

**THE CONTRIBUTION OF  
PUBLIC HEALTH MEDICINE SPECIALISTS  
TO SOUTH AFRICA'S HEALTH SYSTEM**

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## ABBREVIATIONS

ABRASCO	Brazilian Association of Public Health
ANC	African National Congress
APHA	American Public Health Association
ASPH	Association of Schools of Public Health
ASPHA	Association of Schools of Public Health in Africa
BRICS	Brazil, Russia, India, China and South Africa
CDC	Centers for Disease Control and Prevention
CHW	Community Health Worker
CI	Confidence Interval
CMSA	Colleges of Medicine of South Africa
CNRM	National Commission of Medical Residency (Brazil)
COPC	Community-Orientated Primary Care
CPH	Certificate in Public Health
CPHM	College of Public Health Medicine
DPH	Diploma in Public Health
DHERs	District Health Expenditure Reviews
DOH	Department of Health
EBM	Evidence-Based Medicine
EHO	Environmental Health Officer
FDA	Food and Drug Administration
FETP	Field Epidemiology Training Programmes
FFCH	Fellowship in the Faculty of Community Health
FIOCRUZ	Oswaldo Cruz Foundation (Brazil)
GDP	Gross Domestic Product
GP	General Practitioner
HIA	Health Impact Assessment Unit
HIV	Human Immunodeficiency Virus
HPCSA	Health Professions Council of South Africa

HRH	Human Resources for Health
HWS	Health Workers Society
IMR	Infant Mortality Rate
IOM	Institute of Medicine
LMIC	Low- and middle-income countries
MASA	Medical Association of South Africa
MBA	Master of Business Administration
MD-MPH	Doctor of Medicine (US) – Master of Public Health (dual degree)
MDG	Millennium Development Goals
MEDUNSA	Medical University of South Africa
MMed	Master of Medicine (in Public Health, in this thesis)
MOH / MOH's	Medical Officer of Health / Medical Officers of Health
MPH	Master of Public Health
MRC	Medical Research Council
NAMDA	National Medical and Dental Association
NDOH	National Department of Health
NGO	Non-Governmental Organisation
NHI	National Health Insurance
NHIA	National Health Insurance Authority (Ghana)
NHS	National Health Service (UK)
NICD	National Institute for Communicable Diseases
NIH	National Institutes of Health (USA)
NIOH	National Institute of Occupational Health
NPPHCN	National Progressive Primary Health Care Network
OASSSA	Organisation of Associations of Social Services of South Africa
OSD	Occupational Specific Dispensation
PAHO	Pan-American Health Organisation
PH	Public Health

PHASA	Public Health Association of South Africa
PH/GPM	Public Health and General Preventive Medicine
PHC	Primary Health Care
PHM	Public Health Medicine
PSF	Family Health Strategy (Brazil)
RDP	Reconstruction and Development Programme
SAMDC	South African Medical and Dental Council
SPH	Schools of Public Health
SUN	University of Stellenbosch
SUS	Sistema Único de Saúde (Unified Health System – Brazil)
TAC	Treatment Action Campaign
TB	Tuberculosis
UCT	University of Cape Town
UFS	University of the Free State
UK	United Kingdom
UKZN	University of KwaZulu-Natal
UN	United Nations Organisation
UNICEF	United Nations Children’s Fund
UP	University of Pretoria
US	United States of America
WHO	World Health Organisation
Wits	University of the Witwatersrand

## GLOSSARY OF TERMS

**Clinician:** A health professional whose practice is based on direct observation and treatment of individual patients.<sup>1</sup>

**Fit-for-purpose:** Suitable for the use for which it is intended.<sup>2</sup>

**General practitioner:** A doctor working clinically at a primary care level

**Health care professional:** Members of the health workforce who have professional qualifications in medicine, dentistry, nursing, pharmacy, and rehabilitation or other clinical areas.

**Health practitioners:** Members of the health workforce.<sup>3</sup>

**Health sector reform:** A process of change involving the what, who, and how of health sector action.

**Health sector:** Organised public and private health services (including those for health promotion, disease prevention, diagnosis, treatment and care), health ministries, non-governmental organisations, community groups, professional associations and institutions which directly input into the health care system.<sup>4</sup>

**Health service:** A range of services and supports related to health, guided by a philosophy, and supported by an infrastructure.<sup>5</sup>

**Health system:** All organisations, people and actors in society who act to promote, restore or maintain health as the primary goal.<sup>6</sup>

**Health workforce:** Everybody working in organisations or institutions whose primary intent is to improve health, as well as those whose personal actions are primarily intended to improve health but who work for other types of organisations.<sup>3</sup>

**Physician, doctor:** A health care professional who has obtained the terminal qualification enabling practice as a medical doctor.

**Public Health Medicine:** The specialist public health qualification recognised by the Health Professions Council of South Africa (HPCSA) for doctors successfully completing academic and service requirements. It is conferred either through passing the fellowship exam of the Colleges of Medicine (SA) or by a training institution recognised by the HPCSA.

**Public health physician:** A medical doctor who has obtained a postgraduate public health qualification or whose work involves public health functions.

**Public health practitioner:** People in the public health workforce who spend much or all of their time in public health practice.<sup>7</sup>

**Public health professional:** This refers to a person with a Masters degree in Public Health/other public health postgraduate qualification who uses the skills or qualifications in their work.

**Public health workforce:** The public health workforce includes all those whose prime responsibility is the provision of core public health (non-personal) activities, irrespective of their organisational base.<sup>8</sup>

**Public health:** The organised effort by society, primarily through its public institutions, to improve, promote, protect and restore the health of the population through collective action.<sup>9</sup>

**Registrar:** This is a doctor who is formally in a training post to become a specialist.

**Specialist/speciality:** This refers to a person whose qualification is recognised as being a specialist by the country's health authority/ certification board.

## ABSTRACT

### **Background:**

While South Africa's Constitution, health legislation and policies value public health (PH) approaches, Public Health Medicine (PHM) specialists are largely invisible in the health services. Despite this, many undertake specialist training. The reasons for this mismatch, for doctors' motivations for this training, and the career paths of PHM specialists are not known – nor is it known if their practice is aligned with the intentions of trainers, policy makers and employers. Postulates for their invisibility are that they are not required, are unknown, are interchangeable, not 'service-ready' or unavailable.

### **Aims:**

This thesis investigates the match between 'desired', 'actual' and 'intended' use of doctors with PH expertise in contemporary South Africa. It explores the motivations of doctors undertaking PH studies, the actual careers of PHM specialists and the intended roles of this cadre of staff.

### **Methods:**

Firstly, through an electronic survey, motivations for studying and career paths of doctors completing Master of Public Health (MPH) at the University of Cape Town – the foundational PH training for selected specialist training – were examined. Secondly, through focus groups and in-depth interviews, motivations for specialist training, anticipated career paths and perspectives of the future of PHM and of specialists-in-training (registrars), were probed. An on-line survey of PHM specialists' career paths, their reflections on the speciality's value and future was undertaken. Finally, through in-depth interviews, a qualitative study explored the perspectives of key stakeholders in South Africa's health service about PHM's value in the context of current health system reform.

### **Findings:**

A number of factors underlie PHM's absence in the services. In post-apartheid South Africa, PH functions have been overshadowed by an inordinate focus on 'personal' curative services. Under current legislation, PHM is largely not a requirement for service positions, resulting in many participants (20%) not registering as specialists. PH practice is context-specific and its core functions are practised by others, resulting in overlapping boundaries between PHM and other trained professionals. Together with poor advocacy for the speciality, these resulted in PHM largely being eclipsed in health system design.

In 2010, PHM comprised less than 200 specialists, mainly mature doctors who are increasingly female. There was a close match between 'desired', 'actual' and 'intended' roles of PHM specialists. Unlike doctors who undertook MPH studies to obtain research and technical skills, together with population approaches for career progression, PHM registrars and specialists trained to impact on health systems, underpinned by a commitment to social justice.

Specialists' broad theoretical and experiential training produced versatile professionals able to work in complex service settings, with competencies spanning strategic and technical functions, which fast-tracked them for leadership.

In 2010, a third of PHM specialists worked for the state health sector and a third for universities, mostly as managers or academics; the rest in NGOs, research institutions or independently. Besides those in 'joint appointment' health service and academic posts, less than a handful worked in designated service specialist posts. Specialists were highly satisfied with their careers. The majority had worked in the state sector at one time, but many had left to pursue academic and other careers. Although salaried specialists' remuneration had improved following the Occupational Specific Dispensation (OSD), this had not affected those in management and would not attract prospective specialists to management positions unless the work environment favouring autonomy and innovation improved.

Despite an uneven presence, study participants agreed that the PHM's contribution centred on a 'public health intelligence' function – finding and interpreting information; supporting services through management and leadership; providing policy making and planning capacity and research at various levels. Some argued for PHM to be a requirement for senior line management posts in the future.

**Conclusions and recommendations:**

South Africa's current health reform is an opportunity for PHM to refine its professional identity, competencies and location. Being cognisant of its multi-disciplinary nature, it must locate itself in a common identity of a profession and workforce, in "a fabric of many professions dedicated to a common endeavour".<sup>10</sup> A 'public health identity' needs to be constructed, reflecting the diverse PH professional functions.<sup>11</sup> The desired size, shape and roles of the PH workforce, including PHM specialists, needs to be addressed through fora of PH stakeholders – the governmental health sector, civil society employers, universities, existing and prospective specialists - focussing on positions for specialists and PH professionals, the creation of posts, the design of training curricula, and registrar placements.

Research that evaluates and explores the development of the PH workforce in South Africa, comparing it with other country settings, will inform the development and competency of the profession, and the health sector that aims to "improve quality of life for all".

**Keywords:** Administration; Community Medicine; Education, Medical, Graduate; Education, Medical, Professional; Evaluation; Health Personnel; Human Resources; Health Services; Preventive Medicine; Public Health; Public Health Administration; South Africa.

# CHAPTER 1: INTRODUCTION

## 1.1 BACKGROUND

The notion that health is a ‘public good’ rather than a commodity to be purchased is a prominent theme historically in health discourse, particularly during the last quarter of the 20<sup>th</sup> century.<sup>12, 13</sup> Implicit is a recognition that health is a human right, a state of well-being to be attained to the highest level possible.<sup>14</sup> Efforts to achieve this require an appreciation of factors impacting on health which include social, economic and political issues commonly referred to as social determinants of health.<sup>15</sup> Improvement in the health status of communities, populations and countries therefore requires managing underlying social and behavioural factors that negatively impact on health.

In general, a health service is broadly categorised into “personal health services, public health services and other intersectoral initiatives”.<sup>16</sup> Personal health services refer to clinical services targeting the health needs of individuals, and include activities that not only have a curative focus, but also include promotive, preventive and rehabilitative initiatives. The demand on health systems globally is to deliver health services for individuals primarily through curative functions.<sup>17</sup>

On the other hand, public health services are concerned “with the control and prevention of disease in communities ... assessment of health care needs of the population and planning and evaluation of health services”.<sup>18</sup> These include disease prevention such as communicable disease epidemics, protecting health through environmental and occupational health services, social interventions at a community or population level, management of disasters and assuring screening programmes.<sup>19</sup>

Interventions impacting on social determinants of health, a key public health paradigm, require ‘upstream’ intersectoral action – social and economic interventions, such as services involving housing and education, in addition to those provided through the health sector.<sup>20</sup> The stewardship and operationalisation of intersectoral dimensions to health are, however, vexed. Responsibility for initiatives focusing at this

level do not neatly fit into models of service organisation, such as the typical operation of a health system focussed on 'personal health'.

Internationally, the training of physicians chiefly focuses on the acquisition of bio-medical science knowledge and clinical skills. Nonetheless, the importance of population-oriented training and skills in training doctors has been recognised by many, including Abraham Flexner, author of the famous 1910 report on medical education, who noted that "the physician's function is fast becoming social and preventive rather than individual and curative".<sup>21</sup> This perspective is echoed throughout the 20<sup>th</sup> century and beyond. For example, the 1998 Pew Commission report on health professional practice in the United States of America (USA) called for health professionals to balance the needs of individuals "with system and population constraints".<sup>22</sup> In different contexts, strategies have been adopted to manage this imperative, ranging from inclusion of public health training in undergraduate medical curricula to postgraduate public health training for graduate doctors.

Various training models have been developed in different countries to prepare and qualify public health trained doctors for roles and positions in health systems. Two important ones for the development of the public health workforce globally and for public health education, are from the United Kingdom (UK) and the USA. Both countries exported their health system's educational models: through the colonial enterprise of the UK; and through American philanthropic support of the development of schools of public health internationally. South Africa inherited the British medical education system,<sup>23</sup> and modelled recent postgraduate public health training – the Master of Public Health (MPH) – on the American system.<sup>24</sup>

The scope of practice, types and roles of personnel (particularly of doctors) practising public health varies internationally, depending on local health sector history and system design. The organisation and evolution of South Africa's health system has followed the divide between 'public health' and 'personal health'.

Whilst public health and population approaches to health underlie health policy in South Africa and underpin the 2003 Health Act,<sup>25</sup> resource allocation for health primarily prioritises capacitating clinical services to ensure coverage. Notwithstanding

numerous policy directives,<sup>26, 27</sup> the South African health system focuses on individual 'personal health' services, which are largely facility- and hospital-based. Health services do not prioritise interventions addressing social determinants of health. As will be described in the literature review, globally and in South Africa, they do not drive the intersectoral work that could positively impact on health status at a population level. Few resources are allocated to the collection of evidence, critical for the design and evaluation of services impacting on health.

Human resources for health in South Africa are reported to be inadequate in size, shape and inequitably distributed.<sup>28</sup> This is particularly the case for the public health workforce, which is given little attention in human resources planning, despite Public Health Medicine (PHM) being identified as number 22 in the top 100 scarce skills in South Africa.<sup>29</sup>

The South African health service does invest in training doctors in public health, and funds specialist training positions in PHM. Undergraduate university training prepares and qualifies doctors to register as medical practitioners with the Health Professions Council of South Africa (HPCSA) to practice in the state sector as medical officers and in the private sector as general practitioners – and public health forms part of their competence. Specialist medical disciplines as gazetted by the HPCSA require postgraduate training in designated training posts linked to approved training programmes at universities, usually over four years. Graduates demonstrate competency through passing examinations which qualify them to register as specialists with the HPCSA. Public Health Medicine is one such speciality.

Despite the fact that public health approaches underlie South Africa's health system, and are increasingly prominent in undergraduate medical education, public health personnel and institutions are not prominent in South Africa's health service. At the end of PHM training, graduates are often unable to find employment as specialists, and few positions are earmarked specifically for graduates with this training.

There are tensions and contradictions between, on the one hand, the ideological commitment of South Africa's health system to address social determinants of health, health promotion and protection, and its investment in public health training and, on

the other hand, its curative orientation, poor investment in public health functions and its workforce. Exploring these contradictions forms a key component of this research.

## **1.2 OVERVIEW OF THIS THESIS**

This thesis investigates the match between ‘desired’, ‘actual’ and ‘intended’ use of doctors with public health expertise in contemporary South Africa. It explores the motivations of doctors undertaking public health studies, the actual careers of PHM specialists; and the intended roles of this cadre of staff.

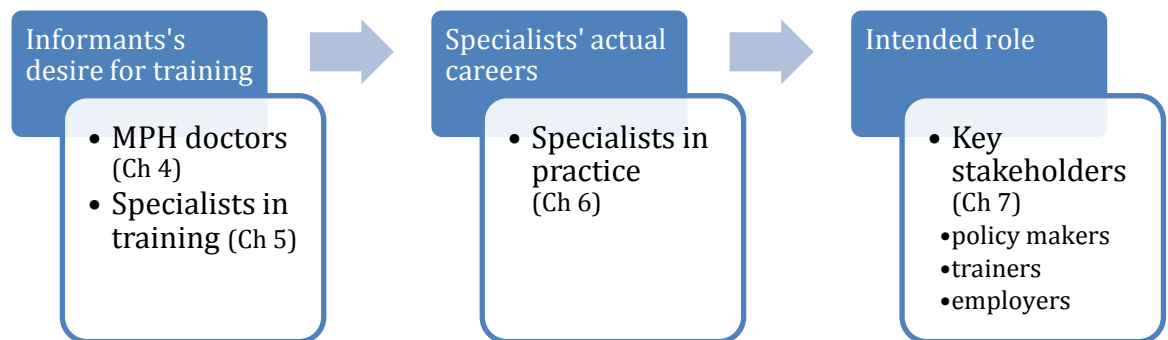
The literature review (Chapter 2) describes and analyses conceptions of public health and its functions in health systems. It discusses the public health workforce and reviews the competencies and location of public health trained doctors in health systems. It highlights debates about public health as a profession and reviews the range of public health training programmes producing various public health professionals, and their perceived value from the perspective of health services and of trainees themselves. Through reviewing the location of public health trained doctors within health systems and identifying gaps in knowledge about their motivations, their actual and intended roles in health systems, the rationale and motivation for the research is mapped.

The literature review outlines public health functions and the roles of public health trained doctors are explored in four countries: the UK, the USA, Brazil and Ghana. Each is chosen for a particular reason of relevance to South Africa, outlined in Chapter 2, section 2.3. Finally the chapter reviews the history and development of South Africa’s health system from the perspective of public health and its functions, the development of PHM as a speciality in South Africa, and comments on the public health workforce in key current health policies.

The motivation for the study emerges from a reflection on the gaps in the literature, particularly those pertaining to the work of PHM specialists, as well as uncertainty about the boundaries of public health enterprise – its practice, its workforce and of

PHM specialists in particular. Research questions, study purpose, aims and objectives flowing from the motivation for the study are then identified.

Arising from the various conceptions of public health, its functions and the location of the public health workforce in various health systems, a consideration of training programmes that produce this workforce, a framework (Figure 1.1) was developed that guided the research and the presentation of the various studies. The framework considers the match between the perspectives of doctors trained in public health – their motivations and career paths – and those of stakeholders in this training – educators, employers and policy makers.



**Figure 1.1: Mindmap of the research**

### **1.2.1 Four studies**

The research took the form of four separate yet interrelated studies.

The first study explored the 'desire' for training – the motivations and perceived value of training – of doctors completing the University of Cape Town's (UCT's) MPH programme. In South Africa, the MPH is the flagship general public health degree, and forms the foundation of many institutions' specialist training programmes. The second explored the 'desired' intention of those in specialist training, its anticipated value for registrars and for the services. The third study, the specialist study, explores specialists' 'actual' career paths, as well as their reflections on its perceived value. The last study, reports on the 'intended' value of PHM specialists, from the perspective of educators, employers and policy makers.

The findings from these four studies are presented as four separate chapters in the dissertation. Each chapter presents the background to the particular study, its aims and objectives, methods, results and discusses the study implications in the light of the literature.

Chapter 3 presents the findings of the study that explored the motivations and career intentions of doctors who undertook postgraduate MPH courses at the University of Cape Town (UCT) from the inception of the degree in 1999 to 2010. Through a survey, with closed and open ended questions, it explored motivations for undertaking the training, the influence of undergraduate training, subsequent careers and reflections on the training.

Chapter 4 presents the findings of the study that explored the motivations, training experiences, career intentions of registrars and newly qualified PHM specialists, as well as their reflections on the future of public health as a medical speciality in South Africa. This qualitative study, using focus groups and in-depth interviews, was conducted in 2011 in two main centres in South Africa – Cape Town and Johannesburg – and included registrars from the universities of Cape Town, Stellenbosch and the Witwatersrand.

Chapter 5 reports on the career paths of PHM specialists since the medical speciality was established in 1975. It details motivations, training, skills sets, career choices, and perceived roles of Public Health as a medical speciality in South Africa. This quantitative study reports on an on-line and paper-based survey of PHM specialists conducted between 2011 and 2012.

Chapter 6, the last study, explores the perceptions and perspectives of stakeholders in the health system – academics, policy makers and health managers, from across the public sector, in NGOs and the private sector – as to the value of public health and PHM specialists in South Africa regarding their intended, actual and potential roles. Through in-depth interviews, experiences and perceptions of the need for PHM specialists and their potential roles were elicited.

The final chapter synthesises the four studies and characterises public health doctors, their motivations, intended contributions and career paths. It highlights the career trajectories of public health doctors and compares these with what is intended by trainers and what is needed by policy makers and employers. Their perspectives on the present and future contributions of PHM specialists in South Africa's health system are discussed in the light of the literature, and in the context of the evolution of the discipline of PHM in South Africa. It presents a framework that explains the forces that impact on the status of PHM in this country - these being service demands and burden of disease, resource constraints, and the organisation and maturity of the health system able to absorb this cadre of staff. The dynamic between intended, desired and needed expertise in PHM is described. Finally, recommendations arising from the studies are made.

This thesis uses the 'Vancouver' system of referencing. An alphabetised list of references is also presented in Appendix A to enable the reader to find references by author, as the Vancouver style does not list references alphabetically.



## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 INTRODUCTION**

As this thesis focuses on the place of Public Health Medicine (PHM) within South Africa's health system, the review of literature contains a number of components. Firstly, this chapter reviews the nature, scope, function and identity of public health, health care systems, and the function of public health and competencies within these. It discusses the health workforce, the foundation of any health service, its size, shape and skills mix as well as the public health workforce.

Secondly, because training for public health produces and sustains competence and skills, the literature outlining the history of, and models for, public health training and competencies and its relationship to medical training, is explored. Because the thesis focuses on the career trajectories of doctors from public health training programmes, evaluations of outcomes of public health training programmes and careers of graduates internationally are explored.

As PHM was set up as a speciality in South Africa, setting itself apart from other medical specialties with a defined scope of practice and competencies, the nature of professionalisation is relevant and is reviewed. The notion of a 'medical public health specialist' may be a factor influencing PHM's relationship with other public health professionals in South Africa.

Thirdly, the chapter reviews the roles of public health trained doctors in four countries which have models of health care delivery and public health (PH) training relevant to South Africa. These countries are the United Kingdom (UK), South Africa's previous colonial power which shaped its health system and educational system; the United States of America (USA), on which much of contemporary South African public health training is modelled; Brazil, a country with similar levels of economic development as South Africa which is a source of inspiration for contemporary health sector reform;

and Ghana a lower middle-income African country currently implementing a National Health Insurance (NHI) scheme, as is intended in South Africa.

Fourthly, the history of the health sector in South Africa through a public health lens is outlined in order to contextualise the present location of public health and work of public health professionals. This is followed by a review of contemporary public health training, a history of PHM in South Africa, and an analysis of contemporary public health policy regarding the location of the public health workforce.

This literature provides the basis, in the final section, for framing this thesis. Analysis of the literature provides the rationale and motivation for the research, identifies the research questions and outlines the overall purpose, aim and objectives.

### **2.1.1 Search strategies**

A combination of search strategies for the various sections was used. Keyword searches using a combination of terms relevant to the four sections were undertaken and included: *public health, Public Health Medicine, community health, history, South Africa, health service, health system, education, training programmes, career paths, workforce, human resources for health, MPH, evaluations*. Additionally, literature on health services and public health in the UK, USA, Brazil, and Ghana was sought. Keyword searches for literature relevant to the findings of each of the four results chapters (Chapters 3 to 6) not reviewed in this chapter, were performed and included: *health worker, migration, gender, retention, ageing, job satisfaction, health management*.

Authors and people associated with the development of public health, known by the researcher and suggested by supervisors, and hand-searched references given in downloaded publications were also used to source literature. Relevant books, journal articles and reports were reviewed. EBSCOHost was used to search for peer-reviewed journal articles and Google and Google Scholar was used for specific authors, national and international reports. The search for literature was conducted between March 2012 and December 2014. It was largely confined to English speaking literature, and

what was available in electronic documents on the internet. This limited the information gathered for the Brazilian and Ghanaian reviews.

Unpublished information about the history of the PHM speciality was obtained through reviewing archival boxes containing meeting minutes, letters and reports of the College of PHM held by the Colleges of Medicine in Rondebosch, Cape Town on 15-16 April 2014.

## **2.2 WHAT IS PUBLIC HEALTH?**

The term 'public health' is used in the literature in a number of ways – an “activity, a discipline, a profession, an infrastructure, or even a movement”.<sup>8</sup> Some view public health as government-funded or public sector health services as opposed to private sector health services<sup>30</sup>, or 'community health' as opposed to 'personal health' services rendered by clinical medicine.<sup>31</sup>

For this research, and common to most definitions, public health is a field that focuses on the maintenance and promotion of health at a population level.<sup>32</sup> Winslow, a leading American public health practitioner in the early 20<sup>th</sup> century, argued that public health was “the science and art of preventing disease, prolonging life and promoting health ... through the organized ... efforts” and informed choices of society, organisations, public and private, communities and individuals.<sup>33</sup> This conception echoes through the 20<sup>th</sup> century. For example, in 1988 public health was described by the American Institute of Medicine (IOM), an advisory board to the USA federal government, as “the set of agents and efforts to create conditions for people to be healthy”.<sup>34</sup> Public health aims to firstly, understand health problems and systems and then develops and manages programmes in prevention and control to improve the health status of communities.

Public health is therefore an inter-disciplinary field, encompassing a number of disciplines including environmental health, occupational health, epidemiology, biostatistics, demography, economics and, health care organisation and management.<sup>32</sup> Social science disciplines such as geography, psychology, sociology and anthropology have increasingly become integrated into public health practice.<sup>31</sup>

The perspectives and methods of these disciplines are different, but together, they provide information that can inform health interventions. Information may come from risk factor analysis of individual lifestyles (epidemiology), economic cost-benefit analyses of health policies (health economics) to organisational change (management sciences). Public health provides a mind-set that considers different explanations for health phenomena which, in turn, informs complex and multiple approaches. This should avoid piecemeal insights and interventions.<sup>35</sup> Public health practice is therefore a multi-disciplinary enterprise.

The social determinants of health, part of the public health paradigm, describe conditions that interact, influencing risks to health and well-being. It recognises that health is determined by the conditions of everyday life and by systems that help keep people healthy and support them when they get sick.<sup>36</sup> Public health works at this level, impacting on factors determining human health and working in systems to improve health status. It uses levers for change, such as the development of social interventions, policy change and advocacy.<sup>37</sup> Although many public health programmes have direct impacts on population health, it is not always easy to quantify these effects.<sup>8</sup>

Whilst public health action is primarily directed at determinants of health which operate at a societal level, its scope of practice is ill-defined, and this has been the subject of much debate.<sup>32</sup> Should it be so extensive to encompass all sectors, including the social and economic factors impacting on health; or, be narrower in activities, and focus on specific interventions to protect and promote health? This speaks to the intersectoral nature of public health practice and questions whether public health professionals should steward such initiatives.

Implicit to public health are ideals of social justice and this has become more explicit in British, Canadian and Brazilian public health debates. Whilst early British modern public health practice was directed to control contagion,<sup>38</sup> producing healthy workers for commercial purposes and fitter soldiers,<sup>39, 40</sup> this improved the living conditions of the working class, and some argue that altruism was part of this impetus, and that this orientation persists.<sup>41</sup> Indeed, advocacy to enhance social justice and reduce social

inequities – which are themselves directly linked to differential vulnerability to exposures, ability to cope and access to health care<sup>42</sup> and therefore associated with differential health outcomes<sup>43, 44</sup> – is a theme of public health practice.

The fair distribution of society's benefits and responsibilities,<sup>45</sup> is therefore a core value of public health.<sup>37</sup> Recent Canadian literature confirms the view that social justice should be explicit in public health work and included in public health education, graduate core competencies, and the selection of students.<sup>37</sup>

Public health has a wide scope of activity – within the health sector and services, for example in communicable diseases control; and, outside of health services, for example, through intersectoral efforts to improve health. Recently an important intersectoral approach to public health, the 'health in all policies' approach, was articulated first in Europe<sup>46</sup> and is promoted by the World Health Organisation (WHO).<sup>47</sup> Public health professionals need to ensure that a health agenda is part of all government initiatives and policies – in housing, education or energy.

It may be useful to think of public health not as a discipline per se, but a set of disciplines unified under a population-oriented rubric that spans health care delivery, disease prevention, health promotion, and health policy.<sup>30</sup> The interdisciplinary and intersectoral nature of public health is now widely accepted. This has implications for identifying the public health workforce – explored in more detail in section 2.1.3.

### **2.2.1 The role of public health in health care systems**

Before the 20<sup>th</sup> century, public health measures – such as health inspection, isolation of cases and quarantine – were essential to protect populations against infectious diseases. The recession of epidemics due to effective control and the rise of effective diagnostics and therapeutics resulted in health care becoming synonymous with clinical medicine.<sup>30</sup> Personal health care became the focus of health services and health professionals, and complex countrywide health systems were built. Over the last decade, the focus on the 'personal' in health care has extended to 'personalised medicine',<sup>48</sup> a powerful movement promoted by the pharmaceutical industry, which

intends to develop treatment and prevention for individuals,<sup>49</sup> and populations<sup>50</sup> based on biological markers.

Health systems comprise organisations, people and actors who act to “promote, restore or maintain health”.<sup>6</sup> Their work impacts on determinants of health and personal health services focused on preventive and curative activities. The WHO framework, designed to promote a common understanding of health systems to guide health systems strengthening, identified six ‘building blocks’ – service delivery; the health workforce; information systems; access to medicines and technology; financing; and, leadership and governance<sup>6</sup> – which together act to deliver services. Indicators measure the success of service delivery – processes (access, coverage, quality and safety) and outcomes (improved health and equity, risk protection and efficiency).<sup>51</sup> Public health expertise is needed for the effective implementation of these approaches.

Public health aims and methods are central to the Millennium Development Goals (MDGs) adopted by the United Nations (UN) General Assembly in 2000. The five MDGs that pertain directly to health, locate population level health and health system performance measures as central to the development agendas. Post-MDG discussions have focussed on the notion of ‘universal health coverage’,<sup>52</sup> which in December 2012 was adopted by the UN General Assembly.<sup>53</sup> Population oriented skills and approaches are inherent to this approach which highlights equity and access to health care. Strengthening health systems is critical to achieve major health goals – and public health skills and competencies are core to the production of robust health research, policy development and services management to support health systems strengthening.<sup>54</sup>

Because public health practice has as a goal, the improvement of health outcomes of populations through preventing disease, promoting healthy behaviour and ensuring access to quality health services,<sup>54</sup> it is clearly inseparable from the larger concept of health systems. While the scope of public health is broad but clear, the positioning of public health as a practice is, however, not clear for the success of health systems.

Although investment in public health strategies to reduce ill-health through prevention, reducing health inequalities and increasing life expectancy may seem self-evident, ethical and reflect the right to health,<sup>55,56</sup> they are difficult to achieve. This is due to the complexity of public health challenges such as social and economic inequalities, the demands of curative care which overshadow longer-term investment in population health and an underdeveloped evidence base for public health interventions.<sup>57</sup>

### **2.2.2 Public health functions and institutions**

Considerable attention has been given to identifying public health functions in the USA, the UK, Canada, Australia and by the Pan-American Health Organisation (PAHO). As can be seen in Table 1, although frameworks differ, there are considerable similarities across regions.

There is agreement that public health functions centre on identifying health status and needs of populations and their surveillance; developing policy, implementing and evaluating promotive, preventive and disease control programmes; assuring the delivery and quality of services; and, developing a competent workforce able to lead and develop partnerships. Some frameworks explicitly include public health research.

Although there is much agreement, there are differences in terminology and emphasis, with American frameworks emphasizing hazards and threats while countries coming from a British tradition, focus on promotion, prevention and protection.

Public health functions and competencies are essential for responsive and comprehensive health services, but limited resources focussing on priority interventions, restrict public health functions and institutions. The US Centres for Disease Control and Prevention (CDC) proposed a set of functions, competencies and organisations, which require strengthening to maximise impact on health systems and population health.<sup>54</sup> As valid epidemiological data is the foundation for policy, decision-making and interventions, skilled personnel are required who can work on surveillance, tracking vital statistics, estimating disease burden, evaluating

determinants of health, and impacts of health interventions. Competencies in leadership and management are also needed in countrywide organisations and health ministries, that collect, interpret and translate data into policies, guidelines and recommendations.

The building of institutions to house public health personnel and functions is a global need. Public health institutes<sup>58</sup> in many countries lead and co-ordinate these functions and capacity for surveillance, response to public health emergencies, and the development of national diagnostic and reference laboratory systems with transnational links, need resourcing. Key disease control programmes are required, including chronic disease programmes addressing behavioural risk factors, as well as solution- and action-orientated research to identify new and improve existing health interventions.<sup>54</sup> Similar needs for building institutional capacity for public health in Africa have been noted, with particular emphasis on health managers at district level having masters level training in public health skills, particularly in epidemiology.<sup>59</sup>

In summary, public health competencies are broad, ranging from technical skills in component disciplines, to their application in management and leadership positions. Specific public health functions, competencies and institutions using scarce resources wisely need to be prioritised to strengthen health systems.

**Table 1: Public health functions**

<b>Region/ country:</b>	<b>THE AMERICAS</b>	<b>UNITED STATES</b>	<b>UNITED KINGDOM</b>	<b>AUSTRALIA</b>	<b>CANADA</b>
<b>Author:</b>	<b>PAHO (2008)<sup>9</sup></b>	<b>Center for Disease Control (2014)<sup>60</sup></b>	<b>White F (2013)<sup>61</sup></b>	<b>National Public health partnerships (2000)<sup>62</sup></b>	<b>Public Health Agency Canada (2007)<sup>63</sup></b>
<b>Type:</b>	Policy document	Policy document	Research study	Delphi consensus statement	Policy document
<b>Framework</b>	Eleven <i>Essential</i> Public Health Functions (EPHF)	Three <i>core</i> functions:	Four <i>spheres</i> of practice. Health:	Five <i>spheres</i> of practice. Health:	<i>Programme activities:</i>
	<ol style="list-style-type: none"> <li>1. Monitoring &amp; evaluation</li> <li>2. Surveillance &amp; control of public health threats</li> <li>3. Health promotion</li> <li>4. Social participation in health</li> <li>5. Policy, planning &amp; management</li> <li>6. Regulation &amp; enforcement</li> <li>7. Evaluation &amp; access to services</li> <li>8. HR development</li> <li>9. Quality assurance</li> <li>10. Research</li> <li>11. Reducing impact of emergencies</li> </ol>	<ol style="list-style-type: none"> <li>1. Assessment</li> <li>2. Policy development</li> <li>3. Assurance</li> </ol>	<ol style="list-style-type: none"> <li>1. Assessment</li> <li>3. Protection</li> <li>4. Promotion</li> <li>2. Prevention</li> </ol>	<ol style="list-style-type: none"> <li>1. Monitoring &amp; surveillance</li> <li>2. Protection</li> <li>3. Promotion</li> <li>4. Disease prevention</li> <li>5. Policy, planning &amp; management</li> </ol>	<ol style="list-style-type: none"> <li>1. Health Promotion</li> <li>2. Disease Prevention &amp; control</li> <li>3. Emergency preparedness &amp; response</li> <li>4. Strengthen PH capacity</li> <li>5. Program management &amp; support</li> </ol>

Region/ country:	The Americas	United States	United Kingdom	Australia	Canada
<b>Health status</b>	“status.., risks and threats”	“ and hazards”	“Health needs and outbreaks”		
<b>Identify</b>	Yes	Health problems	“Assessment”	CD, NCD & injury	“Assessment”
<b>Monitor</b>	Surveillance	Yes	Health status & disease surveillance	“... surveillance” of health, social & economic status	Disease, injury & risks
<b>Manage</b>	Control	“solve”		intersectoral partnerships; financial resources	implementation
<b>Policy</b>					
<b>Develop</b>	Yes	“that support efforts”	Advocacy for health promoting policy	Policy, planning and implement	For prevention, control & reduce impact of disease
<b>Evaluate</b>	Yes		Assess effectiveness of interventions	yes	yes
<b>Assurance</b>	“Quality assurance”				
<b>Enforcement</b>	yes	“of laws & regulations” to protect	Health protection – legislation & inspection	Health protection, legislation, ensure healthy environment	Applies legislative & regulatory powers
<b>Services</b>	Access to services	Ensure access when unavailable	Prevention (immunisation, screening, prophylaxis)	Control of NCD & Communicable diseases;	Disease and injury prevention locally & internationally
<b>Health promotion</b>	yes	Inform, educate, empower	Advocacy; policy and personal skills	Advocacy	Action for healthy living. Collaboration
<b>Evaluate</b>	Access to equitable health services	Effectiveness, access, health service quality	Effectiveness of interventions		
<b>Other</b>					
<b>Research</b>	Risks & threats in public health	Solutions to health problems			Contribute to knowledge
<b>Health workforce</b>	Development and training	Ensure competent workforce;	Training for functions	human resources to promote, protect, maintain health	Skills

### **2.2.3 The health workforce, public health personnel and their competencies**

It is widely appreciated that human resources are the critical core of a health system and without an appropriate mix of skills and number of productive health workers, global health goals such as the MDGs cannot be met.<sup>64</sup> The WHO sees a well-performing workforce as one that works in a fair, responsive and efficient way to achieve the best outcomes possible given available resources and circumstances, which in turn requires sufficient numbers and staff mix.<sup>65</sup>

There is recognition of a global crisis in human resources for health. Widespread shortages are the result of inadequate numbers of trainees, geographical maldistributions and losses due to death, retirement, migration or career change.<sup>65</sup> Inappropriate skills mixes are biased towards doctors and specialists.<sup>66</sup> Compounding this is a dearth of knowledge about the health workforce – its size, function, and optimal skill mix.<sup>66</sup>

Remedying this requires high-level commitment to three factors being capacity building – the correct numbers, skills mix and distribution of health workers; supportive work environments and remuneration promoting health worker motivation; and health worker competence – appropriate skills, attitudes as well as leadership which requires resources.<sup>66</sup>

Public health professionals are people educated in public health, employed to improve health through a population focus.<sup>67</sup> They provide non-personal health services, although in some countries some personal health services such as immunisation are the responsibility of public health professionals.<sup>8</sup>

Public health personnel work in line and technical functions within health services, and in research and specialist institutions, as managers, leaders, planners, implementers or researchers. They work at all levels of health services – national, provincial/state, district or municipal levels – and in defined spheres such as environmental health, health promotion or surveillance.

Globally, public health personnel are both insufficient in numbers<sup>8, 68</sup> and maldistributed. They have been largely overlooked in national human resources

health plans, and allocated little budget. The reasons for this neglect may be due to resource allocation prioritising curative health care,<sup>69</sup> in the face of imperatives to reduce health costs. The shortages in the public health workforce are even more profound in resource poor countries, as reported for the Democratic Republic of the Congo, Ethiopia, India, Nigeria, Sri-Lanka and the Sudan.<sup>70</sup>

Challenges related to the public health workforce are also noted in well-resourced settings such as the USA. Inadequate supply, training and retention of public health personnel<sup>71</sup> and shortages of staff in specific areas, including epidemiology,<sup>72</sup> have been noted. In 2002 it was estimated that a quarter of the USA public health workforce was eligible for retirement.<sup>73</sup>

Little attention is given to public health workforce research, and they are inadequately categorised as either environmental workers – which includes district health officers – or health managers – which includes health economists, statisticians and policy makers, in the WHO Global Atlas of the health workforce.<sup>74</sup> This poor attention extends to public health training and a 2013 systematic review of outcomes of masters' degrees in health sciences found only eight articles related to public health programmes, with only one from the developing world, Vietnam.<sup>75</sup>

Multi-disciplinarity is part of the identity of public health, and the public health workforce is a multi-disciplinary team with technical skills and responsibilities for leading health systems to improve health through a population focus.<sup>76</sup> Professionals come from a range of occupational backgrounds – “doctors, nurses, health managers, health economists, environmental health specialists, health promotion specialists and community development workers”.<sup>8</sup>

Competencies are the combination of knowledge, skills and abilities that a professional must demonstrate and that are critical to perform work effectively.<sup>77</sup> They are commonly used to design training curricula to produce personnel for practice, and in job descriptions in service settings. Public health competencies are identified as key for health systems development.<sup>78</sup> Specific competencies and skills required by public health personnel are discussed in the literature, and are detailed in Table 2.

**Table 2: Competencies of public health professionals**

<b>UNITED STATES</b>	<b>CANADA</b>	<b>UNITED KINGDOM</b>	<b>LOW- MIDDLE INCOME COUNTRIES</b>
Institute of Medicine <sup>34</sup> (1988) [Official policy document]	Cole DC <sup>78</sup> (2010) [Journal Article]	Douglas J <sup>79</sup> (2010) [Chapter in Book]	Zwanikken <sup>80</sup> (2014) [Delphi-generated synthesis]
<b>Eight domains and skills</b>	<b>Seven competencies</b>	<b>Four core areas</b>	<b>Seven competency areas</b>
1. Assessment & analysis	1. Assessment & analysis	1. Assessment & surveillance	
2. Policy development /program planning	2. Implementation and evaluation;	2. Policy and strategy;	1. Policy development
3. Cultural competency	3. Diversity and inclusiveness		
4. Community dimensions of practice	4. Partnerships, collaboration & advocacy	3. Collaborative working	2. Community & intersectoral planning
5. Public health sciences	5. Public health sciences	4. Assessing the evidence	3. Public health science
6. Financial planning & management			4. Management
7. Leadership	6. Leadership		5. Leadership
8. Systems thinking			6. Systems thinking
	7. Communication		7. Communication

The competencies presented in Table 2 are in disciplinary domains such as public health sciences, management, policy making, assessment as well as skills for managing complex work contexts such as cultural competence, leadership and communication. Despite general agreement between frameworks there are some differences. In particular, the British framework does not emphasise the range of skills involved in management and leadership. Moreover, as is evident from the table, most literature about public health competencies emanates from developed countries. Only one study was found of competencies required for Master of Public Health (MPH) graduates in six low- and middle-income countries (LMIC), including South Africa.<sup>80</sup>

Competencies were rated through a Delphi process, drawing on country experts and programme alumni, using seven competency clusters listed in Table 2. Priorities were the ability to identify population health status; needs and evidence for decision-making; the generation of performance improvement strategies; management to

implement decisions; report and research proposal writing; and skills to engage specific contexts including intersectoral skills. Similarly, Fonn, in a commentary on public health training and its relationship with health systems development in sub-Saharan Africa, identified leadership in health and the understanding of disease burden and social determinants of health as key competencies.<sup>81</sup>

Within health systems, the public health competencies required vary according to the nature of work demanded. In the USA<sup>82</sup> and UK<sup>79</sup> a stratification of competencies is needed, depending on the level at which the incumbent works in the health system.

Most frameworks (Table 2) valued leadership skills. Globally, public health professionals have been identified as the leadership cadre for government agencies<sup>83</sup> to direct health initiatives limiting the causes of ill health.<sup>67</sup> Policy makers for health in many countries, from South East Asia<sup>84</sup> to high-income countries such as Switzerland,<sup>85</sup> are public health trained. Leadership competencies and skills such as lateral thinking, networking for “transformative decision-making and action” as well as advocacy, have been identified for inclusion in public health training programmes.<sup>86</sup> Fostering leadership talents such as “mentoring-nurturing, shaping-organising, networking-connecting, knowing-interpreting and advocating-impacting” have been identified as important for public health training in the UK.<sup>87</sup> Being explicit about roles assists in reaching agreement about competencies to improve population level health.<sup>88</sup>

### **2.3 PUBLIC HEALTH TRAINING**

This section reviews certain formal postgraduate public health training – the MPH and specialist programmes – since the turn of the 20<sup>th</sup> century. The relationship with clinical medicine, evaluations focussing on graduates’ career paths, the training’s perceived value, and links between public health training and professionalism are outlined, as these are relevant to the thesis.

Globally, a range of courses are offered to develop skills in public health, from certificate short courses for clinicians, to postgraduate masters, doctoral programmes and specialist training for medical doctors.

Formal public health training has a long history. In the second quarter of the 20<sup>th</sup> century, the Rockefeller Foundation funded the establishment of the first and most prestigious schools of public health in many regions of the world.<sup>89</sup> American public health education, largely funded by the Rockefeller Foundation, began in 1914 separately from and after the establishment of medical education. As it was not lucrative for physicians to enter public health practice and training, schools of public health were opened to other professionals:- engineers, nurses, administrators, sociologists and economists.<sup>90</sup>

Originated in the USA, the MPH is the flagship postgraduate degree in public health education for professional practice. It has been adopted in many countries including South Africa. Admission criteria vary by country and institution and may require prior health sciences training (e.g. India,<sup>91</sup> Belgium<sup>92</sup>) or other science and professional backgrounds (e.g. the USA,<sup>93</sup> the UK and Norway<sup>92</sup>). Learning is largely theoretical but many schools have added a practical component with a short placement in service settings.<sup>94</sup> Programmes initially focussed on five traditional public health disciplines – epidemiology, biostatistics, environmental health sciences, health policy and management, and social and behavioural sciences. Later, the American Association of Schools of Public Health (ASPH) added skills such as policy development and programme planning, communication, cultural competency, community practice, financial planning and management, systems thinking and leadership.<sup>95</sup> This expanded scopes of practice and has implications for professional boundaries, which will be discussed later.

Many American educational institutions also offer the Doctor of Public Health for experienced practitioners, producing broadly trained professionals groomed for leadership positions.<sup>61, 96</sup> This professional doctoral degree is being proposed for sub-Saharan Africa<sup>i</sup> to strengthen leadership for health systems reform.

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<sup>i</sup> Workshop entitled “An innovative approach to supporting health systems reform and development in sub-Saharan Africa: a pan-Africa doctoral programme in health leadership.” Moderator Irene Agyapong, University of Ghana School of Public Health. Third Global Symposium on Health Systems Research. Cape Town, 30 September – 3 October, 2014. Wednesday 1 October 2.30-16h00 session

Postgraduate public health training in resource poor settings is a recent phenomenon, and in the 1980s short courses trained clinicians to work in the area of maternal and child health and infectious diseases. Whilst improving the epidemiology skills of clinicians, these short courses did not address the need for a modern public health workforce in these settings.<sup>8</sup>

Three important public health training programmes were introduced at the end of the 20<sup>th</sup> century for resource poor settings. These were the Public Health Schools without Borders; the CDC-supported Field Epidemiology Training Programmes (FETP); and partnerships between European and developing country universities.<sup>8</sup> The Rockefeller Foundation funded the first which were set up with universities in Zimbabwe, Uganda, Ghana and the then Zaire, and focused on training district medical officers and leaders in health development.<sup>97</sup> Evaluations of these programmes showed that their impact was limited due to poor attention to emerging public health problems, the lack of direct field experience and experienced role models, as well as the isolation of training programmes from ministries of health.<sup>8</sup>

### **2.3.1 Public health training in relation to clinical medicine**

Clinical medicine in the USA, evolved separately from public health, which resulted in the establishment of distinct disciplines with different goals, perspectives, and teaching institutions. In contrast, public health in European countries developed as a specialised area of medicine in faculties of medicine, focusing on aspects linked to clinical sciences. This delayed the development of non-medical dimensions of public health such as health systems and policy.<sup>92</sup>

Recently, calls to incorporate broad public health training into general medical education were made.<sup>98</sup> Synergies that leverage strengths of both should lead to health systems producing better health outcomes.<sup>99</sup> Consequently, all medical schools in the USA were advised to include public health skills – “clinical prevention, quantitative skills, health services organisation and delivery, and community dimensions of medical practice” – in undergraduate curricula.<sup>100, 101</sup>

Although public health departments are part of medical or health science faculties in South Africa, historically little curriculum time has been given to public health content and skills in undergraduate curricula. It struggled to be seen as core to medical practice, and was characterised as the ‘Cinderella’ in medicine.<sup>102</sup> In the last decade, however, consistent with international trends, regulations have dictated that public health should be “prominent” in medical training,<sup>103</sup> but provided little detail.

One important strategy for producing medical practitioners with public health skills is the Doctor of Medicine – Master of Public Health (MD-MPH) dual degree offered by over 80 American universities.<sup>104</sup> Extending training by a year, these programmes allow medical students to augment their clinical training with public health skills, for careers that incorporate both public health and medicine.<sup>105</sup>

A different training model, postgraduate registrar/residency programmes, exists in countries such as Australia, the UK, Canada, the USA, New Zealand, South Africa, Ghana and Pakistan, leading to medical specialist registration with regulatory bodies at a state or country level. These programmes combine formal training in public health disciplines as well as practical attachments to service settings full-time over the course of four or more years. The speciality is called Public Health Medicine in Australia, New Zealand and South Africa, and Public Health in the UK. Some programmes – in Canada,<sup>106</sup> the USA<sup>107</sup> and Ghana – include clinical training, preparing graduates for scopes of practice that span population health and clinical medicine. In the USA the speciality is called Preventive Medicine,<sup>107</sup> and in Canada, Public Health and Preventive Medicine, which place more emphasis on linking clinical care to preventive and population health.<sup>106</sup>

### **2.3.2 Evaluations of public health training programmes**

In many countries the MPH is a desired pre-requisite for public health practice and research. However, few assessments of public health programmes for doctors were found except those reviewing American MD-MPH programmes, which may reflect the inadequate attention given to the subject.

Whilst it is not always possible for complete alignment between service organisations and training institutions, congruence between what is taught in the MPH and the requirements of public health practice ensures that the practitioners are ‘fit-for-purpose’.<sup>ii</sup> Inappropriate training is a concern,<sup>92</sup> and a study involving seven countries (the UK, USA, Canada and some Asian countries) found a mismatch<sup>iii</sup> between what is taught and what is needed by organisations for 22% of competencies.<sup>108</sup> Employers valued competencies such as “negotiation skills and contracting”, abilities to conduct “cost effectiveness analyses” and to “use legal and political systems to effect change”, whilst teaching institutions “favoured modules on communicable disease control, emergency planning and response, health needs assessment and organisational leadership and management”.

Internationally-driven programmes such as the Schools without Borders and international FETP were noted above,<sup>8</sup> and the importance of addressing emerging public health problems, direct field work, experienced role models and integrating programmes into health ministry’s work of these programmes was highlighted.

The international FETP global network of 47 programmes evaluated its programme to assess its impact on growing public health capacity and numbers of professionals.<sup>109</sup> Half the students were doctors, with the remainder being epidemiologists (22%), veterinarians (9%), laboratory specialists (9%), pharmacists (3%) or another type of health professional (6%). Career paths of graduates sampled from one or two countries in each region showed high rates of local retention, with close to 70% working in governmental organisations for five years or more, with half working in health ministries.

A review of the Ugandan Public Health School without Borders MPH programme – which intended to increase technical, managerial and leadership skills to capacitate a decentralised health system – found that graduates occupied management positions at all levels of the services, in senior national ministry positions, in public health programmes, and were located in 85% of health districts, non-governmental

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<sup>ii</sup> Suitable for the use for which it is intended.

<sup>iii</sup> They defined a mismatch as a greater than 20% difference in importance ratings between teachers and employers.

organisations (NGOs) and private facilities.<sup>76</sup> A minority worked outside Uganda. Most training (60%) was practical, through field mentors, supervisors and faculty supervisory visits. Despite this investment, public health professionals remained scarce and the authors argued for a tenfold increase in the output of public health professionals for Uganda, and research that identifies the skills mix of public health workforce in low income settings.

A 2007 evaluation of seven cohorts of alumni of the University of Hanoi MPH programme found these mature graduates (mean age of 35.3 years at programme entry) mostly worked in the preventative health public sector (59%) – in training (75%), planning (72%) or in research (58%).<sup>110</sup> The qualification resulted in promotion to leadership levels (heads of departments or institutions). They recommended that in addition to a strong research focus, more practical, management-based training was required.

A review of MPH alumni cohorts from the University of Geneva's programme from 1991 to 2010 similarly found that for 57%, the qualification had advanced their careers, through job promotions.<sup>111</sup> Forty percent of respondents were physicians. All alumni felt that the course gave them useful tools for later work, such as conducting literature searches, communication, evaluation and epidemiology. Respondents valued the networking opportunities and the multi-professional nature of the student body. The impact of trained public health professionals (doctors and others) in the Swiss health system was reported to have resulted in new public health policy and legislation, screening and disease surveillance programmes, improved management of hospitals costs, health promotion and improved local health programmes.<sup>85</sup>

For clinicians from high and middle income countries, broadening their perspective to appreciate the social determinants of health was the main value of the Oxford Global Health Masters' programme that began in 2008. Interviews were conducted with 87% of alumni, 22% of whom were clinicians (physicians, medical students or nurses).<sup>112</sup>

Careers destinations were the focus of a 2003 review of the jobs of alumni of American schools of public health which showed small proportions entering practice in local health departments "with most going into federal government, the FDA [Food

and Drug Administration], NIH [National Institutes of Health] and other academic institutions”.<sup>113</sup> This may be the result of poor partnerships with health organisations, resulting in few practice placements and mentorship for departmental careers.

Evaluations of MD-MPH programmes exploring motivations for public health training and longer-term career choices where public health training is an additional year intercalated in students’ medical studies, are outlined below.

