflect on it. We make sense of what we are doing through researching it. We gather data and generate evidence to support our claims that we know what we are doing and why we are doing it (our theories of practice), and we test these knowledge claims for their validity through the critical feedback of others. These theories are our living theories (6).

The overarching research design made use of a concurrent embedded mixed-methods approach with a dominant qualitative research component (7). The major data collection strategies are depicted in Figure 1.



**Figure 1: Major research strategies**

This short communication only focuses on the opinions of the medical students at the University of Pretoria in 2012 – data that was collected using a questionnaire in the cross-sectional student survey.

The questionnaire was distributed to second-year medical and dental students at the start of a special study module (SMO 211) that focuses on epidemiology, research and study design. Four small groups of second year students participated as student research teams in the second data collection phase as part of the module requirements. The SMO module focuses on protocol and questionnaire development and ethics submission that lead to data gathering, analysis, report writing and oral feedback that characterise this module.

Participation to complete the questionnaire was voluntary. Ethical approval was granted by UP for the overarching study and per student group as this was part of the learning opportunity in this SMO (73/2011; S83/2012; S84/2012; S85/2102; S86/2012).

Data was collected in May and June 2012. The questionnaire included a number of close-ended questions (not reported on here) and one open-ended question. Completed questionnaires were allocated a unique identifying code with the first digit a reflection of the year group (e.g. Questionnaires from first-year respondents start with “1”).

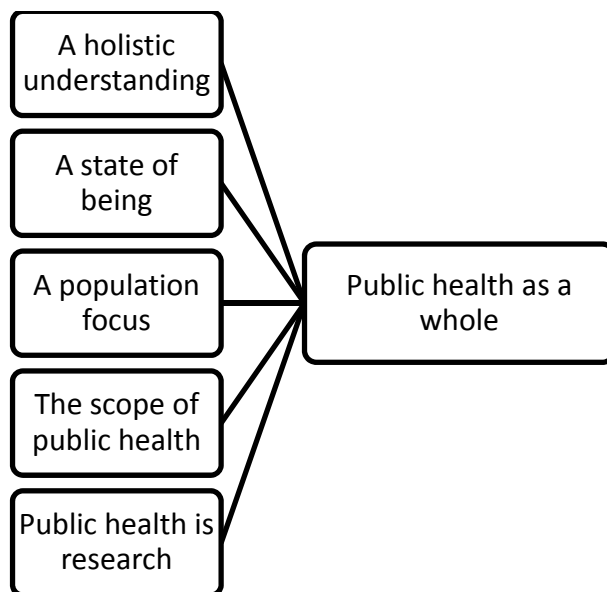
The first 45 responses to the open-ended question “Although we are all clear what we mean by concepts such as surgery, many of us will understand public health in different ways. What do YOU think public health is? [Tip: there is no wrong answer, it is an opinion]” from each year group were typed into a Word document. Inductive coding was done with the use of NVivo 8 (2008) software. Through two cycles of coding themes and subthemes were identified.

*Public health as a whole, parts of the whole and popular equivalencies.*

Almost half (589 out of 1192) of the student population participated in the study. A total of 244 open-ended responses from the five year groups of medical students were coded. Three major themes emerged: public health as a whole; parts of the whole and popular equivalencies. The subthemes and their accompanying themes are included to show the broad spectrum of opinion. For each major theme one subtheme is reported on as a substantive illustrative example.

Theme one: Public health as a whole

This first major theme captures the respondents’ efforts to communicate a complex and compound picture of what they believe public health is (Figure 2).



**Figure 2: Public health as a whole and subthemes**

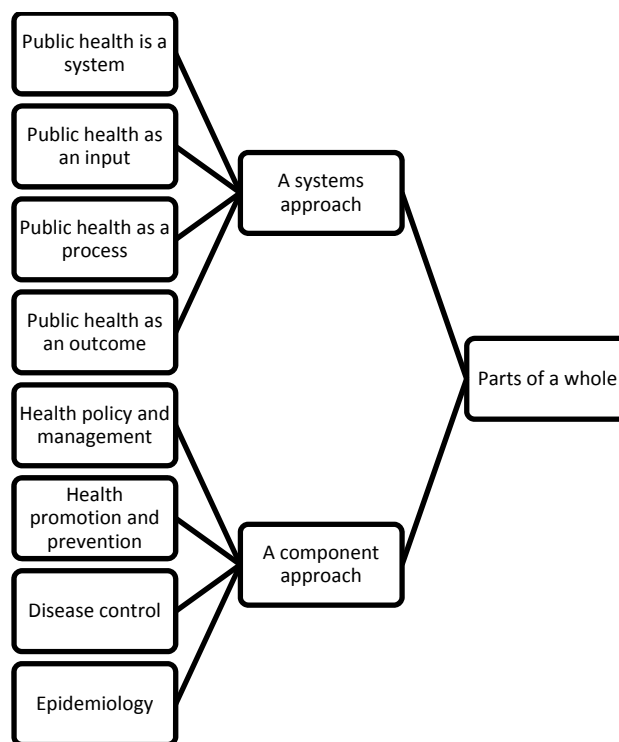
The illustrative example: A holistic understanding

Among the respondents there were those who had a multi-dimensional understanding of public health: “[Public health] has to do with community health, epidemiology and prevention of disease via raising awareness and educating the community about disease and prevention. It is community-based health promotion and disease prevention”(4051). Common among these more multi-dimensional descriptions of public health is the understanding that public health is complex and made up of many different aspects: “Public health is the collective term to describe all the health issues, epidemics and other things that affect communities at large (and not necessarily isolated groups or individuals). This includes diseases (e.g. community-acquired pneumonia), epidemics and issues regarding sanitation

etc.” (3002). Some described this complexity at an abstract level: “It is study of and trying to improve the health and health systems of a community or society” (5027), or “knowledge about the health of society and the kind of disease burden affecting a society in a specific time and the kind of health interventions needed to overcome the disease burden” (2018). Others relied on multiple inclusions to show the complexity: “The epidemiology, projection and implementation of health policy and disease surveillance within the national population” (3021) and “the health care systems, the legislation behind health. Childcare, neonatal care, legislation around pregnant women, primary health care etc.” (3023).

