

## Tracking Master of Public Health graduates: Linking higher education and the labour market

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**Background.** Master of Public Health (MPH) students come from a wide range of health professional backgrounds. Graduate programmes in public health should equip alumni with knowledge and skills to analyse and integrate health research findings, and have a practical approach to current public health issues. In South Africa (SA), there is a need for health professionals with an adaptable public health approach who can contribute meaningfully to addressing public health problems and transforming the health sector. The role and relevance of graduate public health training in the SA healthcare system have not yet been reported. Tracking of graduates is important to assess the effectiveness of study programmes, graduates' worth for the healthcare labour market, and their contribution towards improving the healthcare system.

**Objective.** To describe the professional backgrounds of MPH graduates from the University of KwaZulu-Natal, Durban, SA and the role of their learning in their current public health practice.

**Methods.** An emailed, self-administered questionnaire survey of graduates ( $N=61$ ) was conducted in 2013.

**Results.** Forty-five (73%) of the 61 contactable public health graduates from the past 10 years returned the completed questionnaire; 28 (63%) are working in the public sector and 9 (22%) at academic institutions. Graduates reported that research skills, critical analysis, report writing, and leadership and management were acquired in the MPH programme. Most reported that they were able to integrate the knowledge and skills acquired from the MPH degree in their current workplace.

**Conclusion.** The MPH degree equips graduates with skills that contribute to addressing some of the public health problems in SA.

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Master of Public Health (MPH) students come from a wide range of health professional backgrounds.<sup>[1]</sup> Graduate programmes in public health aim to equip students with critical skills to be able to integrate research into practice and have an analytical but practical approach to addressing current public health issues.<sup>[1]</sup> Schools of public health (SOPHs) have the responsibility to ensure that graduates will be able to respond to rapidly changing local and global public health problems.

South Africa (SA) is a country with dynamic demographic and epidemiological transitions.<sup>[2]</sup> There is a growing demand for public health professionals who have an adaptable public health approach; who can solve public health issues; and who can contribute meaningfully to transforming the health sector. The public health sector landscape has changed over the years and the National Department of Health (NDoH) has adopted a strategic approach that is grounded in a vision for the population's health, and that embraces re-engineered primary healthcare, strengthened hospital care, and health promotion and protection.<sup>[2]</sup> Effective governance and leadership are necessary to ensure that the strategic goals are achieved.

In KwaZulu-Natal (KZN) province, public health has been taught since the 1940s. Through the Institute of Family and Community Health at the Medical School, University of KwaZulu-Natal (UKZN), Durban, SA, a wide range of professionals were educated using the community-orientated primary healthcare approach.<sup>[3]</sup> After the Institute was closed, the Department of Community Health was established. During the 1970s, specialist training in public health for medical practitioners was instituted.<sup>[3]</sup>

In an attempt to rationalise and improve public health education, the Eastern Seaboard Association of Tertiary Institutions (esATI), a network of eight apartheid institutions, four universities (Durban-Westville, Natal, Zululand, and the University of SA), and four technikons (Natal, ML Sultan, Mangosuthu and Technikon SA) was established, which offered public health

postgraduate courses from 2001 to 2004. It enabled public health training of all healthcare providers, including medical, nursing, and environmental health. Since 2004, UKZN has offered a graduate training programme in public health.<sup>[3]</sup>

The tracking of graduates by institutions is important for higher education development to assess the social accountability, effect and influence of study programmes on the labour market.<sup>[4]</sup> No undergraduate degree in public health is offered in KZN and students for the postgraduate degree are recruited from diverse professional backgrounds. Most of these students comprise clinicians who want to develop a population perspective on health and disease. The role and relevance of public health graduates in the SA health system have not been reported. Given the multidisciplinary background of these graduates, it is necessary to establish their role within the health system.

The objective of this study was to describe the educational and employment background of graduates and ascertain which skills acquired in the MPH programme are applicable in their current work situation.

### Methods

An observational cross-sectional survey was conducted between June and October 2013. Data were obtained from a self-administered questionnaire sent via email to the 61 contactable alumni who graduated with an MPH degree between 2004 and 2013. Nine international graduates were not contactable and were excluded from the study population. Graduates were sent six weekly email reminders for 4 months to complete the questionnaire and those who did not respond were contacted telephonically.

The questionnaire had a total of 23 closed- and open-ended questions. Data were collected on demographic characteristics, educational background and employment history. The questions included a component on the extent to which the MPH degree contributed to career progression and the skills

acquired in the programme, as well as the graduates' performance in their current positions. The questions on demographics, educational background and employment history were closed ended and those on skills and competencies were open ended.

The data were captured into Excel 2003 (Microsoft, USA) and exported into the Statistical Package for the Social Sciences 15 (SPSS 15) (SPSS Inc., USA). Incomplete and other compromised data were omitted. Data were summarised in appropriate frequency distribution tables and then analysed.

Ethical approval was granted by UKZN Human and Social Sciences Research Ethics Committee (HSS/0615/013), and permission to conduct the study on University alumni was granted by the Registrar.