An evaluation of the sponsored Macy programme at Columbia University’s Mailman School of Public Health, run from 1999 to 2007, focussed on motivations for enrolling and its impact on future career choices.<sup>114</sup> Students enrolled from a range of New York City medical schools and motivations for studies included students wanting to gain a holistic understanding of the health care system, to understanding health in an international context and their desire to integrate public health concerns into clinical roles. Interestingly over half the Columbia students had prior public health training and many continued public health training after they completed the MPH. Reported skills sets acquired were in epidemiology-biostatistics (26%), research skills (26%), and health policy/systems skills (21%), and many said that they had acquired a “public health perspective”. Many used public health expertise in their work (93%) and these perspectives enhanced their ability to meet needs of patients (90%). Clinical careers from this programme and the one offered in Chapel Hill were in primary care fields of medicine, paediatrics, and obstetrics-gynaecology.<sup>115</sup> The MPH gave direction and focus to careers, assisted with research skills, opened up international work opportunities, oriented graduates to clinical and policy focused academic medicine, improved knowledge to shape policy, and some became committed to working with underserved populations.<sup>114</sup>

An earlier study exploring reasons for taking elective public health courses during undergraduate training at Columbia, found that an interest in health policy development, international health and, clinical prevention were important concerns.<sup>116</sup> Encouragement from role models and coming from disadvantaged backgrounds were important motivators. Close to half completed the MD-MPH degree, and they believed this training enabled them to be marketable as clinicians,

researchers, managers or in occupational health careers and committee work. Epidemiology, policy and management skills were cited as most useful.

The impact of public health training on the long term career choices of physician alumni was assessed by the Tulane School of Public Health.<sup>117</sup> Between 1985 and 1997, 17% of 1 108 physician graduates completed MPHs, and they were more likely to work in primary care settings, in public health practice and in research, particularly in lead positions in population-oriented research and dissemination than other physician graduates. The high proportion working as 'physician-scientists' (clinician researchers) was an unintended consequence of the MPH programme but may be the result of the research training gained in the MPH programme.

A review of employment of the first nine graduate cohorts (until 1997) of the only accredited Indian MPH programme, the Sree Chitra Tirunal Institute for Medical Sciences and Technology, found that although the MPH is not a required qualification for any position in India, all graduates obtained employment.<sup>118</sup> Over 40% of graduates worked for government health departments, 21% in NGOs, 16% in academic institutions and 10% with international agencies such as WHO or UNICEF.

A national British study, exploring the career choices three to five years after qualifying of 41 877 doctors graduating between 1974 to 2008, found that less than 1% (0.7%) of doctors gave public health as their first choice of eventual careers, with a majority of these being women.<sup>119</sup> They entered specialist training several years after qualifying, later than other specialities. Compared to general practitioners, public health doctors' decisions were motivated by "self-appraisal of own skills and aptitudes"; it suited their domestic circumstances, with "student experience of the subject" being less important, and "eventual financial prospects" were not important.

These studies demonstrate that doctors embarked on postgraduate public health training for reasons that included broadening their horizons, developing skills that informed, shaped and advanced careers according to their aptitudes and interests. They were older and commenced postgraduate public health studies after a few years of practice. They valued skills in epidemiology, research, management and policy. Programmes that emphasised direct field work reported that alumni worked in local

health systems. Many graduates worked in the state health sector with notable impact. Many became public health or clinical researchers, and in the USA, many have career paths in primary care clinical work.

### **2.3.3 Public health: The link between training, specialisation and the profession**

Historically, in South Africa, public health training was largely provided for doctors through university medical or health sciences faculties. Currently, there are two general postgraduate public health programmes. One route, reserved for medical graduates, is through training offered by approved universities leading to a Masters of Medicine (MMed) degree – a specialist qualification, enabling registration with the South African certifying authority, the Health Professions Council of South Africa (HPCSA) as a PHM specialist. The other route is through MPH programmes, which in addition to medical graduates, admit students from a range of undergraduate health and social sciences degrees.

As will be further detailed in Section 2.5.6, historically there were positions earmarked for PHM specialists in ‘joint’ posts – provincial posts linked to academic institutions for registered public health specialists in some provincial health departments and academic university posts. After the end of apartheid, health service posts requiring PHM specialists fell away until recently, when a few provinces created provincial or district posts for PHM specialists.

There is considerable confusion as to what exactly constitutes a ‘public health specialist’ in South Africa. ‘Specialist’ designations in public health have become broad and include a range of health and non-health trained public health graduates. For example, currently in Southern Africa, public health practitioners are often referred to as public health ‘professionals’ or ‘specialists’,<sup>120-122</sup> and ‘specialist’ positions in constituent disciplines of public health are advertised in the South African media.<sup>iv</sup> This designation may be influenced by global trends and the presence of many ‘public

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<sup>iv</sup> For example, see <http://www.indeed.co.za/Public-Health-Specialist-jobs> [9 Dec 2014] for adverts for 1) specialists in Monitoring and Evaluation and 2) Prevention; and [http://americanembassy.pnet.co.za/index.php?s=advert\\_view&g=3893&x=1555342&i=506&p=1](http://americanembassy.pnet.co.za/index.php?s=advert_view&g=3893&x=1555342&i=506&p=1) [6 January 2015] for advert for public health specialist in HIV prevention.

health professionals' with masters degrees in International or Global Health, who come to South Africa as volunteers or to work in NGOs.

A broad 'specialist' identity was contested by some public health medical specialists who felt that their specialist status is threatened by the opening up of the 'specialist' label. Specialist physicians have a professional identity as a specialist inculcated through medical training. Consequently, motivations were made to change 'Public Health Medicine' to 'Preventive Medicine', the designation of the speciality in the USA.<sup>v</sup> Concerns about the maintenance of boundaries around specialised knowledge were found in a New Zealand 2015 study of PHM specialists' professional identity.<sup>123</sup>

For an occupation to be a profession, an area of specialised knowledge needs to be delineated, coupled with a commitment to a service ideal (a code of ethics), and an exclusive jurisdiction.<sup>124</sup> Historically, professions created three institutions: professional schools, associations and licensing/accreditation systems. In most countries, health practitioners are trained in professional schools, have professional associations and are licensed to practice. Professional bodies regulate entrance to practice registers, and protect members from competition.<sup>125</sup> These mechanisms enable professional bodies to control the market for expertise, limiting it to their membership, a process known as professional closure.<sup>126, 127</sup> Historically professions protected domains of expertise which translated into battles over which profession is permitted to perform an intervention or procedure.<sup>128</sup>

In many countries – such as the USA, Canada, Australia, South Africa and Ghana – whilst there is licensing for medical specialists in public health, there are no, or few posts linked to specialist qualifications. On the other hand, in the UK, employers are able to appoint public health specialist doctors and those on the UK Public Health Register – a register for specialists from backgrounds other than medicine – to posts with titles such as 'public health consultant' or 'specialist'.<sup>7</sup> In Europe, the title of 'public health specialist' is reserved, however, for doctors.<sup>92</sup>

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<sup>v</sup> Letter to College of Public Health Medicine - "Call for a change of name to the 'College of Preventive Medicine'", 2012.

In South Africa, PHM fulfils all the criteria to be a profession: having a delineated knowledge area, an ethical commitment, and exclusive, but limited, jurisdiction. It operates in a contested field, however, which makes closure difficult. Is it appropriate for PHM to claim a broad exclusive jurisdiction for public health specialist doctors and attempt to control the market?

The multi-disciplinary nature of public health – using a range of skills to understand health phenomena, developing complex and multiple approaches to formulate interventions<sup>35</sup> – challenges the medical domination of public health work and the primacy of the doctor in the public health workforce. The inter-professional nature of public health practice questions the professional status of public health,<sup>92</sup> and the management of professional boundaries. Monopolist models of professional regulation can be a barrier to effective team work where there are exclusive scopes of practice, and health system strengthening requires that health professionals in teams work beyond their traditional comfort zones.<sup>129</sup> Transdisciplinary practice – the “blurring of boundaries with respect to skills, competencies, and practice” – may be appropriate and required.<sup>129</sup>

This does not imply that the notion of professionalisation is obsolete, as it can provide a framework for good practice and establish standards for training, practice and registration.<sup>7</sup> Models which enable overlapping scopes of practice and the substitution of available providers to perform certain activities, foster team work.<sup>130</sup> In many countries a wide range of educational backgrounds are considered legitimate preparation for professional public health positions.

Nonetheless, the innate multi-disciplinary team nature of public health practice and the broadening public health workforce can lead to potential conflict, due to uncertainty in roles and potential competition for employment. This dynamic also operates in the clinical arena, where the dominance of medical providers as the benchmark for service provision is eroded in an era of primary care reforms and the increasing complexity of health care. There are initiatives aimed at redrawing the regulatory barriers between doctors and nurses in many developed and resource-poor countries, with professional boundaries becoming permeable.<sup>125</sup> ‘Task shifting’ – the

allocation of tasks to the least costly worker capable of doing that task – has been widely advocated to mitigate scarce skills shortages,<sup>131</sup> and has been implemented in South Africa to meet HIV treatment needs. This approach has realigned traditional professional boundaries,<sup>132</sup> enhanced capacity to deliver services but has the potential to create conflict if personnel perform tasks outside their ‘scope of practice’ for which they feel unprotected and under-remunerated. Nevertheless, the analogy of ‘task shifting’ in the clinical arena may be useful in thinking through a redefined inclusive notion of the public health professional that incorporates an emerging diverse public health workforce.

## **2.4 PUBLIC HEALTH’S ROLE AND LOCATION IN KEY HEALTH SYSTEMS**

It has been argued in earlier sections that public health aims to improve the health status of populations and is central to the success of health systems. Its effectiveness is contingent on how its workforce is located in different health systems.

Public health, its workforce and roles of doctors are explored in country health systems important for South Africa. Four countries were chosen as models: the UK, USA, Brazil and Ghana, with each country gleaning particular insights for this research. It was noted that South African physician training and model of specialities is aligned to the British health system, and the UK’s National Health System (NHS) is held up as an example of a functioning equitable health service,<sup>133, 134</sup> which South Africa intends to emulate with the proposed NHI system.<sup>27</sup> The focus of the UK review is the development of the speciality of public health and its multi-disciplinary identity; the integration of the profession into the organisation of the service and its response to changes in the system.

MPH training in South Africa is partly modelled on the American training model,<sup>24</sup> and many South African public health academics have trained in the USA. The focus of the American review is to outline the organisation of public health training as the MPH is increasingly the dominant model for postgraduate training.

Brazil’s health system reform, which has seen major innovations in service delivery and huge impacts on key health indicators such as the infant mortality rate (IMR), is

seen as a model for South Africa.<sup>135</sup> The current “revitalisation of primary health care” strategy<sup>136</sup> in South Africa draws on the Brazilian Family Health Programme (PSF) model, following a visit by senior South African health politicians to Brazil in 2010<sup>137</sup>. As in South Africa, health reform was instituted as part of the democratisation of Brazilian society, moving away from an unequal health system installed by the military regime (1964-85).<sup>138</sup> South Africa and Brazil are both part of the newly emerging ‘southern’ economic powers – BRICS<sup>vi</sup> – with similar levels of income inequality and industrial development, implying their social determinants of health are not dissimilar. In this context, the review details the transformation of an inequitable health service to one that achieves excellent outcomes, and roles of doctors in the system.

Finally the health system and public health in resource-poor Ghana are reviewed because, like South Africa, it is developing a national health service funded through a national health insurance scheme. The focus of the review is to identify the location and engagement of public health in Ghana’s health system.

Literature related to the organisation of health systems, the history of public health, functions of public health and public health specialists, in each country is reviewed. As each was selected for specific reasons, the content of each section is not equivalent.

#### **2.4.1 The British health system**

Public health and medical professionals working in public health have a long and visible history in the UK. A theme in the history of public health in the UK is the dynamic between public health physicians and other public health professionals, often called public health practitioners.<sup>7</sup>

Importantly, early public health pioneers were not doctors. ‘Sanitarians’, such as Chadwick, were lawyers and engineers who spoke out about the “sanitary conditions of the labouring classes in Great Britain”.<sup>139</sup> Motivations behind this early public health movement were both altruistic<sup>140</sup> and served the interest of dominant classes who, through limiting contagion,<sup>141</sup> aimed to create a healthy productive workforce for economic advantage.

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<sup>vi</sup> Brazil, Russia, India, China and South Africa

The 1875 Public Health Act that followed the publication of the sanitarians' findings institutionalised Medical Officers of Health (MOH's) throughout the country. They were the foundation of the public health workforce and since then doctors have largely led public health in the UK.<sup>41</sup> The MOH's supervised measures to improve the health of working people and administered the health service at a local level. They did not engage in shaping the determinants of health such as unemployment and poverty, and were essentially a conservative force. Their bureaucratic orientation "failed to command the respect of the public and they were treated with a mixture of contempt and resentment by the rest of the medical profession".<sup>142</sup> Under their direction, however, other cadres of public health professionals such as environmental health officers, social workers and health promotion specialists were created.

#### **2.4.1.1 The development of Public Health Medicine in the UK**

The UK's National Health Service Act (1946) reduced the responsibilities of the MOH's, transferring many of their powers to newly created regional hospital boards – but they remained responsible for local government public health.

Hospital boards created a cadre of doctors working in the planning and management of hospital services. In 1943, the London College of Physicians and Surgeons proposed the establishment of departments of social and preventive medicine at medical schools employing full-time academic staff.<sup>143</sup> The Social Medicine that developed had a broader perspective, and focussed on epidemiology and improving social circumstance and factors increasing the risk of specific diseases.<sup>43, 144</sup> It remained confined to British universities, however, and the discipline of epidemiology is its long-term legacy.<sup>39</sup>

These three strands of practice – doctors in public health; medical administration; and teaching and research – developed, and in the 1960s the Commission on Medical Education recommended that they form a professional body to consider the assessment of specialist training in 'Community Medicine'. In 1972<sup>145</sup> the three Royal Colleges of Physicians (London, Edinburgh and Glasgow) helped establish a Faculty of Community Medicine within the Colleges of Physicians which became the "speciality practiced by epidemiologists, and administrators of medical services".<sup>146</sup> A Faculty of

Community Health modelled on this Faculty was set up within the College of Medicine in South Africa shortly afterwards in 1975.<sup>147</sup>

The office of MOH's based in the local authorities was dismantled in 1974 and replaced by new NHS posts of regional, district and community health physicians with management functions. The policy and planning role of public health doctors fell away as they no longer produced annual reports detailing the health status of communities in their jurisdiction, which were previously key to annual priority setting.<sup>148</sup> The 1974 NHS reorganisation gave environmental health officers professional autonomy under local government,<sup>141</sup> and established health education as a new 'specialism' in the NHS.

There was a resurgence of Social Medicine, the 'New Public Health', following the economic crisis of the 1970s which called for a new approach focusing on healthy public policy and community development, arguing that medical concerns had marginalised the broader social and economic context for health.<sup>149</sup> The 'New Public Health'<sup>150</sup> focussed on human rights and social and environmental change,<sup>151</sup> applying evidence-based scientific and management systems to health improvement.<sup>152</sup>

Public health, however, remained embedded in the state and consequently only considered medically trained public health specialists. Membership of the new Faculty was confined to medical practitioners, and honorary membership was given to non-medical people who had made "outstanding contributions to the subject or practice".<sup>153</sup> From the outset, the Faculty noted the marginalisation of non-medical practitioners in public health, particularly in health promotion, and undertook to later consider membership of non-medical colleagues teaching, researching or practising in the field.<sup>79</sup>

With NHS restructuring after the Labour Party re-entered office in 1997, directors of public health positions were opened in 2002 to non-medically qualified appointees, leading to a formalised multi-disciplinary public health workforce.<sup>149, 154</sup> In 1989 the name of the Faculty was changed to 'Public Health Medicine' and in 2003 to 'Public Health' which recognised "other skilled specialists".<sup>154</sup> Differences in training and employment options fell away, but registration and salary differentials between

medically and non-medically trained professionals remained. A voluntary Register for Public Health Specialists was initiated in 2003, which opened the practice of those on the register to public scrutiny.<sup>155</sup>

#### **2.4.1.2 Roles of public health specialists in current British health reform**

The UK's NHS, a tax-funded system of universal coverage free at the point of service, is governed centrally.<sup>156</sup> Resource commitment for this service is large and in 2010 publically funded health care in the UK was 8.4% of the gross domestic product (GDP).

Changes in resource allocation and structures impact on public health and its workforce. The Conservative government under Margaret Thatcher, and later Tony Blair's Labour Party, weakened organisational capacity for health promotion,<sup>157</sup> and introduced professional management of the NHS in the form of a purchaser-provider split with General Practitioner (GP) fundholding,<sup>158</sup> and outsourced and privatised services.<sup>159</sup> In 2000, Primary Care Trusts were introduced in England and Wales, commissioning or providing health services for geographically defined populations of between 100 000 and 200 000 people, and managing 75% of the NHS budget.<sup>160</sup>

Recent reforms to decentralise decision making, encourage local competition and decrease spending were introduced by the Conservative-led coalition government and have changed the organisation of the NHS, public health functions and the roles of public health specialists. Factors driving these changes included needs for a more patient-centred system, health care costs reduction and improving quality of care. In 2013, the NHS Primary Care Trusts were abolished and replaced with General Practice Consortia overseen by an NHS Commissioning Board.<sup>161</sup> Purchasing of services amounting to 65% of the NHS health expenditure, was given to primary care consortia, to ensure quality and efficiency and competition between providers receiving contracts.<sup>156</sup> These changes further embedded a quasi-market in the British health system, said to combine the "advantages of competition between suppliers with the safety of retaining public funding to protect fairness in access to care".<sup>162</sup>

The organisation of public health has been restructured in England, with public health functions previously based in Primary Care Trusts shifting to a new agency, Public Health England, and to local government. The former, established in 2012, falls

outside of the NHS and is part of the Department of Health, and its functions include health protection, information management and the development of the health workforce. A new cadre of senior public health professional, the Public Health Director, was created and is accountable to both local authorities and Public Health England.<sup>163</sup>

These directors conduct annual local needs assessments, inputting into priority setting and planning of the health and well-being boards of local councils.<sup>163</sup> The Faculty of Public Health of the Colleges of Medicine developed a model job description for these directors, with five main functions: health improvement (community development, lifestyle changes, health inequality strategies, population screening); health protection (infectious disease and environmental threats); population orientated health services (immunisation and screening); commissioning health care from NHS; and integration of social and health services.<sup>164</sup>

These changes were controversial and some argued that they fragmented public health functions and training and undermined the public health workforce, as many will have insufficient resources to function effectively.<sup>165</sup> Local authority employers have different conditions of service, risking inequities. A fear is that public health will be broken down into discrete interventions and outsourced. With budgets spreading across different organisations, the relationship between public health and clinical care could become distant and undermine a key public health function, connecting clinical medicine to the social context of patients.<sup>166</sup> In this context, the implications for public health specialist training are also unclear.<sup>165</sup>

In summary, public health practice in the UK has adapted to changing social needs and political changes in government. The initial emphasis was on sanitation, environmental health and the control of disease. Later, two other streams, health services management and the emergence of social medicine in universities developed. These three elements formed the basis of the medical speciality of Community Medicine. The involvement of NGOs in health and the rise of health promotion led to institutionalising multi-disciplinarity in public health open to professionals other than physicians. Although currently fundamental shifts are taking place in health system

structures which impact on public health functions and roles, proponents of public health in the UK maintain that it will continue to cover the domains of communicable disease control, improvements in environmental health, and social change to reduce poverty, improvements in employment and social security. Support for nutrition, health promotion and information that encourages people to lead healthier lives and education in health care settings will remain the responsibility of public health professionals.<sup>41</sup>

The UK has embraced the notion of a multi-professional public health workforce, and Donaldson, a prominent UK public health physician, proposed that a future public health workforce should be the collaboration of five main groups: the public health specialist who is no longer required to be a doctor; the health professional; the public health scientist; the non-health sector professional; and managers of health.<sup>41</sup> This implies the co-location of public health physicians within teams of scientists, managers and other public health practitioners.

#### **2.4.2 The American health system**

The American health care system provides personal health services through a mixture of private for-profit, private not-for-profit and public providers in a weakly governed competitive delivery system funded by a range of private and public insurers. It is widely viewed as inefficient, inequitable, of poor quality and financially unsustainable, consuming 18% of the nation's GDP,<sup>156</sup> more than double that of the UK.

The public health function is not part of health care delivery systems. Rather, through an intersectoral approach, it is a separate enterprise performed by public and private agencies.<sup>167</sup> Overall, stewardship for public health is through the Department of Health and Human Services, with delivery taking place on a local level. Commentators note that there is, however, no template for the structure, functioning, funding and evaluation of public health services on a local level<sup>167</sup> and their function and effectiveness have remained uneven.

Although public health is outside the traditional domain of American physicians, they are viewed as essential for good quality public health programmes and services. Early

20<sup>th</sup> century statutes established public health departments at a state and local level, and required that the ‘public health officer’ or ‘commissioner’ be a licensed physician. Over time, the size and complexity of the public workforce grew and many statutes were rewritten without specifying the professional discipline for positions and, the unique role of physicians in public health was lost.<sup>107</sup>

By the turn of the 21<sup>st</sup> century, there was a crisis in the public health workforce, with insufficient numbers of skilled personnel including “public health physicians”.<sup>107</sup> Numbers had dwindled due to “low salaries, poor benefits, adverse working conditions, and low status for the enterprise”.<sup>167</sup>

In 1998 and 2003, the Institute of Medicine (IOM) commented on the poor state of public health and calibre of professionals, who had little exposure to public health theory and practice prior to employment. Only 20% of staff in leadership roles had MPH qualifications.<sup>168</sup> The American Public Health Association (APHA) then formulated a set of ten essential public health service standards, and accreditation programmes for hospital and social services were developed. The APHA proposed that public health be recognised as a profession with certification.<sup>167</sup>

The 9-11 attacks prompted further reforms in public health organisation to bolster emergency and outbreak preparedness, and federal funding was allocated to local agencies to implement reforms. Official state public health agencies were established to oversee public health programmes.<sup>107</sup>

The crisis in public health organisation in the USA prompted a number of reforms in public health training, increasing the production and skills sets of graduates. Initiatives focused on the training of the public health workforce and physicians, revising curricula that aligned with public health functions and competencies and adding training placements in local settings.

#### **2.4.2.1 Reforms in public health training**

As pointed out earlier, public health training in the USA developed independently of medical schools, in Schools of Public Health (SPH's), with a range of offerings from certificates to masters, doctoral and post-doctoral programmes. Graduate courses were open to students with diverse undergraduate backgrounds, but 'residencies' in preventive medicine – a combination of theoretical and practical training – were reserved for doctors.

The 1998 IOM report criticised SPH for being overly research intensive and disconnected from practice.<sup>93</sup> This resulted in reforms – accrediting MPH programmes and institutions and increasing graduate output. By the end of 2010 there were 46 fully-accredited institutions, training 85% of public health graduates, and 74 other accredited degree programmes. Over 6 500 students graduate annually from ASPH-accredited schools of public health and roughly 15% have medical degrees. Most institutions offer supervised practica to address the gaps between academia and public health practice,<sup>169</sup> attracting graduates to local public health work.<sup>71</sup>

Another initiative to build the capacity of the public health workforce, focussed on aligning academic resources to the needs of local communities in 'Academic Health Departments', a collaboration between academic institutions and local health departments. These partnerships were intended to focus on continuing education for health agency staff, access to expertise and community-based research<sup>107</sup>

The USA has grappled with the notion of a 'public health professional' or 'specialist'. The foundation of a profession is competency achieved through completing a certified course, with designated skills sets. As many public health practitioners come from other professions with other competency frameworks, e.g. nurses, educators, physicians and administrators, implementation of core competencies for every MPH graduate has proved complex.<sup>170, 171</sup> In 2008, a certification examination (CPH) for MPH graduates with no prior health experience was established, similar to the licensing examinations in the classic health professions. It has not been widely taken, however, due to its additional cost and lack of evidence regarding its value for

employment.<sup>171</sup> Commentators note that reforms requiring qualification linked to jobs is required for the credentialing mechanism to become standard practice.<sup>172</sup>

#### **2.4.2.2 Public health training for doctors**

Despite the historical separation of public health and medical training, there are many initiatives to integrate the two. The 2003 IOM report recommended that medical care should include personal preventive care,<sup>167</sup> and medical education should include knowledge of public health disciplines, connecting clinical care with population health approaches, as all practising physicians intersect with public health in some way.<sup>107</sup> Public health is now incorporated into medical training and many institutions also offer MD-MPH degrees.

In the USA, the Preventive Medicine speciality has three ‘specialisms’: Public Health and General Preventive Medicine (PH/GPM); Occupational Medicine; and Aerospace Medicine. All have a clinical scope of practice and residents are certified through a board examination. Training over three years combines a year of clinical training, a year of academic training leading to an MPH and, a practical year with supervised field visits.<sup>107</sup> The clinical year is usually in Paediatrics, Internal Medicine or Family Medicine.

As with other American specialist training programmes, residency is an early career choice attracting entrants with an “interest in some kind of public health practice, [or] an interest in research or practice related to clinical preventative services”.<sup>107</sup>

Residents are trained to be competent in core population areas: “biostatistics and epidemiology; environmental and occupational medicine; planning and evaluation of health services, and health care organisations; research into the causes of disease and injury; and the practice of prevention in clinical medicine”.<sup>173</sup> Although there are no designated jobs for graduates, residents identify the structured programme, board certification, and job-placement opportunities as advantages.<sup>107</sup>

Besides Preventive Medicine specialists, in the USA there is recognition of ‘public health physicians’, a cadre independent of specific professional specialisation. This includes doctors whose “training, practice and world view are based on a population focus ... using skills such as leadership management and education as well as clinical

interventions".<sup>174</sup> Some are clinicians who use public health elements in their practice, such as paediatricians working in school health and infectious diseases physicians dealing with outbreaks. Others have careers solely in public health, and work in government public agencies, NGOs or managed care organisations, performing roles such as "policy development, leadership and management, programmes and clinical services".<sup>107</sup> They provide "scientific and clinical input along with leadership and management", working with other public health professionals on issues such as health promotion and disease prevention, chronic and infectious diseases and environmental health.<sup>174</sup> The definition of public health physicians is broad, encompassing doctors with heterogeneous training, skills and roles, and they consequently have variable career paths.

Historically in the USA, attracting physicians to public health was notoriously difficult, being undervalued in medical training, with few mentors, and the speciality was not held in high regard. Professional work was also poorly remunerated and work environments were plagued with uncertainty with many public health physicians working part-time or in short-term contracts.<sup>107</sup>

To remedy the inadequate numbers in the public health workforce, the IOM in 2007 advocated for a huge increase in the annual output of public health physicians to 1 350, doubling the workforce to 20 000, 30% of whom should be general preventive medicine specialists.<sup>107</sup> This would increase the footprint of the speciality which in 2007 had 354 filled residency places with 59% in PH/GPM.<sup>107</sup>

There have been motivations to actively recruit physicians to graduate public health programmes – not to make them experts in all areas, but to give expertise relevant to their work. Additional competencies in leadership, preventive services and emergency preparedness were highlighted for training as these were anticipated roles for physicians.<sup>107</sup>

In summary, there is no specialist in public health in the USA and, whilst preventive medicine specialists exist, their role is different to South Africa's PHM specialist. The specialist role is filled by a multi-professional and multi-disciplinary workforce in institutions separate from personal health care. The USA sees the need for public

health professionals working in a range of institutions at national, state and local level. Recognising inadequacies in the number, training and stature of the public health workforce, changes have been made that bring clinical and public health practice closer, and that ensure public health professionals are 'fit-for-purpose' through practical training. The promotion of public health as a profession is under discussion, and moves towards professionalisation include identifying core competencies for training, the accreditation of training facilities and certification of trained public health practitioners.

### **2.4.3 The Brazilian health system**

Brazil is a large country covering 47% of the South American continent and is the world's fifth most populous country, with 191 million people in 2010. In the 1980s the country emerged from decades of centralising military dictatorship into a decentralised federation with three levels of autonomous government – a federal level, 26 states and, 5 563 municipalities.<sup>175</sup>

Until the military takeover in 1964, health care was provided on the basis of employment and people with casual or no employment had inadequate access to services. Under the military, private health care expanded to rural workers, funded by government and delivered by trade unions, philanthropic institutions and private hospitals. The rural and peri-urban poor accessed state health services through infectious disease programmes run by public health agencies.<sup>176, 177</sup>

In the 1980s, there were clamours for health system reform due to government's inability to continue subsidising private health care. The weakening military provided the opportunity for leaders in 'collective health' – in preventive medicine departments at universities,<sup>178</sup> local 'community health' projects or the Catholic Church – to move into key positions in the federal and state health administration.

This coalesced into the 'Movimento Sanitarista', an alliance between community activists and progressive "collective health"<sup>179</sup> professionals, who saw 'human rights' and 'health' and not 'disease' as the centre of a health system. This perspective pervaded discourse in health system reform and the 1986 National Health Conference

approved health as a citizen's right. Health as "the duty of the state and the right of citizens" was later included in the 1988 constitution.<sup>180</sup> The principles of universality, decentralisation and participation formed the basis of health system reform, and were written into the constitution. In 1990 the Unified Health System, the Sistema Único de Saúde (SUS), was created enabling universal access to services.<sup>177</sup>

The Brazilian health system comprises a network of service providers and purchasers, financed mainly by private funds. There are three sub-sectors – the public (SUS) where services are financed and provided by the state at federal, state and municipal levels; the private sector with services funded by public and private funds; and the private health insurance sub-sector.<sup>180</sup> The private sector provides services not offered by the SUS and dominates hospital-based care.

Decentralisation and social participation underlies the SUS. The Ministry of Health transfers funding to municipalities, who manage services. Health councils, who approve annual plans, priorities and health budgets, operate at all three levels of the service and consist of users (50%), health workers (25%) and managers (25%).<sup>181</sup> Brazil has exceptionally high levels of citizen participation in health care planning and resource allocation decision-making. In 2007 there were 5 000 municipal health councils and more than 100 000 people participating.<sup>182</sup>

The Family Health Strategy (PSF) implemented at a municipal level is central to the SUS. Based on similar models implemented in other countries such as Mexico and Cuba, teams of four to six community health workers (CHWs), nurses and a family medicine doctor focus on individual, family and community health needs in defined populations of 600 to 1 000 families. They provide first contact health care, co-ordinating diagnostic, specialist and hospital care,<sup>180</sup> and family and community-orientated health promotion.<sup>183</sup> It is a hybrid model, bridging primary care and public health, and embeds public health activities in the primary care system. Data is collected about local health need, leading to public health actions, and activities that tackle social determinants of health.<sup>184</sup>

The programme was expanded from a minor pilot project covering very few selected areas in 1994 to a nationwide large-scale intervention in 2006.<sup>185</sup> Coverage in 2010

reached 98 million people in 85% of municipalities with 33 000 family health teams. It is one of the world's largest systems of community-based primary care.<sup>183</sup>

Research conducted to determine whether health reforms and the PSF have impacted on health outcomes showed sizeable reductions in mortality, specifically infant mortality, particularly in municipalities with poor initial ratings as well as in the poorest north and north-east regions of Brazil.<sup>185</sup> Improvements include access to primary and emergency care, and people are largely satisfied with the health services.<sup>186</sup> The country achieved one target of the first MDG – halving the number of underweight children – and Brazil is on track to meet MDG4 (a two-thirds reduction in the mortality rate of children younger than five years).<sup>187</sup> Improvements in health status are seen to be the result of changes in the social determinants of health together with the health service reform.<sup>181</sup>

#### **2.4.3.1 *The roles of physicians and public health institutions***

Historically doctors have played a central social role in Brazil. Similar to the UK sanitary movement, public health was a vehicle for the creation of a productive, civilised modern Brazilian society, and the management of public health problems enabled the colonisation (“civilisation”) of rural Brazil.<sup>188</sup> Education and public health were prioritised in the early 20<sup>th</sup> century to overcome the country's backwardness, and health and medical services were developed.

The Oswaldo Cruz Foundation (also known as FIOCRUZ), a leading public health institution, was created to support doctors to conduct fieldwork exploring people's living and health conditions in rural Brazil. Infectious diseases such as Chagas' disease, trachoma, malaria and hookworm, were found to widely affect the rural poor. The national public health department formed in 1920, extended disease control programmes into the countryside, and developed training, research and career opportunities in public health administration and practice. Rural health centres were established in rural towns and lay healers working in poor communities too far from these centres were incorporated into the health services.<sup>188</sup>

The social role of physicians came to the fore later in the 20<sup>th</sup> century when doctors from a leftist social medicine or “collective health” tradition<sup>179</sup> became prominent

actors in the 'Movimento Sanitarista' – the driver of the 1980s reform of the health service. They were academics, policy makers and managers who worked alongside members of the general population.<sup>182</sup> This tradition was distinguished from Preventive Medicine and Public Health which it struggled to redefine.<sup>178</sup>

Doctors are the most numerous university trained health professionals in Brazil. In 2005 more than half (56.4%) of the 1.5 million health professionals were employed by the SUS, 61% of whom were doctors and 0.2% were public health specialists.<sup>180</sup> A high proportion of doctors compared to nurses persists and in 2009-10 there was one doctor and one nurse to 558 and 701 of the population respectively.<sup>189</sup>

Since the 1980s, there has been strengthening of public health institutions to improve health promotion, surveillance and vital statistics. A new organisation, ABRASCO (The Brazilian Association of Public Health), an advocacy and oversight body for health reform supporting networks of training institutions, training and research, was formed.<sup>190</sup> In 1999 a regulatory group along the lines of the US Food and Drug Administration was established to regulate medicines, food and health services.

Public health doctors, 'sanitaristas', work at local, regional or central levels, in roles that are technical at local levels and becoming managerial at higher levels. Locally they "make a diagnosis of the local health conditions", prioritise, recommend, plan and implement interventions.<sup>191</sup> As the literature search was confined to the English language literature, no further detail on their function was found, and this is a limitation.

#### **2.4.3.2 Public Health education**

Public Health education in Brazil began in 1925 with the 'Special Course in Hygiene and Public Health' run by the FIOCRUZ and the Rio de Janeiro Faculty of Medicine.<sup>192</sup> It was driven by Carlos Chagas, a physician, who wanted to bring 'hygiene' and clinical problems related to rural diseases into medical practice. The Rockefeller Foundation assisted, supporting visiting epidemiology lecturers from Johns Hopkins, and over time the curriculum mirrored American universities. This course was initially designed for physicians who were expected to become health inspectors with the federal or state health offices.

With the creation of the National School of Public Health in 1959, sociology and the social context of health became an important educational thread of the course. During the late 1970s there was a move away from biology towards planning and management, and concerns with community health. By 2000, as was found internationally, the course was based on health promotion, health surveillance and health research, and teaching addressed themes in health and society, public policies, epidemiology, statistics, demography, management and planning.<sup>192</sup> The National School was opened to a range of professionals – physicians, nurses, pharmacists, engineers – each of whom had a separate programme within the ‘Special Course’.

Currently women predominate; from 1992 to 2006 they comprised 74.5% of graduates. Following the municipalisation of the health services, many students (36%) come from municipal services, with 35% coming from the federal or state sector. Between 1926 and 2006, the National School produced over 2 000 graduates, seen as ‘specialists’ in public health, and many have occupied positions in federal and state health management.<sup>192</sup>

At the end of the 1970s, the National School set up short six-month public health courses in each of Brazil’s 27 states and employed local university teachers, professionals from the health services supported by specialists from the National School. After five years, most programmes developed into small schools of public health, which then offered masters and PhD degrees. Brazil now has more than 40 schools of public health.<sup>193</sup>

University departments of Preventive Medicine, e.g. in São Paulo<sup>194</sup> and Campinas, offer two-year residency programmes for doctors in preventive and social medicine. For non -medical health professionals, multi-professional residency programmes in ‘collective health’ are offered by many universities,<sup>179</sup> such as the Federal University of Rio de Janeiro,<sup>195</sup> Campinas,<sup>196</sup> and São Paulo.<sup>194</sup> The Federal University of Bahia includes doctors in their multi-professional residency.<sup>197</sup> Although residencies are nationally accredited by the National Commission of Medical Residency (CNRM),<sup>194</sup> no detail on posts reserved for medical or non-medical graduates of public health residency programmes was found. Residencies seem to primarily train doctors to work

at local service level, and competencies required for work at higher levels of the health system require additional training.<sup>191</sup> Public health and evidence-based practice is also incorporated in undergraduate and other postgraduate training.<sup>176, 192</sup>

From the English language literature, public health ‘specialists’ are a broad range of professionals working in public health capacities in Brazil’s health system. This is evidenced by the designation of a public health specialist being a product of the more than 80-year-old one-year course which had originally admitted only doctors, run by FIOCRUZ and Rio de Janeiro’s Faculty of Medicine.<sup>192</sup> ‘Public health’ a translation of “Saúde Coletiva” or Collective Health is an identity embraced by a broad range of socially-minded health doctors<sup>198</sup> and health professionals.

To build capacity in the SUS, residencies in family medicine have been prioritised,<sup>176</sup> rather than non-clinical public health specialist training. In-service courses for personnel that includes surveillance, hospital management, environmental health and technological assessment,<sup>181</sup> are also offered, and undergraduate courses are developing to train public health workers.

A network of schools of health governance was recently set up by FIOCRUZ to teach governance in health systems and services to managers.<sup>193</sup> It is targeted at the estimated 100 000 managers working in the SUS – and in 2007, around 40 000 “practitioner-students” were enrolled.<sup>199</sup> Improving management skills for all levels of health workers is within the terrain of public health education.

Brazil is an example of the power of a committed organised public health movement – ‘collective health’ – that drove participatory and decentralised health systems that significantly impacted on health outcomes. The model of service delivery – the PSF – integrates public health functions with clinical care. Doctors are numerous in Brazil and primary care doctors are key actors in PSF teams. Through providing innovative teaching models, academic public health and networking institutions have expanded the public workforce and capacity in management. These initiatives have taken place with the support of large robust public health institutions such as FIOCRUZ, which is also concerned with laboratory, clinical and policy research, laboratory services and training.

#### **2.4.4 The Ghanaian health system**

Ghana is an example of a country that has recently restructured health care with the aim of achieving universal coverage through an National Health Insurance (NHI) scheme (instituted in 2003 and consolidated in 2012).<sup>200</sup> Under this scheme, accredited health providers deliver services to registered members, most of whom pay premiums and who access a package of out- and in-patient emergency and dental services.<sup>200</sup> Public health approaches, particularly those focusing on decentralisation, equity and coverage, underpin this system.<sup>201</sup>

The Ghanaian public health literature focuses on decentralisation of health services,<sup>201</sup> health care financing<sup>202</sup> and, in human resources, the problem of emigration of health care professionals.<sup>203</sup> Researchers argue for the importance of retaining doctors in health services for direct service delivery and management as they are relied on to “to lead, develop and advance the public’s health”.<sup>203</sup>

##### **2.4.4.1 Physicians and public health training**

Like South Africa, Ghana was a British colony, and its health service was fashioned by colonial powers. The first medical school, part of the University of Ghana, was established in Accra in 1957, and the department of Community Health was one of the eight original departments.<sup>204</sup> For many years medical studies included a British study abroad component, and the first cohort of students from the medical school graduated in 1969.

A School of Public Health in the College of Health Sciences of the University of Ghana was established in 1994, and consisted of six departments, offering bachelors (2010), masters and doctoral degrees to physicians and other personnel. Current teaching programmes aim to “provide leadership in Public Health reforms at District, Regional and National levels”<sup>205</sup>, and technical expertise in disciplines ranging from reproductive health, occupational health and disease control programmes. Programmes emphasise leadership skills, the identification of community health problems, planning and management and population-orientated research skills. The School has field sites for teaching and research, and incorporates part-time teaching

staff from organisations and the Department of Health. Graduates become district or regional directors of health nationally and hold positions in international organisations.<sup>206</sup>

A Ghanaian College of Physicians and Surgeons was established in 2002, to examine and regulate medical specialist training. The Faculty of Public Health falls under the College of Physicians, and offers a membership qualification leading to 'specialist' designation and a fellowship qualification leading to 'consultant' designation.<sup>207</sup> The speciality differs from the South African one as it requires learning in laboratory skills and community clinical skills.<sup>208</sup>

Ghana intended to more than double its physician-to-population ratio by 2006 as there was both an insufficient number and a maldistribution of doctors. Around 230 doctors are produced in Ghana every year<sup>209</sup> but, like South Africa, many have emigrated to the UK and USA in pursuit of specialisation, better remuneration, easier working conditions and to escape political and economic instability.<sup>203</sup> Retention is improving, however, and 86.3% of the 2008 graduates practiced locally, with 68% of five cohorts (1998-2008) surveyed remaining overall.<sup>209</sup>

Academic public health in Ghana has faced challenges and a 2001 report noted that the Department of Community Health in Accra struggled to fill posts as international agencies with better salaries and resources attracted Ghana's best academics.<sup>210</sup> Public health is a small speciality and Lassey's 2012 review of career destinations of the University of Ghana's medical graduates<sup>209</sup> showed that, of the 240 graduates remaining in Ghana, 6.7% worked in public health.

The position of public health specialists is contested in Ghana with an argument that the profession is not widely appreciated inside and outside the medical profession, including officials in the Ministry of Health.<sup>211</sup> Amofah argues that a medical model approach pervades service delivery and the expectation of doctors is to treat diseases in facilities. Other community roles are thought to be for "lesser" professionals. As public health specialists' work focuses on communities, prevention, outbreak control, outputs are often invisible, and paradoxically, the mark of a successful disease control programme is the absence of an epidemic. In spite of this profile, he argues that over

the past ten years, younger graduates have been attracted to the profession and trained and work in community settings, achieving recognition internationally. He credits the near elimination of measles, whooping cough, neonatal tetanus and Guinea worm as the fruits of work driven by public health specialists. In Ghana, public health specialists' management functions are technical –developing policies and plans, and engaging with colleagues internationally – and this requires trained professionals with high-level skills.<sup>211</sup>

Despite the perception that public health specialists are unappreciated, there is collaboration between the National Health Insurance Authority (NHIA) and the University of Ghana School of Public Health in research and training.<sup>212</sup> Responding to the NHIA's public invitation for collaboration, the School's dean asserted that public health trained professionals have a footprint in Ghana's health service, having "train[ed] almost all Ghana Health Service's district directors of health and other auxiliary staff" since it started in 1994.

Whilst there is scant literature on the position and role of public health physicians in Ghana's health system, the little that exists points to a cadre that combines public health work and clinical work in, and for, a health service that aims to deliver accessible and equitable services. Doctors are a scarce resource in Ghana and there are few public health specialists. In the face of this, other cadres of public health practitioners are being trained and government and academic Public Health are mapping the way forward to ensure a trained public health workforce.

#### **2.4.5 Conclusion**

These four country examples show that the 'public health specialist' is a heterogeneous cadre, with differing roles, skills and underlying educational qualifications. Certified specialist qualifications with apprenticeship training exist in Ghana, Brazil, the USA and the UK. In both Ghana and the USA, these are doctors who have clinical roles additionally to public health. The British specialist, whilst having competencies and roles akin to the South African Public Health Medicine specialist, is not restricted to doctors and candidates enter specialist training from a range of

educational backgrounds. The heterogeneous nature of the public health workforce is noted in the literature.<sup>8, 213, 214</sup>

Internationally variable understandings of a 'specialist' reflect the multi-disciplinary and context-specific nature of public health and its practice. They point to factors to consider in analyses of the development of public health, the public health workforce, professionals and the specialisation of Public Health Medicine in South Africa.

## **2.5 THE DEVELOPMENT OF HEALTH SERVICES IN SOUTH AFRICA**

This section reviews the development of health systems and public health practice in South Africa. It identifies themes in the development of health services in the context of South Africa's social and political history and outlines the functions of public health, and the origins and development of the medical speciality of public health.

The imperatives driving the development of the health services and public health in South Africa in four distinct periods are described. These are the colonial and early post-colonial period from 1652 to 1930; the pre-apartheid period from 1930 to 1948; the apartheid era from 1948 to 1994; and the post-apartheid period from 1994 to the present. More attention is given to recent periods.

### **2.5.1 Colonial and early post-colonial period: 1652-1930<sup>vii</sup>**

South Africa's first occupying colonial power was the Dutch, and the colony's first governor Jan van Riebeeck, was a barber surgeon who established the first hospital in 1656 for personnel of the United East India Company in the confines of the fort in Cape Town.<sup>23</sup> Few university-trained practitioners had settled in the Cape, and early practitioners – surgeons – operated from hospitals, which resulted in the hospicentric orientation of the early health services. Between 1766 and 1866, many doctors, including Cape-born students, graduated from Leiden University in Holland,<sup>215</sup> a leading European medical school. These practitioners established the medical profession in the Cape and eventually supplanted the barber surgeons in the colony.

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<sup>vii</sup> Healing systems amongst indigenous populations prior to colonisation did exist, with established bodies of knowledge, a range of practitioners and systems.

After the Cape Colony's transfer to British rule in 1806, South Africa's clinical services were increasingly modelled on the British system. By 1880 Edinburgh had replaced Leiden as the university of choice for South African doctors. Health services continued to be hospicentric and networks of hospitals and clinics, both religious and state, were created. Cape Town's Somerset Hospital, originally built by a civilian, was the centre of the growth of the medical fraternity in South Africa,<sup>23</sup> and was the first hospital to be run by government in 1828.

The latter part of the 19<sup>th</sup> century saw the further growth of hospitals in all major towns, in rural areas built by missionaries and mining companies for their employees.<sup>216</sup> Most hospitals and clinics were taken over by national, provincial and local government departments of health under the apartheid National Party during the third quarter of the 20<sup>th</sup> century.

During the 18<sup>th</sup> and 19<sup>th</sup> centuries, epidemics decimated the population of the Cape. In response, in 1807, legislation was introduced that provided for the registration of medical practitioners, and for public health measures controlling infectious diseases through disease notification and inoculation against smallpox.<sup>90</sup>

There are some poignant examples of innovative health care in this era. For example, one of the first hospitals for local indigenous people, Grey Hospital in King Williamstown, used trained orderlies before nurses were appointed, and in 1858, the hospital started training general practitioners in a three-year training programme.<sup>217</sup> In 1891, the Cape Colony introduced registration for nurses and midwives – the first legislature in the world to do that – due to the work of Henrietta Stockdale, an English nun and nurse who helped establish hospitals and maternity services in Kimberley.<sup>218</sup> She developed the first nursing training schools in South Africa, took nursing outside of hospitals into community and mining settings, and is credited with establishing nursing as a profession in South Africa.<sup>219</sup>

As in Britain, the early 20<sup>th</sup> century public health services were a response to epidemics that accompanied the development of emerging urban centres. The 1919 Public Health Act, the first robust national initiative for South Africa's health and modelled on the British system, was drafted and adopted in response to the high

mortality of the 1918 influenza epidemic.<sup>220</sup> Prior to this, health legislation had failed to progress through the parliamentary process due to lack of consensus by the four previously independent states that formed the Union of South Africa. The Act provided for a separate Department of Public Health and minister at a national level, and created administrative functions at provincial and local government levels. It provided for 'basic measures' in public health, which remained intact for nearly 60 years.

The Act established a fragmented health service – a three tier national, provincial and municipal system – which, with some modifications, persisted into the apartheid era. Resources and authority for hospital services were given to provinces, a political concession to persuade the Boer republics to accept the Union.<sup>221</sup> Hospitals were segregated racially with separate facilities or wards for different racial designations. Public health functions were focused at a local authority level and, as in the UK, powers were given to municipal Medical Officers of Health (MOH's) to control infectious diseases. These appointments were subject to ministerial approval, with preference given to practitioners qualified in public health.

In many European countries, public health legislation had enabled the provision of potable water, and the protection of air and food from pollutants and contaminants. Many commentators argue these measures were introduced for utilitarian reasons – the creation of healthy workers for commercial purposes and fitter soldiers for military purposes.<sup>39, 40, 222</sup> This social engineering function is echoed in South Africa's history where public health measures were often invoked to clear urban settlements, enabling the development of segregated and apartheid cities.<sup>223</sup>

As is shown in the sections that follow, until the end of the apartheid era, organised public health operated as part of state, promoting the interests of the dominant social classes. While there were some initiatives that took a more progressive path, as is shown, these were often thwarted by government.

## 2.5.2 Pre-apartheid period: 1930-1948

The conceptual divide between ‘personal’ and ‘public health’ services in South Africa’s emerging health system persisted into the 1940s. ‘Personal’ health services were mostly delivered in racially segregated hospitals and care was therefore curatively orientated. These services were inequitable along race and urban/rural lines.

A key initiative to transform the fragmented and inequitable nature of South Africa’s health services, the National Health Services Commission led by Dr Henry Gluckman, was established by the South African Party in 1942. Its brief was to advise on the establishment of a National Health Service (NHS) for South Africa’s population.<sup>224</sup> The impetus for its establishment was government’s recognition of health problems of ‘poor whites’, a phenomenon that had grown during the war years, who had poor access to health care.<sup>225</sup> The commission was also government’s response to lobbying from the Medical Association of South Africa (MASA) for a doctor-controlled national health system.<sup>221</sup>

Gluckman identified four major problems in the organisation of health care: poor co-ordination due to the three tier health system; maldistribution and shortages of human resources and facilities; an inappropriate emphasis on curative and institutional care; and a profit-orientated private practice focused on curative care in urban white areas.<sup>215</sup> The Commission’s proposals extended beyond the Health Department to sectors such as town planning, housing and education. It recommended the establishment of a Ministry of Health with a more “comprehensive scope”, and a reorganised health service with policy making and programming at all levels, within a NHS.<sup>226</sup> Community health centres were proposed as the basic unit for service delivery, delivering integrated health education, preventative care with curative services.<sup>227</sup> A Department of Health was established in 1945, with Gluckman as its first Minister.<sup>226</sup>

The proposed service model was based on the work of a group of health workers led by doctors Sydney and Emily Kark who pioneered an integrated model of clinical medicine and public health services – including education, agriculture and income generation – in rural Natal, the most notable example being the Pholela Clinic. Not all

stakeholders shared their broad vision, and in 1939 the secretary of health, Eustace Cluver, initiated centres to provide inexpensive services for African people who had a high burden of tuberculosis (TB), venereal diseases and malnutrition who filled urban hospitals and were a drag on the economy.<sup>221</sup>

The 'Kark' model, an example of social epidemiology,<sup>228</sup> was named Community-Orientated Primary Care (COPC), and over 40 clinics were established in Natal and elsewhere in South Africa in the 1940s and 50s. Teams of trained lay health workers and professionals assessed, monitored and delivered health care, focussing on individuals and communities in defined populations.<sup>229</sup> This model combined public health functions such as prevention, promotion, surveillance, intersectoral work and community participation with primary clinical care. It is a precursor to social medicine programmes such as the Brazilian Family Health Programme, Indonesia's Posyandu system,<sup>230</sup> and the Mississippi Health Centres in the USA.<sup>231</sup> The University of Natal's medical school, originally established to train 'black' doctors, was home to the development of training and research capacity in the Institute of Family Health, which supported the COPC initiative.<sup>232</sup>

There was resistance to the NHS. District surgeons, appointed by the Department of Health to carry out public health functions in the rural areas and care for the indigent, were hostile to health centres, seeing them as a threat to their practices.<sup>221</sup> This resistance, together with the hostile policy environment following the ascendance to power of the National Party in 1948, resulted in the emigration of many doctors and health professionals involved with COPC and the end of the social medicine/COPC movement in South Africa.<sup>221</sup> Policies advantaging 'white' economic advancement led to the disappearance of 'poor whites', which in turn contributed to the demise of the notion of a NHS, as the wealthier dominant white population were not prepared to sustain the costs of an NHS, and health centres reverted to "inexpensive clinics for the early treatment of disease amongst Natives".<sup>221</sup>

Nonetheless, the COPC legacy continued and together with China's "barefoot doctor"<sup>233</sup> movement (later called "village doctors"), the model is regarded as a precursor to the Primary Health Care (PHC) approach, adopted by the WHO and

reflected in the Alma Ata declaration,<sup>223</sup> a 20<sup>th</sup> century milestone in public health. The PHC approach is based on health being a right, requiring the action of social and economic sectors in addition to the health sector.<sup>234</sup> The declaration is explicit about the rights of individuals and communities to participate in planning and implementation of health care.

### **2.5.3 Apartheid period: 1948-1994**

The National Party came into power in 1948 and formalised a racially segregated social system – ‘apartheid’. Africans had to settle in separate areas from whites, known as ‘homelands’. Eventually ten such ‘homelands’ were established, each with their own departments of health. The old mission hospitals were handed over to these departments who administered and funded them. In urban areas, the fragmented national, provincial and municipal health services were further racially divided with separate services available for ‘whites’ ‘coloureds’ and ‘Indians’. In the later ‘tricameral’ constitution of the 1980s, these health services became the responsibility of the ethnic administrations – ‘own affairs’ – and services for Africans were, bizarrely, the responsibility of ‘general affairs’.

There were thus 14 different administrations responsible for health services, resulting in massive duplication and fragmentation of service delivery, with resulting waste and inequity. Health administration under apartheid resulted in huge “differentials in expenditure on health services for ‘whites’, ‘coloureds’, ‘Indians’ and ‘Africans’ and, inequality between rural and urban health services”.<sup>235</sup> There were marked differences in disease prevalence and mortality between races, with Africans faring the worst and whites the best.<sup>236</sup> This reflected differences in living conditions, work, nutrition, other determinants of health and access to services.