Theme 2: Parts of a whole

Respondents who described parts of public health either did so from a systems perspective or described some of the component topic areas such as epidemiology (Figure 3).



**Figure 3: Parts of a whole and subthemes**

The illustrative example: Public health is a system

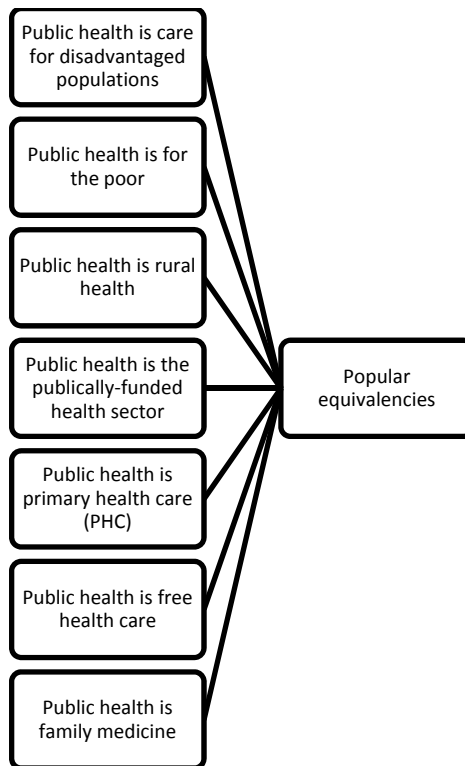
Some respondents developed the idea of a loose grouping of activities or the “umbrella” term (5031) into a systems model: “It is the system/strategy that promotes a healthier society or a better control of a society’s health problems” (2006). This understanding of public health as a system is different from other respondents who understood public health to be a system of health services delivery. These expressions of a system are more akin to a meta-system that transcends mere health services delivery: “Public health is a system concerning itself with issues of biological nature that impact on society and the economy” (3050). One respondent reflected that although not per se a system “public health is the study of interaction of the health system with the patients. It includes epidemiology, health economics and health system delivery” (4057).

The idea that public health is a specific entity also emerged: “I think public health is a

department of health that focuses on the public i.e. non-private patients in the community and promote health and prevent morbidity via immunisations/brochures etc. They also educate health professionals on the epidemiology of disease in the community and how to treat people from different cultures / SES's" (3034).

Theme 3: Popular equivalencies

The theme of popular equivalencies is a combination of responses that describe the popular misconceptions about public health (Figure 4).



**Figure 4: Popular equivalencies and subthemes**

The illustrative example: Public health is the publically-funded health sector

Public health as an equivalent to the publically-funded health sector is common in the literature and was equally prominent in the respondents' understandings: "My view of public health is the health services that are predominantly provided by the public sector [Department of Health]" (2016). "It refers to state hospitals and state clinics. Health practices where no medical aid is needed on behalf of patients" (5008). "Public health refers to a system of public clinics and hospitals, including mobile units" (2017). "Public health is the sector where doctors and nurses work as part of a government initiative. It is government funded hospitals and clinics that render a service to the public" (5035). "Public health is defined by healthcare that is run by the public sector. All healthcare run by and managed by the national health department" (1060).

Some respondents broadened the concept to include "the information, facilities and hospitals provided for the public by the government and medical authorities" (3028). A few shared their personal opinion of this service: "Unorganized health care system. With problems ranging from lack of staff to unnecessary deaths" (2058).

One respondent had an economic perspective: “Division of health services funded and run by the public sector (government). Funded by taxes and provides as cheap as possible services to anyone” (3031).

### *Multiple concurrent understanding of public health*

The respondents describe multiple concurrent understanding of public health. What was not expected was the insight that some of the first-year students showed. The understandings of first-year “naive” respondents were as wide-ranging and as rich as their counterparts in the later years despite them not yet attending class at the Faculty of Health Sciences. A second striking feature is the level to which some respondents (all year groups) echo all the popular equivalencies. Finally, respondents demonstrated insight that public health is a construct that is both complex and ambiguous. For some expressing this ambiguity was overwhelming: “The overall health of a society and well-being of its people in general on average” (2035).

In conclusion, public health as a field of study can be described as the “the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private communities” (8). Medical students describe public health in a multitude of ways. This construct of public health is at times messy, partially formed or imperfectly understood. It is likely that public health educators have similar complex and perhaps competing understanding of public health. It is important for medical educators who teach public health to examine their own understanding, those of their colleagues and the students in their care. This research suggests that explaining what public health is (and isn’t) needs explicit communication throughout the curriculum so that our future doctors are able to identify the public health implications of every clinical encounter irrespective of the clinical discipline or disease. A standard part of a patient treatment plan should include the questions: how can I prevent disease, prolong life and promote health and who could be my partners in this endeavour?

*Note that the views expressed in this article are those of the author(s) and do not necessarily represent the views of PHASA.*

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