## Results

Of the 61 SA MPH graduates, all were contactable and 45 (73%) returned self-completed questionnaires. The age, gender and educational background data for other graduates (non-respondents) were available from the alumni records. The non-respondents comprised females (60%), 40% were aged 30 - 39 years and >50 years, and 36% were trained in the social sciences. Of the 45 respondents, 26 (58%) were female and 18 (40%) were 40 - 49 years old. Twenty-one (48%) of the respondents' first professional degree was in the allied health sciences, 9 (21%) had a medical degree, 8 (18%) were nurses, and 7 (14%) were from the social sciences (Table 1). With regard to current employment of the respondents, 28 (63%) are working in the public sector and 9 (22%) at academic institutions. The respondents were asked which skills in their current employment relate to the MPH programme. The most popular were research skills (82%), critical analysis (51%), report writing (51%) and leadership and management (49%).

**Table 1. Demographic characteristics of 70 MPH graduates**

Characteristics	Respondents (n=45), n (%)	Non-respondents (n=25), n (%)
Age (years)		
20 - 29	1 (2)	-
30 - 39	12 (27)	10 (40)
40 - 49	18 (40)	5 (20)
>50	14 (31)	10 (40)
Gender		
Female	26 (58)	15 (60)
Male	19 (42)	10 (40)
Educational background		
Medical	9 (21)	5 (20)
Nursing	8 (18)	8 (32)
Social science	7 (14)	9 (36)
Allied health	21 (48)	3 (12)
Current employment		
Public sector	28 (63)	-
Academic institution	9 (22)	-
Research	3 (6)	-
Non-governmental organisation	3 (6)	-
Self-employed	2 (3)	-

## Discussion

Seventy MPH students have graduated at UKZN in a period of 10 years. The number is low for a province with a population of 10.3 million and the highest HIV, AIDS, and tuberculosis (TB) disease burden in SA, with an estimated HIV-TB co-infection rate of 70%.<sup>[5]</sup> The demand for public health graduates should be high, taking into consideration the transformation and development of the healthcare system in SA. The SA Human Resources for Health (HRH) strategy has outlined the need to increase the output of MPH graduates from the various schools of public health.<sup>[2]</sup>

A substantial number of the graduates were between the ages 40 and 49 years. Generally, public health graduates are older than graduates of other Master-level degrees,<sup>[6,7]</sup> which has added implications for workforce planning and development. The HRH strategy recognises that the ageing healthcare workforce is a concern, as not enough young people are being trained to take over key roles in the health sector.<sup>[2]</sup> Most of the public health graduates in this study were female, which is in line with other studies and is consistent with the feminisation of healthcare workers, particularly in public health globally.<sup>[1,7]</sup>

This study shows a different trend in terms of the educational background of people enrolling for the MPH degree. In Africa there were traditionally more medical doctors registering for the MPH degree than for other disciplines.<sup>[8,9]</sup> In this study, graduates were from diverse backgrounds such as allied health sciences (physiotherapy, pharmacy, environmental health and medical science) – similar to results reported from six MPH programmes in low- and middle-income countries.<sup>[1]</sup>

Most graduates are working in the public sector and 22% are working at academic institutions. They reported using the knowledge and skills acquired in the MPH programme, such as report writing, critical analysis, research, and leadership and management skills. SA faces a shortage of highly skilled professionals with sound research skills.<sup>[10]</sup> The National Plan for Higher Education outlines that universities should produce graduates with skills and competencies to participate in the modern world.<sup>[10]</sup> The results of the study suggest that the perceived skills and competencies acquired in the MPH programme are relevant and adequate for the SA labour market.

The public health sector is undergoing a major transformation, including primary healthcare re-engineering and the introduction of the national health insurance. These and other initiatives by the NDoH would increase the demand for appropriately or highly trained public health practitioners. The NDoH has outlined leadership, governance, research and development as key priorities.<sup>[2]</sup> In our study, the majority of MPH graduates who responded work in the SA healthcare system, where they integrate the skills acquired in the programme to improve their workplace. The SOPHs need to work closely with the NDoH to ensure that public health graduates have appropriate skills and competencies required for the healthcare labour market.

## Study limitations

This survey was based on self-reporting by graduates, which is prone to social desirability bias. As a relatively small number of graduates are enrolled in this programme, a further study incorporating MPH graduates from other programmes is recommended. Ascertaining employers' perceptions of the MPH graduate's competencies and the relevance of these to the labour market are needed. This study is part of a large research project in which, alongside graduates, non-completers were interviewed to establish differences between groups. The results are being analysed.

## Conclusion

The MPH degree equips graduates with report writing, critical analysis, research, and leadership and management skills, which could contribute to addressing some of the public health problems in the healthcare system in SA. Most graduates reported that the skills attained in the MPH programme are incorporated at their current workplace. However, the number of public health graduates needs to increase to meet to the HRH demand in SA. This could be achieved by incorporating research training and early exposure of health science undergraduates to population health.

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