Interestingly in this era there seems to have been some government recognition of a disorganised health service that was “bewildering in complexity and diversity ... and fragmentation”<sup>237</sup> – a comment of the Secretary of Health in 1976. A new Health Act, repealing the 1919 Public Health Act, was passed in 1977 “to provide measures for the promotion of the health of the inhabitants of the Republic... and define the duties, powers and responsibilities of authorities which render services”.<sup>238</sup> The national

Department assumed responsibility for overall co-ordination, promotion of a healthy environment, provision of contraception services and establishment of a national health laboratory service. Provincial administrations provided hospital services and “personal health services on their own or in co-operation with any local authority”.<sup>238</sup> Local authorities were responsible for maintaining environmental health, preventing communicable diseases, and health promotion and rehabilitation. Public health personnel were specifically identified in Section 22 of the Act, which provided for the Minister to require local authorities to appoint an approved MOH, and “preference shall be given to a medical practitioner who possesses a degree or diploma in community health registerable with the Medical, Dental and Supplementary Health Professions Act of 1974”.<sup>238</sup>

Government recognised that this system remained fragmented and appointed the Browne Commission (1980-1986) to explore “health strategic policy options” for a more “effective and unified health system”.<sup>239</sup> The National Health Plan of 1986, based on the recommendations of this commission, identified housing, nutrition, water and sanitation as requirements for health.<sup>240</sup> It defined components of health care such as environmental health services; health education; PHC, highlighting community health services; hospital services, both public and private; and rehabilitative services.<sup>241</sup> Nurses were seen as the “pivotal” health worker. For the first time since the Gluckman Commission, the plan recognised the multi-sectoral nature of health. Although it resulted in more preventive health and community health nurses in health services, the system remained fragmented, and did not address the social determinants of health, such as education. Strangely, in these later years, government justified the fragmented arrangements using the language of the PHC approach – the need to decentralise services, and “taking care to the people”.<sup>234</sup>

### **2.5.3.1 Progressive public health initiatives**

Primary health care, human rights and public health approaches were central to civil society’s progressive health initiatives during the later apartheid era, and were fuelled by political opposition to apartheid. In the 1980s, initiatives based on a commitment

to socio-economic development, community accountability, and comprehensive care developed. These included the establishment of community clinics by humanitarian and political activists e.g. black consciousness students;<sup>242, 243</sup> the formation of activist health worker organisations such as National Medical and Dental Association (NAMDA),<sup>244</sup> Organisation of Associations of Social Services of South Africa (OASSSA),<sup>245</sup> and the Health Worker Society (HWS);<sup>246</sup> and, later, the policy frameworks for the new African National Congress-led (ANC) government produced by progressive academics and activists.<sup>247</sup>

Lay health worker involvement in health service delivery through community health worker (CHW) programmes re-emerged in the 1970s along the lines of the COPC initiative.<sup>248</sup> Programmes focused on the training and organisation of lay health workers to understand communities' health issues, enskilling them to undertake promotive, preventive, curative as well as rehabilitative and palliative health care functions. Initiatives were prominent in rural and poor peri-urban settlements and positively impacted on public health indicators and outcomes such as child and infant mortality and health knowledge.<sup>249</sup>

In 1987, CHWs and community health projects coalesced into the National Progressive Primary Health Care Network (NPPHCN), a civil society advocacy group that called for the implementation of a PHC-oriented service based on four principles "socio-economic development, community accountability, concerned health worker practice and comprehensive care".<sup>250</sup> Member organisations had spearheaded earlier community health worker projects. The network became a space where government policies could be challenged and a future national health system debated, but it did not advocate epidemiological approaches to evaluate the impact of health services.<sup>251</sup>

Some rural health projects were forerunners of functioning district health systems, and services in "health wards" were linked to district hospital services, and hospital outreach services supported clinic and community health services. Community participation in health care and community health committees developed in some areas,<sup>252, 253</sup> pre-dating post-apartheid legislation mandating the establishment of formal structures to facilitate community participation.

## **2.5.4 Post-apartheid period: 1994 to the present**

By the end of apartheid, South Africa's health system was hugely fragmented, and inequitable. In 1994, the new ANC-led government inherited a health system characterised by a myriad of poorly managed health ministries; an inequitable per capita expenditure on health care by race group<sup>254</sup> and geographical region;<sup>255</sup> shortages of health professionals; a mushrooming expensive private health sector; and health services that were predominantly curative with large hospitals consuming most of the health budget. Health status indicators were poor with high infant mortality rates in rural areas and poor outcomes for the management of diseases affecting the poor, such as tuberculosis.<sup>256</sup>

### **2.5.4.1 *Developing new legislation and policy***

Two initiatives, the Reconstruction and Development Programme (RDP) and the White Paper on the Transformation of the Health Care System in South Africa (1997), provided the policy and strategic framework for the reform of the health system.<sup>255</sup> These new policies built on the ferment of policy development for a new South Africa undertaken in the last five to ten years of apartheid rule. Earlier initiatives included the ANC's National Health Plan which envisaged the restructuring of the health system based on the PHC approach, drawing inspiration from the country's earlier COPC experience and the Alma Ata Declaration, and proposed decentralised services with health centres being the foundation of service delivery.<sup>257</sup>

The RDP emphasised the provision of housing, sanitation, water, nutrition and health services as central to people's needs. It provided for free health care to children under six, to pregnant and breast-feeding women and a primary school nutrition scheme.<sup>258</sup> These initiatives echoed the public health measures introduced in the UK in the 19<sup>th</sup> century where environmental changes such as housing, sanitation and later, school meals, were prioritised by the MOH's.<sup>259</sup>

The 1997 White Paper on the Transformation of the Health Care System in South Africa proposed the establishment of a unified health system.<sup>260</sup> It emphasised the delivery of decentralised health services closest to people, based on the principles of

comprehensive PHC, and laid the basis for the concept of a district health system. The new National Health Act (Act No 61 of 2003) embodied this commitment to develop a unified health system providing accessible health services,<sup>25</sup> and laid out the framework for the district health system, making provision for community involvement in health care.

#### **2.5.4.2 Challenges to implementation, human resources and innovations**

This section sketches the main features of the post-apartheid transformation of the health system and highlights the aspects relevant to human resources in public health, and PHM. It does not pretend to do justice to the extraordinary process of health transformation required or undertaken after apartheid, which are well documented elsewhere.<sup>242, 255</sup>

Obstacles tackled were the unbundling of the homeland and 'own/general affairs' health administrations, and building management capacity for the new district health system. Inadequate numbers and inequitably distributed health professionals particularly affected rural areas and provinces. Restructuring required the merging of personnel employed by the myriad of authorities with disparities in salaries and conditions of service. Incongruence of geographical boundaries with local government, as well protracted discussions about which level of government (provincial or local) would be responsible for "comprehensive service provision", consumed energy and delayed implementation.<sup>224</sup>

Efforts for the development of accessible services post-1994 focused on 'personal' health services. New clinical service points were built – clinics and 'revitalised' hospitals, and systems developed – management, human resources, pharmacy and information systems, tracking service performance. Progress was made in redistributing resources geographically and between levels of care.<sup>28</sup>

Many obstacles were not, however, overcome and in 2009, commentators argued that insufficient political leadership and "weak management ... led to inadequate implementation of ... good policies... There [was] a substantial human resources crisis facing the health sector".<sup>28</sup> In efforts to redress past race-based exclusion from employment opportunities, there was a tendency to appoint inexperienced managers

to manage service transformation and human resources. This together with inadequate support and supervision for staff, resulted in a human resource crisis. Differences in provincial expenditure and health outcomes found were due to poor leadership and stewardship with little emphasis on implementation, monitoring and assessment of policies.<sup>28</sup>

The 1997 White Paper for service transformation,<sup>260</sup> highlighted staff shortages and geographical inequities, and prioritised training for clinical professions, skills development in health management, and proposed the establishment of a National School of Public Health.

The 2001 Pick Report,<sup>261</sup> the first post-apartheid government commissioned human resources report for a PHC-oriented health service, proposed a restructured clinical workforce. This included narrowly defined scopes of practices for professionals, expanding numbers and broader scopes of practice for lower levels of nursing and pharmacy staff, a new multi-skilled mid-level worker, and increases in the production of specific health workers, for example nursing assistants.<sup>262</sup> It did not discuss the public health workforce and, besides training programmes and employment for a range of mid-level workers, has hardly been implemented.

An important factor contributing to the health workforce crisis at the turn of the 21<sup>st</sup> century was the decision to close many nursing colleges. This was the result of national policy to abolish racially-segregated training and incorporate nursing education into higher education institutions.<sup>263</sup> This resulted in decreasing nurse outputs.<sup>264</sup> In addition, shrinking funding, and a national policy that did not promote community health worker programmes, forced the closure of many NGOs who retrenched trained lay health workers.<sup>224</sup>

Few comprehensive policies addressing workforce issues were implemented. Training programmes for mid-level workers were instituted, and to improve the supply and retention of doctors, community service for graduates was made compulsory, Cuban doctors were recruited, scarce skills and rural allowances<sup>255</sup> and later, the OSD<sup>135</sup> were introduced, and students were sent to Cuba for medical training.

Notwithstanding these initiatives, government recognises that South Africa has an inadequate and inequitable distribution of health professionals with insufficient pharmacists, nurses, general and specialist doctors.<sup>26</sup> Inadequate production is exacerbated by emigration of health personnel and an internal drain of personnel to a growing private sector.<sup>265</sup>

Despite the establishment of the district health system in South Africa and high levels of inputs, health outcomes in South Africa remain below expectation,<sup>135</sup> with a 56-year life expectancy at birth **for men and 62 for women** in 2012.<sup>266</sup> HIV denialism during the Mbeki presidency (1999-2008) undermined programmes preventing and treating the HIV and TB epidemics, the main causes of premature death, and exacerbated the crisis in health care delivery.<sup>267</sup>

Innovations were, however, evident in response to the huge South African HIV and TB epidemic. There was a resurgence of civil advocacy for health services driven by the Treatment Action Campaign (TAC), and a reaffirmation of the importance of community participation in health services.<sup>135</sup> A cornerstone of HIV treatment services were multi-disciplinary teams, task shifting and a clear focus on monitoring service delivery focusing on outputs, outcomes and impact. Lessons learnt from service forecasting, target setting, monitoring and human resources innovations that characterised the primary care oriented HIV and TB services can spread to other components of the health services.<sup>135, 268</sup>

#### **2.5.4.3 The Motsoaledi era**

Soon after his 2009 appointment as the Minister of Health, Dr Aaron Motsoaledi drew up a ten-point plan<sup>269</sup> to improve health system performance towards achieving the MDGs within a PHC approach.<sup>270</sup> It focused on a range of health services challenges: leadership; facility and health workforce management; improving quality of care and health infrastructure; setting the stage for the introduction of an NHI service; the prevention and management of infectious diseases, maternal and child health; and health promotion.<sup>270</sup>

### *Reform of Primary Health Care*

Three streams of PHC reform were formulated after the 2010 ministerial visit to Brazil. The “revitalization of the health services” strategy proposed the establishment of ward-based PHC teams along the lines of the Brazilian Family Health Programme (PSF); a focus on comprehensive school health services; and the establishment of district clinical specialist teams.<sup>271</sup>

The proposed PHC teams comprised a professional nurse team leader, three staff nurses and six community health workers serving a geographic population of 6 000 people, accountable to clinic managers who lead, manage and oversee their work and their relationships with other community stakeholders.<sup>135</sup> Focusing on maternal and child health outcomes, the district specialist teams, consisting of medical specialists and nurses, are to ensure management protocols are followed, provide in-service training and improve health system functioning.<sup>272</sup> Notably, public health practitioners and professionals are omitted from these teams, and are not mentioned in the strategy.

### *The health workforce in South Africa*

Recognition of the need for health workforce planning, management, training and employment was articulated in the 2011 Human Resources for Health (HRH) policy document.<sup>26</sup> Other policy initiatives include the reopening of nursing colleges, incorporation of lay health workers through the PHC health teams, and health manager training.<sup>272</sup>

The need for competent health managers continues to be voiced.<sup>273</sup> Skills for hospital managers have been described,<sup>274</sup> and stakeholder research has ascertained competencies required of clinic managers and district team leaders centred on management and public health functions.<sup>275</sup> Managers require context-related skills for planning, controlling, organising and leading, and public health skills focussed on identifying health problems facing communities, conducting community needs assessments, and managing and analysing data.

### 2.5.5 Public health in South Africa

South Africa's 2003 National Health Act, whilst founded on principles of equity, human rights and access to health services (and thus valuing population health perspectives), does not create public health institutions or discuss explicit roles for a public health trained workforce. With the abolition of the 1977 Health Act, the MOH position in local authorities fell away, a final end to positions in the health system linked directly to public health training.

The broader strategic public health function that consciously assesses the health needs of populations and plans, implements, and evaluates services for the control of health threats was eclipsed by the demands of managing clinical and curative services; resources were allocated to infrastructure, clinical personnel and managerial systems. Few public health units exist within provincial or local government health departments, monitoring the success of these activities. Public health diplomas and qualifications are not required and generic management skills were seen as sufficient. As a result, public health expertise does not drive health service reform.

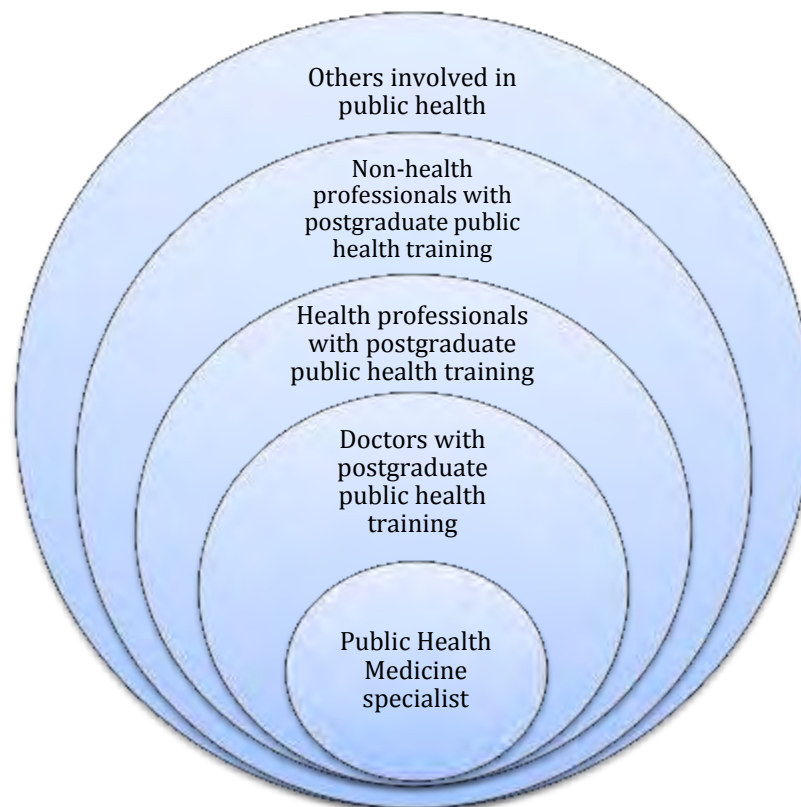
Policies for health professional training proposed including a focus on disease prevention and health promotion.<sup>25</sup> This accords well with contemporary trends in undergraduate health professional training<sup>98</sup> and with medical curricula incorporating community and preventative aspects of health.<sup>99</sup> South African medical education regulations identifies public health as core to training,<sup>103</sup> and curricula at South African universities include training on social determinants of health, evidence-based health care and team work to manage common important health problems.<sup>viii</sup> This training, however, does not cover the full scope of public health practice.

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<sup>viii</sup> Public health departments training medical students have collaborated to develop agreed competencies in public health.

## 2.5.6 Training of public health professionals in contemporary South Africa

There are a variety of public health professionals in South Africa. These include personnel with defined skills such as environmental health officers (EHOs); clinically trained professionals with postgraduate public health training; social scientists with skills in health promotion; health economists; health systems researchers; managers who are able to identify and address systems failure; and doctors who have undergone specialist training in public health.<sup>276</sup> This is represented in Figure 2.1.



**Figure 2.1: The range of public health practitioners in South Africa**

### 2.5.6.1 *The development of Public Health Medicine in South Africa*

This section describes the evolution of the medical speciality in public health in the context of political and historical forces.

It has been noted that the structure of South Africa's health system and the roles of medical specialists, including public health specialists, were modelled on the UK system. Before the advent of democracy in South Africa, physicians with public health

diplomas awarded by universities, based in local authority health services, were responsible for public health functions, namely, the enforcement and provision of environmental, promotive and preventive health.

There is little written about the speciality of Preventive Medicine which predated Community Health in South Africa. The last date of registration of one doctor on this register – which is noted as ‘closed’ – was in 1975.<sup>277</sup> All but one of the 14 specialists remaining on the register in 2009 had Diplomas in Public Health (DPHs) – as the SAMDC had “temporarily accepted the DPH as a registerable qualification” for this speciality<sup>147</sup> - They had all registered as specialists between 1953 and 1975.

#### *Establishing the Faculty of Community Health*

Prior to 1975, there were no full-time academics in Social or Community Medicine in South African universities. Following a 1975 Cabinet resolution, academic professional posts in Community Medicine (as well as Forensic Medicine and Psychiatry) were established.<sup>ix</sup> These were tripartite ‘joint appointments’ – between state health, provinces and the universities, funded by the national Department of Health.<sup>147</sup> These tripartite posts had both service and academic obligations, to train a cadre of health personnel specific to public health functions.

The Secretary for Health of the Department of Health, together with these new academics, agreed to establish a masters’ degree for doctors to “optimally meet the needs of communities”.<sup>147</sup> The initial plan was to combine existing postgraduate diplomas in Public Health, Community Medicine and Occupational Health. This initiative was welcomed by the professional grouping of MOH’s affiliated to MASA, who believed that a masters level course would give life to a flagging profession. At the time, there were 225 full-time MOH’s posts in South Africa, the then-South West Africa and Rhodesia. There was a 67% occupancy rate and an ageing workforce with 60% of incumbents over the age of 50.<sup>147</sup>

Ian Spencer, the inaugural professor of Comprehensive and Community Medicine at the University of Cape Town (UCT), successfully advocated for salaried registrar posts

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<sup>ix</sup> For Community Health/Medicine these were established at all South African medical schools. (Personal communication, Emeritus Professor William Pick, [email 12 Jan 2015])

in organisations where physicians would be employed after qualification. This extended the existing paid trainee specialist arrangements that existed for other medical specialities to Community Health/Public Health. Settings for this practical experience for UCT's registrars were in local authority services, regional health and other state departments delivering promotive, preventive and communicable diseases services in urban, peri-urban and rural contexts. In 1974, the first six funded registrar positions were offered – two in each of the City of Cape Town, Cape Divisional Council and regional health departments<sup>x</sup> of state health.<sup>147</sup> Three cohorts totalling 18 registrars<sup>278</sup> completed a two year Diploma in Community Medicine (DCM), which enabled registration with the SMDC as a Community Health specialist after a further two years of “approved practical experience”.<sup>279</sup>

The new national group of academic heads of community health departments motivated to the College of Medicine for the creation of a Faculty of Community Medicine along the lines of the Faculty of Community Medicine that had recently been established in the UK. In a letter dated 16 November 1973,<sup>280</sup> Spencer motivated for the creation of a speciality, arguing that university-awarded public health diplomas were inadequate, for the “increasing specialised and responsible” nature of modern community medicine<sup>xi</sup>. Diplomas could not be restyled to comply with the requirements for a specialist registration, as they were narrowly oriented to “communicable disease, maternal and child health, environmental hygiene and ... measures of control”.<sup>147</sup> He pointed out that health inspectors were appointed to lead smaller local authorities which highlighted their competence and training, and attested to shortages in MOH's. Notably he believed that if there was no change in role, the post of MOH could cease to require a doctor to fill it.<sup>147</sup>

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<sup>x</sup> Regional offices carried out responsibilities of the Department of Health - the national department - assigned by the 1977 Health Act, which included environmental health, contraception, laboratory services.

<sup>xi</sup> Interestingly, the correspondence between the College Council and the new Faculty noted that there was a proposal for the creation of a College of Public Health in 1965 that had been rejected as universities “furnished such qualification and so there was no need for the College to do so”.<sup>281</sup> **Minutes of the Meeting of the E&C Committee, 25 January 1974. Archives of the Colleges of Medicine of South Africa [accessed 14 April 2014].**

A fellowship of the College would be created with prescribed theoretical standards and experience, exiting through an assessment consisting of a written, oral and practical exam. This required the approval of the South African Medical and Dental Council (SAMDC), the licensing body for doctors, for the registration of an additional qualification and for admission to a specialist register. The career path for fellows was articulated as “qualify[ing] persons to hold high positions such as Medical Officers of Health, regional directors in the State Department of Health and in academic positions”<sup>147</sup> or “medical officers of large cities”.<sup>280</sup>

Spencer noted that skills were required in non-communicable diseases, injury, environmental hazards, as well as management of complex organisations, as well as expertise in epidemiological methods, data management and research. He believed that understanding demography, social structures, community psychology and skills in the interpretation of laboratory data were required, and noted that these skills were not included in the Diploma. His letter pointed to the newly established (1972) Faculty of Community Medicine of the Joint Royal Colleges of London, Edinburgh and Glasgow which enabled those qualified to take posts in the newly restructured NHS as community physicians responsible for communities.<sup>280</sup>

Following representation from industrial health doctors to be included in the speciality, the Council of the College of Medicine decided that the name should be more inclusive and indicate “a wider ambit”. The name of the new Faculty was finalised in 1975 as the Faculty of Community Health,<sup>282</sup> incorporating Community Medicine, Occupational Health and Administrative Medicine. Three fellowships were proposed: FFCH (Community Medicine), FFCH (Administrative Medicine) and FFCH (Occupational Health).

The Faculty of Community Health’s first tasks were to admit associate founders (a ‘grandfathering process’), form a committee and elect a convenor and secretary. Associate founders needed to be proposed by a member of the College Council or the Committee of the Faculty of Community Health. Doctors who were identified as potential associate founders were mailed and asked to apply in writing by the end of 1978 and pay a joining fee.

The committee drafted regulations for a qualification in Community Health, to be approved by the Council of the College of Medicine, and submitted them to the SAMDC for approval. The College exam was initially offered in two parts, with Part 1 an assessment of sciences and knowledge and Part 2 testing the application of that knowledge through written exams, a practicum, followed by a presentation and oral. The first successful fellow for the FFCH passed the Part 2 exam in April 1982.

In 1993, draft regulations for the medical administrator specialisation were approved by the SAMDC as a sub-specialisation with two years' post-specialist experience (as a Medical Superintendent in a recognised teaching hospital). However, this was never offered by the Faculty, as it was thought to represent too narrow a practice environment.

At this time, there were initiatives to create a higher qualification in infectious diseases, with the umbrella College Council motivating that the Faculty of Community Health could offer this. The Faculty declined in 1993, citing that it did not offer diplomas.<sup>283</sup>

Following a restructuring initiative to establish Colleges, in 1996 the Faculty of Community Health became the College of Community Health. The committee of the College of Community Health proposed that to conform to international trends, the name of the College of Community Health should be changed to Public Health Medicine. This name change was accepted after voting from all fellows and associates and was ratified by the College Council in August 1997.<sup>284</sup> The new name of the College became effective from September 1998.

#### *Concerns about roles and career paths*

Besides deliberations about syllabuses and examinations, the Faculty and later the College, has been concerned about the profile and career paths of specialists. This is reflected in Spencer's original motivation for the speciality as well as in a 1993 national strategic meeting of university departments, MASA's community health group and the College held in Durban to discuss the role of community health specialists.<sup>285</sup>

The meeting identified the skills set of community health specialists in “population sciences, environmental and occupational health, health services and multi-sectoral co-ordination”, impacting disease management and resources utilisation. Medical qualifications were felt to be essential for these functions. The meeting agreed that there was no clear career structure for public health specialists, roles were ill-defined and there was competition with epidemiologists and managers for jobs. The meeting argued that training should be standardised and careers needed to be outlined, motivated and marketed, embedding the profession in the services. There was consensus that community health physicians could be managers, and a motivation to designate specific posts for specialists – “senior managers, planners, information analysts, superintendents” – was proposed.<sup>285</sup>

Meeting discussions reveal the state of the field. There was lack of clarity about the identity and role of the profession. There were remarks that it was difficult to market a philosophy, and sentiments that community health was a “dumping ground” for problems. Allusion was made to conflicting personae within public health – of being authoritarian on the one hand and on the other, “meek and mild”.

A “Community Health action group” that included academics and officials in local authorities, provincial and hospitals, was proposed “to market the benefits of services to public and private sector”. Subsequent minutes of the College indicate dissatisfaction with the meeting, which was seen to be inconclusive and did not map out a way forward for the profession. It is unclear if further work from this initiative ever took place.

A concern with the profile of the speciality and career paths has continued throughout the College’s history. This is evidenced by a proposal for a 1997 annual general meeting of all College members to discuss the future of the College and community health specialists.<sup>286</sup>

Besides College records, other sources report concerns about roles and careers in Public Health Medicine. Proceedings of the 2007 Pretoria AfriHealth conference note that the discipline in South Africa “needs a defined role with a specialist establishment in the public sector, which is not the case after 30 years existence as a speciality”.<sup>208</sup>

### *Relationships with health system reform post-1994*

Post-1994, the Faculty of Community Health did not drive health sector policy reform. The committee did, however, comment on the new post-1994 health dispensation in South Africa, and believed that the discipline could play a role to meet health challenges “in a changing South Africa”.<sup>287</sup> To improve specialist training to tackle anticipated challenges, the College instituted the Gluckman medal for registrars as an incentive for excellence.

The emergence of Schools of Public Health nationally was discussed in the College not as a threat but as a means to “meet a dire need for increased training of health care workers in this field”.<sup>288</sup> Later committee discussions continued to be supportive, yet concerns about MPH standards and potential conflicts with the fellowship were raised. Meeting minutes noted that conflict was not envisaged “as the two forms of training have separate roles”.<sup>289</sup> Many Faculty committee members were actually initiators of these schools in universities such as Pretoria, Cape Town, KwaZulu-Natal and the Witwatersrand.

The Faculty distanced itself from the 1993 ANC Health Plan,<sup>290</sup> believing that there was a lack of consultation and unhappiness about its silence on the role of the community health specialist. A letter written to the ANC Health Desk raised concerns about these two issues and requested further clarity about a unitary health service in which local authorities would have some autonomy; the “overgeneralised” financial section; and the “unrealistic” action plan. The letter offered participation through a process such as a workshop about the health plan.

The position of the speciality in the new health system is reflected in minutes of subsequent meetings. A May 2001 meeting articulated core functions to be “knowledge of population sciences which could be applied to assist government in utilising its resources efficiently and effectively”.<sup>291</sup> The Council argued the fellowship programme should align with the country’s health care needs. Relevant disciplinary strengths were identified as “evidence based medicine and competency in management of primary, secondary and tertiary health care” and were compared with the UK speciality which focused on “assessment of the needs of the district

population, prioritisation of health needs, commissioning of projects, EBM [evidence-based medicine] to evaluate health related predictions and rational resource allocation".<sup>291</sup> There were discussions about establishing four niche areas: social medicine, rehabilitative medicine, care of the aged, and infectious and non-infectious diseases. Changes in training were proposed, splitting it into two years of general training and two years in a specialised interest area of the trainee.<sup>291</sup>

In 2001, some provinces froze registrar posts, despite recommendations of the steering committee on postgraduate education in 1999/2000 to increase training posts for PHM,<sup>292</sup> which interrupted specialist production.

Whilst chiefly being an examining body, throughout its history the College has seen itself as the advocate for the medical speciality of PHM because, as the 2001 president's report noted, there was no other national body to do this.<sup>293</sup> Despite intending to train specialists able to respond to and manage priority health problems, it has consistently noted that the career paths and roles of these specialists are unclear and require attention.

Currently, PHM is a specialisation recognised by the HPCSA which accredits training programmes offered by universities; the curriculum and learning outcomes are gazetted in regulations. Trainees (registrars) receive broad public health training, based on both theoretical and apprenticeship-type learning, in a four year full-time experiential programme. They are assessed according to a defined curriculum<sup>xii</sup> and need to demonstrate competency in a range of skills.<sup>294</sup>

Before 2011, specialists could either complete a university based Masters of Medicine degree (MMed) managed by an accredited training institution or a fellowship from the Colleges of Medicine -and institutions used one or both of these approaches to specialisation. From 2011 the single exit route from programmes requires passing the College fellowship exam and an MMed thesis, recognised by the College, is a requirement.

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<sup>xii</sup> Learning domains are: Health measurement and informatics; Behavioural and social sciences; Occupational health; Infectious diseases, their prevention and control; Environmental health; Non-infectious diseases and their prevention; Health services management; Health economics, budgeting and finance.

### **2.5.6.2 Other postgraduate public health training**

Over the last 20 years the scope and number of postgraduate public health training courses in South Africa has grown. Historically non-medical postgraduate public health training focused on epidemiology through honours, and later masters, degrees, but the adding of management and social sciences<sup>228</sup> resulted in a range of MPHs. Courses are offered by universities through schools of public health within faculties of Health Sciences.<sup>xiii</sup> These are one to two year course work degrees, with a minor dissertation component and are open to health science, social science and science graduates.

There is a range of MPH ‘specialisms’ on offer at different universities, including epidemiology, health economics, health promotion, monitoring and evaluation, environmental and occupational health, social and behavioural health sciences and health services management. Degrees can be undertaken full- or part-time and are residential or distance based.

As at 2007, eight universities had produced 603 MPH graduates with 34% from MEDUNSA and 13% from UCT.<sup>24</sup> International students, particularly from Africa, form a high proportion of these graduates and 32% of MEDUNSA graduates were international students.<sup>24</sup>

This heterogeneous degree, whilst being a requirement for some government posts, is not a professional qualification with core competencies that are standardised or nationally accredited and monitored. It is not linked to a career track in either the public or private sector.

### **2.5.7 Contemporary policies impacting on public health institutions and personnel**

The NHI Green Paper<sup>27</sup> is the most recent initiative to overhaul the South African public health care system. It is premised on the district health system and gains to be made from health system reforms such as the “re-engineering of primary health

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<sup>xiii</sup> Unlike the American model where courses are typically run by autonomous schools of public health, independent medical doctor training, the usual model in South Africa, is a School within a Health Science Faculty.

care”.<sup>136</sup> Together with the 2011 policy document on HRH,<sup>26</sup> these documents advocate system changes to deliver equitable, cost-effective services to address South Africa’s health needs. The human resources policy echoes calls from the international health educational community to train health professionals to be “systems based, to improve the performance of health systems by adapting core professional competencies to specific contexts”,<sup>98</sup> as well as the importance of trained, supported clinical personnel.

Whilst skills to transform systems are forefronted in these documents, and attention is given to the competencies of managers, little attention, however, is given to a cadre of skilled health professionals or doctors to develop and evaluate this reform. The HRH document does note that public health personnel are not institutionalised and that personnel performing public health functions are “not appropriately trained in epidemiology, planning and statistical analysis”.<sup>26</sup>

This recent health service reform initiative provides an opportunity to redefine the role of public health professionals in South Africa particularly PHM professionals. The roles implied or articulated in the three key documents are detailed in Table 3.

The table outlines public health technical functions – the provision of demographic and epidemiological information to inform strategic planning and prioritization of services; monitoring and evaluation of services; as well as health promotion and prevention. These echo public health functions and roles found internationally (Table 1), with little detail. No mandate regarding functions focused on policy, assurance, research and training are given.

**Table 3: Comparing public health competencies and roles in key 2011 health policy documents**

Component	Re-engineering monograph <sup>136</sup>	NHI Green Paper <sup>27</sup>	Human Resources for Health policy <sup>26</sup>
<b>Stewardship</b>			
<b>Planning elements</b>	Interpretation of information; Health systems research	Demographics Epidemiology Technology	Surveillance Evidence for interventions; Strategic prioritisation
<b>Whose responsibility?</b>	?Family Physicians	Department of Health	
<b>District specialist teams</b>			
<b>Composition of teams</b>	Family physician, mental health, oral health and rehabilitation	Principal specialists: <i>Obstetrics, Paediatrics, Family Medicine, Anaesthetics</i> Midwife & primary health care nurse	Principal specialists: <i>Obstetrics, Paediatrics, Family Medicine, Anaesthetics.</i>
<b>Deliverables</b>	District teams impacting on social determinants of health	(Silent)	(Silent)
<b>Quality assurance</b>			
<b>Mechanism</b>	(Silent)	Office of Quality Improvement Standards Compliance	Accreditation of tertiary hospitals; Co-ordinating Council for Clinical Excellence.
<b>Public Health presence</b>			
<b>Level in health system</b>	National Provincial	(Silent)	National Provincial District
<b>Structure</b>	Public Health Units	(Silent)	Senior managers. Public Health Units
<b>Adequate personnel?</b>	Lack of capacity	(Silent)	Inadequate numbers and distribution
<b>Posts for personnel</b>	(Silent)	(Silent)	Limited numbers of posts
<b>Public Health Medicine specialists?</b>	(Silent)	(Silent)	Yes. For prevention, promotion, strategic planning, monitoring & evaluation
<b>Gaps outlined &amp; strategies</b>	Capacity.  Use Universities/MRC	(Silent)	Make role of PHM and other PH graduates more explicit in management and strategy.
<b>Public health professional training</b>	(Silent)	(Silent)	Work with universities and College to develop job-frameworks and agreed competencies. Increase output.
<b>Other</b>			
<b>General health personnel training</b>	(Silent)	(Silent)	Integrate PH approaches into training health workers

The lengthier and more comprehensive human resources policy document<sup>26</sup> recognises the importance of health system reform and acknowledges the skills set needed to support this. It echoes the memorandum of the Heads of Public Health Medicine<sup>276</sup> to the national Department of Health that called for clarity about career paths for medical and other public health professionals, and the establishment of public health units at a provincial and district levels. Public health responsibilities outlined in the HRH document were to develop provincial, district health strategies, as well as monitoring and evaluation frameworks to evaluate the outcomes of the re-engineered PHC model. It quantified the shortage of PHM specialists, citing 97 professionals employed in 2011, which was half the required 0.04/10 000 population, and estimated that it will take 14 years to achieve this target.

Expertise to strengthen the health services is reflected in some provincial health plans. For example, the Western Cape Department of Health's 2020 health plan<sup>295</sup> aims to strengthen capacity through having their health and impact unit assess the impact of prevention initiatives and clinical services on the population's health status. This unit monitors outputs against annual performance plans and implementation and provides "public health intelligence, guidance based on national and international research to demonstrate which interventions are most cost effective".<sup>295</sup>

This initiative echoes health sector public health functions which had been highlighted in 1994 by UCT's incoming professor of Public Health, Jonathan Myers, in his inaugural speech in which he drew attention to public health skills shortages, particularly at senior levels in the health services.<sup>102</sup> He argued that public health functions in health plans and provincial organograms were dispersed in clinical services or in planning and human resources departments; he called for the establishment of public health units to play a "critical intelligence function in a context of shifting health priorities and needs with appropriate health interventions".<sup>102</sup> In Myers' view, such a unit could house permanent public health consultants – specialists in Public Health Medicine, or post-doctoral employees, together with registrars and MPH graduates. Academic public health specialists would have service roles and co-supervise registrars who would rotate through district level units. He warned that public health needed to play

a critical role through advocacy, investigation and research so that it did not merely prop up a failing health system.

Other prominent South African researchers<sup>296</sup> have called on government to set up and finance institutions to lead public health initiatives to reduce the underlying risks to health. They have identified the lack of institutional capacity to collect, analyse and use population health data to identify appropriate interventions and to model possible gains as well as their cost-effectiveness. At face value, these reforms appear to be critically dependent on skills held by PHM specialists.

### **2.5.8 Public Health in relation to other specialisations**

Another important development related to public health is the new Family Medicine discipline, one which is indirectly linked to the COPC movement.

A Family Medicine Register was established with the HPCSA in 1993,<sup>297</sup> at a time when the policy of free primary health care for children under six and pregnant women, and the subsequent establishment of the district health services, demanded increased numbers of clinicians. Whilst there was 'task shifting' to nurse practitioners who became central to primary care services, Family Medicine positioned itself to play a central role in the district health system. In the 1990s, family medicine practitioners developed vocational training programmes and newly appointed academic heads at each of South Africa's medical schools advocated the establishment of Family Medicine as a speciality with the HPCSA, which was promulgated in 2007.

The Family Physician became the key doctor for the delivery of primary care and the development of the district health system. Besides direct patient care, their competencies are quality assurance management, the development of treatment guidelines, leadership, and being a consultant to junior clinicians.<sup>297</sup> There is some skills overlap with public health specialists and their training requires skills in evidence-based practice, health promotion and disease prevention, research and management.<sup>298</sup>

Roles for Family Physicians were written into national health plans as the lead clinician in district hospitals, with responsibilities for 'clinical governance', a focus on

‘populations at risk’ and combining promotive and disease prevention strategies with clinical care. This created a career pathway for family practitioners with specialist salary scales. Family Medicine is firmly embedded in the district health system at hospital and health centre levels, and at district levels in ‘district specialist teams’.

Unlike Family Medicine, PHM is not embedded in the health sector in South Africa. Public health trained practitioners are, however, skilled to provide technical expertise to drive and manage changes at a central, provincial and district level, and the 2011 national policy documents noted this potential role. The acknowledged value of public health functions and expertise skills may still translate to service units and posts.

### **2.5.9 Summary of challenges to public health**

Globally and nationally, health systems’ performance limits achieving health goals; and leadership, health services management with public health approaches are strategies that can improve performance.<sup>54</sup> Evidence-based interventions and competencies facilitating their adaptation to country and local contexts are required, and need to be researched, converted into policy and implemented.<sup>299</sup> These approaches and functions are firmly within the public health terrain, yet public health professionals often do not lead these initiatives. Institutional homes, posts and appropriate training with attention to key leadership skills, for public health professionals are required.<sup>300</sup>

## **2.6 MOTIVATION FOR THIS THESIS**

Health care in South Africa is seen as a public good, and health as a right and a duty of government<sup>301</sup> and these notions underlies the country’s health legislation and policy. Despite huge investments in health care, South Africa’s health system remains inequitable and under-performs compares to countries of equivalent developmental status,<sup>302</sup> such as Brazil.<sup>187</sup> This is recognised by government in key health policy documents.<sup>26, 27, 272</sup> Public health approaches, intelligence and skills, evaluating and planning services, are required to assist in its transformation.

Paradoxically, people with these skills have no clear place in the system. With a few exceptions<sup>xiv</sup>, no public health units exist nationally or provincially, and public health qualifications are not required for service positions. Experience or training may be a recommendation for appointment, but are seldom a requirement.

The skills sets identified to improve service delivery in these documents are clinical or managerial. A curative orientation is present in the National Development Plan Vision 2030<sup>303</sup> which names nurses and clinical specialists working at community levels for a “reinvigorated Primary Health Care system”. A curative bias to health services is evident in many health systems internationally.<sup>304</sup> Whilst clinical services are the main activity of health services, public health resources supporting and informing service delivery are required and are underfunded.<sup>305</sup> Internationally, there are calls to increase public health funding,<sup>306</sup> to standardise public health funding envelopes,<sup>305</sup> to improve programmes,<sup>307</sup> and to undertake research that identifies barriers mitigating against evidence-based public health spending.<sup>308</sup>

South Africa produces two types of public health professionals with postgraduate qualifications. University, non-accredited, MPH training, over one to two years, produces graduates with a range of ‘specialisms’, mainly through theoretical training. PHM training over four years, on the other hand, through an accredited programme with a single exit exam, produces a medical specialist through broad theoretical and experiential training.

Whilst superficially the competencies and product of PHM seem to be ideally suited to contribute to current health system reform, its historically ambivalent relationship with post-apartheid health system reform has not led to a clear direction prioritising its graduates.

Besides university/provincial ‘joint appointments’, which historically were university teaching and research positions, no clear public sector career paths exist for PHM specialists. Anecdotally they have found employment in public or private sector management positions; in consultancies performing technical functions; in research

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<sup>xiv</sup> For example, the Health Impact Assessment Unit (HIA) in the provincial office of the Western Cape Department of Health.

institutions; in academic institutions working as academics, researchers or managers; and in NGOs as managers or researchers. There is a mismatch between the production and utilisation of PHM specialists, however, as their publically financed and oriented training is not absorbed in the public sector post qualification.

A number of tensions underlie this mismatch:

1. *The intersectoral nature of public health work*

Public health aims to improve the health status of populations and to address the social determinants of health.<sup>39</sup> Many interventions impacting on health are not controlled by the health sector and intersectoral approaches such as ‘health-in-all policies’ are advocated.<sup>46</sup> There is a question as to the health professional best placed to bridge the gap between health and other sectors, driving intersectoral initiatives.

2. *The primacy of the clinical.*

Public health, with its focus on prevention and control of health problems at a societal level, is seen to be supplemental to health professional training and function. In South Africa, public health oriented service imperatives and training, promoting health and delivering appropriate services, are subordinate a clinical curative model.

3. *The dominance of doctors and multi-disciplinary professionals and teams*

Historically, doctors have dominated health care organisations and this dominance is challenged by the multi-disciplinary nature of public health work and teams. This identity of the public health ‘professional’ and ‘specialist’ is a tension globally and in South Africa. There is a heterogenous public health workforce, most of whom would self-identify as ‘public health’ ‘people’, represented in Figure 2.1. They have different skills sets and orientations, and may compete for roles and jobs in a system that does not make provision for the skills sets they offer.

With little resolution, the possible roles of the various public health professionals have been discussed in forums such as the Public Health Association of South Africa

(PHASA) 2011 conference. This formed the subject of a position paper submitted by the heads of departments of PHM to the national Department of Health in response to the re-engineering of primary health care document.<sup>276</sup>

PHM as a profession developed responsive to South Africa's changing health system. It originated to develop a physician workforce with competencies to address population health needs as existing training was perceived to be inadequate. It did not locate itself within the post-apartheid reconstruction project. Public health trained physicians have played many roles in South Africa. On the one hand they were instruments of social engineering at the expense of the community voice, and on the other, their initiatives have been a source of innovation, pioneering models for health services that integrate both personal and public health services, promoting community empowerment.

Whilst the public health presence in the health services and civil society over the last century is inconsistent, public health approaches are embedded in legislation and policy documents. The recent HRH policy, recognises the need for skills in the speciality of PHM and mentions the development of public health units at national, provincial and district levels, but with little detail. Public health institutes are not discussed.

The literature review shows that there are few studies globally that review the work of public health professionals, their motivations for training and the career paths of doctors with this training. It found diverse roles for public health trained specialist doctors, which in some contexts includes clinical work in prioritised communicable diseases and in occupational settings. No studies came from Africa. In view of the value of public health for promoting and protecting population health, health system management and strengthening, research that explores public health medical specialists' desired and actual roles in the South African context could contribute to mapping their roles in similar country contexts.

## 2.7 RESEARCH QUESTIONS

This thesis seeks to explore work of PHM specialists in South Africa's health system in a context where PHM is relatively invisible, despite the health sector and reform being premised on public health approaches and models for service delivery. The substantive policy reforms in South Africa fail to appreciate the need to develop the discipline, to accelerate investment in producing graduates and to provide career paths for the cadre of public health professionals, despite PHM specialists being recently identified as a scarce skill in South Africa<sup>29</sup>. The veracity of these perceptions will be tested, and this thesis will explore the reasons for the lack of investment in PHM training and posts in the health services and public health institutions.

Propositions underlying PHM's absence are:

- public health skills in general are not prioritised because clinical and managerial skills are seen as key to the success of health reform in South Africa;
- policy makers and employers appreciate the role of public health skills but do not understand or appreciate the value of public health specialists;
- policy makers and managers value the skills base, but this is not prioritised given competing demands and limited resources;
- policy makers and employers want to employ PHM specialists, but are unable to attract them as graduates' career intentions are not in the public sector.

If policy makers and employers do not understand or appreciate the value of public health specialists, is this because:

- they are ignorant or poorly informed about the discipline?
- the discipline has not marketed itself?
- they believe there are other categories of staff who can do the same work for less cost?
- they do not value the discipline as graduates have skills but are not service-ready?

If, however, in the course of the research, a case emerges for PHM skills, their potential location in the health system needs to be explored.

The thesis will thus examine the contribution, both explicit and implicit, of PHM specialists to health services in South Africa. Whilst it acknowledges other public health professionals, it focuses on doctors who completed postgraduate PHM training.

A set of studies is presented to help answer the core conundrum – why is it that PHM as a speciality appears to be marginalised in the current set of health reforms in South Africa, when, at face value, these reforms appear to be critically dependent on skills held by PHM specialists for their success?

## **2.8 PURPOSE OF THIS THESIS**

This thesis will be used to understand roles that PHM specialists have played from the inception of the speciality to 2010, as well as those they could play in the health system in South Africa in future. Identifying the strengths and identity of the speciality will inform potential roles and contribute to human resource and institutional design in the health system. The research will contribute to schools of public health and the College of Public Health Medicine’s curriculum discussions, and will inform the teaching of PHM at the UCT School of Public Health and Family Medicine where the researcher is based.

## **2.9 AIM**

The thesis aims to describe and analyse the work and contribution of public health trained doctors in South Africa’s reforming health care system.

## **2.10 OBJECTIVES**

As is depicted in the mindmap in Figure 1.1, this research intends to do the following:

1. Understand the motivations and expectations of medical graduates who have chosen to complete the MPH at UCT, and their perceptions of the value of the MPH training for their subsequent work.
2. Understand the motivations of medical graduates undertaking the four year South African PHM specialisation at three training institutions, and their perceived value of this training for their anticipated career path.

3. Characterise the career paths and career choices of PHM specialists in South Africa.
4. Identify the competencies of PHM specialists expected by stakeholders – policy makers, employers and trainers of PHM specialists – in the health sector in South Africa.
5. Analyse the alignment between the motivations of doctors undertaking postgraduate training in public health: '*the desired*', the career paths of PHM specialists; '*the actual*' and what trainers, policy makers and employers expect of these professionals; and '*the intended*'.

## **CHAPTER 3:**

### **“WHY DO AN MPH?” MOTIVATIONS AND INTENTIONS OF DOCTORS UNDERTAKING POSTGRADUATE PUBLIC HEALTH TRAINING**

#### **3.1 BACKGROUND**

There are increasingly global calls for medical educators to train health professionals with competencies “to participate in patient and population-centred health systems”, reduce health inequities and improve access to health services,<sup>98</sup> a perspective firmly echoing public health approaches. In South Africa, regulations for training doctors requires that public health needs to be “prominent” in curricula.<sup>103</sup> Currently, undergraduate public health training, like all medical disciplinary training, covers a limited curriculum and does not prepare graduates for expert public health practice, which requires further training at a postgraduate level.

Both resource-rich<sup>72</sup> and resource-poor countries<sup>70</sup> recognise health sector human resources shortages which includes the public health workforce.<sup>66, 107</sup> Some countries see the Master of Public Health (MPH) qualification as a desired prerequisite for professional public health practice and, over the last two decades, this degree has been introduced by eight universities in South Africa.<sup>24</sup> Students enter MPH programmes with a diversity of undergraduate degrees in both health and social sciences.

Currently, the MPH is not a prerequisite for employment in positions in South Africa’s health system. Notwithstanding this, public health and management competencies – particularly planning, data management, and community needs assessments, which are central to most MPH programmes – are seen as core to the work of district managers.<sup>275</sup> Although the need for public health trained personnel is raised in the recent human resource policy document,<sup>26</sup> it is silent on training requirements such as postgraduate public health qualifications.

Despite an absence of career-pathing, a 2009 evaluation of the University of Cape Town's (UCT) MPH programme noted that 33% of MPH graduates were doctors.<sup>xv</sup> From the inception of this MPH in 1999 until the end of 2010, at least 70 medical doctors – 23% of all 301 MPH students – had or were currently completing this training. Alongside the MPH programme general track, speciality tracks in epidemiology, health economics, clinical research (2009), and most recently, health systems research (2011) are offered in this degree.

A different public health programme offered at UCT is the registrar programme – training doctors as Public Health Medicine (PHM) specialists registered with the Health Professions Council of South Africa (HPCSA), detailed in Section 2.5.6.1. This programme takes only between five and ten candidates at any one time and is a parallel training route to that chosen by doctors pursuing an MPH.

Currently little is known about doctors' motivations for pursuing postgraduate public health education. Understanding their motivations and describing the career paths made available because of this education, is important as it gives insight into the skills needs of students and into their work, and points to potential work niches for MPH graduates with medical training.

### **3.2 PURPOSE**

The purpose of this first study was twofold. Firstly, given the main focus of the research to analyse the contribution – real and potential – of the Public Health Medicine (PHM) speciality to South Africa's health system, an understanding of the motivations and impacts of training for doctors completing the Master of Public Health (MPH), and comparing these with doctors specialising in PHM, may assist understanding the added value of the registrar training.

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<sup>xv</sup> This review was conducted in preparation for an academic review of the School of Public Health and Family Medicine at the University of Cape Town (UCT).

Secondly, by understanding the motivations of medical graduates undertaking the MPH programme at the University of Cape Town, this research could contribute to the design of both undergraduate and postgraduate training, towards meeting the needs and expectations of students. Moreover, this information may attract more doctors to work in public health and assist in filling the gap in information on the contribution of public health trained doctors in the health system in South Africa.

### **3.3 AIM**

This research aimed to describe the motivations of medical doctors studying for the Master of Public Health degree at the University of Cape Town, from the inception of the degree in 1999 until 2010 and their reflections on the value of this training for their anticipated subsequent work.

### **3.4 OBJECTIVES**

The objectives of the study were to describe the profiles and perceptions of doctors graduating with a Master of Public Health (MPH) programme from the University of Cape Town, between 2001 and 2009 and those enrolled for the MPH in 2010 in terms of:

1. Their demographic characteristics.
2. Their educational history.
3. Respondents' motivation for commencing MPH studies.
4. Their experiences of undergraduate public health training and its relevance for selecting postgraduate public health training.
5. Graduates' career plans on exiting from the programme.
6. Perceptions of graduates regarding the value of the training programme.

### **3.5 METHODS**

A cross-sectional analytic study amongst medical graduates was conducted to explore the reasons for, and reflections on, postgraduate training in the Master of Public Health at the University of Cape Town.

### 3.5.1 Eligibility and sampling

Eligible candidates who had graduated with MPHs between 2001 and 2009 or were enrolled in the MPH programme in 2010, were identified from the School of Public Health and Family Medicine MPH student database. Although the programme commenced in 1999, 2001 was the first year in which doctors graduated. For inclusion, participants had to be doctors at the time of commencement of their MPH studies.

Because the database of MPH students kept by the programme administrators did not contain information on students' prior degree/s, other sources were used to identify doctors amongst the students. Firstly, individual student folders held by programme administrators were reviewed for information in application letters and curricula vitae. Secondly, the University-held database of student information, 'Peoplesoft', was searched for documentation about previous educational qualifications at UCT to identify UCT-trained doctors.

Two doctors, who subsequently enrolled in the MMed programme, were excluded as they clearly anticipated a career as specialists, and one fulfilled criteria for inclusion in the registrar study (Chapter 4) and the other, in the specialist study (Chapter 5) undertaken. Included in the population were two doctors who withdrew from the MMed specialisation programme and joined the MPH programme during the study period.<sup>xvi</sup>

A total of 70 potential respondents were identified (Table 4). Contact emails for respondents on this 'MPH doctor database' were identified from the MPH student database, the internet and by asking known colleagues. At the end of this search, contact details were missing for five doctors resulting in them being uncontactable. All 65 remaining eligible respondents were invited to participate in an online survey. Signed consent forms and emailed questionnaires were stored in a password protected file held by the researcher.

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<sup>xvi</sup> At UCT, registrars registered for MMeds complete the epidemiology track of the MPH although they are not registered as MPH students and do not receive the degree.

**Table 4: UCT MPH students – by year of enrolment<sup>xvii</sup>**

Year	Completed or in progress	Total doctors <sup>xviii</sup>	Annual percentage
1999	11	1	9%
2000	6	2	33%
2001	16	7	44%
2002	8	2	25%
2003	24	6	25%
2004	28	4	14%
2005	26	8	31%
2006	28	4	14%
2007	25	6	24%
2008	27	4	15%
2009	58	15	26%
2010	44	11	25%
<b>Total</b>	<b>301</b>	<b>70</b>	<b>23%</b>

Each eligible respondent was first contacted by email to inform her/him of the intended research. An email was then later sent with a link to a University held website on the university's electronic teaching and learning platform, 'Vula', that hosted the questionnaire. Emails that bounced back were rechecked and if known, potential participants were contacted telephonically to ask for a reliable email address. It is unknown what proportion of potential participants actually received the email invitation.

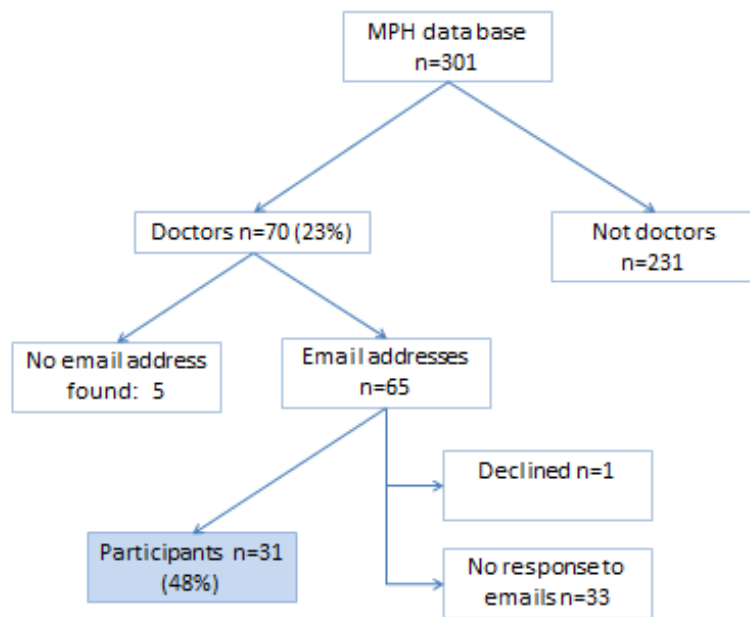
### **3.5.2 Data collection**

The online questionnaire was structured so that participants had to complete a consent form before proceeding to the questionnaire. Some respondents reported that the online link did not work, and they were sent an electronic *MSWord* version of the questionnaire and consent form, which were then emailed back to the researcher. Completion of the online consent form allowed the tracking of respondents and non-respondents. Non-respondents were contacted twice by email, to encourage participation. Figure 3.1 depicts the selection of the sample and response frequencies.

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<sup>xvii</sup> This excludes students who withdrew from the programme by May 2010.

<sup>xviii</sup> The figure is all students registering in the year excluding those who deregistered. This gives the final sample for the study:- *graduates* from 2001 to 2009 plus *students* in 2010.



**Figure 3.1: Selection and response rate of eligible respondents**

The response rate was 48%. Possible selection biases were explored by comparing demographic and educational variables of respondents to *all* doctors on the ‘MPH doctor database’. As personal identifiers were removed from the respondents’ data set a comparison of respondents to non-respondents was not possible. Comparisons between respondents to the study population (all on the study database) were performed using Wilcoxon signed-rank tests for continuous non-normally distributed data, and z-score tests for categorical data such as proportions. Significance was at the 0.05 level.

Although there were some differences between the respondents and all eligible doctors, most were not statistically significant. Respondents (n=31), compared to all doctors (n=70), tended to be older (median age = 37 [IQR: 34-42 years] vs median age=33 [IQR: 30-36 years]; p=0.00); female (64.5%, versus 57.1%; p=0.41), qualified as doctors two years later (median year 2000 [IQR: 1994-2002] versus median year 1998 [IQR: 1991-2000]; p=0.46) and less likely to be South African (29.0%; vs 39.7%; p=0.22). The median age on commencing studies was 33 years for both groups (IQR: 30-38). The median year for both groups starting MPH studies was 2007. Other than

respondents being older at the time of the study, they did not differ from all doctors by gender, nationality, MPH cohort, year qualifying as doctors and age starting postgraduate public health studies.

### **3.5.3 Study tool**

The questionnaire was piloted prior to the study, to iron out logistical and methodological issues. One study respondent completed the questionnaire and gave feedback on its understandability, repetition, gaps, as well as the time it took to complete. The questionnaire took the intended 20 minutes and minor content changes were made.

The self-administered semi-structured questionnaire contained both closed- and open-ended questions (Appendix B). Closed-ended questions gathered information about demographic, study and career information whilst open-ended questions probed respondents' perspectives about the value of training, their undergraduate training and career intentions.

### **3.5.4 Data collection and analysis**

The database of potential participants was constructed between December 2010 and July 2011. The survey was circulated in July 2011 and data were collected from July to August 2011. Data from the electronically completed and emailed questionnaires were extracted, manually entered into an Excel spreadsheet, and analysed by the investigator using data analysis software STATA 13.

Descriptive analyses were undertaken for variables derived from closed-ended questions. Summary statistics were constructed, and appropriate measures of central tendency are reported for normal and non-normally distributed data. Differences in responses by demographic and training variables are reported, and t-tests, Mann-Whitney tests, chi-square tests and Spearman's correlations were performed for hypothesis testing. Levels of significance for tests was  $p < 0.05$ .

Content analysis, manually grouping responses into categories, was performed on the qualitative information elicited from the open-ended questions. Quotations that best

illustrate themes were then selected for inclusion in the manuscript. Respondents are identified by their gender (with 'M' being male and 'F' being female) and by their age in years, viz. (gender, age).

### **3.6 ETHICS**

Ethical approval for the study was obtained from the UCT Research Ethics Committee (HREC Ref: 251/2010). Informed consent was obtained from all participants and participation was entirely voluntary.

All participants were assured of anonymity and no identifiers were captured. All personal information was confidential, and there were no foreseeable risks to any participant. Emailed signed consent forms and questionnaires were stored in a password protected file held by the researcher. For those who had not yet graduated (n=17), assurance was given that a decision to participate would not affect course assessments in any manner. The consent form noted that the study was conducted by staff not directly involved with the MPH.

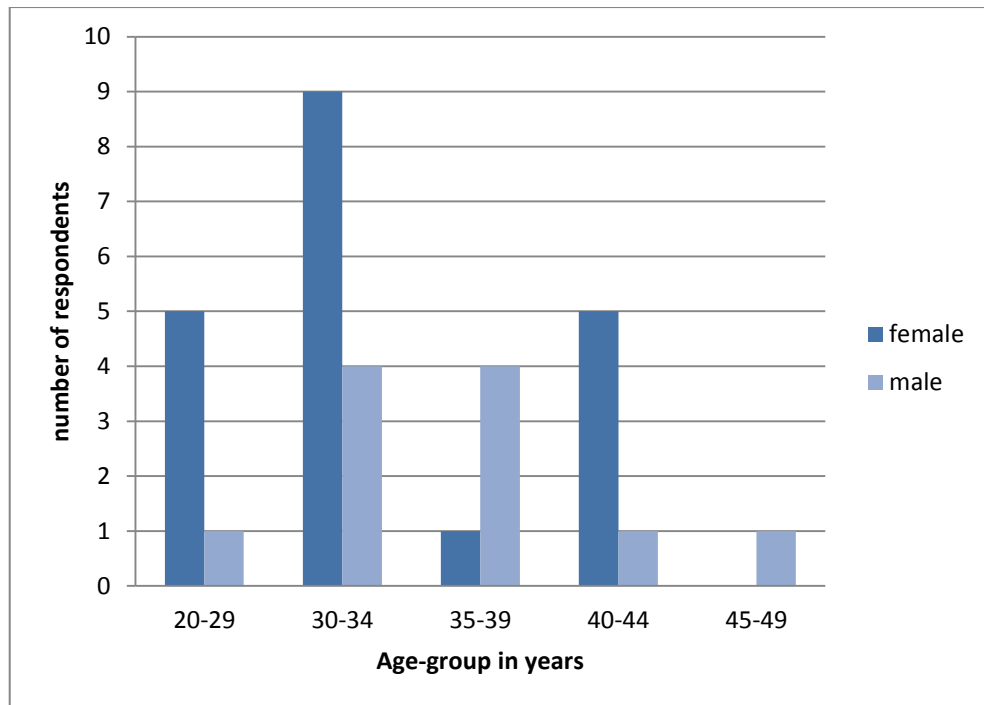
Benefits from the research are improvements to postgraduate and undergraduate public health training at UCT, arising from study recommendations.

### **3.7 RESULTS**

A total of 31 (48%) of the 65 contactable doctors participated in the survey. One doctor declined participation. The response rate did not differ by year of enrolment, although 25% of the sample was enrolled in the MPH at the time of the study.

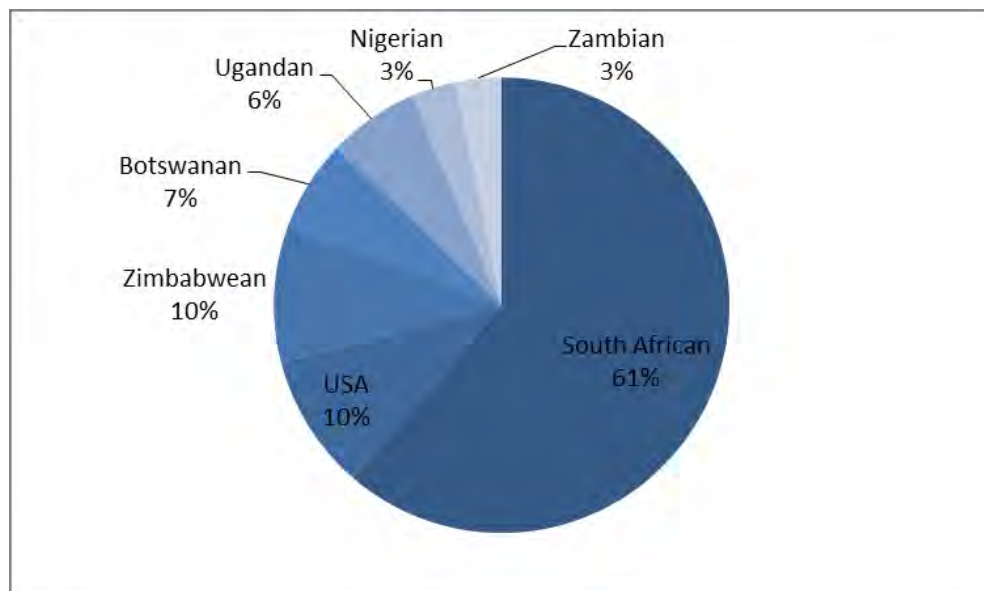
#### **3.7.1 Demographic, education and work background**

The median age of participants at commencement of the MPH was 33 years (IQR: 30-38 years), and 20 (65%) participants were female. Although the median age for men (35 years; IQR: 31-37) was older than women (32 years; IQR: 29-39.5), these differences were not statistically significant ( $p=0.25$ ). The 12 respondents who held medical degrees from UCT were significantly older with a median age of 38.5 years (IQR: 33-42.5) ( $p>0.00$ ).



**Figure 3.2: Age and gender of respondents (n=31)**

Nineteen of the 31 participants were South African (61%), nine (29%) came from anglophone African countries and three were from the United States (10%). Foreign students were significantly younger than South African students on entry to the programme (mean age=30 vs. 36.5 years;  $p=0.00$ ).

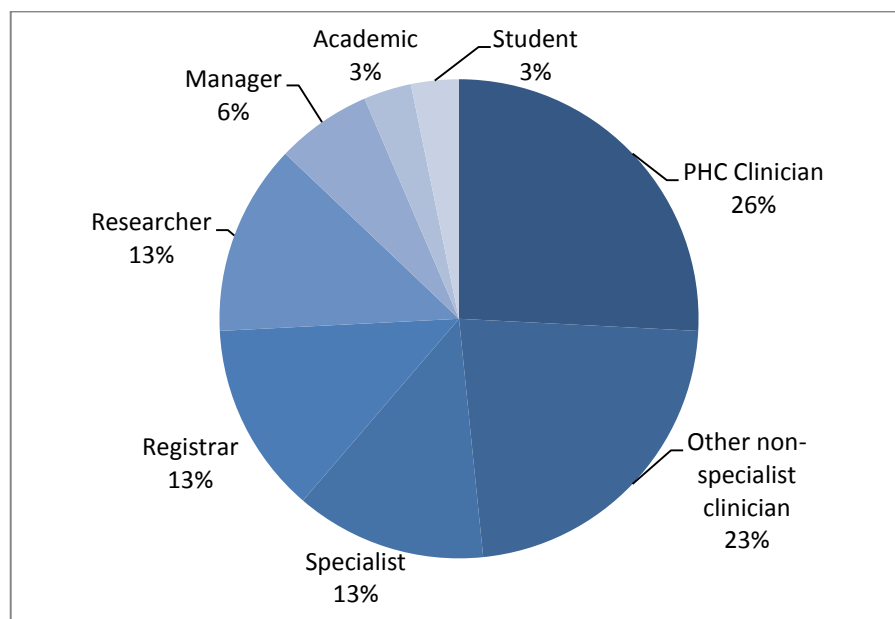


**Figure 3.3: Nationality of respondents (n=31)**

All doctors completed their medical degrees in their country of origin, except the two Botswanan doctors who studied abroad. Most South Africans completed medical degrees at UCT (n=12 or 63%), and three each completed their undergraduate studies at the universities of the Witwatersrand and Stellenbosch.

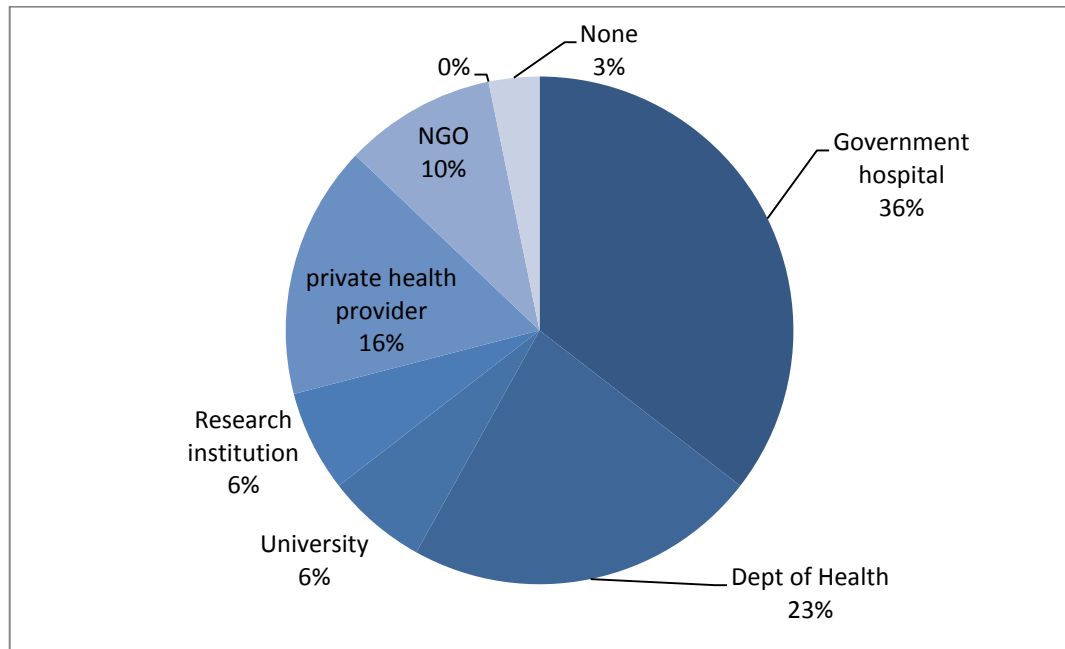
Besides medical degrees, 72% (21/29) held other degrees and 45% had additional postgraduate degrees or diplomas including specialist qualifications. UCT alumni were 4.3 times more likely to have postgraduate qualifications but this did not achieve statistical significance (OR: 4.3; 95% CI: 0.74-21.4).

The roles of doctors prior to commencing the MPH (Figure 3.4) included practice as non-specialist clinicians (71%) of whom 36% worked at primary care level; others were medical specialists, registrars, researchers or managers. Two of the four registrars were specialising in disciplines other than PHM and two withdrew from PHM specialisation, converting to an MPH.



**Figure 3.4: Roles prior to commencing MPH (n=31)**

Their employers are described in Figure 3.5. Before starting the MPH, 59% of participants worked for government health institutions, 16% for private health institutions, and 6% worked at universities and research institutions.



**Figure 3.5: Respondents' employers prior to commencing MPH (n=31)**

Respondents' roles within organisations are described in Table 5. Interestingly most non-specialist clinicians worked in the state sector, while 25% of PHC clinicians worked in the private sector, and 13-14% for NGOs. All specialists worked in the state sector. Half the researchers worked for research institutions and a quarter each worked for the Department of Health and universities. Interestingly, both managers worked in the private sector.

**Table 5: Roles of MPH students – by employers prior to studying<sup>xix</sup>**

Employers	PHC clinician (n=8)	Other generalist clinician (n=7)	Specialist (n=4)	Registrar (n=4)	Researcher (n=4)	Manager (n=2)	Academic (n=1)	Student (n=1)
Government hospital (n=14)	63%	71%	75%	25%				
Dept of Health (n=5)			25%	50%	25%		100%	
University (n=3)		14%		25%	25%			
Research institution (n=2)					50%			
Private sector (n=4)	25%					100%		
NGO (n=2)	13%	14%						
None (n=1)								100%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

### 3.7.2 Experience of MPH programme

Students select MPH tracks when they commence studying. Nine (29%) participants chose the general track, eight (26%) the epidemiology track, seven (23%) the health economics track, five the clinical research track (16%), and two were undecided (6%). Ninety percent of students continued with the track they selected with only three (9.6%) changing, moving from the general to more specialised tracks. All four specialists took the clinical research track (started in 2009), and both managers did the health economics track.

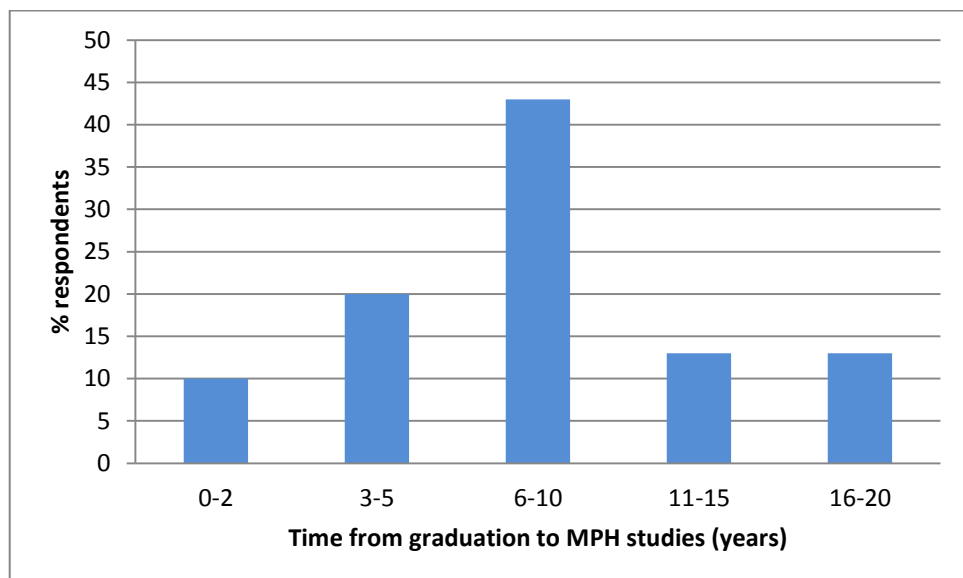
Thirteen respondents (41%) studied full-time. Compared to part-time students, full-time students were more likely to have moved to Cape Town (92.3% vs 5.56%;  $p=0.00$ ); be foreign (83.3% vs 23.1%;  $p=0.001$ ); be younger when starting studies (mean age=30.9;  $sd=4.41$  vs 36.0;  $sd=5.03$ ;  $p=0.003$ ); not have other postgraduate qualifications (30.8% vs 72.2%;  $p=0.03$ ) and, although not statistically significant, have taken the Health Economics track (41.7% vs 12.5%;  $p=0.1$ ). In addition, doctors moving to Cape Town to study were significantly younger (median age 30; IQR: 28-32)

<sup>xix</sup> Percentages given are column percentages.

compared to doctors who were already in Cape Town (median age 36; IQR: 33-41) ( $p < 0.001$ ).

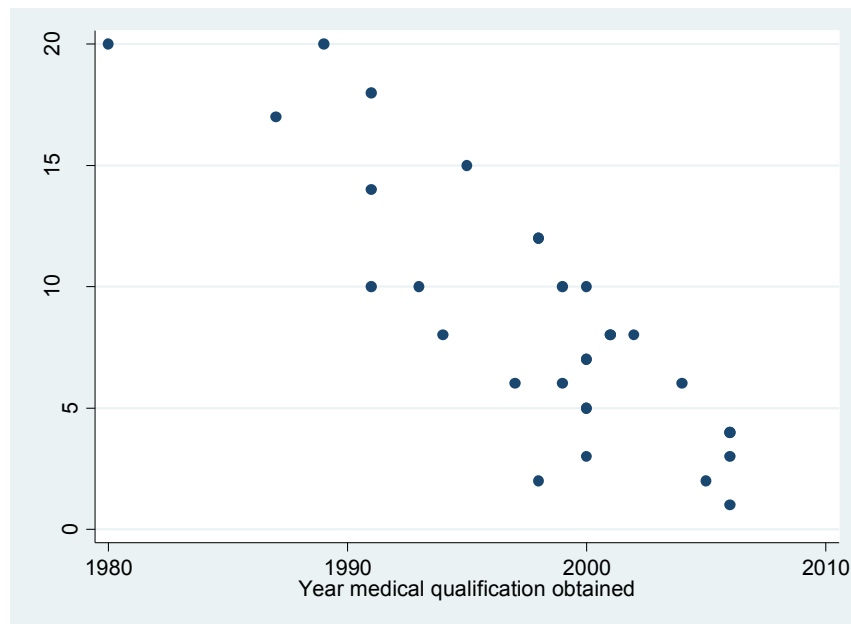
Interestingly no managers, academics or specialists moved to study, whereas 60% (9/15) of non-specialist clinicians moved to study full-time. The age of these non-specialist clinicians (median age = 32 years; IQR: 30.5-40.5), whilst not being statistically significant ( $p = 0.13$ ), was younger than doctors who were specialists, academics, researchers or managers (median age = 36 years; IQR 30-34). The reasons given for choosing to study at UCT included the location of the course (61%), its reputation (48%), and UCT being the students' alma mater (23%).

Most respondents did not commence the course immediately after qualifying (Figure 3.6), and the mean time from completion of their undergraduate medical degree to commencement of MPH studies was 8.7 years ( $SD = 5.3$ ; range 1-20).



**Figure 3.6: Time from graduation to MPH studies (n=30)**

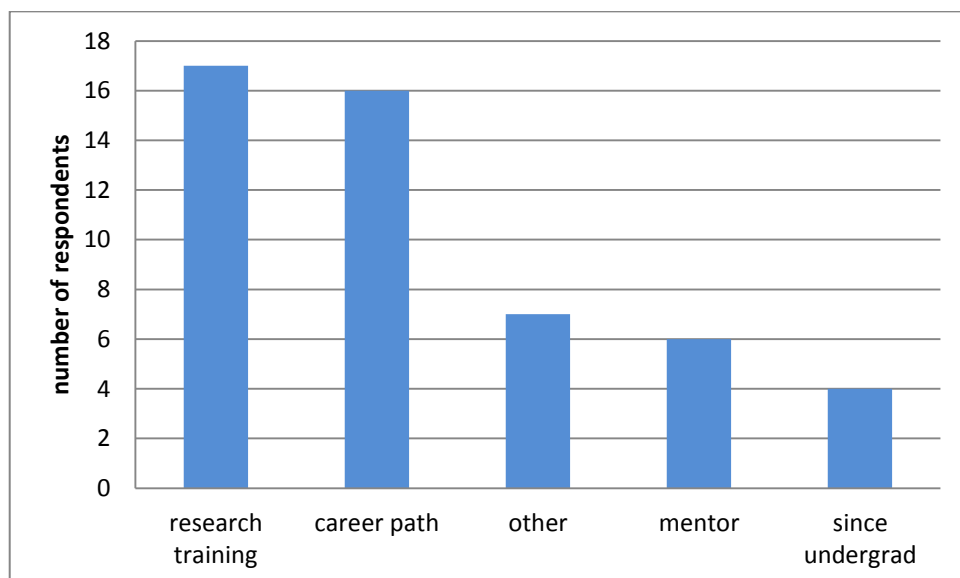
As can be seen from Figure 3.7, recent medical graduates started MPH training sooner after qualifying than those who completed their medical training longer ago. The relationship between the year qualified and time to qualification is statistically significant ( $\rho = -0.42$ ;  $p = 0.02$ ).



**Figure 3.7: The relationship between undergraduate qualification year and time to MPH studies**

### 3.7.3 Motivations for studying

Respondents were asked about their original motivation for studying, and could choose multiple responses (Figure 3.8).



**Figure 3.8: Respondents' motivations for studying**

The motivation for most (55% or 17/31) respondents was the research training the MPH provided – giving them skills to critically review research publications and research skills for clinical settings, enabling them to design and conduct research. Most of those wanting the research training (64.7%) selected the clinical or the epidemiology tracks.

Sixteen (52%) doctors identified a desire for career change as a key motivator. This was the motivation for most (5/7) who selected the health economics track. Some wanted to transition from pure clinical work to careers in clinical research or management. Others felt that the perspectives and skills gained would enable them to work at a population level. Mentor encouragement was important for six respondents (19%), with half selecting the general track.

Four respondents (13%) had wanted to pursue the degree since their undergraduate years, with half each selecting the health economics and epidemiology tracks. Other reasons were that an additional qualification was useful for a subsequent career path. The American students reported a desire to study in South Africa to get international experience and perspectives.

### **3.7.3.1 Career development**

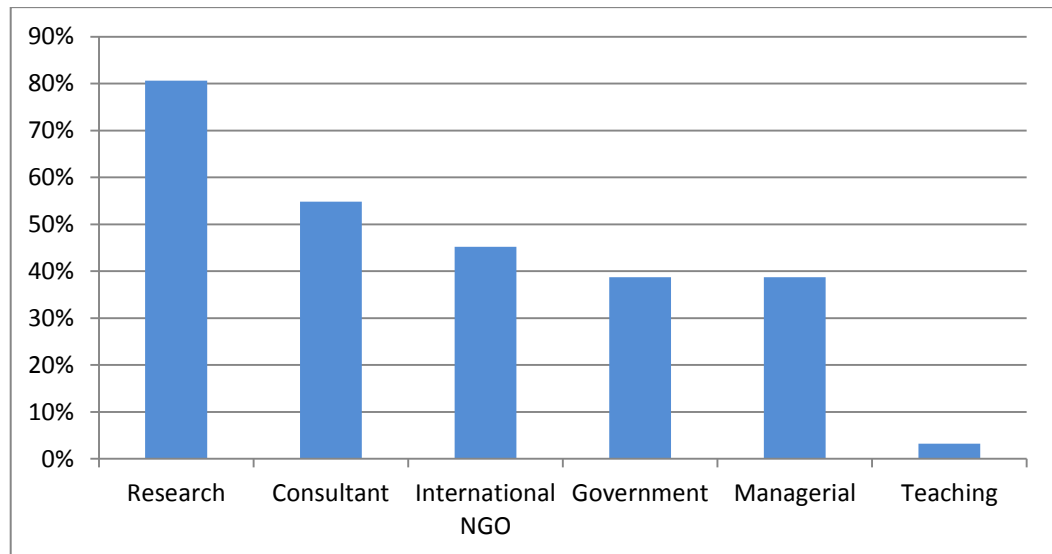
The MPH affected the career direction of over 90% respondents, and 65% changed jobs after completing the degree, irrespective of the track. Career development and work opportunities available to doctors with an MPH were central themes. The MPH was reported as a catalyst for career change and provided necessary skills to those wanting to change from purely clinical work to research or management. For those who changed jobs, the MPH enabled a career in research (30%) management (35%) or policy work (15%). For those remaining in their current employment, the MPH provided the required skills to become researchers or managers.

Some (11%) believed that the qualification would favour job promotion and for 40%, the MPH qualification facilitated career directions in research or policy work for which respondents would otherwise not have been qualified:

I would not be working in the areas I do right now without my MPH. The MPH opened up a lot of opportunities. (M,33)

Additionally, 84% said that having an MPH has benefited their day-to-day job, through research, management and writing skills, and population perspectives on health which allowed them to “see the society as a unit not just the patient”. Respondents singled out epidemiological skills which allowed them to critically analyse research findings.

Respondents’ perceptions of the value of the degree for possible careers of MPH graduates are summarised in Figure 3.9.



**Figure 3.9: Possible careers for doctors with MPHs**

Overwhelmingly (81%), respondents saw research work as a career path for MPH graduates, followed by consultancy work (55%), work for international NGOs (45%) and finally government (39%) and management (39%).

### **3.7.3.2 Perceived advantages**

Participants were asked about advantages they saw generally for doctors pursuing an MPH, and these were similar to their own motivations for studying. Research training was identified by 58%, specifically the skills to do research, statistical skills for analysis and interpretation of findings. The MPH could further careers and some felt that not having a postgraduate degree was career-limiting. Many respondents believed that the MPH opened doors to a range of employment opportunities, allowing doctors to work in clinical research or management:

[It] enables those of us who have chosen not to specialise, to have an additional qualification which enables us to remain in the health sector and to advance into managerial positions.  
(F,35)

Ten respondents (32%) thought that broader, society-based perspectives of illness gained through the MPH were an advantage, allowing doctors to contextualise clinical work and understand how social determinants of health, community factors, prevention and health promotion impact on health outcomes. Eight doctors (26%) noted the MPH enabled learning about health systems, health care policy, as well as resource allocation. A minority (13%; n=4) remarked that the skills learnt could equip doctors to become strategic managers.

### 3.7.4 Undergraduate public health training

Respondents' undergraduate public health exposure was explored (Figure 3.10). Five reported no exposure to public health in undergraduate training at all – three South Africans and two Americans. Most had only a cursory introduction to public health, and many could not recall the content. Twenty respondents (65%) completed 'stand-alone' public health undergraduate courses that were not integrated with clinical learning. Courses generally lasted four weeks but ranged from two weeks to four months. Only seven (23%) recalled public health content, in epidemiology or research methods. Thirteen (42%) completed assigned public health projects including group research or health promotion projects or short-term community attachments and placements. Five (16%) had community-based volunteer experiences.

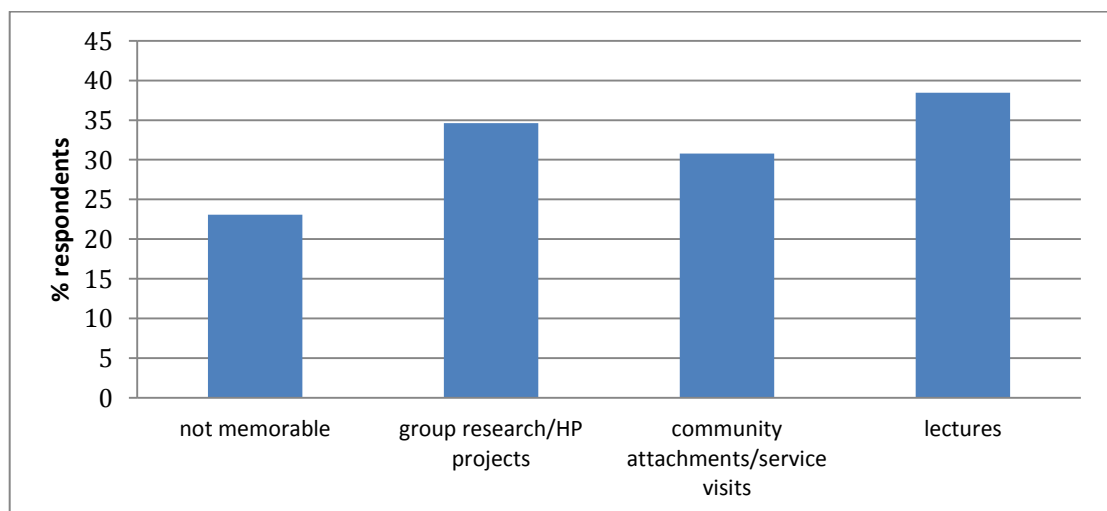


Figure 3.10: Undergraduate public health exposure (n=26)

Of those exposed to undergraduate public health teaching, a minority (34%; n=9) felt that it positively impacted on decision making for postgraduate training. All but one who felt it impacted positively completed undergraduate training at a foreign university, and non-South Africans were 4.89 times more likely to report a positive influence (95% CI: 1.95-12.2; p=0.00). Many doctors, critical of undergraduate public health training, felt that it was largely uninteresting. Others identified their volunteer experience with student-run clinics as a more important motivator.

#### **3.7.4.1 Suggested changes to undergraduate curriculum**

Despite their poor experience of undergraduate public health training, many believed undergraduate exposure to public health would attract doctors to postgraduate studies. Most remarked (65%) that postgraduate public health studies were not profiled or encouraged during medical training. For some, being explicit about career options and studies could encourage public health training. A few suggested having mentors and alumni speak and write about their own career trajectories:

Career options should be made more clear. Even after having been exposed to public health concepts in undergraduate courses, I had no idea of the career opportunities at a postgraduate level. (M,38)

Showcase doctors who have gone through this journey, with "This is what I achieved, (both for doctor professionally but also how research impacted the community)", stories in newsletters etc. (F,34)

Foci for undergraduate public health training were explored, and many argued that exposure should prioritise issues relevant to clinical practice, public health approaches should be integrated in learning in clinical contexts, and include community attachments. Some felt that synergies between clinical medicine and public health needed to be highlighted, and that teachers should not be defensive about the discipline:

Public health should not be portrayed as at odds with clinical medicine. It should be portrayed as something strengthening it... The students should not be treated as if it is assumed they will hate public health. (M,36)

Some believed the value of public health should be made explicit. For example, the use of public health perspectives, such as social determinants of health, assists in developing upstream interventions for disease prevention:

[Through] sound.. public health training, they can realise that an MPH is just as important as the clinical specialties. (F,35)

Medical students need to be taught that health does not start in the hospitals but at home and in communities. Something needs to be done even before the patients come to us as opposed to waiting for them and treating them in the hospital and then forgetting about them. (F,28)

Some believed students should be taught about the contribution of public health to health systems, particularly in health management and policy. Over half believed that exposure to epidemiology, biostatistics, monitoring and evaluation, and critical appraisal of journal articles, were important skills and would encourage undergraduates to undertake postgraduate public health training. The ability to read articles, evaluate research, and the importance of evidence-based medicine were also raised:

[Medical students should acquire a] basic understanding of the benefits and thinking behind evidence-based medicine, critical appraisal, reading medical literature with basic understanding of research design and statistical concepts. By the end of medical school I still didn't understand what a p-value or 95% CI was and what its strengths and weaknesses were. (M,37)

Most doctors have no clue how to read or evaluate journal articles or critically assess the marketing nonsense that reps tell them. (F,45)

A few believed that undergraduates should learn how to conduct public health research, and highlighted the role of research in the promotion of health in communities. Health systems and service issues, specifically the importance of cost-efficient health practice in resource constrained environments, resource utilisation and rationing were identified for undergraduate training. For some, learning about levels of prevention, environmental health issues, occupational health and the historical impact of public health measures on societies should be included.

### **3.7.5 Suggested changes to the MPH programme**

Suggestions for programme improvement centred on accrediting the programme and developing apprenticeships for MPH students. Some noted that an accredited MPH degree and clarity about its status in relation to the accredited MMed degree (PHM specialist) was required. Others raised the value of a practical experience, arguing that exposure to service settings, applying learnt theory, would give insight to possible careers:

recognition in relation to the MMed (needs to be) clarified for international accreditation to professional bodies and public health societies. (F,39)

[An] 'apprenticeship' could be attractive – either during or after the degree. This would give a more realistic picture of what types of work is being done in the field. (F,52)

Some respondents argued that public health disciplines, particularly epidemiology and biostatistics, were valuable for other medical specialists. They believed that this training should be included in all specialist training:

[All] registrars should be required to do [the] Introduction to Epidemiology and Biostatistics for non-degree purposes and then can opt to continue with MPH later. (M,37).

For some, marketing the programme and clarifying career opportunities could attract doctors to MPH training. Limited job options and incentives in the state health sector were, however, noted:

It is not a career advantage [in the public health system currently in South Africa], as there are very few posts for graduates, and most (are) at a lower pay level. (F,52)

## **3.8 DISCUSSION**

The findings of this study – which explored motivations for studying, views on the value of the MPH, and impacts on subsequent careers – are discussed in the light of the literature. Study limitations and implications of the research are presented.

Although no studies were found of doctors who completed medical training before public health training, the body of literature reviewing the outcomes of intercalated MPH or similar programmes presented in Chapter 2 are relevant.

### 3.8.1 Participant demographics

Nearly a quarter of UCT's MPH students were doctors, a lower proportion than some graduate public health programmes: 40% in Geneva<sup>111</sup> and 51% in the Field Epidemiology Training Programmes (FETP)<sup>109</sup>, but similar to the Oxford (22%)<sup>112</sup> programme; 69% of these were South African. Lower proportions of doctors may enrol as the MPH was a relatively new offering in South Africa and may not have been prominently profiled amongst doctors; it also may not be very attractive as it is not a requirement for a post in the public sector.

This study found that the cohort of doctors completing MPH training at the UCT was a mature group of professionals, many of whom were mid-career. This is evidenced by their age (median age at start of MPH was 33.9 years); the long time from graduation to starting MPH studies (median time=8 years), and the fact that that a quarter had other postgraduate qualifications. Similar findings are reported elsewhere. The Mexican and Hanoi MPH programme similarly found that students' mean ages on entry were 30 and 35 years, respectively.<sup>110, 309</sup> A 1998-9 review of 40 accredited American graduate public health programmes reported that the typical enrollee was a mid-career professional studying part-time,<sup>310</sup> and the British study of career destinations of 41 877 medical graduates found public health trainees started later than other specialities.<sup>119</sup> This indicates that, as is found elsewhere, work and life experiences may draw doctors into local public health programmes, preparing them for practice in policy, management or research. Such experience should be acknowledged in the learning context, and could inform course content and teaching models, maximising learning, and address the learning needs of a mature cadre of doctors.

Interestingly, in this study, younger and more recently qualified doctors tended to embark on MPH studies sooner after graduation than doctors who qualified in the more distant past. As was noted by some respondents, there is pressure on newly qualifying doctors to obtain additional qualifications for careers, which may reflect a temporal trend that additional qualifications are being increasingly expected for

career advancement. This may also reflect greater interest in undergraduate public health training amongst young and recent graduates.

The course is a valuable African asset with more than a quarter of respondents coming from Africa and 30% moving to Cape Town to pursue studies full-time. This is particularly true for the flagship health economics track for which 71% of students moved to Cape Town. It is not known what proportion returned to their home country, but at least a third (3/9) returned, as two resumed their old jobs and one took up a Department of Health position in their home country. In view of the need for public health trained professionals in African health systems and the out-migration of doctors from these settings,<sup>81</sup> this requires attention.

The clinical research track offered from 2009 may be the reason for the peak in doctors enrolling in the programme in 2009 and 2010, which satisfied a previous unmet need for research skills amongst local specialist clinicians. No such tailored course was found in the international literature, although elsewhere<sup>117</sup> MPH training has been noted as preparing doctors for clinical research careers.

The doctors studying full-time tended to be younger, non-specialist clinicians with fewer postgraduate qualifications, who moved to Cape Town to study and who then used the MPH as a spring-board to change from clinical to research, policy or management work. Career changes in these three directions are also reported in the literature, with management being the destination of graduates from programmes in Uganda<sup>76</sup> and Hanoi<sup>110</sup>; population-oriented research from graduates of Tulane<sup>117</sup> and Columbia<sup>116</sup>; and the Food and Drug Administration (FDA) or National Institutes of Health (NIH) policy work reported in the American MPH graduate study.<sup>113</sup>

### 3.8.2 Motivations for studying

Motivations for training varied. Epidemiology is the self-acknowledged core strength of UCT's School of Public Health,<sup>xx</sup> which may attract doctors seeking research skills (58%). Similarly research skills were valued by graduates in reviews of the Macy and the Chapel Hill programmes.<sup>114, 115</sup>

A second important motivation for studying public health was to learn population approaches to health issues and health care organisation, integrating these into work. Understanding the socio-determinants of health and translating this approach into preventive strategies, understanding health systems, resource allocation and management were reasons for undertaking the MPH for 25% of respondents. These perspectives are echoed elsewhere. For example, amongst Oxford Global Health programme students, the usefulness of their programme was to gain a perspective on social determinants of health,<sup>112</sup> and, broadening "perspectives on medicine allow[ing] them to provide better care to the individual and to the community as a whole" was found in MPH-MD Tulane programme reviews.<sup>117, 311</sup> These perspectives are also core to undergraduate public health competencies in South Africa. They may not have been prominent when respondents studied as undergraduates and requires attention in the current undergraduate review process.

Few identified the desire for management training as a reason for studying, or perceived that the MPH was suited to doctors desiring this training, particularly for strategic management. This may be due to the UCT MPH not having a specific focus on management training. High-level management training may also be more suited to a teaching model that emphasises experiential learning, such as the MMed specialist or other programmes.

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This is stated in the 2009 report of the 2007 external review of the School of Public Health and Family Medicine, and is evidenced by the only epidemiology text book "Epidemiology. A research manual for South Africa" being co-edited by a school staff member with many contributions coming from staff.

Doctors embarking on MPH studies commonly worked in primary care settings and the value of public health studies for primary care health personnel was highlighted in a review of the University of the Western Cape's MPH programme, as integrating clinical practice with public health perspectives and understanding data to better manage services.<sup>312</sup> These perspectives accord well with the Community-Orientated Primary Care (COPC) strand in South African public health's history where measuring disease burdens in communities and evaluating interventions were incorporated into clinical care at a primary care level.<sup>251</sup>

Internationally, MPH graduates work in different capacities in public health institutions. For example, in China most graduates of public health programmes work in centres for disease prevention and control or in health inspection institutions,<sup>313</sup> and in the USA, the NIH was a career destination for many MPH graduates.<sup>113</sup> These choices did not emerge in this study, which is not surprising as these institutions are not present in South Africa's health system.

### **3.8.3 The utility of the MPH**

A notable finding was the high proportion of doctors (90%) who used the MPH to change career direction or advance their careers. Many doctors (52%) deliberately pursued the MPH to gain skills for career development. This is particularly interesting as, unlike many African countries where a public health qualification is a requirement for programme and district management,<sup>206</sup> postgraduate public health training in South Africa is generally not a requirement for promotion in health management in the public or private health sectors or NGOs. This may indicate the informal value given to MPH or postgraduate training by employees or employers.

As the profile of the respondents was a mid-career doctor, studying may be an opportunity to embark on or prompt a new career path or aid job promotion. Most (76%) clinicians moved out of clinical work. Of the 58% (11/19) of South African doctors who changed jobs, 64% (7/11) moved into management, with a few moving to the state sector and others to NGOs and the private sector. Some noted that the MPH opened employment opportunities they would not otherwise have had. Many studies

reviewed found that graduates similarly used public health training to advance their careers.<sup>110, 111, 115, 116</sup>

### **3.8.4 The value of undergraduate public health education for doctors**

Although 84% of respondents had some form of undergraduate public health exposure, they did not feel this prepared them to take on public health challenges. For most, undergraduate exposures did not prompt postgraduate training, and this was also found in a British study on public health specialist training.<sup>119</sup> For most, public health perspectives should be, but were not, integrated into undergraduate clinical training and public health work was seen to fall outside of clinical care.

There is some controversy about the appropriateness of detailed public health learning at an undergraduate level.<sup>314</sup> Some believe that young undergraduate medical students are not mature enough to grasp or appreciate population perspectives, approaches and tools in public health. Rather, programmes should produce graduates who are clinicians able to provide comprehensive patient care in health teams.<sup>315</sup> Current health sciences educators, however, argue that undergraduate training should prepare doctors to understand and work in systems to address inequities in health status,<sup>98</sup> a perspective firmly within the domain of public health.

Undergraduate exposure impacted more on foreign graduates' decisions to study public health, who were younger than South Africans. Poor impact of undergraduate training on South Africans' motivations for public health training may be the result of an inadequate public health undergraduate curriculum at the time they studied, as well as recall bias from an older cohort of doctors.

Some proposed that undergraduate community-based experiences may attract doctors to pursue public health training and careers. It was the "hands-on" community experience that was formative for respondents who reported undergraduate exposure as a motivator for studying. Similar findings were reported from an American study where doctors, participating in an eight-week public health undergraduate field experience in a developing country, were more likely than their

counterparts to practice primary care and to obtain advanced public health degrees.<sup>316</sup> A experiential community-based focus that develops competencies, following the CANMeds framework,<sup>317</sup> has been identified as core to undergraduate public health education reform by the working group of undergraduate public and community health educators from most South African universities.<sup>xxi</sup>

### **3.8.5 Suggested modifications to the programme**

Suggestions for the creation of practical service public health exposure accord with calls to embed practical experience into public health professional training,<sup>71</sup> preparing and attracting graduates to health service public health work. Optional service attachments where students work alongside service providers and managers – ‘practica’ – were introduced in the UCT MPH programme from 2013. They are core to the Ugandan programme<sup>76</sup> and most accredited American MPH programmes.<sup>107</sup> This accords with recent literature on public health learning that identified that “planned learning experiences of practitioners and community partners is fundamental to effective public health”.<sup>318</sup> Differences between the value of the ‘practica’, short assignments over a few weeks, and the longer four year service apprenticeship of the MMed programme, need to be articulated – but each would confer distinct competence.

The articulated need to benchmark and accredit MPH programmes raised by respondents is in line with international trends, especially in the USA.<sup>171</sup> This initiative would be the first step in professionalising the qualification, which could pave the way to the establishment of a public health profession in South Africa, with the professional MPH as the entry requirement. The present flexibility in the MPH course selection may need to be replaced by course work that is more regulated, with core compulsory courses in public health disciplines – and, as in Canada, it would become “a professional degree whose primary purpose is to prepare students for public health

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<sup>xxi</sup> Staff from the following universities: Cape Town, Free State, KwaZulu-Natal, MEDUNSA, Pretoria, Stellenbosch and the Witwatersrand have met regularly and have formulated a framework giving detail for specific competencies, and are collaborating about teaching material.

practice”.<sup>319</sup> Such an arrangement would need to be cognisant of MMed/PHM fellowship qualifications which are accredited and allow specialist registration.

### **3.8.6 Study limitations and bias**

A limitation of the study is the small sample size – 31 doctors, and the 48% response rate, which may indicate biases in the findings. The response rate did not differ by MPH cohort registration year. Although the sample size was small, making it difficult to discern significant differences, respondents did not appear to differ significantly from all doctors completing MPHs at UCT by nationality, gender, age at which they started postgraduate public health studies, MPH cohort or year qualifying as a doctor. This suggests that respondents are probably representative of the general MPH doctor population. Nonetheless, it is possible that a selection bias operated that overestimated positive aspects of the programme as respondents may be more likely to highly value the MPH course than non-respondents.

The motivations of doctors undertaking the MPH at UCT may not be generalisable to other South African programmes, as UCT MPH’s strengths are health economics and epidemiological research, which may attract doctors interested in these areas. Few (10%) South African candidates moved to Cape Town for the training, which suggests that the particularity of the Cape Town programme may not bias the findings, at least for South African students.

The perception that undergraduate public health exposure is inadequate may be a measurement error due to memory attrition and the long time since undergraduate training. It could also be due to enthusiastic public health doctors judging a necessarily limited undergraduate curriculum harshly.

### **3.9 CONCLUSION**

This study fills a gap in international and local public health education research, and provides valuable insights as to the motivations and intentions of doctors pursuing public health postgraduate training in a single South African setting. Doctors form a substantial proportion of MPH graduates, and many are mid-career doctors who want formal research training. The training was a catalyst for career change, skills development and job promotion. MPH training enabled a switch from clinical medicine to public health research, opening up career opportunities. The course exposed doctors to population perspectives on health and illness, which informed their day-to-day work and job choices. Whilst not being a motivator for training for most doctors, undergraduate public health training was identified as an important factor that could both attract new doctors to public health practice, and prepare them for clinical work in a resource constrained health system to emphasise disease prevention in clinical practice.

A challenge is to professionalise and accredit MPH training in South Africa, together with agreement on core competencies for implementation by training institutions. Institutions could grant professional degrees, enabling graduates to be certified and licensed for professional practice, and be assured of being of acceptable quality to meet the health needs of populations. Such an arrangement needs to be cognisant of the PHM speciality.

This study explored the motivations and career intentions of doctors embarking on the UCT MPH programme. The motivations and intended career paths for doctors embarking on specialist practice (Chapter 4), the actual career paths (Chapter 5), and intended niches for PHM specialists (Chapter 6), is the major focus of this thesis. This study serves as a counterpoint to the studies that follow, and will be compared to the desires for training of specialists in the concluding chapter (Chapter 7). It assists in distilling the niche for public health specialist doctors, which is the purpose of the thesis.

## **CHAPTER 4:**

### **SPECIALISING IN PUBLIC HEALTH: MOTIVATIONS AND INTENTIONS**

Chapter 3 reported on the study that explored the motivations for graduate public health training (MPH) for doctors. These are doctors who did not pursue the longer, full-time apprenticeship training that leads to specialist registration. This chapter explores the motivations for training, intended career paths and perspectives in the latter population – doctors in specialist training in Public Health Medicine (PHM) in South Africa.

#### **4.1 BACKGROUND**

Chapter 2 showed that whilst public health specialist doctors exist in some countries, they have varying roles that in many contexts include clinical work. Public health work of doctors with postgraduate training are in health systems at a local, regional and national level,<sup>76, 109, 110, 118</sup> often at policy and leadership levels<sup>84, 85</sup> through a range of public institutions, and in academia and research.<sup>110, 117</sup>

As was described in Chapter 2, a South African medical specialist in public health has existed for 30 years, and its scope of practice does not engage directly with patients' care. Specialists qualify through four year, full-time accredited programmes, based on an apprenticeship model, and exit through examinations run by the College of Public Health Medicine, an elected national body of peer specialists – and, until, recently, also by universities.

Since 2011 all new specialists exit through the College assessment. This examination requires public health disciplinary knowledge, its application to contemporary health problems and demonstration of research competence in the form of a research report. Universities have varying theoretical offerings and course attendance requirements and apprenticeship training in public health institutions varies according to local services available, but core exposures are work in provincial departments of health, hospitals, district offices, institutes of health and research institutions.

Seven South African universities offer specialist training. Two are in the Western Cape– the universities of Cape Town (UCT) and Stellenbosch. The others are the University of the Free State; the University of KwaZulu-Natal and three based in Gauteng– the University of the Witwatersrand (Wits); the University of Pretoria and MEDUNSA. In 2011, there were 32 registrars in training.

UCT offers a structured theoretical component, requiring registrars to complete the coursework for the epidemiology track of the MPH, the cornerstone of public health theoretical training; the coursework for the diplomas in occupational health and health management; together with apprenticeship-type learning in a number of year-long service placements in the Western Cape Provincial Department of Health. Stellenbosch offers the same training attachments as UCT but the teaching programme is less formal; and Wits has six month rotations in a range of service and research institutions, with less structured teaching. Although some students chose their alma mater for their postgraduate studies, in 2011, all three programmes had students who had graduated from seven of the eight medical schools.

There are few specific jobs reserved for PHM specialists in South Africa’s current health services. Some management or technical positions advertised recommend a postgraduate public health qualification, but this is rarely a requirement. Until recently<sup>xxii</sup>, posts requiring the medical speciality of PHM were reserved for university academic positions. Chapter 2 noted that the recent human resources strategic planning document<sup>26</sup> acknowledged the importance and scarcity of PHM specialists but did not spell out roles for this or any other public health cadre.

In a context of career uncertainty, it is not known what the motivations and career intentions are of doctors embarking on this demanding programme, or what their reflections are on the potential role of public health professionals and PHM specialists in South Africa’s health system.

This study explores training experiences and career intentions of PHM registrars (specialists-in-training), and their perspectives about the potential roles of the cadre in

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<sup>xxii</sup> Three non-academic PHM specialist posts supporting health programmes (2010) and, later, rural and urban health districts were created in the Western Cape Department of Health.

South Africa's health system. Insights from this research could inform curriculum discussions of training institutions and the College of Public Health Medicine so that specialists are better trained to work in health services and institutions impacting on the health status of South Africa's population.

## **4.2 AIM**

The aim of this second study is to analyse motivations for training, training experiences and career intentions of future PHM specialists trained through selected universities, and their reflections on the nature and future of the speciality.

## **4.3 OBJECTIVES**

The objectives of the study are as follows:

1. Amongst specialists-in-training (registrars) and recently qualified specialists, to explore
  - a. factors influencing their choice of PHM as a specialisation route;
  - b. their views about the value of the training; and
  - c. their perceptions of the opportunities and threats to the speciality's role and future direction.
2. Amongst registrars, to identify career path options and explore reasons for these choices.

## **4.4 METHODS**

Participants in this study comprised two groups – specialists-in-training (registrars) and those qualifying during the 12 months preceding the study (recently qualified specialists). These groups make complementary contributions. Those immersed in the training give in-depth insight into motivations and training experiences, and recently qualified specialists give insight into the value of the training for their work.

Qualitative methods suited the aims of this study to identify motivations, intentions, opinions and perceptions. Such complex phenomena are not well captured by quantitative methods such as questionnaires with closed- or open-ended questions.

Consequently, focus groups with registrars, and in-depth interviews with newly qualified specialists were conducted.

#### **4.4.1 Qualitative methods used**

Focus groups are a data collection method where a planned group discussion takes place in a permissive, non-threatening environment. They elicit perceptions on a researcher's defined area of interest, obtaining understandings, priorities,<sup>320</sup> and "socially contested opinions rather than individual attitudes".<sup>321</sup> As focus groups are ideal for obtaining in-depth information amongst participants with common experiences and as registrars have common experiences and the research wished to elicit their thoughts, opinions and perspectives about issues related to the profession and their careers, focus groups were well suited to the research.

Unlike the registrars, recently graduated specialists worked in different locations, which made it impractical to find common time for a focus group. In-depth interviews were therefore more appropriate and allowed participants to describe their thoughts and reflections in their own words and time, a strength of this method.<sup>322</sup>

The interviews explored the graduates' motivations for undertaking their studies, identified the strengths and weaknesses in training programmes, ascertained the reasons for job selection and explored their impressions on the possible role and future of the speciality. The information added unique richness and texture to the research and reflected the perspective of young specialists entering practice. Questions were not asked in the same way but opinions and reflections about the same issues were consciously collected.

## **4.4.2 Participants**

The registrars were a relatively homogeneous group. Whilst coming from the full range of backgrounds shaped by apartheid's and other social policies, all were doctors, were in specialist training and were well known to each other.

Three focus groups and three in-depth interviews were conducted between June and September 2012, comprising 20 people in total.

### **4.4.2.1 *The focus groups***

Two focus groups were conducted with specialists-in-training in Cape Town, both comprising participants from the universities of Cape Town and Stellenbosch. One focus group was conducted with registrars based in Johannesburg from the University of the Witwatersrand (Wits).

All registrars enrolled in the programmes from the universities of Stellenbosch, Cape Town and the Witwatersrand in 2012 were invited to participate in these focus groups. They comprised more than half the 32 registrars nationally in training. All four specialists exiting from UCT's programme in 2011 and 2012 were invited for the in-depth interviews.

Potential participants in Cape Town were individually contacted by the researcher through email and invited to participate in one of two scheduled sessions. A Wits registrar contacted her peers to inform them of the research and set up the venue and time for the Johannesburg focus group. Altogether 17 people participated in the three focus groups: five males and 12 females, with both males and females participating in all three groups. The three focus groups are denoted as FGD1-3 in the text below.

The rationale for selecting participants was on the basis of their experience of the programme and their location. The researcher was based in Cape Town and the availability of local respondents made their selection for the study opportune. As Wits is a major contributor to South Africa's specialist pool, perspectives of registrars from this important programme were obtained.

Registrars participating had undertaken undergraduate medical training in seven<sup>xxiii</sup> of eight South African universities offering medical training, and had worked as junior doctors in rural, peri-urban and urban settings, in underserved provinces such as Limpopo and the Eastern Cape as well as better-resourced provinces such as the Western Cape and Gauteng. They had, therefore, a range of educational and service backgrounds prior to embarking on specialist training.

The study was not designed to obtain the perspectives of all registrars in South Africa but rather to elicit the perceptions of trainees from a range of demographic, educational and work experiences in three key institutions. The findings are not generalisable to all registrars in training, but, in keeping with qualitative methodology, reflect the depth of interviewees' perspectives.

All interviews were conducted in English, the language used by participants in academic and work settings. Participants were briefed about the scope of the interview as per the information sheet attached to the interview guide and given an opportunity to ask questions, before focus groups began (see Appendix C for the consent form, information sheet and interview guide). All read and signed the consent form, indicating that they understood that participation was voluntary, that they need not respond to questions and could withdraw, and that anonymity and confidentiality would be preserved. All gave permission for recording the interviews, and were informed when recording commenced.

The interview guide probed candidates' motivations for selecting public health as a speciality, including the impact of undergraduate training, their experiences of work and training, their career intentions and reflections about the future of the speciality. The researcher used the guide to ask questions and clarify responses according to the aims of the study. The duration of all focus groups was approximately 90 minutes. Refreshments in the form of soft drinks, hot beverages and light finger foods were supplied at the end of each session.

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<sup>xxiii</sup> None of the participants was a medical graduate from the University of the Free State.

#### **4.4.2.2 *The in-depth interviews***

All four UCT recent specialist graduates contacted for the in-depth interviews agreed to participate in the study, but suitable times and venues were found for only three. All were women who graduated between August 2011 and May 2012. There was no gender bias in this sample as nationally all eight registrars exiting training over that period were women.

The rationale for the study and scope of the interview was outlined to informants as per the information sheet attached to the interview guide (Appendix C), and all signed consent. As for the focus groups, anonymity, confidentiality and autonomy were assured, and all agreed to the interview being recorded. Each interview lasted between an hour and 90 minutes.

#### **4.4.3 Data management**

Signed consent forms for this study were filed together with the consent forms from the other studies for the thesis and stored in a file locked into a cabinet housing documentation for the thesis.

No personal identifiers were specifically captured in the interviews. All recorded interviews were transcribed verbatim by an externally contracted professional transcriber. The accuracy of the interviews was assured by the researcher listening to the interviews whilst reading the transcripts and correcting errors. Few were identified and a revised version of the transcripts for analysis was finalised.

#### **4.4.4 Data analysis**

The approach to the data analysis was inductive and thematic analysis of the interview text was performed. Key themes and concepts were identified in the transcripts and categorised.<sup>320</sup> Firstly, all error-checked transcripts were read and a coding process as outlined by Tesch<sup>323</sup> was broadly followed.

The six transcripts were read to obtain an overview of the content and issues. One interview was reread and a list of the issues emerging from the text was compiled. Two further texts were read and additions to this list were made. These were

clustered into groups, and descriptive wording for emerging themes was created. To assure rigour, one transcript was read by an experienced qualitative researcher and there was agreement on the emerging themes. The researcher then analysed the remaining transcripts and emerging themes were regrouped and dominant ones identified. A narrative of the emerging discourse was then written.

The transcripts were then entered into Atlas.ti (version 7.0.92) and the themes identified through the inductive approach described above were entered into the programme. The transcripts were reread and quotes that best depict and illustrate the themes were inserted into the narrative. The quotes are identified as FGD 1-3 for the focus groups, and II 1-3 for the in-depth interviews. This process also served to verify that themes identified actually were present in the narrative and that no new themes were ignored.

#### **4.4.5 Assuring reliability and validity**

The validity of the findings for qualitative research considers issues of reflexivity,<sup>324</sup> trustworthiness, authenticity and credibility.<sup>325</sup>

Various methods to ensure the validity of the analysis are outlined in Cresswell<sup>326</sup> and were followed. These were that different data sources were used – the various focus groups and in-depth interviews – which identified perspectives from a range of participants, assuring credibility and authenticity.

In addition, I as the researcher was mindful of my own position as a professional who also had journeyed the path of registrar training and finding a professional niche. I was reflexive about the research, and was aware how I could affect data collection and analysis.<sup>327</sup> As a notion in qualitative research, reflexivity argues that the researcher through being cognisant that personal history influences the research process, results in more ‘valid’ research.<sup>324</sup>

Reflexivity in the data collection involved collecting all the data myself, listening to responses and probing, allowing the subjects to “speak for themselves”.<sup>327</sup> Reflexivity in the analysis process involved “careful interpretation and reflection”.<sup>328</sup> All transcripts were carefully read then coded, and later reread to ensure that data were

not left out and there was no drift in definitions of codes. Negative and discrepant information that did not neatly fall into the themes is reported. Emerging themes were then reflected upon and the meaning and implications were drawn out. This rigorous analytical process promotes the trustworthiness of the findings, and conforms to measures ensuring the reliability of research outlined by Gibbs.<sup>329</sup>

## **4.5 ETHICS**

The research proposal was approved by the Human Research Ethics Committee of the Faculty Health Sciences on 2 July 2012 as an amendment to a previous approval 251/2010, which applied to undertake the study in Chapter 3, of doctors studying an MPH at UCT.

### **4.5.1 Autonomy**

People were invited to participate in the study via email outlining the research, and could decline participation. Participation was voluntary, based on information in the email and information sheet given prior to written assent. Besides refreshments for focus group participants, no incentives were provided. Whilst the researcher is a public health physician and could potentially be seen as an authority figure for these junior doctors, participants were invited to reflect on PHM as a career choice, and contribute their thoughts and impressions on training.

### **4.5.2 Anonymity and confidentiality**

No names were captured, so informants remained anonymous. Contact details of respondents opting to receive a copy of the research output, were obtained. All completed transcripts and identifying material were stored in password protected files accessible only to the researcher. Specific identifiers of health institutions or persons were omitted in the analysis and report to ensure participant confidentiality and anonymity.

## 4.6 RESULTS

Findings of the interviews according to key themes are presented. They are clustered as: motivations for training; perceptions of the value of training; anticipated career paths; and perspectives on the future of the speciality.

### 4.6.1 Motivation for postgraduate studies in public health

The factors motivating the selection of public health as a speciality for training fall into two groups – those that pushed doctors away from clinical medicine, and those that attracted them to PHM.

#### 4.6.1.1 *Push factors in clinical experiences*

A dominant theme for selecting public health as a career path was registrars' work experience in the health services as junior doctors. Overwhelmingly most found clinical work frustrating. Some found it overly stressful as they worked solo in busy casualties, managing patients with conditions they did not feel entirely confident managing.

The pressures of working in an unsupported fashion, especially at night, or being expected to deliver good patient care with suboptimal resources were an impetus for some to leave clinical medicine. Many commented on their frustration with the health care system that was pushing them, as young doctors, out of clinical work:

I do not miss being in clinical practice and working and holding a needle and leaving at 12 o'clock midnight. The noise that comes with shouting [*laughter*] and people not doing their job or patients who are not co-operative. I don't miss clinical practice, no. (FGD 1)

Many times you'd feel that you're just there to be a face in the hospital, the hero who saved the day without the support that you need from your superiors and the system as a whole. Sometimes you would improvise and do the wrong thing and intubate a child with a size six ET tube just because that's all there is in the facility ... [If] it all goes well ... you're happy, but if that one time happens that it doesn't go well, someone will come ... And I felt that I wouldn't want to live like that all my life and ducking and diving. (FGD 1)

#### **4.6.1.2 Pull factors to public health from clinical experiences**

A pervasive sentiment was that frustration with clinical work provoked a desire to transform the health services rather than simply being an incentive to leave the health field or to emigrate to a country with anticipated fewer frustrations. This triggered a search for training to impact on health determinants and the health system:

My mind started running wild with ideas on how things could change. (FGD 3)

It was all along the lines of wanting to make a difference. (FGD 2)

Many participants wished to move into positions of policy or decision making in health services to transform ineffective systems they experienced. An overwhelming theme was the desire to manage ill health comprehensively, to focus on determinants of health, and this led many to a speciality with population health as its centre. Some gave up their initial planned clinical career paths to train in public health:

Some on the beds, some underneath the beds, I could just see feet coming out and a drip-line going in and I stood there thinking, "This is insanity!" you know I could do this until I drop dead but what impact? I mean it's going to make an impact but only a marginal one. You know there lives at four o'clock in the morning for being drunk and walking in front of a car. I think there must be other ways of helping people ... that would bring down the cost ... and make people healthier and happier without having to have a very specialised hospital service. (FGD 1)

For some, the limited impact of clinical work was the impetus to move out of the clinical context. They felt disillusioned with clinical medicine as they saw the same patients repeatedly for similar conditions – the 'revolving door' phenomenon. Some noted patterns of illness in communities and that individual patient consultations were limited and would be more effectively addressed by prevention and work on the 'upstream determinants' of ill health. Clinical impact at the individual level was not enough to give job satisfaction and they sought to change their role to work at a system level:

realising that often... you treat people and then next thing you see the same people... Over a year ... you actually see the same people ... they keep coming back, you'll not know their names but you know their faces... I look at the file and my handwriting's on the file and more or less the same complaint over and over again. (FGD 1)

As a GP I ... realised after a while that what you do as a doctor with an individual patient doesn't make as much difference as what's done higher up the systems of health care delivery. And so I was quite disillusioned with medicine at that point. (FGD 2)

You can't just treat someone at the level of the hospital. You have to go back out into the community and fix the problem there, because that's where the problem is coming from. (FGD 3)

Even though some enjoyed clinical work and they were happy to see the impact of their efforts when patients got better, or assisted patients navigating the health system to achieve optimal treatment, they decided to move out of service delivery and work at a system level:

Clinical work can be quite satisfying when you see really positive outcomes. If you have a practice and you treat people and they get better ... and they come back and express their gratitude or you see that they're healthy. (II 2)

I loved being a GP I really got a lot of satisfaction out of that, being the patients' advocate and negotiating the system for them can be scary and frightening and confusing. (FGD 2)

For a few, the downside of becoming a public health doctor was the loss of being frontline in the delivery of health care and stopping clinical work. This was verbalised as potentially giving up being a doctor:

I also miss clinical medicine in a way that, I mean you're always seen as a doctor and people keep asking you questions about health and what the newest treatments are. I used to be able to help everyone in that regard but now I can't... Before I started in public health, it was a big argument in my mind, am I going to give up being a doctor? (FGD 1)

#### **4.6.1.3 Pull factors to public health**

The four factors attracting people to study public health were 1) its broad scope; 2) its approach; 3) anticipated work; and, 4) personal factors.

##### *1. Scope of Public Health*

The dominant theme motivating participants' public health studies was to impact on the system of health delivery, and to promote health in communities rather than on an individual level. Public health training and jobs were seen as providing the broad skills base and opportunities to improve the functioning of the health services:

Thinking about the population and about risk factors and determinants of disease and ... of health. It lends itself very nicely into thinking through evaluating health systems, health exposures, health risks, health outcomes. I think that's what ultimately led me to ... public health. (FGD 2)

I saw public health people as people who had a good understanding of what's happening in the medical services but could affect, out of that position, things in broader society that affected health. (FGD 1)

For most the orientation to impact on health at more than an individual level came after qualifying as a doctor, but for a few this orientation predated their undergraduate studies:

Long before I matriculated I always had a sense of wanting to do work that would improve communities, improve people's lives and it was always about ... community as opposed to the individual. (II 3)

## *2. Public health's approach*

Secondly, the altruistic nature of public health was highlighted. One participant remarked that public health is an ethical, noble enterprise that consciously looks at the provision of health using a lens of equity. It considers access to, and impact of, health care on individuals and communities both in its design and delivery. These were the concerns that attracted others to public health:

The way that we shape the health system going forward ... maintaining and restoring people's dignity and ... the emphasis on primary health care and integration, because there's little dignity in going from one place to the other, long waiting times as it is, waiting for specialists in hospitals ... There's always this golden thread of, "What does it mean for the individual, the population, and does it restore dignity?" (FGD 2)

Public health practice was seen as an approach, which values other health professionals and works with them as colleagues and equals:

When we trained as doctors you ... think that the doctor is everything, isn't it? [Mm] and actually a doctor is only a small part of the delivery of health care and everybody else is equally important. So that's a very big thing that comes out in public health. (FGD 2)

The breadth of the discipline of public health was attractive for a few. Public health encouraged thinking beyond the immediate health problem, and tapped into curiosity about what is not obvious, what causes ill-health – into the determinants of disease.

Public health as a discipline was characterised by one as a “speciality for non-specialists”:

Getting into public health for the curiosity side of things – because I think there’s many more open frontiers.... In clinical medicine, ... becoming a cardiologist ... you’re going into the exact route that someone else has followed before you. You’re actually learning more of less. And I think some people are a little bit more curiosity minded and they want to know a little bit about everything and try to bring things together... So I think public health is great for people who think like that. (FGD 1)

In public health very much of the time I feel out of my depth... It’s not so prescriptive and not so routine so a lot of the time it’s quite tiring, feeling like you’re breaking new ground or exploring new things, and just that sense ... I haven’t arrived even though I’m coming to the end of my training ... I can do this public health thing but it’s ... realising it’s so big and it’s almost sort of boundless ... but you just do what you can. (FGD 1)

[That] made it actually intriguing. You know just go and discover something completely new, maybe even shape a profession according to my own personal interests ... so I think that was a bit of a drawcard. (FGD 3)

Some remarked that a downside of the paradox of being a “cross-speciality” was public health’s uncertain identity – “greyness that’s inherent in the field” – and, its scope of practice, which may contribute to its poor career profile. There was extensive discussion about these issues, an example which is:

I remember going to some community health consultants and asking, “So what actually is community health?” and I could not get *[general laughter]* like a consistent answer. (FGD 3)

### 3. *Anticipated work*

Besides work that impacted on health service functioning and the prevention of ill-health, many were attracted to public health as they anticipated work would include ‘measurement’. Public health training and work is based on the disciplines of epidemiology and biostatistics which are grounded in mathematical concepts and theory. This quantitative orientation is a key factor that attracted many participants to public health as interests in mathematics were satisfied by studying public health:

Actually what brought me into public health was that I knew I’d enjoy working with numbers and data and I thought public health people do that. (FGD 1)

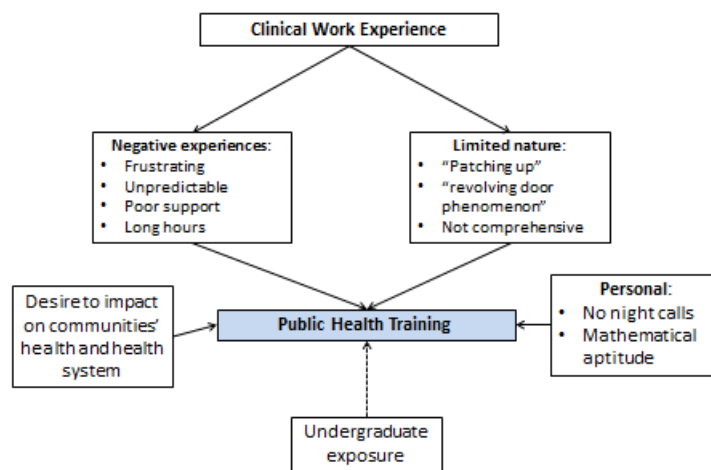
#### 4. Personal factors

A few respondents raised personal reasons for moving out of clinical work. Not having to do night calls, and personal growth after feeling burnt out doing clinical work for many years, were important:

I think the hours are good. After having done internship and those crazy hours you sort of start feeling normal again... You're still a doctor, you're still making some difference but you're not killing yourself in the process. So that for me is one of those attractions. (FGD 3)

I was allergic to night shifts [laughter]. Consultants were increasingly having to do night shifts. (FGD 2)

These motivating factors are schematically depicted in Figure 4.1.



**Figure 4.1: Motivating factors for public health training**

#### 4.6.1.4 The impact of undergraduate public health exposure

For most, undergraduate public health experience played no role in motivating them to study public health. Some participants experienced undergraduate public health education as “completely boring and so irrelevant”, unrelated, or inferior to their clinical studies, full of facts that needed to be remembered. Few were exposed to community settings that highlighted social determinants of health. A dominant sentiment was that undergraduate public health exposure was too rushed or dense as the course demanded many tasks with little time to reflect on what students were doing:

I don't think any doctors get that kind of exposure and that to me is public health. It's understanding where people get their drinking water, what kind of electricity supply they're using, where are children playing, who is looking after them, what are they exposed to, what are they eating? (II 2)

It was just doing a project, getting it done, finish studying, getting it over with and swot learning as well, not understanding what you're doing. (II 1)

For others, the style of teaching in public health was at variance with clinical medicine, which was difficult to manage. Clinical disciplines focused on accumulation of information whereas public health encouraged reflection on what students were experiencing:

The climate at the time was about absorbing and regurgitating facts and when public health, community health things came along, they asked you to think about issues you know, "What are you talking about? *Think* about issues" when all the time since your first year you're learning about anatomy and physiology and learning about drugs and suddenly there's this [man] asking me to think about things and tell you there's no right answer, there's no wrong answer. You're crazy I'm not going to waste my time with this, I'm moving on. (FGD 2)

A pervasive theme was that the speciality was invisible in undergraduate training. It was not discussed and public health subject matter was confused with and subsumed by Family Medicine and Primary Health Care. As undergraduates, participants were not aware that Public Health Medicine was a medical speciality that could be a career, like clinical or laboratory specialities. Many discovered that there was a speciality after graduating when they enquired from university departments about MPH training, or from colleagues who knew about the training:

I also thought public health – family medicine, just the same thing. Honestly I couldn't tell there was a difference. (FGD 3)

.. and asked him for advice and he told me that I could apply to be a registrar, which I didn't even know about then. I was just thinking of doing the MPH. (II 2)

There were comments about the paucity of undergraduate exposure to public health registrars – "we never saw people specialising". Registrars were thought to be good role models for medical students aspiring to work at a population level. For one, the interaction with registrars had impact, and became a career role model:

A registrar took us for one of our lectures in fourth year and she was talking, talking, talking and I thought “Wow that’s interesting and, oh you’re actually a doctor, oh you completed your medicine,” and that’s when I started thinking this is quite a good programme. I’ve already put four years in this thing and my parents are going to freak out, and you know there’s actually a way to carry on, to do this thing and do both... it really helped a lot because it was the first time I got to know there was such a speciality. (FGD 3)

Some participants commented on the positive formative community exposures that they encountered as undergraduates. For some it had later resonance which was returned to “many, many years later”:

It was a project and we went to a rural area where I felt like we were a bit in the way. We left our luxury cars, we took a bus, we went to a clinic and it was the first time we actually saw the struggles of people, how far they had to travel just to come there.” (II 1)

#### **4.6.2 MPH or specialist training?**

The choice of PHM as opposed to other training in public health – for example the MPH – was probed. Reasons given included the obstacles of studying part-time which the UCT MPH required, the nature of the training, and the value of a specialist qualification.

A few had embarked on an MPH whilst working and found long distances or part-time work difficult to juggle with studying. Doing the specialist/MMed training had the advantage of full-time employment:

I was also doing an MPH last year whilst I was working ... but with all the expense involved, all the time having to beg people time off work to attend classes and managing a full-time job and the challenges with that. (FGD 1)

I was going to be working and doing it – which meant I would be doing it part-time and the MPH would take me four years just like the MMed would take me four years. (FGD 3)

In addition, the work experience and study with pay were important attractive factors. The breadth of theoretical training in the registrar programme was seen to be advantageous. Some, however, remarked that they took a cut in pay in order to do the registrar training:

The curriculum for the registrar in public health was much broader than the MPH, there was much more to learn and to study... Even though I wasn't the most keen occupational health student as a registrar, but being exposed to occupational health, health services management, epidemiology, bio-statistics all of that – there was just a lot more on offer. (II 2)

I took a decrease in salary, and ja... and I kind of went off the radar for four years, but it was a conscious effort I made because I knew that the experience that I would get out of the four years... I was going to try and learn as much as I can, I wasn't just going to sail along the course and see what comes next. (II 3)

A pervasive reason for selecting the full-time registrar course was the mix of experiential and theoretical training. Specialist training provided the breadth of desired exposures for future careers. The value of the experience was working in various capacities and exposure to the system with opportunities to find niches for future work. It offered “the relevant experience, while you're earning a good salary and you can do the same subjects and more, than people do in a MPH.”

I think on the MPH you learn a lot of the ‘What?’ and the MMed you get the tools of the ‘How?’ to actually make that change and really get equipped and empowered to do that. That appealed to me. (FGD 2)

So the MMed is really an opportunity to work where you will work one day and get experience ... I think that, that is a big difference. (FGD 1)

Some saw that doctors selecting to do the MPH or Masters in Epidemiology training had different intentions to theirs. They believed that doctors did those courses to hone skills in research or health systems for existing work. They saw that the MPH was suited for clinicians who wished to “get into research”, “understand general public health topics” in their current work.

Masters degrees were seen to be theoretically orientated, not practical and conferred qualifications of variable standard, and so had questionable value. An important reason for selecting registrar training was the known accredited high standard of the MMed/fellowship qualification:

MPH is not standardised... The MMed everyone is writing under one college, one exam versus the MPH which is different universities. (FGD 3)

For many, specialisation was an important force for training. The value of being a specialist was elaborated by many as “you’re an expert in the measurement sciences, management sciences and all those domains ... you’re the ‘go-to’ person for certain issues”, whose opinions are valued and who have credibility:

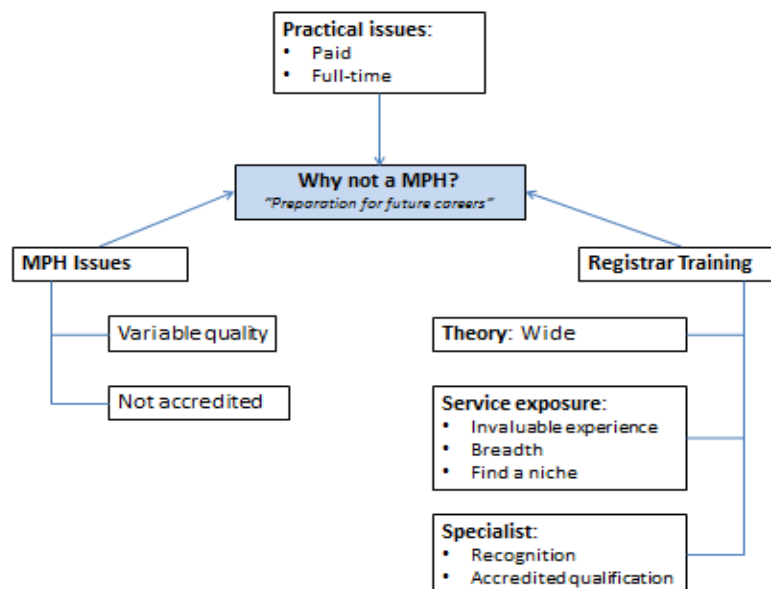
Having a speciality qualification and having recognition from your peers was a big drawcard. (FGD 3)

Specialising is the culmination of medical studies and has prestige. For many, being a specialist was part of their desired identity as a doctor which put them on a par with other specialists, and differentiated them from other public health trained professionals. It also conferred additional benefits such as financial advantages and higher salaries: You’re almost putting a lower ceiling over yourself by not completing a speciality, irrespective of how much experience or how much else you do. You’ve never finished, if you never specialised. (FGD 2)

As public health specialist it’s kind of the only way to maintain, I wouldn’t say your identity, but that other people know you are a doctor. Maintain your identity as a doctor... (FGD 2)

The MMed is above an MPH and ... takes you to a salary scale ... Logically speaking I should be doing the MMed. (FGD 3)

The various factors that resulted in participants choosing PHM training rather than the MPH training is depicted in Figure 4.2.



**Figure 4.2: Factors impacting on choosing registrar rather than MPH training**

### **4.6.3 The training experience**

For students from all three institutions, the registrar programme involved theoretical training whilst working in health services or institutions – ‘rotations’. Attendance at course work was extensive and compulsory in some programmes or limited and optional in others. Their reflections on theoretical training, service experience and supervision, both positive and negative, are outlined below.

#### **4.6.3.1 Theoretical training**

Many enjoyed the training, and found the variety of course work interesting and useful. Competencies in quantitative research methods and epidemiology were particularly valued, both for current and future work, including research:

The academic training was really excellent ... expos[ing] us to high quality methods and evidence-based practice, how to approach things. I still use that all the time. (II 2)

Registrars from all three institutions also readily remarked on gaps in their theoretical training, which they believed were required for service work. They cited management skills, as well as course work on monitoring and evaluation, health economics, qualitative research methods, environmental health, evidence-based care and decision making and, writing skills. Some participants actively sought out supplemental courses and material:

I think we’re required to be more pragmatic and health systems focused and also looking at ... management type issues that I don’t think we’re adequately prepared for in the training programme. (FGD 1)

I’m approaching people for mentorship because I feel there are certain things we’re just not getting enough exposure to, especially things that I’m particularly interested in – so I’m approaching them to get me involved in what they’re doing. (FGD 3)

Some registrar programmes did not require attendance of formal courses and completion of modules was optional. Registrars in these programmes were overwhelmingly in favour of compulsory foundational course work. They felt unprepared for work they were expected to do in service settings. A few remarked that registrars could be unproductive if poorly trained:

I personally would have liked that foundation first. So theory work I would have liked while doing the experiential practical stuff. (FGD 3)

We should be taught how [to] write a research protocol, how to do a literature review. We're attending other courses and I feel that should be in our programme. You're just expected to know the stuff. (FGD 3)

The newly qualified specialists interviewed, perceived that training in advocacy, which should be part of public health practice, was absent in their training. This training could assist in motivating for health service delivery in underserved communities:

Advocacy was also a big thing that I had to learn and I enjoy it and ... that is a huge amount of information ... because it involves using research and using information and also .. using operational research as advocacy – a really important public health [skill]. (II 2)

#### **4.6.3.2 Service exposure**

Registrars' service work was in various capacities in health departments at provincial and district offices, and in hospitals. Some had exposure to public health agencies such as the National Institute for Communicable Diseases (NICD) and the National Institute of Occupational Health (NIOH).

Their exposure to the 'business' of the health system at all levels and in a range of institutions was widely appreciated. Those assigned to work in service reviews, such as the (DHERs), valued the exposure. Recently graduated specialists highlighted their attendance at strategic and operational management meetings which helped them understand decision making:

So we got to be exposed to a lot, we got invited to high-level meetings. Whenever there was a very important meeting all the registrars got invited and that gives insight into how the department functions. (II 3)

The value of work placements was positive but had challenges. Some felt ineffective, overwhelmed, out of their depth, or unsure of the demands expected of them, while others felt they made a contribution that was appreciated:

All of us have been there – after six months where we've thought, "What are we doing?" and we feel that we've delivered nothing ... you've been going there every day, but how tangible is that? (FGD 3)

When you're working, you still feel incompetent, if I can use that word, even though there's so much work that you do academically. So you kind of have an idea of everything that is done but you can't really say that I'm a specialist in this particular area. (FGD 1)

Our managers actually regarded us quite highly, and that made a huge difference. We weren't just the registrars there in a corner, we were the registrars who were going to come and help. (II3)

Frustrations with the service work were voiced. Some felt registrars were located in structures removed from service beneficiaries, when being close to issues and positively impacting on services were their reason for choosing public health in the first place. Recommendations for improving service work included wider exposure to communities and service settings. They also saw that decision making in the services was centralised, removed from districts and not based on community needs:

It's hard to get people out of the provincial office. The best they can do is have them in a district. I think in a district ... you will have opportunities to have contact with communities... Try and incorporate more exposure to the ground, to the patients, to the community in the service part of the training and advocacy. (II 2)

At the provincial level there was very little community-based information us[ed] to make decisions. It was centralised health services decision making and public health is about involving the community. (II 2)

Some registrars believed that in some service placements they were used to fill personnel gaps, holding initiatives and programmes together, which was frustrating:

One of my frustrations is ... a void of somebody that ought to be doing a specific task... We have this impression that [as] we have public health registrars around let's put them there. [This] may not be the best position for experience. (FGD 1)

There was a lot of responsibility that registrars took, had to take, and so you felt like you were plugging holes in the system rather than learning at times. (II 1)

Some registrars were frustrated with the slow pace of work outputs, which differed from the quick turnaround for clinical work they were used to. They also believed that inadequate operational reasons were given for perceived feasible innovations that were not implemented:

Also for me what I don't like is the fact that everything goes on and on and on forever. You never finish something up in those six months ... the project drags on. Yes it drags on. (FGD 3)

I remember telling somebody once that in [] province if you pitched an idea there was a long list of excuses that you had to argue against... “We don’t have the budget, we don’t have the staff, it’s not on the APP, someone else is doing this, we’ve tried that before, it didn’t work.” (II2)

#### **4.6.3.3 Academic supervision**

A widespread sentiment was that academics overseeing the registrars’ programme were removed from service challenges, and did not understand issues as they did not work in the services. Participants believed that they should be more involved in directing registrars’ service work as they understood their theoretical training and consequently, their possible contribution. Without supervision, there was a risk that registrars would not deliver:

The gaps are that we don’t get enough mentorship from our profs. We’re ... left to fend for ourselves. I’ve come to understand that at [] they’re not very strong in health systems and that’s why. I think they themselves feel a bit out of depth and many times we knew more about the health system than they did, but I do think they can capitalise on their strengths. I do think that they have a lot to offer. (II 3)

Specialist supervisors should be responsible for identifying tangible projects that are deliverable in the six months so that you can do the theory aspect of it as well. (FGD 3)

I think you can get away with quite a lot in your Public Health Medicine training if you’re slack, or if you’re not supervised properly. (II 3)

Since 2009/10, in the Western Cape, consultants are required to be based part-time in the provincial Department of Health in specific sub-directorates. Registrars viewed their support as having become more useful and they were role models for possible future work:

In this last year there has been a lot more involvement of the specialists within the actual services. I think that sort of up-skills them and makes them more able to supervise and direct us. They apply their more rigorous approaches into real world situations ... Before we would speak about some of our service work and feel like they didn’t understand the services and what we were doing and weren’t able to help us. (FGD 1)

#### **4.6.4 Career options**

Future work and career options were probed. Two main themes emerged which are dialectically related. The first is that there are ill-defined career paths – yet within this uncertainty there are career paths that are emerging.

##### **4.6.4.1 Ill-defined career paths**

Many perceive that “there’s certainly no career path as such”, and believed that they would need to market themselves, create jobs and carve career paths if they wanted to achieve what they intended. As no public health specialist jobs exist, they would need to draw on their training and opportunities for work and careers:

My attitude now is forget about looking for work, forget about someone employing you just finish and create work for yourself, just do what you want to do. That’s my attitude because I think the job market in terms of public health is very unfair. (FGD 3)

The roles many desired were in health systems or research directed to improve policy and the functioning of health services particularly in resource allocation, issues that initially motivated them to specialise:

Be part of a system and actually get to work on really fixing those issues that initially got you to specialise in public health. (FGD 2)

So I would want to be part of a proper plan to reform ... properly plan a system that can speak to each other. I want to have a job that looks at health systems, human resource ... (FGD 1)

At the same time, some questioned the effectiveness of working for the public sector, as they believed politicians directed public health decision making. As a result, many thought that they may end up working in NGOs that support service improvement:

Because I see how the CEO at [] she’s given this responsibility, but then her hands are tied... If the politicians decide this is what you are going to do ... and I’m thinking “What’s the point? How are you going to change things if your hands are tied?” (FGD 3)

It actually makes NGOs and the private sector more attractive ... which just repeats the cycle of government, national and everyone not knowing where we are. (FGD 3)

But around the department who would say: “Who are you, this young boy coming from school, and what is that you’re going to tell us?” ... So it becomes difficult ... that resistance. Why would one want to go through all the trouble? Why not go for an NGO job or just any other management related job which I think there are? (FGD 1)

#### **4.6.4.2 Emerging career paths**

Registrars saw jobs emerging for PHM specialists at all levels of the health system. The importance of districts and communities were highlighted in discussions and participants considered working as district managers, in the PHC re-engineering or, as specialists supporting the services. The value of specialist training was the combination of knowledge and skills and, an ability to apply them in a range of settings, for which they felt prepared:

You can turn around a district if you use your information wisely... That’s the intelligence, it’s about looking at the models that we learn about, dealing with disease or promoting health, the eco-social models, the life course models – and it’s all happening in a district. (II 2)

... be part of looking after all the teams because ... there’s a huge amount of co-ordination ... the burden of disease has to be managed ... M&E, research, strategic thinking and planning around how this entire system works .. They must have an in-depth understanding of how the district clinical specialist teams function, as well as these broad-based CHW teams. It’s something that the district management team... cannot solely be responsible for because it’s just too great a task. (II 3)

Registrars saw specialist skills sets as core to senior management and some suggested that specialists were ideally suited to be the head of complex institutions in the health services:

I think a public health specialist can be at any of those levels ... and ideally should be the head of Health. I think it’s the only sort of speciality that’s able to encompass everything you need at that level. (II 1)

The Public Health Medicine specialist can go and manage a district ... and bring all of that to the management of [a] hospital, so I don’t see it as a waste of the training for them to do that. But then I do believe that if they run a district and they run a hospital they must run it well, and it must be turned around. (II 3)

Some envisaged PHM specialists could manage units that would provide the broad ‘intelligence’ required for informed decision making, prioritisation and planning in the health services. These could source, interpret and present information and evidence for clinical and population decision making, and identify gaps for operational research:

I see a ... technical kind of role where, from an expert point of view, they are able to look at the big picture... They can look at the outputs of the services, the data ... They can advise in terms of interventions and innovations ... from an evidence base, so a very systematic approach... They should understand how the services work, they must be able to provide that technical expertise, and do what the busy managers just can't get to do. (II 3)

Although no-one identified academic work as an immediate career, the importance of an academic component or link was evident, and roles in teaching and research were noted. For a few, the combination of working in both universities and the services was attractive and included teaching future health professionals and conducting research relevant for the services:

I would like to be involved with the health system, with the department ... but also have some academic affiliation because I think you are afforded a little bit of an outside perspective when you're not kind of embedded in it. (FGD 2)

... education or teaching: I think I'd want to be more experienced to be able to do that... If I were to go straight into a[n] ... academic teaching post, that I wouldn't have the right health systems type experience to back up what I say. (FGD 1)

I really liked the sort of synergy that we have at the moment with academics and with the services ... I quite like the idea of ... education and research being so closely coupled. (FGD 1)

New specialists remarked on the breadth of training, which enabled them to multi-task. This was obtained from practical experience, immersion in the services and participating in, and learning from, other registrars' work. Competencies learnt were applicable to a range of demands, and they had adapted research and planning skills for business planning and proposal writing. They felt that this breadth of skill and versatility was not found in other public health professionals:

To compare a Public Health Medicine specialist in my opinion, to somebody who's done just a public health [course] ... is that we can write and talk about most things... You can ask us to write any proposal... We just have a sense of what's going on out there in the world. I think we have more to offer... You need the time in the trenches, there's nothing that can replace time and exposure to a very broad curriculum. (II 3)

#### **4.6.5 The future of Public Health Medicine**

There was a widespread sense that the future of the speciality was bright, and recent acknowledgement from senior health managers provincially and nationally boded well.

Participants perceived that health policy makers saw the value of public health skills and professionals in a range of service roles (technical in provincial and district offices and managerial in institutions) as well as in research and teaching, where specialists could work:

I was so excited! Like everyone from the Minister's office down to the medical school was talking about the changes, so to me it felt like the dawn of public health in South Africa or the re-awakening. (FGD 1)

I think there is a move nationally towards recognising the expertise of Public Health Medicine specialists wanting them more within the public health system. I know they have employed some public health specialists in [] at district level ... Even in our province they have employed a lot now mainly at provincial level and ... a lot of past public health people have gone [the] management route so they're ... a few CEO's of big hospitals or even a district director. (FGD 1)

Some participants identified threats which included: 1) competition from other public health trained professionals; 2) the power of politicians; and 3) specialists who do not deliver which adversely affects PHM's reputation.

There was a widespread concern that PHM specialists would not be the preferred candidate for employment if a well-qualified job seeker with an MPH and who commanded a lower salary, competed. Although PHM was recognised in some provinces, many thought that the added value of a specialist was not widely known. A few saw as a potential threat the trend of clinical specialists choosing to pursue MPH training so they could combine clinical and public health expertise, making them excellent lead clinicians in service settings and researchers:

.. MPH and they might very well get the post because they are cheaper and it makes more financial sense... They don't understand the differences, they might think it's the same thing, this one is cheaper so why not go for this one. (FGD 3)

It [PHM] isn't actually recognised, and it makes the competition pool much wider because there are a lot more people with MPHs than there are with MMeds. (FGD 3)

However, for some there was a belief that the specialist qualification would be an advantage in the job selection process:

I'd rather be the one with an MMed and not have to... compete with someone for a job you don't have to. So I think that was also a bit of motivation. (FGD 3)

I didn't want to have that with the MPH, I didn't want to say okay where do I fit in now again, whereas with the MMed I could see a sort of progression into a role. (II 1)

#### 4.6.6 The profile of Public Health Medicine

A theme emerging from focus groups and interviews, was the historical invisibility of the profession of Public Health Medicine. Whilst this seemed to be changing, participants perceived it was still invisible to a range of audiences, including other medical specialities and health professionals, undergraduate medical students, health service managers and the public at large. Historically specialists' roles were unclear and the added value of a specialist for the services was not defined. Some found this uncomfortable:

So the public has no idea what we do *[laughter]*. Other specialists have no idea what we do. When we go to hospital management meetings and you see them looking completely puzzled – and occasionally I have GPs ask, “Oh is that a speciality? What do you all do actually? It's four years and what are you all doing?” And you know that's difficult. (FGD 3)

I mean I've spoken to people from the National Department of Health and I've tried to say to them, “This is who we are and this is what we can do” and they'll say, “But what have you guys done?” ...They really don't see and I think that's a huge challenge. (FGD 3)

They don't really understand public health. I'm sure that a lot of people think it can be done by somebody else. Health information can be done by someone who's good at it, someone who's interested or someone who has experience. (II 2)

The invisibility of the profession is also implicit in many issues and themes raised. These include the perceived vague identity of PHM with an ill-defined scope of practice; the criticism that specialists were removed from, did not work in, services and were largely based in academic institutions; and an assertion that the profession had not marketed itself. Participants believed that these aspects needed to be remedied, and the profession should make itself and its competencies known through specialists working in jobs created in current policy reform:

Nobody ... understand[s] what Public Health Medicine is. So I think there ... needs to be good marketing for public health. We need to get out there and we need to show people what it is that we do. (II 1)

## **4.7 DISCUSSION**

This study, exploring motivations for specialisation, anticipated career paths and perspectives of the speciality of Public Health Medicine, found that registrars were largely optimistic about their futures, and the future of the speciality despite its uncertain identity and ill-defined career paths. They decided to specialise in order to pursue careers to transform the services they experienced as young doctors and to impact on the health status of communities through addressing social determinants of health. They noted that, whilst the speciality was becoming more visible, this was uneven, which translated into few positions in the service for specialists, but registrars needed to, and could find, jobs to achieve what they intended. They were clear about the difference between their training and the MPH degree but many thought that this was unclear to potential employers.

Findings for, and recommendations related to, the identified themes are discussed below in the light of studies conducted elsewhere. These are motivations for training; views on the training; career paths anticipated; the identity of the profession; and, perspectives on its future. As was noted in Chapter 2, with the exception of one British study,<sup>119</sup> no comparable studies were found exploring the motivations for public health medical specialist training. Most literature explored training outcomes of MPH graduates using quantitative methods, and with the exception of a British study on motivations for GP training<sup>330</sup> and a Canadian study on undergraduate perspectives of public health teaching,<sup>331</sup> no studies using qualitative methods were found.

### **4.7.1 Motivations for training**

The study found a range of motivations underlying the selection of specialist public health training. Push and pull factors are a recognised dynamic impacting on migration of health professionals, and may present a useful framework for understanding PHM trainees choices. For shifts to occur, factors in both the originator country/work context and, destination country/profession must be in place before a move takes place. Reasons for moving must co-exist with an attractive destination.

As illustrated in Figure 4.1, factors motivating these registrars' career moves included junior doctor experiences in South Africa's health system and influences attracting them to public health careers. Whilst some had enjoyed clinical work, its perceived limited impact combined with negative work experiences, led registrars away from clinical work to public health. Factors attracting them to public health were their desire to impact on communities' health and to be agents of change transforming the health system, as well as personal factors such as working hours and a mathematical bent. Undergraduate public health exposure played little role for most.

These motivations mirror those found in a 2004 British qualitative study on reasons for specialist General Practice training,<sup>330</sup> and a 2014 New Zealand study on PHM doctors' identity.<sup>123</sup> Like the PHM registrars, the British GP registrars and New Zealand PHM specialists had not anticipated specialising in the field, and felt the specialities were not widely respected in undergraduate and hospital settings, nor by the medical profession. As with local PMH registrars, disenchantment and disillusionment with hospital work motivated the British registrars to move to GP work. Professional development and improved working conditions drew participants to public health specialist training. These same factors, together with perceived reduced personal risk, also informed nurses' career choices related to migration to new countries.<sup>332</sup>

Push factors, such as poor working conditions, lack of resources to work effectively and unstable working environments are well described motivators for the migration of health workers.<sup>333</sup> Feeling undervalued also impacts on health workers' job decision making,<sup>334</sup> and resulted in poor retention of doctors in the public sector in South Africa.<sup>335</sup>

However, informants were able to transform their negative clinical work experiences into positive energy, motivating them to transform health systems. There are the numerous reports and commentaries on the challenging, stressful and "inhumane" working conditions of South African junior doctors.<sup>336, 337</sup> Policy makers need to note these and devise comprehensive strategies to address health system issues driving health care workers away from clinical work.

Pervasive motivations for specialising were the desire to positively impact on the health status of populations and to correct the dysfunctionality of the health system. Participants valued the public health approach, intent on improving the health status of communities and populations, the skills set to address determinants of health, and the practice of working in health systems as planners, implementers and researchers, and these were motivations for specialisation and roles for PHM specialists in the New Zealand study.<sup>123</sup> The need for health systems strengthening, a major theme for participants embarking on specialist training, accords well with international perspectives which identify health systems work as a priority.<sup>54</sup>

Essentially, motivations to improve health status and health systems are altruistic. These motivations are reflected in studies exploring reasons for selecting undergraduate medical training in a local UCT study.<sup>338</sup> This research found that throughout their training, medical students' motivations for study derived from being "people-focussed", wanting to make a difference to people's lives and impacting on "needs they observed in their community".

Doctors in the MPH study (Chapter 3) similarly used the additional qualification to advance their careers, but most focused on acquiring skills – particularly in research, or learning population approaches to health – but commitment to service transformation did not motivate them to study.

For most participants in this study, undergraduate public health exposure did not motivate doctors to pursue specialisation in PHM, which is consistent with New Zealand,<sup>123</sup> and British studies for public health specialisation<sup>119</sup> and GP training.<sup>330</sup> It is not surprising that most informants were not motivated to embark on public health careers from their undergraduate training, as undergraduates entering training largely envisage being, and are trained to become, clinicians.<sup>123, 339</sup> The poor profile of South African undergraduate public health training is concerning, however, as most informants completed undergraduate training after educational reform that embraced broader bio-psycho-social approaches to health and illness. South African doctors in the MPH study (Chapter 3) also reported their undergraduate training did not motivate them for postgraduate training. Participants from both studies

recommended that undergraduate public health programmes should emphasise the integration of public health in clinical teaching which, together with community exposure and research that “digs in the determinants of health” followed by health promotion projects, demonstrates the value of public health, and could attract doctors to this training. Notably, it was the presence of role models and community exposures that were identified as formative experiences by respondents, similar to other studies.<sup>116, 316, 331</sup>

Becoming a specialist was an important driver for specialist training. This signalled success to other colleagues, their families and the public. Training bestows an accredited qualification allowing registration as a specialist, conferring prestige and the ability to command a specialist salary. The Institute of Medicine (IOM) report also noted that an advantage to a residency programme was board certification as a specialist.<sup>107</sup> Informants’ selected a speciality suited to their aptitudes – a mathematical ‘bent’, and desire for regular, predictable working hours, and these were also found in British public health and GP studies.<sup>119, 330</sup>

#### **4.7.2 Training experiences**

The specialist training route was selected by informants largely because it was both experiential and had wide theoretical training. Exposure to a range of service settings prepared participants for future work, enabling them to become versatile practitioners with skills that could be used in many contexts, a feature that participants felt distinguished PHM specialists from MPH graduates. The value of practical training – preparing and attracting graduates to local public health work<sup>71</sup> – is discussed in recent public health education literature.<sup>340</sup> ‘Practica’ are small components in some American MPH programmes,<sup>94</sup> and an option for a few in UCT’s MPH programme, but does not offer immersion in the range of public health work as does a four year registrar programme.

The breadth and depth of theoretical training was particularly valued by participants. The broad syllabus of the College of Public Health Medicine (CPHM) fellowship requires knowledge beyond the epidemiological focus of many MPH programmes, and

incorporates management and occupational health course work as well as scope for elective courses.

Some participants identified important gaps in their training which should be rectified. These included monitoring and evaluation skills that generate evidence for decision making, an area which has been identified by the WHO<sup>54</sup> and employers globally and in South Africa,<sup>80</sup> as core to health systems strengthening and public health functions. Competences in management and leadership, felt by some to be underemphasised in current training, are emphasised in Ghana's postgraduate teaching programmes.<sup>205</sup> These are core to public health physician responsibilities in the USA<sup>174</sup> and in Ghana.<sup>205</sup>

Some participants felt that academic teachers were not sufficiently embedded in the services and consequently their support and teaching did not always talk to the skills sets needed in practice. Lack of congruence between what is taught and what is needed in public health practice was also found in a multi-country study<sup>108</sup> and in the USA,<sup>169</sup> to be overcome by developing partnerships between health agencies and academia – 'academic health departments'.<sup>107</sup> Recent contractual changes in some provinces, where academic PHM specialists have service responsibilities, improved supervision and mentorship for registrars, and will both embed public health competence in the service and impact on academic research and teaching. PHM specialist roles in decision making are models for future specialist service-based work for registrars.

### **4.7.3 Career paths**

Future work and job uncertainty were concerns for most participants, and concerns about career paths for PHM specialists run through the history of the speciality in South Africa. The absence of a defined career structure, ill-defined roles, and competition for jobs with epidemiologists and managers, were highlighted in the 1993 meeting of university departments, doctors working in public health, and the then Faculty of Community Health.<sup>285</sup>

Career paths and roles for public health trained doctors are also contested in other countries. In Ghana it was asserted that the profession was not widely appreciated by officials in the Ministry of Health,<sup>211</sup> and a British study found that many people working in public health are “underdeveloped, underutilised, and unregulated” with little career direction.<sup>341</sup> In India, public health qualifications were also not required for positions in the state health sector.<sup>118</sup>

Possible career paths, in line with motivations for specialist studies, were identified by participants. These included strengthening the health system at all levels – district, provincial and national. For some, this could be in ‘public health units’ which were proposed in the Human Resources for Health (HRH) 2011 policy document<sup>26</sup> and which, as Myers argued in 1994, could play a “critical intelligence function in a context of shifting health priorities and needs with appropriate health interventions”.<sup>102</sup>

Work based in districts was desired by many, and a public health role for doctors at a local level has a long tradition. It was historically the location of public health doctors – Medical Officers of Health (MOH’s) in South Africa and in the UK – and public health physicians and specialists continue to be seen as critical in local health services in contemporary England.<sup>163</sup> Local level public health professionals are important in African countries such as Uganda, where graduates of the Public Health School without Borders are located in 85% of health districts,<sup>76</sup> and in Ghana where the School of Public Health trained almost all Ghana’s Health Service’s district directors of health.<sup>212</sup> African epidemiologists also recommended that health professionals trained in epidemiology should work at district health level.<sup>59</sup>

It is concerning that PHM trainees identify their career paths as unclear as this may deter prospective trainees from specialist careers. In order to produce the number of PHM specialists outlined in policy documents,<sup>26,29</sup> service posts need to be created, filled by specialists who become role models and this would attract doctors to specialist training.

Registrars identified that senior health leadership should be the domain of PHM specialists, and whilst this would be impossible to enforce, the skills set achieved through this training is critical for competent senior managers.

#### **4.7.4 The identity and future of Public Health Medicine**

An important theme was that Public Health Medicine was largely invisible. It had no defined place in the health services, was largely unknown by health professionals, was invisible in undergraduate teaching, had an ill-defined scope of practice, impact and identity. A non-specific and invisible PHM specialist identity was also noted in a New Zealand study on PHM doctors<sup>123</sup> and the invisibility of the work of public health for undergraduate medical students was also noted in a Canadian study.<sup>331</sup> Similarly, the 2007 American IOM report highlighted that public health was not emphasised in medical training, and that compared to clinicians, public health physicians were poorly remunerated, and were not held in high regard.<sup>107</sup> Amofah argued that in Ghana, public health doctors' roles were not appreciated by the medical profession, who saw community involvement as the terrain of "lesser" professionals.<sup>211</sup>

Some informants turned this ill-defined identity into a positive one – a speciality that encouraged questioning and curiosity, the "speciality of non-specialists" – but others found this lack of clarity uncomfortable, and something that needed rectifying. Nonetheless, participants believed they would find or make career niches that suited their preferences.

The requirement of public health qualifications for doctors for service work fell away in post-apartheid South Africa but primary health care and roles for doctors are affirmed in current policies. Participants were largely optimistic about the future of the profession, believing that PHM would find a niche in this environment. They perceived that public health competencies are increasingly being recognised in the health sector. This accords with a recent study amongst South African health managers that highlighted their need for skills in community needs assessments and data management.<sup>275</sup>

#### **4.7.5 Limitations – the nature of the study**

This was a qualitative study and its scope needs to be appreciated. It did not intend to generate findings generalisable to all registrars in PHM training in South Africa. Each university training programme differs in their teaching, in course work requirements,

service placement and responsibilities. The study, however, probed participants' perceptions and experiences about public health in depth. Participants comprised graduates from most South African undergraduate medical programmes and had worked across the spectrum of work settings as young doctors.

Data specific to each programme were not presented as this would violate anonymity and confidentiality of participants. In addition, themes that emerged were not verified with informants because of anonymisation of participants in the focus groups and in-depth interviews.

#### **4.8 CONCLUSION**

In spite of few positions in the public sector for graduates from public health programmes in South Africa, doctors undergo demanding training leading to registration as public health specialists with the HPCSA. Participants in the study were a driven group of doctors who wanted the training to enable them to impact on health systems, improve health services and the health status of South Africa's population. Motivations for specialising arose from negative clinical experiences as junior doctors but were also largely altruistic in terms of wanting to impact positively on health system changes. They also sought recognition and status for public health expertise.

Specialists in training recognised challenges facing the profession but were largely optimistic about its future. They valued the breadth of skills developed through an accredited programme that incorporated theoretical training with practical exposure and saw a role for specialists in institutions at all levels of the service. They believed the programme was quantitatively and qualitatively different to MPH programmes which had narrower theoretical content, minimal practical engagement, were qualitatively uneven nationally, and not accredited. These doctors wanted the training to launch specialist careers, and saw MPHs as honing skills for doctors in established careers.

The study reveals that desired work niches for new PHM specialists were in health services at district, provincial and national levels – in strategic and senior management positions, that contribute to “intelligence” for decision making, which accords with

current health reform policy.<sup>26, 27, 136</sup> The study highlights that teaching and curricula that demonstrate the value of population and public health approaches, should attract undergraduate medical students to public health careers, and grow the speciality. Outcomes of public health research, produced by public health specialists who are tuned into service needs, can contribute to “intelligence” informing policy, and was identified by participants.

Following the study’s findings about career paths being unclear and PHM’s uncertain identity and roles, it is important to identify what PHM specialists’ career paths have been. The next chapter explores the careers and work of specialists and their perspectives of the nature of the speciality, in order to shed light on the contribution of the speciality to South Africa’s health system and to give insights into PHM’s perceived invisibility. The positive sentiment expressed by registrars about potential roles in current health reform will also be explored amongst public health specialists who have lived through much contemporary health reform.



## **CHAPTER 5:**

### **CAREER PATHS OF PUBLIC HEALTH MEDICINE SPECIALISTS**

The medical speciality in public health has existed in South Africa for 30 years. Doctors who satisfactorily complete accredited training are able to register with the Health Professions Council of South Africa (HPCSA) as specialists.

The previous chapter (Chapter 4) explored the desired careers and motivations for specialisation amongst those training, and found that career paths were perceived to be unclear and roles and contributions, uncertain. The actual career paths and roles of these professionals form the basis of this chapter and their perspectives could illuminate the reasons underlying the perceived invisibility of the discipline, and its future contribution, two important issues raised in the previous chapter.

#### **5.1 BACKGROUND**

Until 1994, in South Africa, preference for the appointment of the officer responsible for environmental health, communicable disease control and health promotion in local authorities was a medical practitioner with some form of community health qualification<sup>238</sup> such as a Diploma in Public Health (DPH). Health departments headed by such Medical Officers of Health (MOH's) existed in most main cities. A speciality in Preventive Medicine briefly registered doctors with such qualifications, but this register has since 'closed',<sup>277</sup> when the later 'Community Health' register was founded.<sup>xxiv</sup>

The speciality of Public Health Medicine (PHM) was set up in 1975 to create a cadre of doctors who could hold senior management and leadership positions in the health sector in national, regional and metropolitan areas,<sup>280</sup> with broader competencies than were required by the MOH's. Modelled on the British speciality,<sup>147</sup> the service role was expanded to include academia, research and health policy and leadership that aimed to improve the health status of populations.

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<sup>xxiv</sup> Email correspondence with Prof Brendan Girdler-Brown, a past president of the College of Public Health Medicine, 11 January 2015.

Registration as a specialist in PHM was through the route of either a Masters in Medicine degree (MMed), conferred by universities, or through a College of Public Health Medicine fellowship qualification. The College of Public Health Medicine (CPHM), set up in 1975, was initially called the Faculty of Community Health, but became the CPHM in 1998. It started examining in 1982, but a few doctors with MMeds qualified and registered before this.<sup>xxv</sup> Titles of the qualification included ‘Community Medicine’ and ‘Community Health’, but in 1998 the CPHM fellowship nomenclature changed to Public Health Medicine. Whilst CPHM or MMed qualifications enable registration as a specialist in PHM with the relevant council – the HPCSA from 1983<sup>xxvi</sup> or its predecessor the South African Medical and Dental Council (SAMDC) – not all those qualifying registered as specialists or registered their additional qualifications.

### **5.1.1 Membership of College of Public Health Medicine**

The CPHM is a recognised body of peer specialists, accrediting doctors wishing to become PHM specialists. Membership does not automatically confer specialist status, and doctors must submit their qualifications to the HPCSA and pay fees to become specialists. The two main groups of CPHM members are ‘fellows’ and ‘associates’. Fellows are those who complete the prescribed training and pass the CPHM administered specialist exam. Associates are mainly doctors who completed MMeds from training universities and are later recognised by the CPHM through an application-nomination process.<sup>xxvii</sup> Together they form the bulk of the CPHM membership database, a composite of sub-sets of members which reflects the history of the profession.

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<sup>xxv</sup> Correspondence with Prof John Matjila, past Head of the Department of Community Health, University of Pretoria, 4 June 2014.

<sup>xxvi</sup> This is the first year that specialists with fellowships or MMeds on the 2009 HPCSA register registered.

<sup>xxvii</sup> Associate membership requires a registered practitioner to “hold a degree or diploma considered comparable to a Fellowship of the CMSA [Colleges of Medicine of South Africa]; and the person’s professional standing and interest and activities may be expected to strengthen the CMSA and the constituent College concerned”. (Colleges of Medicine, Criteria, Nomination of Candidates for Admission as Associates, The Colleges of Medicine, Rondebosch, 13 July 2009).

There are also ‘founders’ and ‘associate founders’, doctors who established the discipline without undergoing specialist training, who were ‘grandfathered’ into the profession when the Faculty/College was set up. These doctors worked in varying capacities in South Africa – as MOH’s running municipal health services; as hospital managers; in occupational health, particularly in the mining context; and as academics at various medical schools<sup>xxviii</sup>. Many had diplomas from local or international universities in these fields.

There are two further fellowship categories: ‘fellow ad eundem’<sup>xxix</sup> and ‘fellow by peer review’.<sup>xxx</sup> These designations recognise doctors who have not necessarily completed formal public health training but are acknowledged as leaders who have made an exemplary contribution to public health.

### 5.1.2 Motivation for the study

Chapter 2 noted that, post-1994, health in South Africa is a public good, and this underlies health legislation and policy. Public health approaches are required to assist transformation of the inequitable health apartheid health system to improve health outcomes, and this is recognised by government in key health policy documents – Human Resources,<sup>26</sup> the National Health Insurance (NHI) Green Paper,<sup>27</sup> and the re-engineering of Primary health Care (PHC).<sup>272</sup> PHM specialists are named as a scarce resource in South Africa,<sup>29</sup> but their contribution is not referred to in these policy documents, and consequently their specific intended roles are uncertain.

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<sup>xxviii</sup> Correspondence with Prof Brendan Girdler-Brown, Feb 2014.

<sup>xxix</sup> Candidates awarded a ‘fellowship ad eundem’, must have made “exceptional contributions to the CMSA and/or to one of the constituent Colleges”, and have “exceptional attainments in the medical or dental professions especially in the discipline in which the Fellowship *ad eundem* is to be awarded.” (Colleges of Medicine, Criteria, Election to Fellowship ad eundem, The Colleges of Medicine, Rondebosch, 13 July 2009).

<sup>xxx</sup> A candidate awarded a fellowship by peer review must “hold a degree or diploma which entitles him/her to registration with the Health Professions Council of South Africa, and ... [be] registered in the same discipline of medicine or dentistry as that in which he/she has been nominated for Fellowship by peer review... ha[ve] been active in the discipline for at least 10 years, ...is resident in South Africa at the time of the award; ... [and] been subjected to peer review by a formally appointed peer review sub-committee ...” (Colleges of Medicine, Criteria, Election to Fellowship by peer review, The Colleges of Medicine, Rondebosch, 22 February 2011).

As with other medical academic specialists, most academic PHM specialists have 'joint' appointments with provincial departments of health and universities. Although they are formally employed by provincial health departments, they have teaching and research responsibilities in addition to service work. Only PHM specialists are able to take a 'joint appointment' position. Since 1994 until recently, other than university academic posts, no health services posts required specialist qualification – through regulations or by custom (see Chapter 4.1).

The Occupational Specific Dispensation (OSD), a pay structure to attract and retain scarce health workers in the health sector, was implemented for nurses in 2007 and for doctors in 2009, improving remuneration.<sup>342</sup> New salary scales were introduced for specialists, including PHM specialists, but inclusion in this scheme required employment in specialist positions and specialists working in management or non-specialist posts were excluded.

However, it is unclear exactly what the work of these specialists is. Medical specialists in clinical disciplines largely practice in their specialist domain, although they occasionally work as generalist doctors in locations where there are few primary care doctors. Although non-specialist doctors are allowed to practice medicine in specialists' domains, this occurs where specialists are few, under supervision or where the doctor is trained in the specific area. In the clinical arena, the customary practice is to refer people requiring specialist skills – diagnostic, procedural and therapeutic – to specialists in other institutions in the public sector,<sup>343</sup> or to specialist practices in the private sector. There is no equivalent referral arrangement that routinely sends work to PHM specialists. In the state sector, the most comparable practice was to refer technical work to specialists with content and methodological expertise for their opinion or to lead projects. In most cases, other people or professionals with appropriate training and skills do such work.

In this context, it is important to find out more about the cadre of the specialist public health physician. How many are there? What do they do? What contribution have they made, and are they making, to health systems? Have these specialised doctors found work they were trained for and are they satisfied? In a terrain where there is no

role earmarked for them, what do they recommend about the future of the speciality and training programme?

## **5.2 PURPOSE**

The purpose of this third study was to understand the role that PHM specialists have played or are playing in South Africa's health system so as to give insight into the nature and location of public health specialist practice. In turn this could inform the potential role of the speciality. This should contribute to the design of the health workforce for the South African health system and, in turn, help focus training curriculum discussions of the schools of public health, academic departments of PHM and the CPHM, South Africa's examining body for specialist certification. Specifically, it should inform the teaching of PHM at the University of Cape Town (UCT) School of Public Health and Family Medicine, where the researcher is based.

## **5.3 AIM**

This study aimed to characterise the speciality of PHM in South Africa through examination of the career paths and choices of PHM specialists in South Africa, from the inception of the speciality until 2010.

## **5.4 OBJECTIVES**

This study had the following objectives:

1. To describe the demographic profile of PHM specialists in South Africa.
2. To understand the motivations underlying their choice of PHM specialisation and factors that impacted on their subsequent careers.
3. To document specialists' career trajectories and aspirations.
4. To describe respondents' recommendations for the future of the profession and appropriate current career paths for PHM graduates.

## **5.5 METHODS**

This study, involving a cross-sectional analytical design, surveyed all doctors who had successfully exited training programmes in South Africa since the speciality was

established. A questionnaire collected data on demographic details, training history, career paths and respondents' choices, and perspectives on possible roles for PHM specialists.

### **5.5.1 Population and sampling**

The population included all PHM specialists who successfully exited through recognised specialist training institutions, from the inception of the speciality to the end of 2010. Any graduate classifiable as a 'public health specialist' was eligible for inclusion in the study. A challenge was to identify people who had completed the training, as not all those completing training registered as specialists or registered their qualifications with the HPCSA. University databases did not always note if registrars successfully qualified.

The sampling frame was a database created from three possible sources of data:

1. The specialist register of the HPCSA for Public Health Medicine or Community Health as of the end of 2009.
2. Members of the CPHM – or its predecessors, the Faculty, or later, the College of Community Health – before August 2010, including fellows and associates.
3. Those successfully exiting from accredited university training programmes with MMed degrees allowing them specialist registration with the HPCSA prior to December 2010.

A single database was compiled from the three sources, which was cleaned, removing duplicate entries and ineligible groups:

1. Those on the HPCSA Occupational Medicine specialist register as their scope of practice is chiefly clinical.<sup>xxxix</sup>
2. Those who were deceased.<sup>xxxii</sup>
3. Those who had resigned from the CPHM.<sup>xxxiii</sup>
4. Those registered as specialists but who had not completed registrar training.<sup>xxxiv</sup>
5. Founder members.<sup>xxxv</sup>

After removing these groups a total of 177 potential specialists remained. There was some overlap across the three databases – and Figure 5.1 shows 78.5% of PHM specialists were members of the CPHM, 59.9% were registered as specialists with the HPCSA and 30.5% had MMed degrees. Only 19 (10.7%) met all three criteria – had both MMed and a CPHM registration and were on the HPCSA specialist register.

Forty-two percent of CPHM members (58/139) were not on the HPCSA specialist register. There was a lag period before registration for ten specialists who completed their CPHM exams in 2009 and 2010, making it impossible to appear on the 2009 HPCSA specialist register in this study. Excluding these recent 10 graduates, 63% of CPHM registered specialists (81/129) were on the 2009 HPCSA register.

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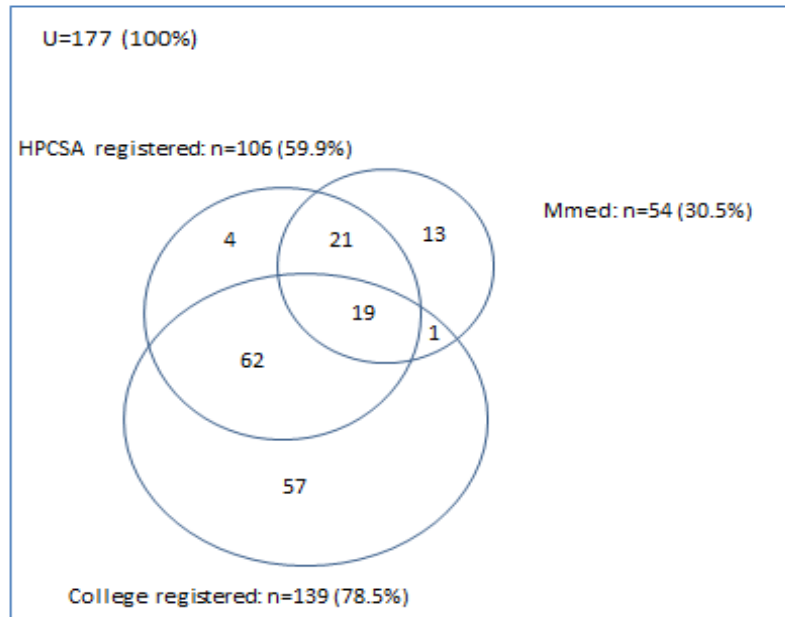
<sup>xxxix</sup> Occupational Medicine was gazetted as a speciality in 2010. The CPHM introduced the speciality in 2006, when 13 CPHM registered specialists were admitted by peer review, and 5 were admitted as associates.<sup>344</sup> By the end of 2010, there were 17 Occupational Medicine specialists. Ten specialists elected to stay on the Community Health register as Occupational Health subspecialists. Occupational Medicine specialists, who have clinical work as part of their core competence, were excluded from the study population but Occupational Health subspecialists were included, as the latter are PHM specialists with an occupational health focus.

<sup>xxxii</sup> Thirty eight doctors registered by the College were deceased as of the end of 2010 (CoM, PHM database 2010).

<sup>xxxiii</sup> As of 2010, 20 doctors had resigned from the College. Eleven were not on the HPCSA medical register and are therefore probably deceased. Two of these qualified as Fellows of the College. Of the 9 still on the HPCSA medical register, none was registered as a specialist, and all were associate founders. They first registered as doctors between 1948 and 1966. Some may well be deceased.

<sup>xxxiv</sup> Four founding members were registered as specialists by the HPCSA although they only had postgraduate diplomas, and not all founders registered.

<sup>xxxv</sup> 37 were 'founder members' on the CPHM register. In discussion with some, although being founders of the discipline, they had no formal public health apprenticeship-type training, did not see themselves as PHM specialists and declined participation in the survey.



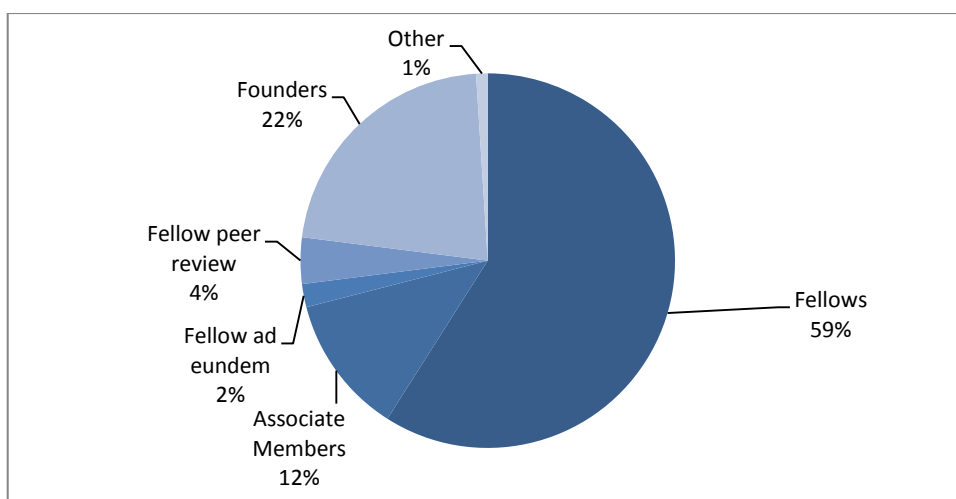
**Figure 5.1: The contributions of HPCSA, University and CPHM databases to the study database**

#### **5.5.1.1 HPCSA database**

The 2009 HPCSA register of specialists (Community Health and Public Health Medicine) listed 111 specialists. Five were excluded including one who had recently died and four who had DPHs. Of the remaining specialists, 76% (81/106) were registered with the CPHM. Twenty-one (19%) registered as specialists through completing a MMed, and four had other or unknown qualifications permitting admission. The HPCSA database had many errors and listed a number of specialists as ‘active’ who, in fact, were deceased.

#### **5.5.1.2 College of Public Health Medicine database**

It was noted that members of the CPHM comprise two main grouping – those who have gone through accredited training programmes – the ‘fellows’ and ‘associates’ – and those who established the discipline, the ‘founding members’. The distribution of the various categories of members of the CPHM is given in Figure 5.2:



**Figure 5.2: Doctors on the College of Public Health Medicine register – mid 2010 (n=179)**

Figure 5.2 shows that most doctors (59% or 105/179) on the CPHM database in 2010 were fellows, 12% were associates and 22% were founding members.

### **5.5.1.3 Master in Medicine (MMed) database**

Historically, Afrikaans-speaking universities – the Free State, Pretoria and Stellenbosch – did not participate in the College of Medicine specialist examination process. Students registered at these universities undertook internal course work and examinations, gaining an MMed degree that allowed entry into the specialist register held by the HPCSA or SAMDC. Entering specialist practice through a masters qualification benefits the training institution, as this earns government subsidy. These universities had little traditional affinity with the College system, which was seen to be controlled by historically English-speaking universities, and opted to follow the “national NQF path with university courses and university certification” to qualify specialists in all medical specialities.<sup>xxxvi</sup>

During the mid-1990s, some registrars from the universities of Cape Town and the Witwatersrand boycotted the CPHM exams and completed MMeds as they felt that the CPHM examiners at the time upheld apartheid health policy or were hostile to

<sup>xxxvi</sup> Personal communication with Prof Maritjie de Villiers, Deputy Dean Education, University of Stellenbosch (25 May 2014).

candidates of colour.<sup>xxxvii</sup> Until 2005, when the CPHM introduced the use of university MMed dissertations as part of its research requirement replacing the required 'long report', few candidates completed both the CPHM and MMed exams. All candidates, qualifying through the CPHM seeking specialisation, have since completed MMeds, as this is mandatory for entry to the CPHM exams.

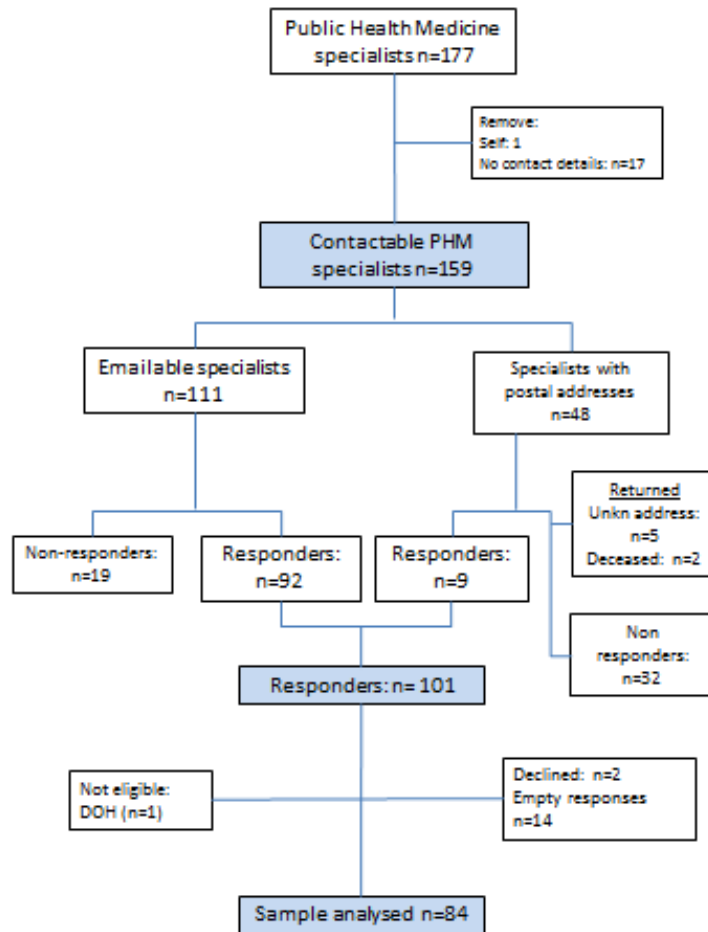
The MMed was an important route to specialisation and Figure 5.1 shows that 31% of all potential specialists completed MMeds. In 2010, three quarters (40/54) of those with MMeds had registered as specialists with the HPCSA. One registered another speciality (Microbiology). Of the 20 MMeds recognised by the CPHM, 13 (65%) were through the 'associate route' while seven wrote the CPHM exam.

#### **5.5.1.4 Deriving the final sample**

The final population used for the study was the 177 doctors named in the cleaned composite database described above. After removing myself, the researcher, and 17 members in the CPHM database with no contact details, the sampling frame consisted of doctors with email or postal addresses and all were invited to participate. Those with no email addresses but with postal addresses in the HPCSA register were sent letters inviting participation together with stamped addressed return envelopes. Forty eight letters were sent and nine doctors submitted completed questionnaires; six were 'returned to sender'. Two were deceased and five were returned as an 'address unknown'. These seven together with one non-eligible respondent (not on the HPCSA register as a specialist) were removed from the denominator for contactable specialists, and the total eligible contactable potential respondents for the study was 159. The derivation of the final sample is described in Figure 5.3.

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<sup>xxxvii</sup> Personal communication with Emeritus Professor J Myers from UCT (20 May 2014) and Prof S Naidoo from Wits (19 May 2014).



**Figure 5.3: Flow diagram describing eligibility and respondents**

Two thirds (101/151) of contactable, eligible doctors (159 less 7 returned plus 1 not eligible) responded. Eighty four (55.6%) completed the questionnaire. Data was missing for fourteen respondents and two declined participation.

### 5.5.2 Determining a selection bias

Respondents cannot be compared to non-respondents as no identifiers for respondents were captured. Instead, demographic and training data of respondents were compared to the composite specialist database to ascertain if respondents differed from specialists on the database. As continuous data was normally distributed, single sample t-tests were performed, and chi-square tests for proportions were performed, using  $p=0.05$  as the level for significance.

The gender distribution of respondents was not significantly different ( $p=0.34$ ) with 46.4% respondents being women compared to 41.3% in the database. Education data was similarly equivalent with 1998 being the mean year of specialisation for respondents ( $sd=8.46$ ) and 1997 ( $sd=8.35$ ) for specialists as a whole ( $p=0.32$ ). The mean year for qualifying as a doctor was slightly later at 1986 for respondents ( $sd=9.6$ ) compared to 1983 ( $sd=9.8$ ) for all, which was statistically different ( $p=0.01$ ). Similar proportions of respondents did their undergraduate and specialist training at the various universities, as did those on the database.<sup>xxxviii</sup>

### **5.5.3 Research tool, variables and analysis**

The study tool was a self-administered online questionnaire with closed- and open-ended questions, using SurveyMonkey™ that allowed the development, administration and data-entry of questionnaires online.

All participants were contacted by email informing them of the study, its purpose and to invite future participation and comment. Two weeks later, emails launching the study with the link to the SurveyMonkey™ site were sent and participants were given three weeks to complete the survey. Non-respondents were identified from a function in SurveyMonkey™ that tracked response rates and submissions, and two reminders were sent to them, which extended the deadline by six weeks. Information collected included demographic variables, educational information, professional work, and reflections on career trajectories (see Appendix D for survey tool).

Responses for the completed questionnaire were exported into an Excel spreadsheet, and secured in a password protected file. All personal identifiers were removed. The data were cleaned and the quantitative data analysed using STATA® 13. Descriptive analyses, univariate and bivariate, using frequency tables were performed. Differences in responses by demographic and other variables were explored and reported, and levels of significance at  $p<0.05$  were used. T-tests and Mann-Whitney tests were performed for normally distributed and skewed numerical data respectively and, chi-square or Fisher-exact tests, for categorical data. Linear regressions for continuous,

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<sup>xxxviii</sup> See Appendix D for this data.

and Poisson regressions for count data were undertaken. Post-coding was conducted, recategorising data for demographic factors, career choices, registrar training and jobs (employers and roles). Qualitative information from the open-ended questions was entered into Atlas ti7 and content analysis was performed on these responses. Quotations that best illustrate themes were then selected for inclusion in the manuscript. Demographic descriptors for respondents in quotations are noted by gender and age, (gender, age). F is a female, M is a male, and age is given in years.

## **5.6 ETHICS**

This study was approved by UCT's Faculty of Health Sciences Human Research Ethics Committee (Ref 410/2010). Participation in the survey was entirely voluntary and consent, based on full understanding of the project, was obtained. There was a consent narrative which served as an information sheet in SurveyMonkey™, outlining the purpose of the survey (Appendix D). Consent was assured through participants ticking a box that noted questionnaire completion indicated consent. Assurance was given that confidentiality and anonymity would be maintained, that participation did not require response to all questions and that respondents could withdraw from the study. For postal responses, all respondents signed and returned a consent form which acknowledged autonomy, confidentiality and anonymity (Appendix D). No incentives were offered for participation. Names were not linked to data and so informants remained anonymous. The SurveyMonkey™ database containing the raw online submitted data was accessible only to the researcher.

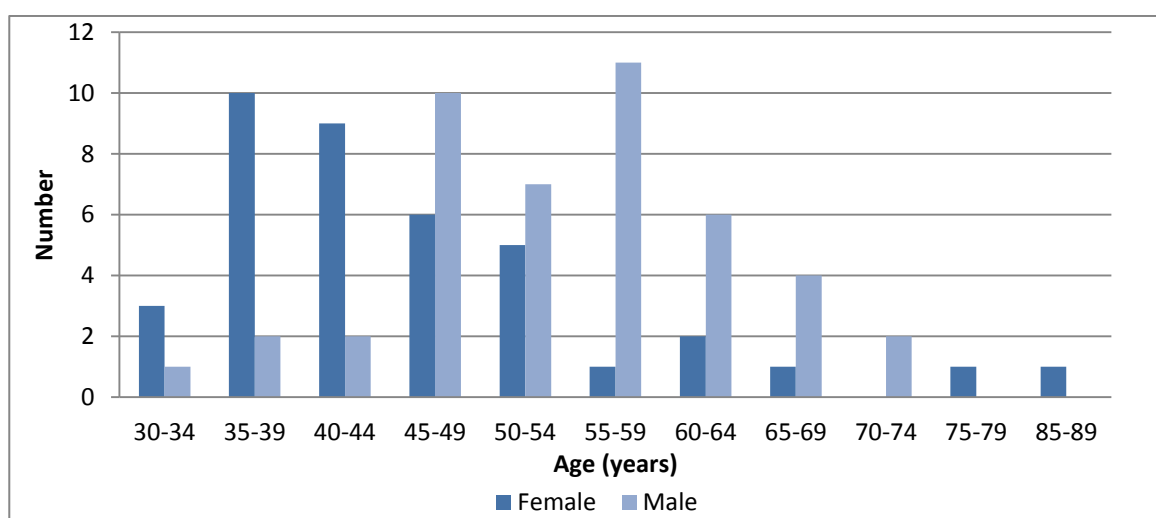
Participants that elected to receive copies of reports arising from the research derive potential benefit. This research could make substantive beneficial impact on human resources planning in South Africa.

## **5.7 RESULTS**

The survey had a completion rate of 55.6% (84/151). As indicated above, respondents did not differ from those in the specialist database in terms of gender or under- and postgraduate training institutions; but on average they qualified as doctors three years later (1986 cf. 1983).

### 5.7.1 Demographic characteristics and educational background

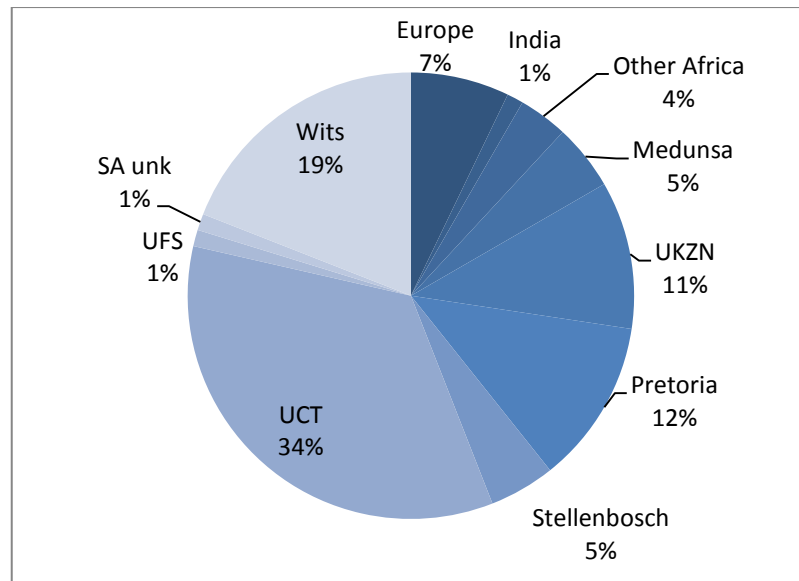
The median age of respondents was 49 years (IQR: 42-58 years); and 46.4% were female. Males tended to be significantly older than women (median age=59 years (IQR:49-64) vs. 44 years (IQR:39-54);  $p<0.001$ ). More women recently graduated as specialists than men, and the differences were significant (median year for women being 2004 (IQR: 1997-2009), vs 1993 for men (IQR: 1989-1999);  $p=0.00$ ). The distribution of respondents' age is given in Figure 5.4.



**Figure 5.4: Age of respondents by gender (n=84)**

Over three quarters (81.0%) of specialists were born in South Africa, 9.5% were born elsewhere in Africa and 8.3% in Europe. Most (74/84) did their medical training in South Africa, and 7.1% trained in Europe. The median year respondents' graduated was 1986 (IQR: 1980-1994;  $n=74$ ). The undergraduate training institutions are depicted in Figure 5.5.

Of the 88% completing their undergraduate training in South Africa, most (39.2%) trained at UCT, followed by 21.6% at the University of the Witwatersrand (Wits), 13.5% at University of Pretoria (UP) and 12.2% University of KwaZulu-Natal (UKZN), with 5.4% graduating at each of MEDUNSA and Stellenbosch (SUN). These proportions were similar to all in the study database (Appendix D)

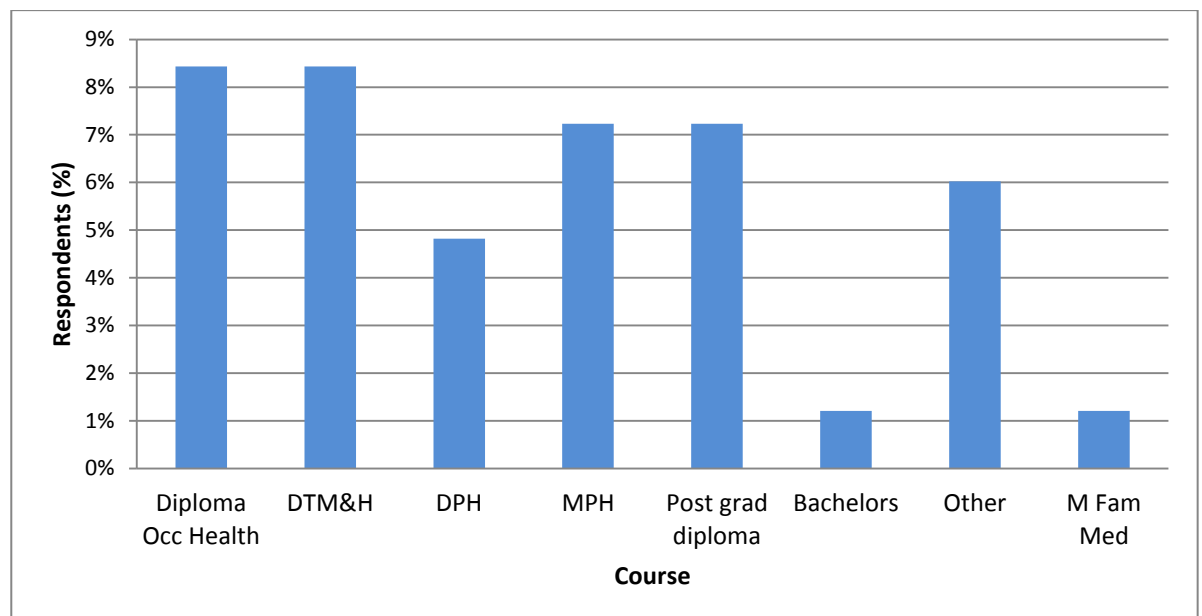


**Figure 5.5: Undergraduate training institutions (n=84)**

***Prior qualifications***

Many (30.1% or 25/83) had prior tertiary qualifications, mostly in public health related areas, before specialising. The most common were diplomas in occupational health (8.4%) and tropical medicine and hygiene (8.4%), followed by public health diplomas (4.8%), other postgraduate medical diplomas (7.2%) or other qualifications (6.0%).

Prior qualifications are given in Figure 5.6.

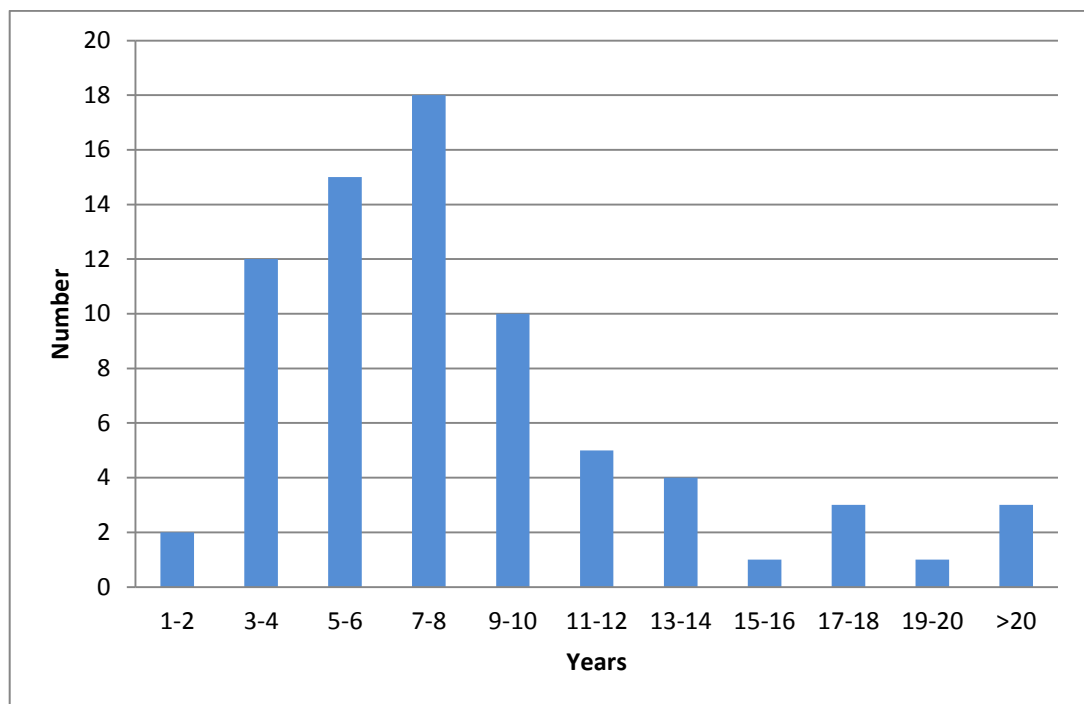


**Figure 5.6: Respondents' prior tertiary qualifications (n=83)**

### 5.7.2 Specialist training experience

Training experiences of respondents were explored as this was likely to have an impact on subsequent career trajectories, and influence opinions about the value and future of the profession.

The median year respondents started specialist studies was in 1994 (IQR: 1987-2003; n=83), and the median time from medical qualification to specialist training was 7 years (IQR: 5-10) with a wide range of 2 to 30 years (Figure 5.7). The minimum feasible time before 1997 was 2 years but 3 or 4 years after the introduction of community service (for 1997 graduates) and two year internships.



**Figure 5.7: Time from undergraduate studies to commencing specialist studies (n=74)**

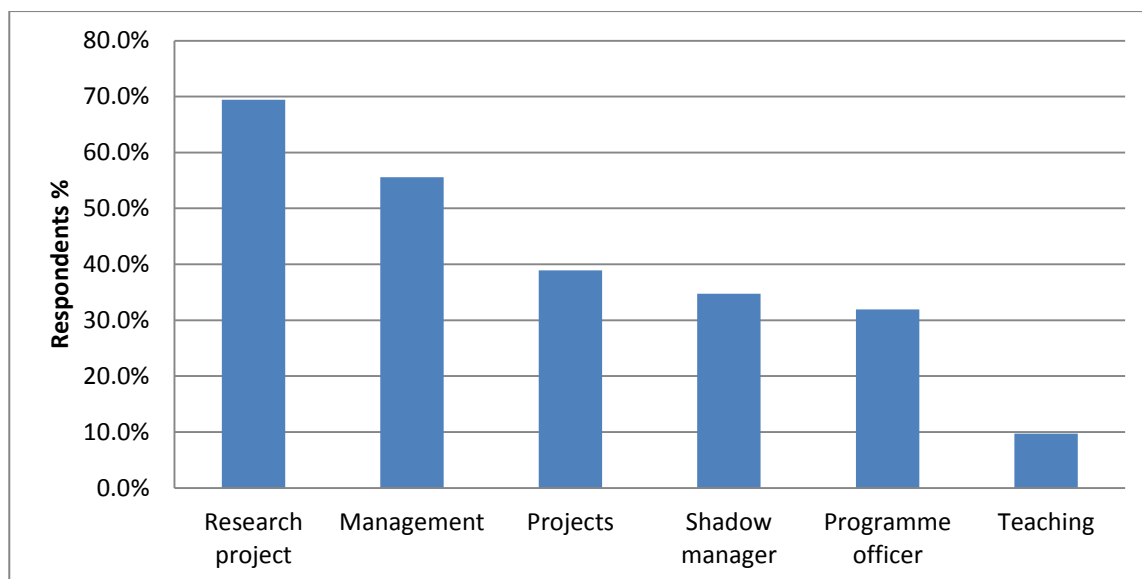
Similar proportions of respondents completed postgraduate and undergraduate studies at the various universities with most respondents completing specialist training at UCT (38.1%), followed by Wits (28.6%), UKZN (13.1%), UP (7.1%), SUN (7.1%), MEDUNSA (3.6%), and one at each of the Free State and London. (See Appendix D for this data compared to all on the database).

Training experience was over four years with theoretical training and placements in range of service settings, lasting various lengths of time with a median number of four rotations (IQR:3-5). These placements depended on the registrars' funding source. Registrars are usually funded by provincial departments of health, and 65.5% of respondents were in provincial registrar posts, but some (6.0%) were provincially employed medical superintendents or programme managers and others were researchers working at universities or the Medical Research Council (MRC) (12.0%). Those in non-specialist posts continued to work for employers as part of their placement.

Placements typically involved rotating through different settings and the variation in these placements changed over time. Early trainees' service experiences were unstructured whereas more recent placements have become more formalised. Those training in the apartheid era were placed in contemporary health structures, such as regional offices of the national department of health, provincial health departments, divisional councils, city health departments and provincial hospitals. These have been replaced by provincial health departments, districts and hospitals. Service experiences varied by training institution and depended on the availability of hosts. For example, the availability of placements with research institutions such as NICD, NIOH and the MRC in Gauteng impacted on registrar experience.

Respondents reported performing a wide variety of roles as registrars in training (Figure 5.8). The majority (55.6% or 40/72) took on management roles within organisations, in health programmes and project management. A third shadowed managers with little responsibility. Almost 10% taught undergraduates. Most (69.4%) conducted service-related research projects.

Competencies developed through placements were in communicable disease control (57.1% or 40/73), policy and planning (46.2%) and monitoring and evaluation (42.6%). Management skills featured prominently with hospital management (43.1%), information management (21.7%) and other management skills such as service, programme or project management (27.1%).

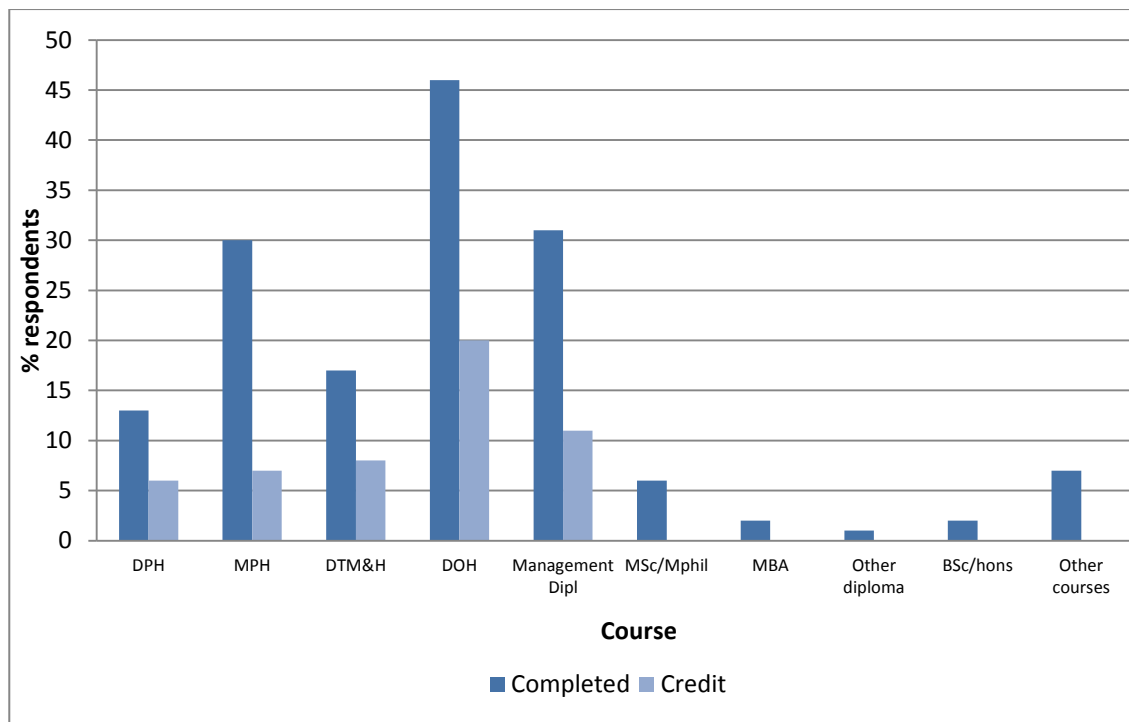


**Figure 5.8: Work performed in rotations (n=72)**

Many (46.8% or 37/79) wanted additional placements to acquire experience and skills for future careers. These clustered in competencies outlined in experiences above, missed by some, and in occupational and rural health. They wanted placements at all levels of health services, in local authorities, district, provincial and national as well as international placements e.g. WHO.

Course work is prominent in training, and participation in postgraduate courses through attending lectures, modules and completing postgraduate programmes featured in all respondents' training. Many completed training offered by academic departments, and this was uneven, with course offerings varying by institution. The courses followed, and the proportion of respondents credited for the course work during registrar training, is given in Figure 5.9. Overall, less than half received additional qualifications as this was viewed to be part of registrar training.

Apprenticeship-type training, the model used to train these specialists, should involve mentorship guiding training. Over 70% (57/80) had mentors and of these, 72% (41/57) rated them as good or outstanding but 8.8% (5/57) rated them poorly.

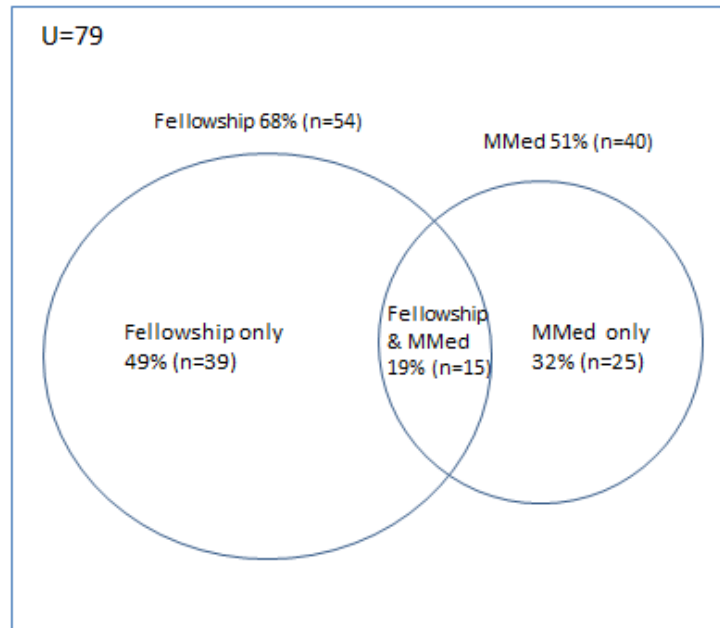


**Figure 5.9: Courses followed in training (n=84)**

Many specialists (44% or 37/84) identified specific placements that gave direction to subsequent careers. The most frequent formative experiences were in communicable diseases (27.0%), planning work (18.9%), monitoring and evaluation (M&E) (16.2%), specific research projects giving direction to research careers (13.5%), and hospital management (13.5%). More women (19/39 or 49%) than men (18/45 or 40%) felt that specific exposures gave direction but this difference was not significant ( $p=0.422$ ).

### 5.7.3 Registration of qualification and speciality

After passing the exit examination, specialist registration with the HPCSA takes place in two steps. The additional qualification must first be registered, followed by application for specialist registration. Respondents were asked if they had registered their additional qualification and their speciality, and reasons were probed.



**Figure 5.10: Specialist qualifications obtained**

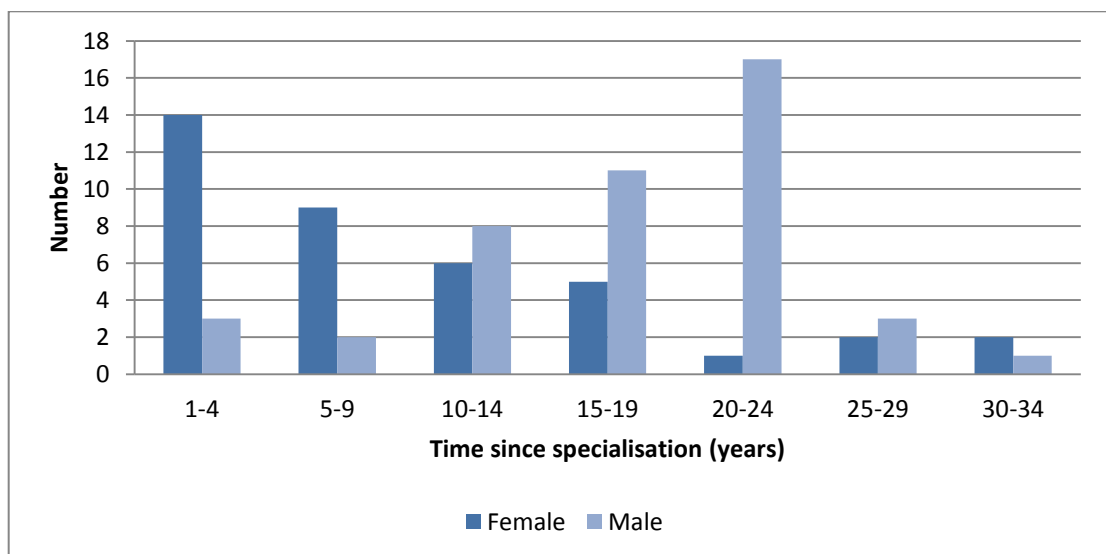
Most respondents (97.6% or 82/84) gave their specialist qualifications: 79 obtained either an MMed or CPHM fellowship qualification. A diploma and MD for two CPHM registered doctors allowed specialist registration, but one CPHM specialist could not register as a specialist as the British public health qualification was not recognised. Most (68%) obtained a CPHM fellowship qualification and 51%, an MMed (Figure 5.10). A minority (19%) obtained both fellowships and MMeds. Excluding MEDUNSA alumni and those entering the specialist register through other qualifications, unsurprisingly, most specialists (78.5%) who trained through traditionally English-speaking universities, obtained a CPHM qualification, this being significantly higher than the 27.3% obtaining the CPHM qualification from traditionally Afrikaans-speaking universities ( $p=0.0017$ ).

Ninety percent (74/82) registered their additional qualification, and of these, 85% (63/74) registered as specialists. Overall 20.2% (16/79) did not register as specialists. The proportions of respondents registering as specialists did not differ by age or time since qualifying. Those registering qualifications and as specialists, either wanted specialist recognition or it was a requirement for their service or academic position. Some waited to register until the salary advantage of the OSD in the public sector became apparent. Reasons given for not registering, were that it was not a

requirement for a position (n=3), ignorance about the process (n=2), incurred cost in the face of no benefit (n=1), belief that only an MMed was required (n=1), difficulties with the HPCSA process (n=1), emigration (n=1) or were not given.

#### 5.7.4 Career trajectories

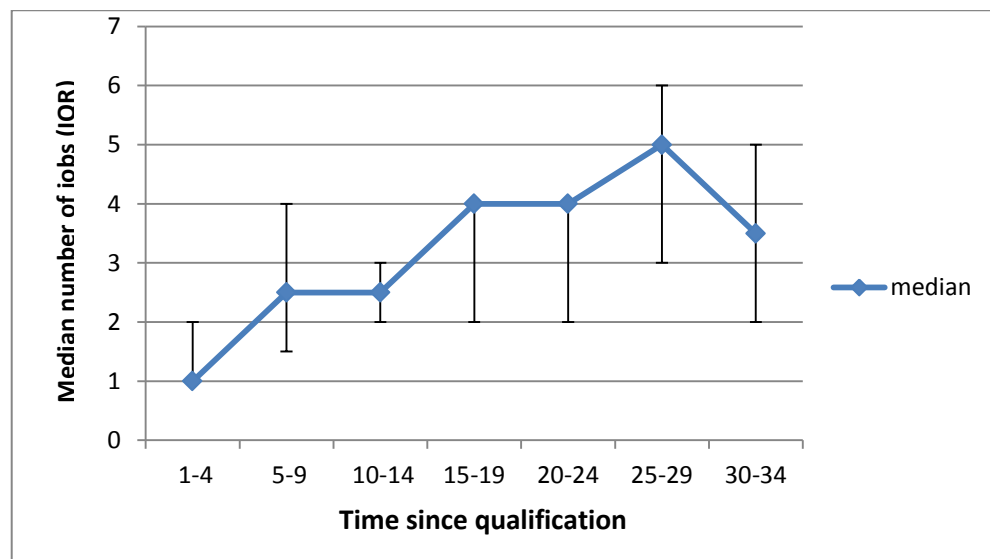
Respondents had a range of career trajectories, and the median number of jobs held was three (IQR: 2-4; range:1-6; n=80). Since specialisation, respondents had long careers, with the median career being 15.5 years (IQR:6-20). Men had significantly longer career trajectories (median=19 years (IQR:13-23)), than women (median=8 years (IQR:3-15)) ( $p<0.001$ ) (Figure 5.11). This accords with women being on average 15 years younger (Figure 5.4) and qualifying more recently than men. Multivariate analysis showed that time since specialisation was related to respondents' age ( $p=0.00$ ) and whilst gender had impact, this it was not statistically significant ( $p=0.14$ ), as gender was related to age (women were younger than men).



**Figure 5.11: Time since specialisation – by gender**

The relationship between the number of jobs, time since specialisation and gender was explored. The median number of jobs increased with time since specialisation, and this trend was found to be statistically significant ( $p<0.001$ ) (Figure 5.12), with a 30% likelihood of changing jobs after 10 years of work (95% CI: 14- 42%). Although the

number of jobs increased with time, a large proportion (21%) only had one job since specialisation. Those who had qualified for 15+ years had a median number of 4 jobs (IQR: 2-5). Many respondents (32% or 26/80) changed jobs with the same employer. They were specialists who, for example, were employed by provincial departments of health in various capacities over time. Gender was also related to the number of jobs, with men having significantly more jobs than women (mean=3.4 (sd=1.55) vs. 2.40 (sd=1.48);  $p=0.004$ ). Linear regression, however, showed that time since qualification is related to number of jobs ( $p=0.02$ ), but gender did not impact on number of jobs ( $p=0.20$ ).

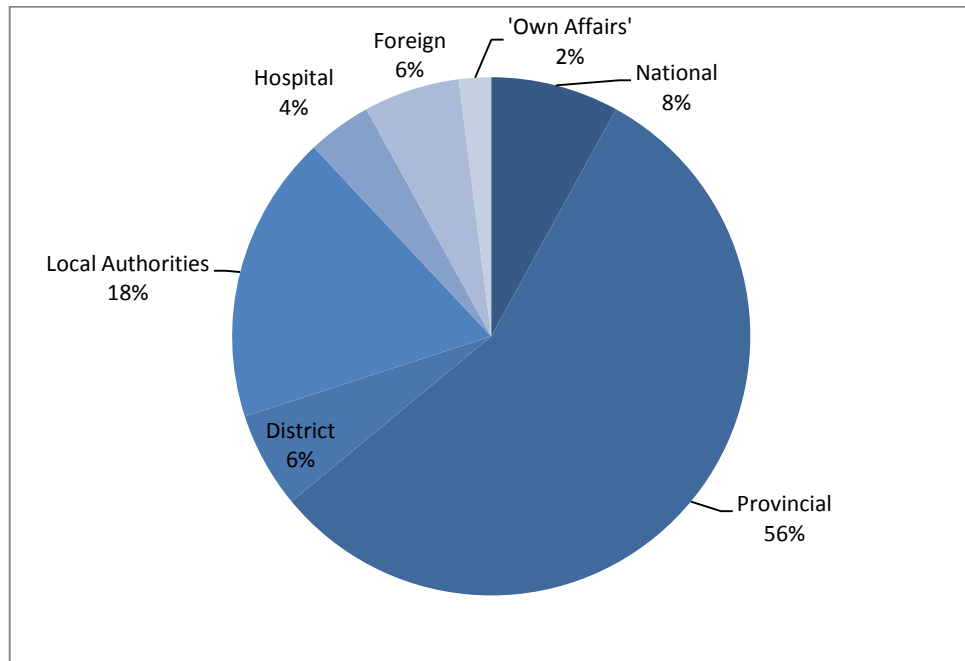


**Figure 5.12: Number of jobs over time since specialisation (n=80)**

#### **5.7.4.1 Work history in academic and state health services**

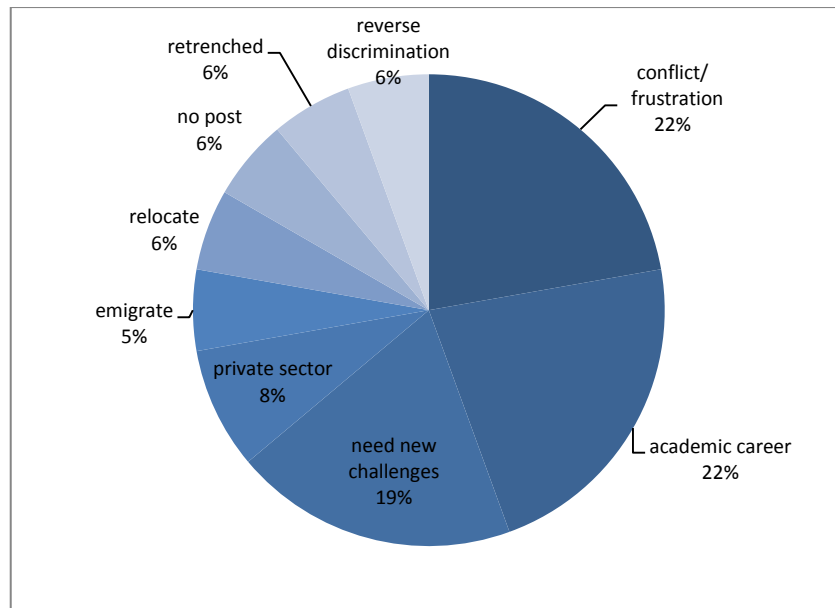
For this analysis, ‘joint staff’ were classified as being employed by the state, although they have academic as well as service responsibilities.

Most respondents had been employed, at one time, by universities (55% or 44/80) or in the state health sector (62.5% or 50/80) at all service levels (Figure 5.13). More than half (56%) had been employed by provincial departments of health, followed by local authorities (18%). Of the ten specialists who emigrated, one had retired, three worked in the new country’s health department, four were academics, and two worked for international NGOs.



**Figure 5.13: Respondents' employers  
- for those ever employed in the state sector (n=50)**

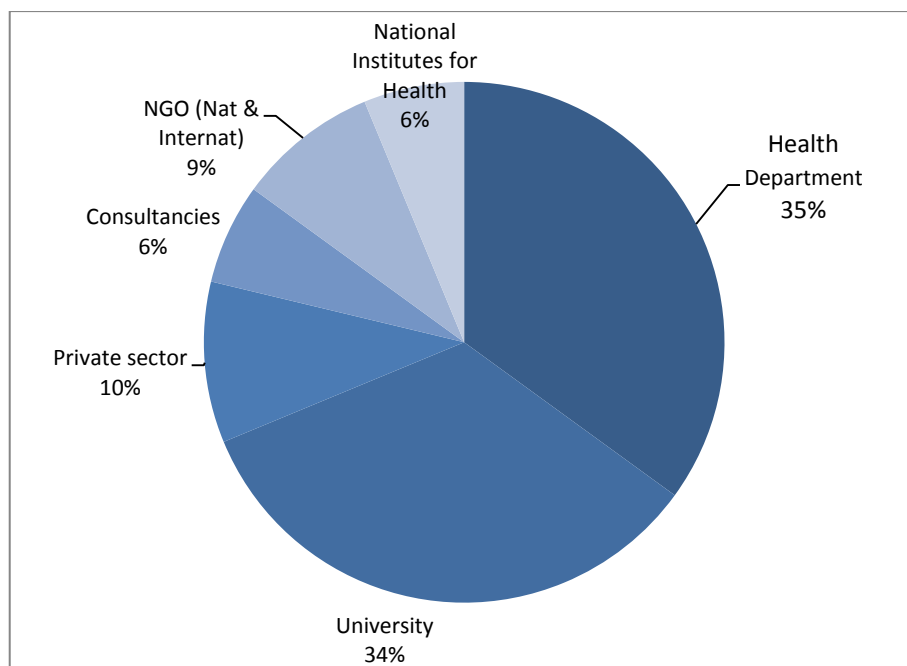
Many respondents (70% or 36/50) who had ever worked in the state sector had since left. Responses to open-ended questions probing reasons for leaving are grouped by those that attracted them to new work and those that pushed them away from jobs. Attracting factors were new “challenges” or career opportunities, such as academia, relocation elsewhere in South Africa or abroad, and moving into the private sector; and *push* factors were unhappiness with working life due to conflict or frustration, and being forced to leave (retrenched, restructured out of a job, or the unavailability of a specialist position). The main reasons for leaving work in the state health sector are given in Figure 5.14. Three quarters (6/8) of those moving to academia moved from pure service positions to ‘joint appointment’ posts and two moved to university academic posts.



**Figure 5.14: Reasons for state-employed specialists leaving the state health sector (n=36).**

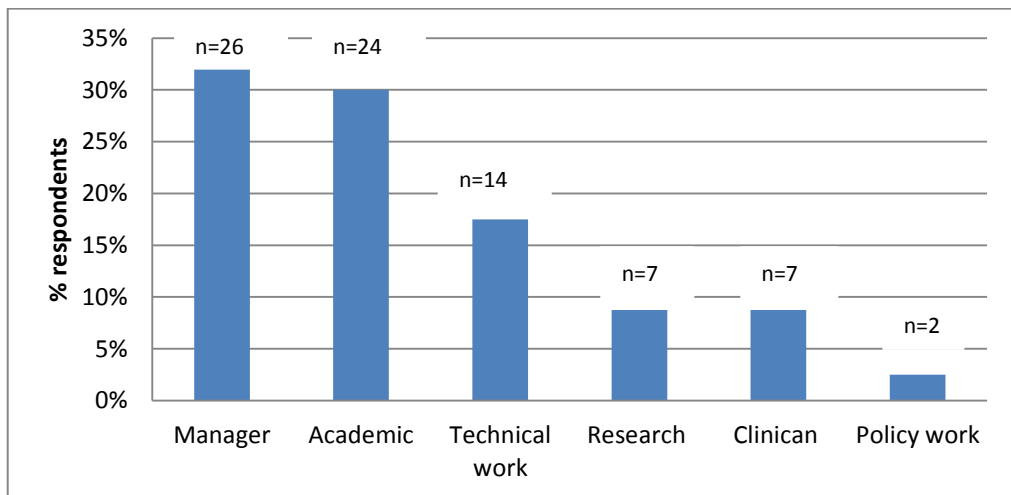
#### 5.7.4.2 Current work

At the time of responding to the questionnaire, most (35% or 28/80) were employed by government health departments, with a third (9/28) working in 'joint appointment' positions. This was followed by universities (34% or 27/80) – both local and international, NGOs (7/80) and national institutes of health (MRC, NIOH) (Figure 5.15).



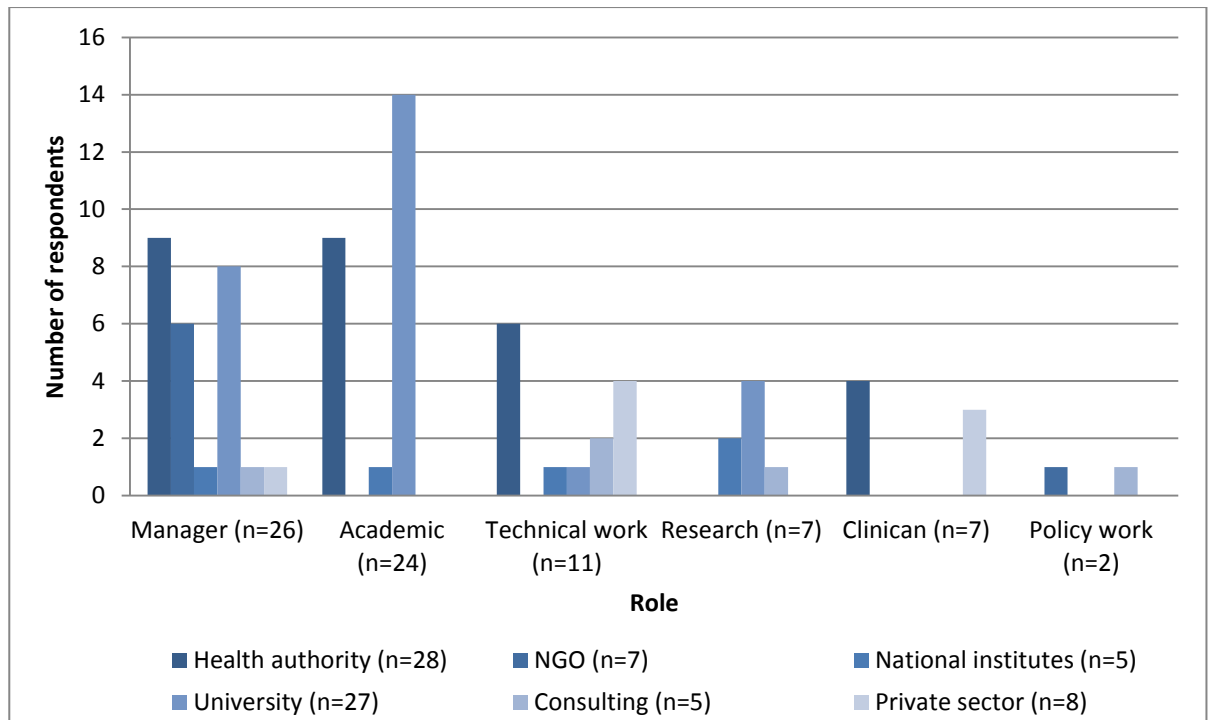
**Figure 5.15: Current employers of PHM specialists (n=80)**

Roles of respondents within organisations are described in Figure 5.16. The most common was managerial, then academic (teaching and research), followed by technical work within organisations, and pure research. Clinicians formed a small proportion (7%).



**Figure 5.16: Roles of respondents within organisations (n=80)**

Managers mostly worked in departments of health (35%), in university management (31%) and NGOs (23%). Most academics worked for universities (58%) and a further 38% worked for departments of health in ‘joint appointment’ positions. Technical work – designing or implementing policies and programmes – was done in health departments (43%), the private sector (29%), or by specialists consulting on a fee-for-service basis (14%). Pure researchers worked in universities (57%), the Medical Research Council (MRC) (29%) or as consultants (14%). Most clinicians worked in the state sector (57%). Policy work was done by specialists working in NGOs or through consultancies. Respondents’ employers are described in Figure 5.17.



**Figure 5.17: Roles of specialists – by employers (n=80)**

Differences in career destinations (by employer or work content) for registered compared to non-registered specialists were explored. Academics were 23% more likely to be registered than non-academics, whilst private consultants were 35% less likely to have registered compared to other respondents – but these differences were not statistically significant. Significantly fewer clinicians (33.3%) were only registered as medical practitioners and not as PHM specialists, compared to 80% overall ( $p=0.014$ ). This may indicate that the group anticipated clinical career paths that did not require PHM specialist registration.

#### **5.7.4.3 Subsequent studies**

Many respondents (44.5% or 37/83) pursued further degrees after specialist qualification, with 27% (10/37) completing PhDs; a further 19% were completing at the time of the survey. Other qualifications completed include Master in Business Administration (MBAs) (4/37), economics qualifications (3/37) and psychiatry (3/37). Most academics or researchers (65.5% or 19/29) had pursued higher studies and, unsurprisingly, were 3.42 more likely (OR CI: 1.14-10.45) than others to have done so.

### 5.7.5 Job satisfaction

Job satisfaction was probed, and most specialists rated their career trajectories highly, with 41% reporting that they had “found their niche”, and 23% being “very pleased”. Those who “found their niche” enjoyed their work and feel that they did it well. More men (68%) were “very pleased” or had “found their niche” than women (58%), but this difference was not statistically different ( $p=0.29$ ). Older respondents, over the median age of 49, significantly rated their careers highly (76%) compared to respondents 49 or younger (53%) ( $p=0.035$ ).

Job satisfaction was analysed by employer and role at work (Table 6). Most respondents (57%) working for departments of health were “very pleased” or had “found their niche”. Besides specialists working in NGOs, all of whom were satisfied, or more than satisfied, with their careers, no particular employer was associated with a particular rating in job satisfaction.

**Table 6: Respondents’ job satisfaction – by employers and work roles (n=78)**

		Not met expectations (n=4)	Ambivalent (n=10)	Satisfied (n=14)	Very pleased (n=18)	found my niche (n=32)	Total
Employer	Health authority (n=28)	7%	18%	18%	11%	46%	100%
	NGO (n=7)	0%	0%	14%	57%	29%	100%
	National Institute (n=5)	0%	20%	20%	20%	40%	100%
	University (n=26)	4%	15%	27%	19%	35%	100%
	Consultancy (n=5)	0%	0%	0%	20%	80%	100%
	Private (n=7)	14%	0%	0%	57%	29%	100%
Role in organisation	Academic (n=24)	0%	25%	21%	13%	42%	100%
	Manager (n=25)	8%	8%	12%	40%	32%	100%
	Policy (n=2)	0%	0%	0%	0%	100%	100%
	Research (n=7)	0%	0%	57%	0%	43%	100%
	Clinician (n=6)	17%	17%	17%	17%	33%	100%
	Technical work (n=14)	7%	7%	7%	29%	50%	100%
	<b>Total (n=78)</b>	<b>5%</b>	<b>13%</b>	<b>18%</b>	<b>23%</b>	<b>41%</b>	<b>100%</b>

The majority of managers (72%) and academics (55%) were “very pleased” or had “found their niche” at work. Beside the two specialists doing policy work who felt they had “found their niche”, and researchers where no respondent was “ambivalent” or disappointed, there was no other trend in job satisfaction by specialist role in organisations.

All those who had emigrated rated their careers highly, and had moved due to advance academic or international careers, or because of perceived shrinking South African job opportunities.

The 18% (14/78) who were “ambivalent” or whose careers had “not met expectations” gave reasons related to work context (such as “lack of collegiality”), or not having found work they had hoped for (such as being a “technical expert” in the services, desired research work), or being too early in their career. A few women cited life circumstances, such as having to work part-time which limited job options.

#### **5.7.6 Motivations for careers**

Public health training was an important factor in most respondents’ (95%) careers, giving skills and direction to careers, and opening up work opportunities.

Management, planning, policy making and leadership skills, together with research expertise were valuable for work. It influenced career directions, with some motivated to “contribute to the public sector health services” and others wanting to work in academic environments doing “clinical and epidemiological research”. For those seeking academic careers, training opened up work opportunities which were taken up after qualifying.

Besides training, other factors determined career choices, both attracting respondents to particular work and pushing them away. Dominant themes attracting them to specific work include a commitment to equity and social change and to impact positively on the health system; family life; the value of mentors and colleagues; and, specific interests. Factors that pushed them away from specific work include some experiences of clinical work and negative political experiences. Similar factors motivated registrars to specialise in Chapter 4.

A key theme attracting many to their work was their commitment to social justice, improving the health status of populations. For many this translated into work to ensure equitable, quality health services. Specific interest areas, such as communicable disease control, the HIV “tsunami” and management, impacted on many respondents’ work areas. For some, clinical experiences as young doctors impacted on their future job direction. These experiences drove doctors to work in health at a population level:

My experiences as a student – propelled me into the social justice field. My work following graduation as a doctor, similarly, directed me to social justice, but also to a public health career. (M, 51)

[My] desire [was] to contribute to positive change in health care delivery and health outcomes through policy and health systems reform. (F, 37)

For many, job security and commitment to a quality family life were important, while others highlighted inspiring mentors, a good working environment and colleagues. Affirmative action in employment impacted on some specialists’ work trajectories:

[I wanted] a full tenure position that provides job security. (F, 44)

I try to work for people who I can respect and on issues which I think are important. (M, 48)

I would have loved to stay further in SA, but the climate and working conditions were not favourable to foreign white males, even if there were hardly any other public health specialists in [] province. (M, 45)

### **5.7.7 Future work in the state health sector**

In the light of current health service reform in South Africa and the need for PHM specialists raised in policy documents, respondents’ thinking on work in the public sector was probed. Many local respondents (34.7% or 25/72) were working for departments of health. Of the 40 ‘working age’ respondents (<65 years) employed outside the public sector who responded to a question regarding possible future work in the state sector, 20% (8/40) would “definitely” consider this move, 60% (24/40) might consider this, and 18% (7/40) would never consider such a move.

The impact of the OSD which had improved doctors’ salaries in the public sector was queried. While over a fifth (22.5%) believed that it would attract specialists to the

public sector; most (56.3% or 45/80) were unsure of its impact, and 20% did not believe it would attract specialists. Those who believed that the OSD would have an impact felt that it gave parity amongst specialists, made salaries between the private, NGO and state sectors competitive and it would attract people to specialise, rather than complete MPHs.

The 20% who believed that the OSD would not have an impact, argued that specialist qualifications were seldom required for management posts, believed work environments and content are critical for recruitment and retention, and these were not optimal in the state sector. Some argued that a lack of clarity regarding specialist posts and roles translated into diminished demand for PHM specialists in the services:

I do however think that the OSD will not necessarily attract PHM specialists into the public service because of the lack of clarity regarding the role of PHM specialists in the health system; and other factors beyond the lack of financial incentives (e.g. inefficiency, bureaucracy, poor leadership) also prevent doctors from joining the public service. (F, 44)

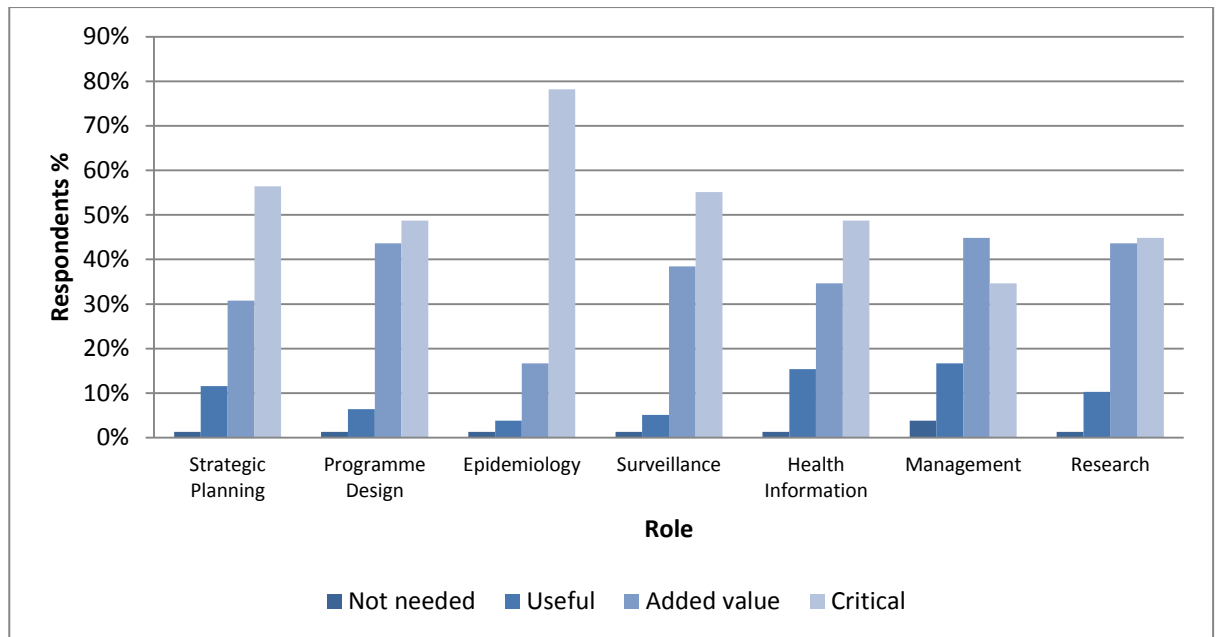
For some, PHM specialists were disadvantaged compared to other medical specialists as there are mostly no overtime options, salary scales are lower and the potential for advancement is minimal:

I don't think that the incentives for PHM specialists match those of clinical specialists as there is less opportunity to have the equivalent positions e.g. "Head of a Clinical Unit" – and due to the reduced overtime payment for PHM specialists (F, 41)

### **5.7.8 PHM specialists and other public health professionals**

It has been noted that in South Africa public health roles in the services, such as planning, management and health information, are usually performed by non-specialists. This raises a question regarding perceived niches for PHM in the health sector. Respondents' perceived value of PHM specialists compared to other public health professionals, was gauged quantitatively and probed qualitatively.

Respondents were asked to rate the role of PHM specialists in seven key areas using a four item Likert scale.



**Figure 5.18: Respondents' perceptions of the importance of PHM specialists – by role (n=78)**

Skills of PHM specialists were seen by the majority of respondents as critical for most skills - including epidemiology (78%), surveillance (55%) and strategic planning (56%) (Figure 5.18). The only area where the judgement of 'added value' (45%) exceeded 'critical' (35%) was for the skills area of management.

These seven roles were widely seen as the basis of the profession's scope of practice. Roles in measurement – e.g. surveillance, epidemiology and policy making – were singled out as central and critical for PHM specialists:

I think the key roles of the Public Health Medicine specialists are in measurement. (M, 59)

#### **5.7.8.1 Comparing PHM specialists with other professionals**

The overlap between PHM specialists and other public health trained professionals was explored. Many believed that other professionals have a role, and a number believed that graduates, including those with MPHs and MBAs, could perform many roles as well, or better in areas such as operational management, technical epidemiology work, and managing health information systems.

One contested area was health service management. It was noted above that management was the one skill that did not elicit PHM most commonly as being 'critical' but as 'adding value'. Some, however, believed that senior health managers should be public health trained doctors or specialists. As this was not a current requirement, the value and future of the speciality was questioned by some:

Unfortunately PHM specialists were replaced by all sorts of people with little/no knowledge of management (and) planning, leading to loss of interest of doctors to specialise. [The] MBA qualification is in demand in [the] private sector for administrative posts and public sector appoints politically correct candidates regardless of skills/qualifications. (F, 46)

Those who believed that PHM specialists have overall value compared to other public health trained professionals argued that their breadth of skills enabled work combining a range of roles at a higher level:

They add value by their individual inputs e.g. MBA will not give value to surveillance. MPH is usually programme specific e.g. MPH health measurement or health systems excludes communicable diseases cadre. (F, 52)

In my view and experience, public health specialists with four years training and extensive service learning – which MPH students do not have – generally clearly outperform all others in the field in a range of critical performance areas e.g. critical analysis, cognitive depth, problem solving, innovation, planning. (M, 57)

#### **5.7.8.2 What is unique to PHM?**

Most saw an overlap in competencies between PHM specialists and other public health trained professionals. A few thought that there were no roles that specifically required a public health specialist. On the other hand, many volunteered that the difference between PHM and others was the unusual wide range of knowledge and competencies. This was due to the unique mix of theoretical training and practical experience enabling mastery of skills, benchmarked against passing a nationally accredited exit examination:

I think a well-qualified doctor with a thorough grounding via an MPH could do most of these with the relevant experience behind them. What the specialist qualification does is deliver someone immediately post-training with all the necessary qualifications and experience due to the rotations. So it is a better package as less dependent on what the individual career path has been following MPH. (M, 56)

The national college exams ensure that all specialists have the same exit exams, which does not happen with other qualifications. Other qualifications also do not offer the level of experiential training that one undergoes as a registrar. (F, 35)

Others believed that what is unique to PHM specialists is a population perspective and the ability to bring clinical and population health skills together:

I do however believe that by virtue of their clinical training PLUS their PHM training (nature and content of the PHM training programme), PHM specialists have an advantage over other public health professionals (even over doctors with an MPH) in terms of the skills set that they bring to the health system, especially in areas such as strategic planning, health systems analysis and design of interventions, health systems, M&E. (F, 44)

Although individual patient care is not a PHM specialist competency in South Africa, only people with medical training can specialise. The value of a medical background was explored. Being a doctor facilitated communication with other doctors and commanded respect around issues of public health. Some believed that a medical background, understanding the biology of disease, and clinical experience, gave a deep understanding of health and service issues which enabled informed decision making and insight, useful for the design of programmes to control diseases at a population level:

The clinical training that PHM specialists have as undergraduates gives them a specific advantage as they are able to communicate with other doctors in a language that they understand. I also feel that the level of respect I command in a discussion with other doctors is different to that of a person with no undergraduate medical training. The undergraduate medical training gives us experience and specific insight into health care problems that may not be grasped by other cadres of workers. (F, 35)

### ***5.7.8.3 Potential roles for PHM specialists in current health sector reform***

A range of responses was given to questions about the potential roles for PHM specialists in a reformed health service. They clustered around the versatility of PHM specialists and the management roles they could play. They included the range of roles in health promotion and protection, in intersectoral work, in the management of complex programmes which respondents argued they are well equipped to manage:

Infectious disease programmes require both clinical and epidemiological and management skills; in managing complex programmes where services, personnel, and health programmes are involved. A medical person with a public health training is an advantage; intersectoral work, for example, would be best done by a PHM graduate working in or leading a team. (M, 51)

Management roles were in leadership positions, at all levels of the health system, where PHM specialists would drive strategic planning, priority setting, and implementation. Other roles included advisory, strengthening systems and research. These were singled out as respondents believed that PHM specialists were trained in communication, writing and leadership. Challenges were raised by some who noted that such positions required delegated authority, and should not merely be advisory.

A range of opinions were elicited about the role of PHM specialists in the Ministry of Health's strategy of "re-engineering of primary health care". Most commented on the lack of clarity about roles in documents. For some, posts should be in district health management and others believed they should join district specialist teams. Those believing PHM specialists should be the former, argued that their role was to provide the technical skills for planning and management at a district level and strengthen systems:

Reengineering is about strengthening district health systems. There is a need for proper strategic planning at district level, informed by collected data and planning. Efficient district health management will alleviate the resource needs at higher levels. ... PHM should function as technical advisors at the district level. Having all categories of PHM – head of clinical Unit, specialist and registrars including research assistants – will add value to research, policy, planning in districts (F,52)

I think the proposed re-engineering of the public health service is rather skewed towards clinically-oriented interventions for addressing specific MDG and HIV/TB targets. Re-engineering also requires broader health systems strengthening strategies – this is an area where PHM specialists, because of their clinical plus PHM training and skills, should be critical players. However, health system strengthening strategies have not been outlined, and it is not entirely clear what role PHM specialists can and should play in the re-engineering. (F, 44)

### 5.7.9 Recommendations for the future of the profession

Most (58/84) respondents completed an open-ended question about future career paths of PHM specialists. Many remarked that the discussion was relevant, and identified threats to the speciality's future related to a lack of clarity regarding its contribution in relation to other public health trained professionals.

Some recommended a process to reach clarity. Firstly the profession should be discussed with a range of role-players – within the profession, with registrars, universities, and employers such as departments of health, public health agencies and regulatory bodies. A reformulated scope of practice would follow. The profession should then be marketed and jobs and posts in the public sector created. This would impact on the curriculum and training settings for future specialists:

This conversation is long overdue and should also involve all the other role players, especially registrars. When I asked about career paths in my registrar interview, I was simply told that "all ... graduates have managed to get jobs". That is an inadequate answer. (M, 48)

National consensus should be reached between provincial DOHs, CMSA, HPCSA and the PHM training institutions regarding: a) what are the areas in which PHM specialists have a unique advantage? b) how should training be tailored in this regard?; and c) for what kinds of jobs are we training PHM specialists (so that it is clear what it is that sets PHM specialists apart from other public health professionals)... All public sector institutions ... should then start thinking about how to set up posts to accommodate PHM specialists. (F, 41)

Many felt that the profession was not visible in the public health sector or understood by potential employers. They felt that this needed to be remedied and the profession's profile raised and the added value to the services and the wide skills base, made explicit, as for other medical specialties:

I have often been asked in my training as a registrar what it is exactly that I should be doing – asked by provincial and local government health managers with whom I have been placed. (F, 35)

Ensure that the national perception is clear of the added value and expertise. No one doubts that an orthopaedic surgeon is better to deal with such problems than a GP and that where this can be met this is preferred. The same needs to be understood regarding what a public health specialist has to offer compared to a large number of generalists or people with narrow skills. Even in a focussed area of work, a public health specialist focussing on a sub-discipline in the field has a unique added value (compared) to non-specialists and non-doctors. (M, 57)

Better understanding of the speciality should improve recognition of its value, and job opportunities and many respondents called for the establishment of positions at all levels of the services. Some identified dedicated senior posts for specialists at all levels of the services. This process would be aided by registrar work which could make PHM more visible in the services:

Influence policy with the departments of health at all levels; advocating for creation of posts; using the registrar rotations effectively to demonstrate our value. (F, 36)

Fulfilling managerial roles in hospitals, strategic positions in NDOH, gaining a presence in the District Specialist Teams, making a public health footprint in the services, not just academia. (F, 35)

#### **5.7.9.1 Implications for training**

A clearer scope of practice and career paths would impact on training – both theoretical and experiential. Respondents outlined content training as well as attachments and tasks that would equip specialists for work.

Many respondents (57% or 48/84) gave suggestions for registrar training that came from reflections on their own training and subsequent work experience. Comments clustered around acquiring core competencies, the importance of registrars having responsibility in the workplace “so that they learn actively and not passively” and for rotations to be flexible to accommodate registrars’ interests and career plans:

Focus training in the specific areas that we feel we have critical skill once these critical skills have been identified. (F, 51)

Formal training was a concern with some suggesting standardised academic programmes focussing on core competencies in measurement sciences. Some suggested that a prior MPH should be required enabling flexible, out of town placements. Others added that academic programmes should not dominate registrars’ rotations.

Suggestions for improvements in content included leadership, management skills, intersectoral work, health economics, research and writing skills – which should all be practiced in service settings. Registrars should be encouraged to publish their research.

Some were concerned about service settings, based on historical arrangements, and argued that these needed to be reviewed and unless they had capacity for supervision and were opportunities for core learning, they be excluded:

In the past, rotations have been determined as much by departmental politics as by common sense. Registrars get stuck in useless rotations, waste their time, and nothing is done about it because no-one wants to rock the boat. This is not acceptable. (M, 48)

Identify experts in specific fields of public health at different institutions and let registrars rotate where experts operate. Do not limit training at the institution where registrars are registered. (F, 46)

A few suggested additional public sector training settings, outside urban centres, in other parts of Africa as well as in the private sector. In these contexts, registrars could assist systems strengthening efforts and this would sensitise future specialists to service delivery problems in underserved areas:

Place registrars in areas of identified need, identified by the Department of National Health, e.g. health management, poorly functioning health facilities, poor infection control etc. (M,53)

Many emphasised the importance of academic and service mentorship and supervision which would enable trainees to be focused and get the experience required:

Mentors should help registrars choose projects to ensure that they develop all the required competencies. If this is left to the registrar or the services, the registrar might be disadvantaged and used as an extra resource and not as a trainee. (F, 38)

## **5.8 Discussion**

This study characterised PHM specialists in South Africa, providing insight into their professional life, motivations and career trajectories, and their perspectives on the future of the profession. The study shows that many respondent specialists are working, and have worked, in the state and academic sectors. Respondents self-identified as PHM specialists, believed the profession needs revitalisation, and identified service niches for PHM specialists that could assist current health sector reform. Specific findings are discussed in the light of studies conducted elsewhere and in a context of current health sector reform.

### 5.8.1 Demographics

In 2010, the speciality in South Africa was a small group of less than 200 working specialists, equivalent to the size of South African sub-specialties such as Cardiology,<sup>277</sup> for 50 million people.<sup>345</sup> This is much smaller than the estimated 382 Community Medicine physicians for Canada's 23 million people<sup>346</sup> found in 2004,<sup>347</sup> and the 3 300 reported on the 2010 UK register,<sup>348</sup> for 62.8 million people.<sup>349</sup> The exact size is uncertain due to flaws in the HPCSA specialist register which includes some deceased doctors and many specialists (20% of respondents) were not registered. While this register has been used to determine training gaps for national health workforce planning,<sup>26</sup> it is clearly not a robust foundation for service planning.

About half the estimated 200 South African specialists participated in the study and if, as was argued, study respondents' demographics largely reflect all PHM specialists, PHM specialists seem to be a mature group of doctors (median age=49), with men older than women. Their median age may be older as respondents exited medical training three years earlier than those on the study database. This may have implications for the longevity and growth of the profession unless there is an accelerated production of new specialists. Interestingly an ageing public health doctor pool was also noted by Spencer in the 1970s<sup>147</sup> which was an impetus for renewal and the subsequent creation of the speciality. An ageing health workforce is a concern in current international literature from Australia and the UK,<sup>350-353</sup> but this is not discussed in literature on the health workforce in low- or middle-income countries. This may not be a concern in these settings or be an under-researched topic in view of other priorities.

Fewer specialists were women but women tended to be recent graduates. This may reflect the feminisation of the profession, with women increasingly being attracted to medicine and public health, as seen in the registrar study (Chapter 4) that all 2010 graduating specialists were women. Increasing proportions of women in medicine are reported internationally<sup>354</sup> and in South Africa.<sup>355</sup> In 2007, in South Africa, 56% of entrants to medicine were women and women constituted 55% of graduates, up from 49.7% and 46.6% respectively in 1999.<sup>356</sup>

A 2011 South African Medical Journal editorial commented that women doctors “gravitate towards the less well-remunerated, so-called ‘soft’ primary care specialties such as family medicine, paediatrics and public health”.<sup>356</sup> Although characterising these specialties as “soft” is pejorative, a demographic shift to a predominantly female speciality seems to be true for PHM in South Africa, as has also been found in the UK<sup>119</sup> and for public health professionals overall in the USA.<sup>357</sup>

International evidence shows that women choose specialisations such as Family Practice and Paediatrics, and are less likely to work excessive hours and include more preventive care in their practice.<sup>358</sup> The latter factors, implicit in public health practice, may be important in attracting women to specialise in public health, although this did not emerge strongly in this study. Women’s preferences for employment, such as working part-time, must be considered for workforce planning for public health and other medical disciplines, as it affects training numbers and the availability of part-time posts. The poor availability of part-time positions was a concern of some women respondents with young children.

Most respondents were South African born and trained, and the majority worked in South Africa. Ten respondents (11.9%) had emigrated; but as about 13 South African Community Medicine specialists emigrated to Canada alone between 1991-2000,<sup>359</sup> this is likely an undercount. A selection bias, with higher participation in the study from South African-based doctors, may account for this.

Migration of doctors from poorly-resourced countries contributes to the crisis in health care in sub-Saharan Africa,<sup>66</sup> which results in understaffed health services, limiting health care provision.<sup>360</sup> The estimate that between 25% and 37% of South African doctors have emigrated may be an underestimate,<sup>360, 361</sup> as 46% of Wits graduates between 1975 and 1998, had emigrated.<sup>362</sup> In a context of public health skills shortages,<sup>26</sup> and the satisfying work found by respondents emigrating, the issue of available, local, satisfying work needs to be addressed.

### 5.8.2 Training

Most respondents were motivated to specialise by desires to contribute to social change and to impact on health services to maximise population level health outcomes and service quality. This accords with registrars' motivations in Chapter 4, and is noted in a New Zealand study of PHM specialists.<sup>123</sup> This is also consistent with public health approaches underpinned by concerns for social justice,<sup>37</sup> seeking to impact on the health status of populations through advocacy, social interventions – such as the reduction of poverty<sup>156</sup> – and working to improve health systems. This differs from motivations for public health training amongst doctors from countries where public health roles are combined with clinical work. They wanted a more holistic understanding of health systems, and skills to integrate public health in clinical roles.<sup>112, 114</sup> In the UK where, like South Africa, clinical work is not part of the scope of practice, formative influences on career choices similarly included specialist training experiences, mentors, personal aptitudes, and careers that suited domestic circumstance.<sup>119</sup>

Like doctors in the MPH study (Chapter 3), respondents embarked on PHM training after substantial work experience post medical qualification (median 7 years vs 8 for MPH doctors), and many had public health or other graduate training prior to specialisation. This accords with British reports that doctors began public health specialist training after an average five years of practice,<sup>119</sup> while substantial practice experience prior to specialisation is implied in the New Zealand PHM specialist study.<sup>123</sup> Many respondents went on to further studies, this also being found amongst American MD-MPH students.<sup>114</sup> No comparable literature was found on training and work trajectories of public health specialists from LMICs.

These findings indicate that PHM is a speciality that is largely embarked upon by doctors reflecting on their clinical careers and experience, who then decide to work in settings focused on improving the health status of populations. This trajectory accords with registrars' training motivations in Chapter 4, and with New Zealand PHM specialists.<sup>123</sup> Lengthy service experience and accompanying maturity is a strength to be drawn upon as it delivers quality outputs from registrar placements, positions them

to gain maximally from training programmes, and prepares them to work in complex systems.

Although registrar programmes depended on university offerings and, as found in the registrar study (Chapter 4), these were uneven, respondents valued the combination of experiential and formal training, which developed skills in management (55%), policy making, leadership and research (68.5%). These are competencies core to public health professionals working at senior levels. Respondents studied alongside graduates from a range of disciplines, completing MPHs (30%), management (32%) and occupational health diplomas (45%). This exposure may have tuned these doctors into the importance of other public health professionals and may underlie their expressed respect for other trained public health professionals, who they believe can contribute to the full range of public health roles (Figure 5.18). This highlights the recurring global and historical theme of the multi-disciplinary nature of public health<sup>149</sup> and its interdisciplinary workforce.<sup>79</sup>

Long service placements, a key difference between registrar and MPH training, enabled learning and the development of competence in core areas. Competence in postgraduate medical education requires that students demonstrate ability and skill, which demands ongoing work-based assessment, formative feedback, and learner self-directed assessment.<sup>363</sup> These are features core to PHM training, which are not present in MPH programmes. Competency-based public health curricula, aligning education and work, are being promoted in Latin America.<sup>364</sup>

Consistent with the registrar study (Chapter 4), with public health practice in the UK,<sup>61</sup> the USA,<sup>54</sup> and Switzerland,<sup>111</sup> as well as masters and field epidemiology programmes in LMICs,<sup>76, 109</sup> respondents valued acquiring competencies in epidemiology, surveillance and communicable disease control. They particularly valued placements in hospital management, health information, and programmes – all of which developed skills in project management and in policy and planning – core public health skills in South Africa,<sup>228</sup> the USA,<sup>107</sup> Brazil,<sup>192</sup> and Ghana.<sup>211</sup> Management was identified as a scarce skill in South Africa,<sup>28, 291</sup> and respondents believed these skills were critical to health systems improvement, which were many registrars' desired

careers (Chapter 4). PHM educators need to engage with current initiatives<sup>365</sup> to develop management competence for South Africa's health service, so that programmes are informed by, and recognise the value of, these.

Most respondents (68.5%) conducted service related research projects in their training, a skill that is core to public health. Health service research focuses on the relationship between service delivery and the health needs of populations,<sup>320</sup> a narrower research area than health systems research which focuses on the building blocks of a health system.<sup>366</sup> Health systems research, core to public health globally,<sup>60</sup> is used to make policy and underpins systems strengthening,<sup>54</sup> and is recognised in the re-engineering strategies for South African health system reform.<sup>136</sup> Personnel with these skills could generate innovations and solutions to health problems and well-trained PHM specialists could lead health service research and systems at all levels of the services.

### **5.8.3 Careers**

The sizable proportion (16/79 or 20%) of respondents who had not registered as specialists indicates that specialist registration was not unanimously seen to be advantageous. The career advantage of specialist training was raised by registrars (Chapter 4), and was debated in Canada in 2013 where speciality certification is no longer a requirement for MOH's positions.<sup>367</sup> In view of many respondents' valuing being a specialist and that board certification is a reason for training in many countries including the USA,<sup>107</sup> career and job advantage of the speciality needs clarity in South Africa.

Nonetheless, most respondents (95%) identified public health training as an important force in their careers which is consistent with reviews of other postgraduate programmes in the UK.<sup>119</sup> As found in the MPH study (Chapter 3), training gave direction to careers, and opened up work opportunities, and this was also highlighted by MPH graduates from the Geneva<sup>114</sup> and Chapel Hill<sup>156</sup> programmes.

Despite their long careers (median=15.5 years), surprisingly many respondents had had few job changes (median 3 jobs; 21% had only one job). Consistent with Canada<sup>367</sup>

and New Zealand,<sup>123</sup> their practice has largely been in academic environments (55%), in the state health sector (62.5%). In 2010, most (70%) were working either in the state health sector or at universities, as managers, academics or researchers. Health services careers were also found to be the work of MPH graduates in Uganda (in 85% districts),<sup>76</sup> Hanoi (59%),<sup>110</sup> India (40%),<sup>118</sup> the international Field Epidemiology Programmes (FETP)(70%)<sup>109</sup> and the USA where MPH graduates mostly worked in national public health agencies.<sup>113</sup>

Although research and academic work is a noted career destination for PHM specialists in Canada<sup>367</sup> and New Zealand,<sup>123</sup> and for public health graduates in the USA<sup>110, 117,115</sup> and Hanoi,<sup>110</sup> the large proportion of South African respondents found to be working in research and academic work may point to either a respondent bias or to particular South African contextual factors. These include training programmes orientating graduates to research and academic environments and the non-availability or unattractiveness of service positions.

#### **5.8.3.1 Recruitment and retention in the public sector**

Many respondents (72%) left the public health sector at some point due to frustration with work environments, looking for new challenges (19%); some moved to academic work (22%). Only half the respondents (52%) who had ever worked in the public sector continued to work in this setting.

Whilst some movement between employers is normal and enables people to find work niches, the large proportion who left the public sector, citing job dissatisfaction, is concerning. Studies about nurses have found that job dissatisfaction is related to unsupportive work environments,<sup>368</sup> which leads to a high staff turnover.<sup>369</sup> Retention of skilled staff is key to a stable productive workforce, and reasons underlying high staff turnovers need to be addressed. Retention of scarce doctor skills in rural Australia hinged on remuneration, workplace organisation, personal recognition and social support,<sup>370</sup> and these, together with study opportunities and mentorship strategies, were ways to keep doctors in rural Ghana.<sup>371</sup>

A key strategy in South Africa to attract and retain scarce health professionals is the OSD. Respondents did not believe that the salary advantage offered through the OSD

alone would attract specialists to public sector work. Although a large proportion (73%) of those not working in the state sector at the time of the survey would consider moving to work in the state sector, they noted that services needed to value innovation and reform. It appears that unless work environments encourage efficiency, autonomy, and leadership, improved remuneration will not attract doctors to specialise and to work in the state health sector.

#### **5.8.3.2 Job satisfaction**

The study elicited respondents' job satisfaction through a global measure that encompassed overall attitudes and feelings towards work. It did not, however, measure intrinsic, extrinsic and demographic factors which form many job satisfaction studies.<sup>372</sup> Intrinsic factors such as autonomy and <sup>373</sup> work content,<sup>374</sup> and extrinsic factors such as professional development and recognition,<sup>369</sup> are predictors of work satisfaction in studies on nursing. Not drilling down to such components is a limitation, since identifying factors that improve job satisfaction for this cadre of skilled professionals may point to additional factors important for retention.

Nonetheless, respondents were largely fulfilled in their work and 41% had "found their niche". Levels of job satisfaction were equivalent for men and women. Respondents occupied managerial, academic and technical positions which are likely to be characterised by work autonomy and a sense of achievement, important factors for work satisfaction amongst nurses.

Older respondents were 2.8 times more likely to be highly satisfied than younger ones, which is consistent with higher job satisfaction rates amongst older health professionals found in other studies.<sup>375, 376</sup> This may be due to job seniority, responsibility and autonomy, all associated with higher job satisfaction measures that increase with age,<sup>377</sup> and the likelihood of finding a work niche. Many respondents reported further studies made possible by their jobs, and further education and promotion predicted job satisfaction in the academic<sup>372</sup> and health sectors.<sup>371</sup>

#### **5.8.4 The Public Health Medicine speciality**

Whilst many respondents appreciated the contribution of other public health professionals, a majority highlighted the critical value of PHM specialists for a range of functions: epidemiology, strategic planning, surveillance and health information, programme design, and research. Added value was identified for health management.

The difference between the speciality of PHM and other public health professionals was articulated as the combination of medical training plus the breadth of experiential and academic training which enabled the making of a versatile specialist who could work at all levels of the services. Furthermore, a biomedical background enabled communication with medical peers and gave deep understanding of service realities and insight into interventions for complex health programmes. Extensive training enabled the fast-tracking of competent professionals ready to take on leadership and management responsibilities at senior levels in the health sector; senior leadership roles were PHM specialists roles in the UK,<sup>163</sup> Canada<sup>367</sup> and New Zealand.<sup>123</sup> Leadership is identified as a public health competency globally<sup>54</sup> – in high-,<sup>67, 78, 95</sup> middle- and low-income<sup>83, 86</sup> countries.

Surprisingly, in view of the few positions identified for PHM specialists, most respondents did not view other public health professionals as competing with them for employment. This may be because they were largely well established professionally. They did identify that specialists' current roles and careers were uncertain, however, and many felt that the speciality was unappreciated and overlooked. This was also identified by registrars (Chapter 4), who were concerned about jobs on graduation. Ghanaians<sup>211</sup> were also concerned that public health work for doctors was unappreciated, but this was related to the dominance of curative services, an issue also raised by respondents in this study.

#### **5.8.5 Respondents' recommendations**

Many respondents believed that the speciality had much to offer a reforming health sector in South Africa which could draw on its approach to health problems and specialists' management, technical and research skills as well as training capacity.

Some believed a discussion about the speciality's role should be held with stakeholders such as employers and trainers. Others felt that core competencies need to be identified, the speciality advocated, jobs for specialists created which, in turn had implications for training. Strongly mentored training with focus and flexibility in a wide range of settings was advocated.

In view of the policy moment for health reform in South Africa, these recommendations are appropriate and point to the steps required that will hone the speciality and ensure its longevity in South Africa.

### **5.8.6 Limitations of the study**

Although the response rate was 67% with a survey completion rate of 56% – a percentage close to the 60% acceptable threshold for online surveys<sup>378</sup> – selection biases may be present. These may be in a number of directions. Respondents may have felt more positively about the profession and its potential to impact on the services in an era of health services reform; or they may have been the dissatisfied who welcomed the opportunity to vent. The large proportion of university-based respondents may over-represent this career option, as these specialists were easy to contact, were more likely to respond to research requests given this is core to their work, and the researcher who requested participation is known to them. To minimize this selection bias, a postal questionnaire was undertaken to recruit respondents with no electronic footprint.

Comparisons between the study sample and source population from the combined database found they were equivalent for gender and for year of specialisation. Similar proportions came from undergraduate and specialist training institutions, although respondents exited medical training more recently (three years) than all on the database.

The quantitative instrument determined the responses given and this may have been limiting. For example, many remarked in open-ended questions that PHM's unique contribution was its breadth of competencies, but this was not asked directly. Similarly, no question seeking to identify components making for job satisfaction was

asked. This study method did not allow probing of perceptions or opinions, for which qualitative methods are better suited.

The findings are, however, illuminating and respondents gave interesting perspectives as to the value of the profession as well as the potential roles of PHM specialists and other public health practitioners to the development of effective and equitable health services in South Africa. Respondents' reasons for studying, perspectives on the value of public health, concerns about career paths and views about the PHM speciality are strikingly consistent with what was found in the MPH and registrar chapters.

## **5.9 CONCLUSIONS**

Public Health Medicine is a small medical speciality in South Africa with fewer than 200 active practitioners. Although postgraduate public health qualifications are largely no longer required for service positions for doctors – which results in uncertainty about the location, competency and uniqueness of the speciality within South Africa's health system – respondents were largely fulfilled professionally. Most have taken positions focusing on population health, motivated by a commitment to social justice as well as interests in specific content areas, and they work in health service and university settings as managers, academics and researchers. This may or may not reflect the paths of non-respondents.

These findings demonstrate that PHM specialists are present in the health services, academia and research despite perceptions found in earlier chapters about the invisibility of the speciality, particularly in the services. Reasons may include the small size of the PHM pool which together with respondents being in non-specialist management posts contributed to its invisibility, except in academia.

What emerged strongly was a belief that PHM competencies were required to transform the health services and address priority health needs. Most acknowledged that a range of public health professionals were needed, many of whom are better suited to perform critical technical functions than medical specialists. PHM specialists, however, offered a unique combination of skills and some believed that senior leadership positions should require specialist qualifications.

Respondents believed that specialists could lead, manage, and provide technical support, research and training to develop an effective health sector in South Africa that impacts on the health status of communities. They felt, however, that public health was undervalued and not sufficiently inserted into the design of health sector structures – health service delivery and health agencies – but was largely present in universities.

In view of the resource constrained health sector with curative imperatives, PHM is challenged to demonstrate its value – through the work of its trainees who are present in many provincial services, through specialists working in managerial and academic positions and through training and research. A proactive approach is required that identifies core competencies, appropriate training and work niches, through engaging with a range of policy making stakeholders. This can lead to advocacy for a revitalised speciality that will contribute to current health reform in South Africa.

## **CHAPTER 6:**

### **KEY INFORMANTS' PERSPECTIVES ON PUBLIC HEALTH MEDICINE**

This thesis explores the match between the 'desired', 'actual' and 'intended' role of PHM specialists in South Africa. Chapters 3 and 4 presented findings regarding the 'desired' – the motivations and intentions for training of doctors undertaking MPH degrees, specialists-in-training (registrars) and newly qualified specialists. 'Actual' career paths of specialists were presented in Chapter 5. The latter two groups' perceptions of the speciality's role and future were also analysed.

This chapter presents the findings of the qualitative study exploring the place of public health and Public Health Medicine (PHM) in the context of health system reform in South Africa – PHM's 'intended' role. It provides insights from perspectives of key informants in health leadership in South Africa regarding the speciality's current and potential future role, which complement the insights from members of the profession presented in earlier chapters.

On the one hand there is an acknowledged need for personnel to contribute to health system reform,<sup>26</sup> and PHM was ranked as 22 in the 2014 list of the top 100 occupations in demand in South Africa,<sup>29</sup> yet little attention has been given to the training and career opportunities for PHM specialists. The reasons for the paucity of career opportunities in the public health sector may be the result of many factors.

Firstly public health skills may not be prioritised, as clinical and managerial skills are seen as key to the success of health reform. Secondly, whilst appreciating public health skills, policy makers and employers do not appreciate the value of PHM specialists. They are poorly informed about the discipline and/or believe other staff can do the same work more cheaply and/or do not value PHM graduates as being service ready. Thirdly, whilst they may be valued, they are not prioritised in view of competing demands. Finally, they may be unable to attract them as graduates' career intentions lay outside the public sector. This chapter explores these issues in more detail.

## **6.1 AIMS AND OBJECTIVES**

This fourth study aimed to explore key informants' understanding of the roles and potential contribution of PHM specialists in the health sector in South Africa. The objectives were as follows:

1. Explore informants' perceptions of PHM's role in South Africa's public health sector in the past and present.
2. Describe their understanding of public health competency needs and gaps in the health sector in South Africa.
3. Explore their views about possible roles and the appropriateness of skills sets of public health professionals in relation to current health reform policies and plans.
4. Elicit recommendations for the way forward for PHM in service, research and academia and identify the training needs.

## **6.2 METHODS**

Qualitative in-depth interviews were conducted with key informants who were current or past senior leaders in the health sector in South Africa. Being qualitative, the study did not intend to be a representative survey of all stakeholders' opinions but rather, aimed to elicit insights of key informants.

Addressing the central questions underlying the present situation of PHM in South Africa, outlined above, required an exploration of informants' experience of the speciality, its relationship to other public health trained professionals, and perspectives on PHM's future roles and priorities. The questions posed were open-ended and allowed for exploration of factors impacting on the profession, its underlying evolutionary path and future. Interview guides used for trainers, employers and policy makers, are in Appendix E.

Qualitative research is appropriate for understanding phenomena within contexts and to uncover links between concepts.<sup>379</sup> In-depth interviews, a key method in qualitative research are 'guided conversations'<sup>380</sup> well suited to exploring complex issues, and offer opportunities to clarify responses to questions to obtain further in-depth information.<sup>320</sup> In-depth interviews fitted the aims of this study which explores

opinions and perceptions regarding the contributions and roles of public health personnel in the past, present and future.

As a Public Health Medicine specialist myself, I was conscious of being a stakeholder and was reflexive in my approach to the research, interviews and analysis. I was cognisant that my prior training, employment and observation of other specialists, informed the issues probed in the study. Reflexivity, acknowledging and being cognisant that personal history influences the research process, can yield more 'valid' research.<sup>324</sup> Following the approach of Starks and Trinidad, on 'bracketing', which increases research rigour whilst being "honest and vigilant" about perspectives, I set "aside but did not abandon knowledge and assumptions" to attend to "participants' accounts with an open mind".<sup>381</sup>

Reflexivity in the data collection, involved collecting all the data myself, listening to responses and probing.<sup>327</sup> Reflexivity in the analysis involved "careful interpretation and reflection".<sup>328</sup> Transcripts were carefully checked for errors, reread and coded, and later reread to ensure that data were not left out and there was no drift in code definitions. The meaning and implications of emerging themes were then reflected upon and drawn out. Negative and discrepant information not neatly falling into the themes is reported.

These processes promote the trustworthiness of the findings, and conform to measures ensuring the research's reliability.<sup>329</sup>

### **6.2.1 Sampling**

Information-rich informants were selected for interviews on the basis of occupying leadership positions in various capacities in the health sector. Many worked for the health service at national, provincial or local government levels in strategic functions, during and since the democratic transition in 1994, and in many cases before 1994. They were drawn from the following four groups – 1) policy makers, 2) employers of PHM specialists, 3) trainers of PHM specialists, and 4) other. Policy maker participants were consultants to government in advisory/policy making capacities; employers were managers in the public health sector, NGOs and the private sector; trainers were

senior staff, present and past, from university public health departments; and 'other' were public health trained informants working in senior government capacities outside of health, and as clinicians. Interviews from these information-rich respondents illuminated the study question as they were decision makers with deep historical perspectives.

Sampling was purposive, and known senior members of training, NGOs, research institutions and the public sector, with experience of public health or PHM were identified and invited to participate. Informants suggested further informants who could provide contributory insights, and this 'snow-balling' sampling allowed flexibility and ensured that a wide range of views was collected.

Altogether 31 people were interviewed between November 2012 and May 2013. All were selected on the basis of their South African experience, although one was based outside of South Africa. As public health practice may differ by location, informants were purposively chosen to come from a range of geographic contexts and organisations. Nine informants worked in national positions; eight worked mostly in the Western Cape; seven in KwaZulu-Natal; six in Gauteng and one in a rural province.

Eleven participants worked in institutions with a national focus while the rest had provincial focuses. All seven retirees were academics, and five had taught public health. Interestingly, most (63%) were trained in PHM, 23% had other public health training and 14% had none. As 39% of participants worked as educators, and two-thirds of these were PHM specialists, this resulted in a high proportion of PHM specialists being interviewed. The other PHM specialists interviewed were employed as specialists in the services, with varied responsibilities and career trajectories.

Most participants had worked in the public health sector, as academics or managers, at some time since the democratic transition in 1994. Eight of the 31 were female (25.8%). The range of participants and the institutions participants came from are given in Table 7.

**Table 7: Key informants interviewed**

Type	Number (percentage)	PHM specialists
<b>Academic institutions</b>		
Trainers of PHM specialists	5 (16%)	5
Trainers of other public health professionals	1 (3%)	0
<b>Employers of public health personnel</b>		
Managers from national government	2 (6%)	2
Managers from provincial government in health	2 (6%)	2
Managers from district/local government in health	2 (6%)	0
National Health Laboratory Service	1 (3%)	0
Medical Research Council (MRC)	1 (3%)	1
Non-governmental organisations	2 (6%)	1
Private sector corporations <sup>xxxix</sup>	2 (6%)	1
Consultants to government	6 (19%)	4
<b>Other</b>		
Retired academics	4 (13%)	4
Work in government outside of health	3 (10%)	2
<b>Total</b>	<b>31 (100%)</b>	<b>22 (71%)</b>

Quotations in the text from informants are identified by their present role in organisations – academics, retired academics, health managers (national, provincial, district), policy makers (consultants to government, including two retired PHM academics), NGOs, the private sector<sup>xxxix</sup>, national institutes, and others.<sup>xi</sup>

### 6.2.2 Study logistics

All participants were invited to participate in the study through an email invitation. When they agreed, an interview time and venue of their choice was set up. Twenty seven were face-to-face interviews and four were telephonic.

<sup>xxxix</sup> The two private sector informants occupy senior executive positions and previously had longstanding senior leadership posts in the South African public health sector.

<sup>xi</sup> Academics are designated as Acad(1-6); retired academics as RetAc(1-4); National managers as NatMan(1-2); provincial managers as ProvMan(1-2); district managers as DistMan(1-2); those in the private sector as Priv(1-2); policy makers as PolMkr(1-6); national institutes managers NatIns(1-2); NGO managers as NGO(1-2), and others as Other(1-3).

Informants were briefed about the scope of the interview as per the information sheet embedded in the interview guide (Appendix E) and given an opportunity to clarify questions. All participants in face-to-face interviews read and signed the consent form (Appendix E), consenting to the interview being recorded, and those telephonically interviewed gave verbal permission for the interview to be recorded. All audio-recorded interviews were transcribed by a professional transcriber who was unaware of the identity of the interviewees. Face-to-face interviews took between 60 and 90 minutes and telephonic interviews lasted between 30 and 60 minutes.

The interview guide probed respondents' experience and knowledge of PHM in the past and present in state, NGO and private sector settings; their own experience of PHM training, if applicable; their perspectives on the need for PHM specialists and reasons for the paucity of service posts; their perspectives on differences between various kinds of public health professionals; public health competencies needed and gaps for health sector reform; perspectives on the position of PHM in various policy documents; and recommendations regarding the future of the profession in South Africa, including training.

First, a broad question was asked about informants' experience of working in public health and their career trajectory. The interview followed the outline in the guide and the interviewer probed to clarify responses, according to the aims of the study.

### **6.2.3 Analysis**

No personal identifiers were captured in the interviews. The accuracy of the transcribed interviews was assured by the researcher listening to the interviews whilst reading the transcripts and correcting transcribing errors. Personal identifiers in the file name of each transcript were then replaced by the identifiers described above, and revised anonymised versions of the transcripts were entered into Atlas.ti (version 7.0.92) for data management. These were read and inductive coding was performed, identifying and analysing themes within and across transcripts. Thematic analysis was selected as it is a flexible analytical tool which can provide a rich and detailed yet complex account of data.<sup>382</sup>

At the same time, a 'mindmap' of themes was created. This was revised and re-organised to make sense of the emerging themes according to research questions. It gave direction for the structure of the analysis. Text that gave rise to the themes was identified and quotations illustrating these were marked and included in the text.

### **6.3 RESULTS**

Despite noting that PHM specialists are largely absent in the services, all respondents recognised the importance of competencies core to the speciality for managing health services and the success of current health care reform initiatives.

A key competency mentioned by many was 'knowledge management', the use of information derived from a variety of sources – data drawn from the services, from other sources and from the literature – as valuable for health services planning. This required functioning information management, monitoring and evaluation systems, and skills in evidence-based health care as well as epidemiology, health policy and health systems, domains core to public health that were valued by specialists in Chapter 5:

... using the data that is available, that is collected and that just doesn't go anywhere, ... And then once you've got useful data, to be able to prioritise and to say, these are the needs and these are the problems ... and identify where there are weaknesses, whether it's in maternal or child or perinatal mortalities, or whatever. (Acad5)

In the face of general agreement about the importance of public health competencies, reasons for the absence of posts for these personnel in health system structures were probed. Emerging themes were clustered into five areas: being the reasons for PHM's absence in the services; the perceived present needs of the services; the place of PHM in the services; developing the PHM speciality and identity; and recommendations for the future of PHM. Each is presented below.

### **6.3.1 Public Health Medicine's absence in the services**

Most respondents acknowledged the lack of prominence given to the speciality in health services planning, and some were surprised by this absence:

We were naively assuming from an idealistic perspective that public health will be the new forté, the new mantra, the new paradigm – and it didn't happen in the eighteen years.  
(PoIMkr5)

A range of reasons explaining the absence of public health trained personnel ran through many interviews. They included: 1) the legacy of the health system in South Africa and public health's place within that; 2) the recent era of the 'generic health manager'; 3) limited resources – human (supply and utilisation) and financial; 4) the public sector work environment; 5) the poor profile of the speciality and its broad identity and, 6) the inadequate product of training programmes. These are presented below.

#### **6.3.1.1 *The legacy of health services in South Africa***

Many participants noted that public health professionals and doctors were involved in both designing and managing health services over the transition in the 1990s. Some were involved in drafting the framework for the health services – the Bill of Rights in the Constitution and the White Paper for the Transformation of the Health Service that led to the National Health Act (2003). A few took on management positions in the health services in national, provincial and local government:

You needed a lot of intellectual rationale behind the shift... Some of those voices [Public Health professionals and doctors] were very important to give credibility and scientific rationale to the broad thrust of public policy. (Priv2)

When the transition happened ... we all had jobs there. You know [] was a big boy in those days, and [] had joined us... All [are] people who ended up in influential positions managing the immediate post-apartheid period. (PoIMkr3)

Despite these contributions, informants perceived that PHM had not retained prominence in post-apartheid health services and many designated posts requiring public health qualifications disappeared from health services locally, provincially and nationally. This was also noted by PHM specialists in Chapter 5. Reasons given

clustered into three themes: the persistence of a curative orientation in the health sector; the role of politicians; and the demographics of PHM specialists.

Many maintained that a curatively orientated health service drives health priorities and budget. After 1994, curative services were enhanced and coverage extended, and this was prioritised at the expense of funding for public health imperatives. In the context of poorly functioning services requiring crisis management for clinical care, some were not surprised that investment in public health initiatives and staff were not prioritised. In addition, others perceived that the hubristic clinical paradigm of South African medicine overshadowed population oriented approaches:

One of the most difficult things is to take away from something and put it somewhere else. Now if you had new money to invest the discussion would have been very different. If government in the early days chose to put their new money into public health imperatives and left the funding levels ... for curative care ... perhaps this would have been a little easier to deal with. (NatIns2)

It's only once ... holes are plugged then you have a system that is functional. [When] you are not dealing with emergencies, then public health starts to settle in. But when your work entails covering and plugging and just providing clinical care, there isn't much time to think about public health. (Other3)

Here [in South Africa] we have an individualist way of doing things and entitlements... [Medicine] is the stuff of heroes. Of course it's reinforced by hubris. It's not very hubristic to claim, "Oh we helped to prevent so much disease in the communities". It is much more upfront to claim that you did the first heart transplant. (Acad3)

Some saw that preferences of powerful politicians shaped policies and budgets. Examples given that negatively impacted on public health approaches, were the dismantling of community health worker programmes under the first minister of health, Dr Nkosazana Zuma and the anti-science ethos of her successor, Dr Manto Tshabalala-Msimang, that resulted in little focus on, and resultant capacity in, evidence-based practice shaping service priorities. Other participants believed that senior level appointments required membership of the ruling party and the delivery on politicians' priorities:

During Manto's leadership in the Department of Health, there was ambivalence towards scientific medicine ... and particularly the public health paradigm – and then the consequence ... was a loss of focus on evidence-based medicine and particularly public health approaches to health. (PoIMkr5)

Have you heard of cadre deployment? A lot of the people that are there, and in some of the senior provincial jobs, ... have been members of parliament. (PolMkr3)

Race issues were raised by some informants as contributing to the diminished position of PHM specialists in the services. Some believed this factor was responsible for the move of trained white managers out of the services and the appointment of 'black' managers to rectify a skewed representation. As most specialists were 'white', the specialist requirement for positions had to fall away to appoint generic 'black' managers. For some, this was a fair interim arrangement whilst a new cohort of 'black' PHM specialists and professionals emerged:

My move was lateral and downwards. Although I cannot completely know the mind of the person or grouping behind it, I believe it included elements of an anti-white restructuring, as several other white managers were also demoted at the same time. (Other2)

With the transition in '92, '93, '94, '95 there was a sudden recognition that by specifying it as a ... requirement, it would completely undermine black economic, let's call it 'black promotional' empowerment. I think that one of the key reasons public health stumbled in the 90s [was] because there were very few specialists of people of colour in public health. (RetrdAc2)

### **6.3.1.2 The era of generic managers**

Some informants believed the anti-science stance of Dr Tshabalala-Msimang amplified an anti-doctor and anti-professional sentiment that pervaded the health services in the early 2000s. This dynamic underlay the removal of doctor-managers, and the appointment of generic service managers:

There was also at the time a general anti-doctor movement within government circles amongst other health professionals – in particular the nursing and environmental health professions – which saw several ... doctors in management positions ... removed and replaced. The introduction of generic managers was prevalent then – the feeling that professionals should be placed under generic managers who would be more compliant. (Other2)

And there's also this whole issue ... the doctor-bashing syndrome. ... "Just because you're a doctor and you've got a four year specialisation, why should you be any better than me who has been a nurse who has got an MPH?" MPHs are seen as specialists, you are a specialist in public health. (Priv1)

This resulted in the appointment of staff to run health institutions who did not necessarily have health backgrounds. Some participants commented on the poor

calibre of managers recruited and the negative impacts on the health services. Whilst management training, in MPH and management programmes, were made available to many through academic institutions, participants saw this as inadequate and failed to capacitate managers working in complex institutions:

For the previous eighteen years there was a lack of understanding of the role of, and the need for, highly competent and professionally qualified people with health sciences and, a medical background with core management competencies [with] a professional degree. There was a notion that anybody, any health scientist, even the non-health professional could run a clinic, a hospital, be a hospital CEO, run the district health system, run a provincial health department or a national health department, and that [was a] very serious inadequacy and glaring neglect. (PolMkr5)

Managers in the health system needed more training and the Masters in Public Health was seen as a route to that and that it shouldn't just be doctors. It should be nurses [and] environmental health officers and everybody should have access to the training and be equipped to be managers and have those broader public health skills as well. The level of the MPHs gave people a better understanding of public health issues. But I don't know if it actually gave them the competencies to lead and manage... the changes that needed to happen in the health system. (Acad4)

### **6.3.1.3 *Inadequate supply and utilisation of personnel***

As Public Health Medicine/Community Health is a relatively new speciality and qualifies few specialists each year, there is only a small pool of specialists in South Africa. Informants who were senior managers in the services over the transition in the 1990s noted that the skills base in systems design at that time was scarce. Some believed that a scarcity persists and as the likelihood of recruiting someone with a qualification is negligible, it is unrealistic to make a PHM qualification a requirement for a post:

People started looking at public health for ... what are the main drivers and causes of ill health and, the most ethical way of doing.., health system ration[ing], issues about health systems management, issues about health systems design. I think as we became aware of the imperative of those sorts of skills and health systems, we then got to understand how limited that sort of skill base was within the country. (Priv2)

You know, people carried on without them [PHM specialists], and not many applied and forced their way into the public sector. The DDG [Deputy Director General] position is not necessarily earmarked ... for a doctor... This position that I'm in, is not for a public health specialist... I have toyed with motivating to make it a specialist position, but then, you'd be blocking recruitment. (ProvMan1)

In addition, some informants remarked that government, before and after the apartheid era, failed to utilise available skilled public health personnel. Some informants struggled to find employment because of racism in the apartheid era, and others commented on a persistent inability of government to draw on available scarce and valuable skills:

So, it took them a year to appoint me and then I was appointed as a medical superintendent with a [specialist degree plus] four years' experience in a rural setting. They appointed me with another person who was a white female doctor, recently qualified. (Other1)

I think that's been one of the tragedies of specialist medicine in South Africa, not just public health ... it's the failure of government managers to use the facilities of experts. ...For example you can have a collapsing obstetric service... The [ ] Health Department is surrounded by public health faculties - and here you get a collapsing health department and [ ]people will not call on expertise. (NatMan2)

#### **6.3.1.4 The public sector work environment**

Informants asserted that structural factors negatively impacted on the recruitment and retention of PHM specialists in the public sector. Some believed the post structure for managers was a disincentive to employment. Although the OSD, with improved salary structures for doctors was introduced in 2009 to attract and retain specialists in the state health sector, few posts were designated for PHM specialists. Those in management echelons stayed in generic management positions, with poorer salaries than clinical colleagues. Poor remuneration was given by some as an issue and a disincentive to staying in state sector management positions:

Because generally in the public sector, any senior management post that gets advertised, it's basically RVQ13, so it's matric plus three years. People can get up to the level of chief director just with a three year qualification and ... all the health posts get written that way. (Priv1)

Oh [remuneration] was a big issue, yes, it was a big issue, absolutely. I think it's more than remuneration, its recognition for additional performance. (Other1)

A few remarked that the public sector was not an easy work environment. Work was stressful, requiring the management of competing demands and was often frustrating due to an environment that constrained innovation. Interestingly one participant wondered whether the hierarchical work environment in the state sector was suited

to the innovative practitioners the speciality aimed to produce. These factors may limit recruitment and the public service as a long-term career option:

It's a stressful environment and because public health can be involved in all of those things, a lot comes at you. That's part of the management training: How you manage your time, how do you manage priorities. (ProvMan2)

It attracted deeply motivated people and that made a huge difference. Many of those guys did not survive in the rigid uni-dimensional kind of structures – be they local; provincial or national. (RetrdAc2)

### **6.3.1.5 The poor profile of Public Health Medicine**

PHM is not focused on direct individual patient care, which is highly valued in medicine. Some informants believed that the speciality was, therefore, not respected by many medical colleagues, and moreover, clinicians' opinions on public health issues carried more weight. This, together, with a belief that PHM specialists had produced mediocre work, contribute to the speciality's poor profile:

Public Health Medicine, called 'community health' in the old days, was regarded as 'common sense', it was in fact stated by a ... professor ... friend of mine. [] said to me, "I have no respect for your discipline". (PolMkr6)

With their gravitas as a Head of Medicine or as an important physician, they make comments with some evidence, about the national health insurance and they get listened to. The Prof of Community Medicine doesn't have the same gravitas, ... because is it a real doctor? (Other1)

Clinicians looked down on it. "These guys, what do they know, they don't do the real medicine". The public health people ... were doing pretty mediocre kind of work, ... they weren't really having ... measurable impact in terms of saving lives in the public domain, ... through health care services... So it really was seen as ... those people we tolerate. And I took the view that it is because we didn't have the guts to stand up and ... show them that we actually publish better papers than they do. And ... and the reality was we weren't publishing better papers than they did. (NatIns1)

Some felt that this "Cinderella" status has shifted, with public health research gaining recognition – although ignorance about the speciality persisted in the medical profession, academic institutions, health services, potential employers and the public. Others thought PHM specialists were not sufficiently prominent and this may be because they self-identify in particular content areas. In addition, some believed there

was confusion about the difference between PHM specialists and Family Physicians and both are conflated as primary health care doctors:

I think there is kind of recognition because what [public health] delivers is very good. You can't avoid it because there's a lot of publications and grants and productivity and programmes. But do our colleagues quite really understand it? No, I don't think so. (Acad3)

Doctors who specialised in Public Health Medicine from my perspective, and I've worked with a few, I didn't know that they existed. My perception was that it was an occupational health speciality and it was only in the last few years that they started popping up within the space... still heavily dominated by clinicians rather than public health doctors... I don't think they're particularly well organised. I don't think they as a speciality discipline have sufficient prominence within ... medical conference[s] ... where you become aware of people; and I don't know why because they do interesting work. I don't know... do they go to other conferences? (NGO1)

Many informants raised questions about the identity of PHM. They queried whether there was something central underpinning the speciality, holding it together. The competencies expected are broad, and some wondered if they were too broad and lacked coherence. Some argued that constituent disciplines such as infectious diseases or occupational health were easier to grasp as desirable and critical for the services:

Perhaps part of the problem is that it really isn't a single discipline, you know – it's a conglomerate ... it's a whole lot of things that can't be put anywhere else, that have all been put together for lack of knowing where to put them. (NatMan1)

I think that [the] public health discipline has ... not progressed [as] strong as one would have imagined. Many of constituent components have evolved in their own way, for example... infectious disease surveillance ... So many of the sub-constituent parts are being done by somebody in some or other way – but as a discipline outside [of Public Health Medicine]. I think it's always been strongest in academia, but as a discipline, in its practice, it's never really become embedded properly. (NatMan2)

We haven't been able to articulate the umbrella. So we have recognition, medical and dental council, you know, fellowships, and that keeps us going. There are legal frameworks that keep us going; but take those away, we may have a problem. (Other1)

For others, the breadth of PHM had distinct advantages. Broad competencies enabled the development of a versatile professional, who “know[s] a lot about everything”. The range of teaching offerings equipped personnel to work in a range of contexts at various levels:

Public health is multi-disciplinary, multi-professional and so on – and trans-disciplinary in fact. If you think that breadth and then you think of the different levels at which it needs to be practiced, well, I mean you can have hundreds of different course units which would fit better people at different levels. (RetrdAc4)

A consequence of an ill-defined core identity was poor advocacy for the speciality, and this was seen by some as a major reason for the lack of prominence of PHM in the services. It resulted in inadequate funding for specialist posts and training.

Consequences were few posts in the public sector and unclear career paths for specialists. As a result, many had carved their own path, creating work that interested and extended them:

There is not a clearly defined career path for public health specialist[s] sitting in the public health system. I'm going to blame public health specialists for this. I think those of us who have been involved in public health, we keep blaming the Department of Health; but what have we done? (NatIns2)

I qualified and then I couldn't find a common road that people take. That is why I said, "Alright, I'm interested in community projects where I will explore the role of health". That is what I decided. In other words, I carved my own path because there was no general path. (PolMkr4)

Others identified that poor advocacy for the profession and poor differentiation between the various cadres of PH professionals had resulted in the speciality not being a requirement for positions. PHM's varied competencies, were not marketed as central to the work of the services. In contrast, some saw Family Medicine as being proactive, securing a service niche for itself. Contextual factors such as the development of the district health system, the importance of primary clinical services delivery requiring increased clinicians, may have contributed to Family Medicine's success:

They haven't differentiated a specialist doctor in public health, so that's part of the reason why it's never been put down [as a requirement for a job]. And it's also more difficult for the people like me to advocate for it because then it's seen to be personal. (Priv1)

I think that Family Medicine has done a much better marketing job than has public health. And actually it is difficult for public health to do a marketing job because public health's presence, as I have suggested, is within occupational health, environmental health, epidemiology – abstruse for the service people – research projects; and not actually assisting and implementing primary health care. So it's come back to hit us. (RetrdAc4)

The character of the PHM specialist may be implicated in the lack of advocacy for the profession in the services. Informants described this doctor as someone who is committed to humanity, focused on people and not on promoting themselves or the profession. Some characterised specialists as being self-effacing, reluctant to alienate others and as a consequence they had not promoted the profession. Indeed some found past lobbying for recognition for the speciality – for specialist posts and overtime pay – to be distasteful:

We are not arguing types, we more tend to be like the paediatricians. In fact a couple of them are, in fact, paediatricians. We tend to be nice and gentle and loving and kind and must think of the whole of humanity and all that type of jazz. (Other1)

It was distasteful, you know. Certainly we need to make sure that we are remunerated appropriately and we have jobs. It was not coming from a perspective of public health specialists can add value to the health system and they have a unique contribution to make. So, I think, that kind of lobbying around overtime ... almost prejudiced public health specialists. (Acad4)

#### **6.3.1.6 *The uncertain value of training programmes***

An uncertain identity, poor advocacy and the breadth of the discipline together resulted in blurring the competencies expected of PHM specialists compared to other public health professionals. Many wondered what the differences were between specialists and MPH graduates.

Opposing perspectives as to the nature of the public health workforce underlay reflections about the niches of various public health professionals. Some saw a hierarchical system within the workforce, with PHM specialists occupying top echelons, and MPH graduates as subordinate. In a context of competition for jobs, they perceived practitioners with MPHs as a threat to specialists. In contrast, others saw a flatter system with complementing contributions from staff trained through postgraduate programmes. They believed that arguments about the difference between various public health cadres alienated decision makers and was detrimental to the profession:

What is happening is people doing their MPHs are claiming this space that we have. That is a problem. (Acad5)

We've been able to do these step downs – the MPHs and the MPhils – and that has helped to produce another cadre of people who understood epidemiological theory, and they are applying it. (Other1)

There is a view that Public Health Medicine doctors are the victims and everybody else is doing things to them... you lobby and argue for things, not by alienating others who are not doctors, but who actually have the interests of public health at heart. Will it further their cause by creating artificial divides? (Acad2)

For other informants, including non-PHM specialists, MPH professionals had variable levels of expertise, which depended on their training and base profession and they did not threaten the PHM space. Teachers graduating these professionals saw them using the additional degree for career progression:

Most of them [MPH graduates] have advanced themselves in their own particular fields. So environmental health officers for instance, I can think of two or three, three, four, who did the MPH and have just progressively risen in their fields. (Acad6)

For some, the range of MPH degrees available with variable foci made their value uneven and contested. Some thought MPH graduates added value to the health services but others doubted the training adequately prepared graduates for work.

On the positive side, some noted that educators aimed to produce MPH graduates with generic management or focused technical skills, working in disease programmes, to successfully impact on health outcomes:

We try and orient our curriculum... there is quite a strong focus on the implementation cycle, so that when graduates emerge, they're supposed to have the skills to ... do situation analyses using quantitative and qualitative methods, to plan comprehensive programs and to be able to monitor and evaluate it and also to know something about how to advocate for and communicate about this. (RetrdAc4)

I saw these MPH people working all over Africa, working quite vertically. They would take one problem and they would say, malaria...Malawi...and they would absolutely flatten it [comprehensively manage it]. (DistMan1)

On the other hand some informants were ambivalent about MPH training. They recognised the intention and potential value but felt that the competency expected was unrealistic. MPHs did not produce managers who could lead and manage change:

People did recognise ... that managers in the health system needed more training and the Masters in Public Health was seen as a route to that and that it shouldn't just be doctors. It should be nurses [and] environmental health officers and everybody should have ... those broader public health skills as well. The MPHs, certainly I think, gave people a better understanding of public health issues. But I don't know if it actually gave them the competencies to lead and manage the changes that needed to happen in the health system...Possibly the MPHs ... were just too generic and I don't know if they gave people the experiential exposures that they needed. (Acad4)

On the negative side, many managers remarked on the poor competencies of some MPH graduates, particularly in management. Some argued that completing the MPH for those studying part-time had added little to their performance. The MPH did not prepare graduates to apply management skills and in some cases public health knowledge. Leadership and management skills are better achieved through practical exposure:

I've never been in a situation where I thought WOW, that person knows what they are doing and discovered it's because they have an MPH. So I don't see the evidence of MPH learning in how people perform their jobs, you know, it doesn't stand out for me. (NatMan1)

Well I'm not impressed with an MPH personally. I think it adds some value, but it's not the people who are going to run the health services. I think you have to have something more substantial. But just working with people who have a MPH the epi[demiology] skills are good, but their managerial skills are zip. (PolMkr3)

Most of the health professionals that come into management are nurses and they may or may not do MPHs. The quality of the MPH training within the public sector has been, across the board, bad. So people have a MPH behind their name but they cannot apply any public health, and that was one of the presidential directives to capacitate health managers, "Do MPHs!" So, this is an instruction, to take on MPH students, all the hospital CEOs and, other managers. They were just passed, without decent dissertations, with useless marks. (ProvMan1)

The value of the PHM training was also contested. On the one hand, some believed that specialists successfully completing the nationally accredited exit examination required an intelligent, autonomous individual. This, combined with their broad skills set and practical apprenticeship-type training, fast-tracked them to work in a range of organisations and placed them above other public health professionals. Some informants commented on the high calibre of specialists produced, noting that they had risen to important leadership positions in service and academic institutions. They believed training was pivotal to these achievements:

The training, I think, is excellent. It was just so extraordinarily diverse. Give me a person who's got bio-medical sciences as his or her base and you add to that the social sciences, sociology, political sciences, economics... Then you have all the management stuff ... Then you've got all the environmental sciences and the occupational health stuff ... all in one person ... that's a unique [person] that can probably thrive anywhere... You find the health sciences faculties' deans are Public Health Medicine people ... at some point they rise to the top ... I think there's something Public Health gives you ... arguably somebody else could have the same skill but it's just something about it that gives you the capacity to ... you have a vision that's different. (PolMkr6)

On the other hand, a few believed that the training in some institutions was sub-optimal, and that a few candidates had selected the training on the basis that subsequent work was not demanding. Some registrars had added little value to service delivery as they focused on academic work. One questioned whether the four years of training was used optimally to produce a competent practitioner:

People did do it for an easy ride, you know. It's easy to do public health and the hours are controlled and all that sort of thing. (RetrdAc3)

In... they seem to be full-time students rather than like other registrars, basically because they're working from the university, getting paid on a full-time basis and their value isn't realised. The experience of those registrars, they were more of a headache than actually adding value. (Priv1)

Four years of specialist training and you're at the end of it. You don't know how to frame those questions and then you think you need another five years of experience in order to frame those questions ... that's not the case with clinical medicine. Are we really taking full advantage of four precious years or are we simply farming people out? (NatMan1)

These critical comments about specialist training programmes point to the importance of theoretical programmes coupled with the placement of registrars in appropriate service settings at the right level. These, together with academic supervision and assessment, should facilitate competence and contribute value to the services.

A few informants had employed specialists who they felt were unable to lead and manage. They identified gaps in their own and their employees' training in areas key to the speciality. Skills mentioned were: project management, monitoring and evaluation, health economics, and leadership. Probing these perceived deficits revealed that informants believed that training programmes were not comprehensive. Observed variations in skills may be the result of specialists training through different university programmes, in different eras, as well as the personal attributes of trainees:

A lot of stuff around monitoring and evaluation, impact analysis – and our training hasn't been as good in that. But if you want to work at the national Department of Health, that oversight role is one of the most important. (Priv1)

The actual hard modelling skill was not something that came through in public health for me. But when I came into the service, it was a big thing. How do you model, how do you think, cohort wise, projecting, forecasting....? Project management is a big skill. I can't recall doing project management in my public health training. (ProvMan2)

I'm not convinced that [the competent manager with public health skills] exists because my experience with different public health specialists that I have worked with now, and we've probably have about four, five ... is that there's a huge variety in their skills. (NGO1)

### **6.3.2 What is needed in the services?**

South Africa's current health sector reform requires skilled personnel to translate articulated goals into services and delivery. In view of the paucity of PH personnel and specialists in the services, and the reasons underlying their absence, participants' perceptions about the competencies needed for health service reform, and the place of PHM within this, were probed. Overwhelmingly participants identified a huge need for leadership, management and planning skills. Some pointed out the additional value of PH perspectives and skills.

Almost all informants highlighted the need for competent managers, also noted by specialists in Chapter 5, who had with project management and planning skills in the services as the key, critical issue, and their absence compromised South Africa's health system:

I believe in South Africa today, one of the biggest problems ... is that we've got too many people running health institutions who do not understand what it is that they are doing. They do not understand public health; they do not understand and they are running institutions. I actually think that needs to be corrected. (Priv2)

There is a general inability in the public health management system to translate vision, which normally comes from the politicians ..., into a strategy that can [be] implement[ed]. It is then broken down into an operational plan that says clearly who's going to do what, by what date, that's linked to a budget that supports that operational plan and that's underpinned with an appropriate staffing structure and an appropriate and strategic information framework that allows you to track progress and that's what's missing. (NGO1)

Some applauded the present health administration's efforts to remediate the past 'generic management policy' and felt that this move held hope for improving health services:

Dr Aaron Motsoaledi, the current Minister, is at pains public[ally] to talk about teachers being appointed as MECs and HODs of Department of Health. He publically bemoans that period where the government and the Department of Health went through a phase of appointing non-professionals to very senior [positions] ... and he now wants to turn that around. (PolMkr5)

A few informants identified high-level strategic management skills gaps, naming institutional management and change management. Specific competencies – such as human resources management, project management skills, the ability to translate policy into practice and, writing skills – were highlighted. These gaps had promoted a reliance on outside consultants:

You really needed people with strong change management competencies and also to address not just routine delivery of services, but to have a broader vision of prioritising, burden of disease, quality of care – so a really higher level of expertise in terms of planning, evaluating and developing the services. So there has been a huge gap in that kind of leadership and we've seen ... the results of that in terms of the quality of care that's being provided, [for example] the [disease] outbreaks ... which shouldn't happen. (Acad4)

I think in the whole Department of Health there isn't one single person I would regard as being a health systems planner... In the provinces, here and there there's one. (PolMkr3)

One of the biggest weaknesses of public sector people is their inability to write things. It's absolutely shocking how poor people are at report writing. And to be able to ... document and research and come up with new ideas. ... Then you get these consultants that come in and take all your stuff and then put it into a fancy report... and then suddenly they're the experts. (Priv1)

A combination of good management and public health skills, identified by specialists in Chapter 5 as core to PHM, were also highlighted by some participants. They require skills to both understand the health profile and needs of populations as well as competencies to lead, plan and manage complex services and institutions. Such a combination enables critical engagement with policy and practice:

We need people who understand systems, complex systems ... and how you change them. Then we need skills around monitoring and evaluation and not just ... routine [skills], but fairly high level, that you can make substantive recommendations or throw things out, or chang[e] things completely, or bring in new things, rather than just tinker. We need hard epidemiological skills. We need ... management skills that relate to planning, which relate to human resources. Human resource planning has been our worst achievement since 1994. I don't know if it is a skill or attribute but we need public health [perspectives]. ... We need health professionals who are able to ... be a bit critical and advocate. (Acad3)

We've got this HR plan but it's unreal in that it doesn't really take account of the fact that there are thousands of people out there who need some substantive public health skills... They need skills to be able to run a district or run a program and they don't have that. (RetrdAc4)

A public health unit had recently been created in one provincial office. Rather than focusing on remedying individuals' skills deficits, the health system was purposely changed, creating a structure with competencies and responsibilities. For this provincial informant, having public health expertise and specialists in the services provided an opportunity to promote public health perspectives overall, and to build the system as a whole:

If one got our managers to think broader, to think how you fit into the bigger system and how you contribute up and down... And our whole big push in this province now is to just get there. Everybody start thinking about the system as opposed to your own patch and that's a whole mind set change. (ProvMan2)

### **6.3.3 The place of public health trained staff**

Informants were critical of the previous implementation of 'generic managers', and emphasised the need for health trained managers in health institutions. The overwhelming need for skilled managers, raises a question about the need for PHM specialists, and the importance of management competencies in PHM training. Delineating differences between PHM and other PH professionals, those with MPHs or MBAs, would assist in identifying potential roles. In addition, developing an identity for PHM and formulating its relationship to the medical profession and its academic roles would illuminate the profession's future.

It has already been noted that informants identified that managers need classical PH skills such as epidemiology, as this underpins monitoring and evaluation, allowing the interpretation of information, which is the evidence base for decision making and policy. These PH skills are required for current health reform:

But you can't get involved in management sciences if you don't have a foundation in, I think, in epidemiology. (PolMkr3)

### **6.3.3.1 Which public health professional?**

In view of funding and personnel constraints, informants' perceptions were probed regarding the professionals they would choose for training and employment.

Perspectives were also obtained on where professionals with MPHs, PHM specialists and doctors with MBAs (Master of Business Administration) should be placed in the health system.

Some informants outlined the functions of staff with MPHs as 'technical', those with skills to work with databases and surveillance, and in health prevention and promotion programmes. Others believed that a health background together with an MPH was required for specific programmes such as child and women's health. Some believed that appointment above a level (deputy director) in provincial health services with technical responsibilities required a public health qualification:

But if you're in that operational stream, ...if you're looking at child health, women's health, ... health services, you need to have an understanding of health in general. I would think that everybody above the D[eputy] D[irector] should have an MPH of some sort, or equivalent. (RetrdAc1)

Most informants questioned the value and advisability of promoting MBA qualifications, believing the skills taught in the MBA were not appropriate for the health services, which required more tailored management skills. Others felt that the cadre is so rare that a doctor with an MBA was likely to move to the private sector:

I am very reluctant to punt MBAs because I think you can put a hell of a barrier in there. I think it's easier to get people through ... postgraduate certificates or diplomas and teach them the basics about how to do a budget, how to do a marketing plan, how to do a human resource plan. Then, suddenly put this huge bar there and say go and do MBAs. It costs a lot of money. It's going to take three years. Ten percent of people complete the average MBA. Fifty percent get divorced along the way. It's a big price to charge for professional health management. (NGO1)

[The] medical administrators group ... they were running those hospitals. ...When the budget crunch came, they had MBAs and the private hospitals just snapped them up. (Other1)

As was identified by registrars (Chapter 4) and specialists (Chapter 5), many informants believed that there was a place for PHM specialists particularly in an era of health systems reform. They had both the broad competencies in public health and management skills required to transform the services:

And I think the public health specialists need to be [focussed] on.. how do you reinvent service delivery? How do you deal with the failures in service delivery? Unless I'm mistaken that is what public health is supposed to be doing. Because there is no-one who can do that. (NatIns2)

Public health is so wide, you know. And that sometimes is a strength and a limitation. The strength is, I think having that broad training, that broad understanding of issues. You are quite versatile in the way that you can apply yourself. (ProvMan2)

Whilst many believed PHM specialists could make a contribution, the skills sets of the current cohort was questioned by some. Some did not believe PHM specialists had the required management skills. Others felt that the Ministry of Health, whilst it may have employed PHM specialists, did not harness their wide experience and expertise for health reform, and did not recognise their broad value:

The Public Health Medicine specialist could really be an incredibly powerful force for good. If they came out of that speciality [training], understanding the public health issues, but also understanding the managerial competency that goes with it. I'm not convinced that that exists. (NGO1)

Yes, that is an important question [the role of public health trained doctors] – I haven't figured out myself what the role could be. When I came here as the public health specialist with a glittering CV, a lot of experience, they still closed the door on my face. That made me think that ...[the] public health trained doctor is not relevant. (PolMkr4)

#### **6.3.4 Developing the Public Health Medicine speciality and identity**

In view of the ill-defined difference between PHM specialists and other public health trained personnel, informants – like specialist respondents in Chapter 5 – felt that the speciality's leadership needed to re-examine its competencies and identity, and craft a way forward. In view of current system reform, should it retain its separate identity? How should it relate to other public health professionals, and to other medical specialists? What should specialists' roles in the health services be? Should there be unique areas of work reserved for PHM specialists? What should its academic role be? Findings from probing these issues with informants are given below.

I think there is quite a need for introspection by leaders of the profession and the kind of rethink of where we want to position this profession going forward. Does it still have role? What is this role? What do we actually want for Public Health in South Africa? (NatMan2)

Although many believed that it was timeous to rethink the profession's identity and future, some felt uncomfortable about discussing and promoting PHM apart from

public health more generally. Like specialists in Chapter 5, many saw that PHM specialists should be part of teams working with other public health trained professionals, often in leadership positions. One informant argued against defining a unique competency area for PHM specialists as this would contract its area of work and believed that the strength of the speciality is its breadth:

I don't invest most of my time in Public Health Medicine because I think Public Health is broader ... I'm not somebody who feels comfortable with the sort of self-advancement – pushing the profession of Public Health Medicine above all else... In the ideal world there would be a kind of team and ... a key part of that team would be the set of the public health skills brought by the public medicine graduates... I think that the team needs to have both MPH trained and MMed trained public health skills. (Acad3)

If you try and say that these are the things that only a medical doctor in the field is competent for, you start contracting the field of practice and the skills down to this minute area of narrow competence which I think undermines the discipline and the expertise. (Acad1)

#### **6.3.4.1 Public Health Medicine and medicine**

The importance of public health perspectives for all doctors, including medical specialists, was raised. One informant suggested that public health competencies should be core to other medical specialties, and these perspectives added value to the management of individual patients, a position articulated in all three studies already presented. This remark may indicate deficiencies in undergraduate public health training which do not inculcate such perspectives, which consequently need reinforcing in specialist training:

You don't ask them under what conditions do they live. ... So I think [public health] should be part of everybody's speciality. So whether you're a cardiologist, or whether you're a paediatrician, you should have a public health slant to your work. And that probably is the single biggest weakness in the whole specialist training area. I'm not knocking that we need specialised public health doctors. (NGO1)

Some argued that the value of a medical background was firstly, understanding bio-medicine and secondly, prior clinical experience in the services useful for population orientated work. Others voiced the advantage of being a 'specialist', which assisted commanding authority in leadership and management and could contribute to working teams with other medical specialists who have oversight of specialist services in geographic areas. These perspectives were articulated by specialists in Chapter 5:

It really does help to be a medical specialist if you [are] engaging with public sector managers. There is ... an advantage of being a specialist, there's still a certain level of respect that's given to the opinions ... that probably makes them a bit more effective than the person with just a Masters in Public Health who might have been a physiotherapist. (NGO1)

A few argued that a clinical background, explicitly using bio-medical and clinical training, could point to specific work for PHM specialists. This was in clinical epidemiology and infectious diseases which could include clinical work. Statutory requirements in communicable diseases control, for example, was raised by another, which could be a work domain for PHM specialists:

Where's an area in public health where you need to have an understanding of the human body in order to function optimally?... One is Clinical Epidemiology where you are clinically competent and you are epidemiologically strong; another is Occupational Medicine; ... [and] an infectious diseases specialist that can manage patients in the ward, outbreaks. ...You're completely competent to deal with the biggest burden of disease. (PoIMkr6)

I think what we haven't got yet is the statutory functions to oversee surveillance, for example, and to assist with notifiable diseases, as a start. The same, you know, with port health, ... haemorrhagic fevers, the SARS, H5N1, all these things, ... could be part of our domain. (Acad5)

#### **6.3.4.2 Public health roles in the services**

Many were encouraged by the mention of PHM specialists at all levels of the services in national policy documents. Possible functions that could be played by public health trained professionals and PHM specialists were probed. Roles suggested spanned all levels of the health services, from national to district, in leadership and support functions. Some believed senior positions required a public health qualification, which was also found in the specialist study (Chapter 5). Some mentioned new statutory national agencies in quality assurance as a huge opportunity for public health graduates:

There is a glimmer of hope. What we think is our main function, and it surfaced in the Human Resources for Health document, is in the establishment of public health units. (Acad5)

The National Health Amendment Bill it is now an Act of Parliament. It's non-negotiable. Nobody can deliver on core standards except public health people ... I mean MPHs and specialists – there's it. So, there's enough work for us for the next fifty years. (PoIMkr5)

There were comments about the potential role at a national level, and a few noted the current lack of public health trained staff in the national Department of Health. A unit was proposed which could be housed in the office for strategic planning and provincial support:

I think you need a unit of population studies ... and that would include, obviously, a team and a number of public health specialists and support staff. And they would then be given oversight of provinces and the districts. The issue ... would [be] what role and authority they have because as you know provincial competency [which is autonomous] – when you advise you don't really tell people what to do. (PolMkr1)

Some felt there should be roles at both provincial and district levels, in monitoring, evaluation and planning. Rather than having expertise and functions scattered in provincial directorates, these should be consolidated in a unit or directorate and that developing this function at a provincial level should be the strategic priority. A PHM specialist could lead or be part of this 'public health' unit, which should have capacity in epidemiology, in evidence-based health care feeding into management's decision making – roles also identified by registrars in Chapter 4:

You really need people in each province, in each district with public health expertise...because of [the] breadth and the depth of the knowledge... It needs to be surveillance, linked to planning, linked to evaluation, then to decision making. (Acad4)

At provincial level, because I think that is where you need to elevate the role of public health specialists. If you can get it done there then I think strengthening the districts is going to be a lot easier. (NatIns2)

A similar wide range of functions was suggested for PHM specialists at district levels, with roles in surveillance and planning, assisting prioritisation, operational research, resource allocation, service design and implementation – a location also desired by registrars and specialists found in Chapters 4 and 5. Some thought that capacitating districts was a priority, and funding for this should be sought. For some, this technical work could be done by an MPH graduate. Many advocated that a PHM specialist should be the district manager, or part of the district management team. For some, a public health qualification requirement for district managers should be part of future health regulations, and existing district managers should obtain public health qualifications within a specified time:

They could play a role in district planning, implementation support, operational research, M&E [monitoring and evaluation], evaluation, Epi [epidemiology], disease outbreaks. What we need is public health capacity to analyse the data, to integrate the data, to provide the intelligence, to inform our decision making. That's what we need. Priority setting, how do you set priorities, what is the research data? Implementation support, operational research, you know, rapid appraisals to see whether things are working, not working, all of that. (ProvMan2)

... A Public Health Medicine specialist would need to be part of that district health management team. [They would have] skills for health planning for that population, understand the disease burden, document trends over time, of communicable diseases, non-communicable diseases and injuries... So broader skills of monitoring and evaluation. ...So it would be great if the district health manager had public health skills and maybe we would want to get it in some kind of legislation that every district health manager should have done ... an accredited course in public health. (Acad2)

PHM specialists were intentionally left out of the 'district specialist teams', a key strategy for primary health care revitalisation. An informant reported that provincial departments were consulted but did not see the need for PHM specialists in teams. The opinions of informants about this absence were probed. Some felt that PHM specialists had the skill to co-ordinate specialist teams which they believed lacked population perspectives, and skills in epidemiology and planning:

I personally thought it was quite good, because family physicians...we do have some epidemiology training, but not as much as a public health physician does. I think it's very helpful to have the public health physician involved in monitoring and planning of health services, because we as family physicians can't crunch numbers. We don't know enough in epidemiology and we don't have a background of reading large number of studies around infectious diseases, chronic disease and so on. (DistMan1)

On the other hand, some informants felt that, as the work of the teams was chiefly outreach support and training, the decision not to include PHM specialists was appropriate. They were a scarce and expensive commodity, who should rather be located in the district office itself, and provide support to such initiatives:

There is a lack of perspective in those specialist teams of the overall public health issues ... But I'm not sure if the public health specialist should be part of that team or part of the district structure as a whole at a higher level, to provide that oversight and intelligence and policy and planning. (Acad4)

I think you definitely need public health medical specialists at the district, but I would rather put them in the district management team because they are scarce. (NGO1)

### **6.3.4.3 Academic Public Health Medicine**

Many informants saw universities as the 'face' of the profession, driving its direction. Some thought that academics were isolated, however, and not sufficiently prominent in health policy and implementation. A few felt the quality of academic public health and the small number working in academia was inadequate to command leadership of the discipline:

I think it's ... also been a weakness in the profession in that I think many of the public health professionals are more comfortable on the university turf and don't actually want to come into the services... They have been quite comfortable sitting in their faculties and doing their stuff quietly. (NatMan2)

The bottom line is that as a profession we haven't got enough people, real[ly] good, who can call themselves academics. There are not people who have the academic criteria and who have the leadership potential and the vision and the people and vision skills to actually do that. (Acad6)

Academic PHM specialists on provincial conditions of employment have service responsibilities. These 'joint appointments' are negotiated by academic institutions with provincial authorities, and in some provinces these agreements had not been concluded. Informants from these provinces noted that this made recruitment of new academics difficult and could jeopardise PHM in the future as teachers were not being replaced:

It's an absolutely bizarre situation .. In [] province] there is no JM [Joint Management] agreement ... And that's been going on now ... for well close to 20 years... There is nobody there to motivate that they [posts] be filled ... and I'm really worried that there won't be a Public Health Medicine department in five years. I think we may have been subsumed by Public Health... Public Health Medicine, subsidised and created MPH and now that will actually take over. (Acad6)

'Joint appointment' academics juggle responsibilities for teaching, research and service. Some academic informants outlined difficulties with straddling competing demands. Challenges in all three components were voiced. Some saw heavy teaching loads and the requirement of advanced degrees for advancement as challenging, which also strained their ability to do research and contribute to the services:

The reality is that you won't be appointed as head of department at [] whether you were absolutely the right person now, because you don't have a PhD. (Acad6)

You just get lugged with all the teaching and undergrad teaching and supervision and you've only got that limited amount of time. Most of the [university employed] academics are now full-time employed, have much more free time to do grant writing, to do the research on a massive scale and to publish than we [joint appointment academics] are. Yet we are judged by the same standards, you know, so I think, to me the challenge is both sides. It's not just the services. (Acad5)

Historically, service responsibilities for academic PHM specialists were not prescribed. Many had played consultant roles assisting with defined projects in hospitals, programmes or specialised services, but this work was not embedded in the ongoing work of the services. This arrangement was unsatisfactory for both academic and service informants, and had caused tensions, particularly as provinces funded these academics. For some, academics had then become irrelevant to the services:

I think public health from a service perspective was ... neglected, and I think that's why there's this big schism between public health and public service. (RetrdAc1)

There are a whole lot of areas that public health specialists at an academic level are not engaging. So that does mean that the whole discipline is then seen as very superfluous and as a little bit arrogant, in the sense that we want to, kind of, distance ourselves from the dirty work of developing the national health system. (Acad4)

A few articulated a fresh approach for service responsibilities, with academics becoming more inserted in services, which was also highlighted by registrars and specialists in Chapters 4 and 5. They could assist services to focus on health priorities and strategies to improve service delivery. For one provincial manager, the work of registrars and the presence of 'joint appointment' consultants working in the provincial office had made the value of the profession visible for health managers:

The consultants are now more and more getting bedded down in the service and contributing, feeling the issues, forging the relationships and bringing their expertise to bear and that's become more formalised. (ProvMan2)

Many informants described public health related research that could contribute to the development of appropriately focused health services. Research could focus on clinical interventions which can be implemented, health systems and building service staff's research capacity. Some felt that working in academia was valuable and allowed sufficient distance for research, enabling a critical contribution:

My research had swung completely to doing epidemiological work. I felt a certain frustration; I kept describing things and finding risk factors but I wasn't really changing things. So I went to the university and brought around me... clinical people, pharmacy people... We're not really in the business of counting any more; our focuses are on solutions. (NatIns1)

I think there is work to be done on helping people in the public health service to formulate the questions that can answered by research and academia. (PolMkr2)

I think academic institutions ... need to be seen as independent objective critiques but not in a destructive way. But, you know, to try and move the health system. (Acad4)

Relevant research could both strengthen the health services and give credibility to the profession. The services would then regard academic institutions as a resource:

So we need to make sure that we have the ear of the people that matter to us... We need to make sure that the provincial government is seeing public health as a resource. We must make sure that the national government sees our public health facilities as a resource. (Other1)

#### **6.3.4.4 Teaching public health and Public Health Medicine**

Informants commented on priorities for public health training at undergraduate and postgraduate levels. Like respondents from the MPH study in Chapter 3, many believed undergraduate health science students should exit training with skills to engage with health systems and policies. A few raised the importance of a range of postgraduate courses, from introductory to advanced, to appropriately upskill practitioners at various levels in the services:

There is a challenge for curricula in public health, both at an under- and postgraduate level, to teach more about health systems, about health policies, to teach communication. (PolMkr2)

It [postgraduate teaching] needs to be differentiated. [] has got a more traditional kind of public health aimed at ... people who work at policy level. We said we want to develop public health practitioners for the operational level. If you think of the different levels at which it needs to be practiced I mean you can have hundreds of different course units which would fit better ... people at different levels. (RetrdAc4)

Some noted that career paths of PHM specialists were broader than health services work, in research, the private sector, occupational health, as well as self-initiated work. Teaching would need to prepare people for these options:

The Public Health Medicine specialist also had a diversity of opportunities. There isn't a single career path but you have lots of career paths. You can go to the MRC, become a competent researcher. You can go work in the health services as health manager at any level. You can go into the private sector and work in the private sector. And occupational health is the other area... You will have skills for all four of those areas with your basic training in Public Health Medicine. (PoIMkr6)

### **6.3.5 Recommendations for Public Health Medicine**

Informants' recommendations spoke to the profile of PHM, and what should be done to enhance its impact in the services. Informants proposed using the opportunity of health service reform to network and engage with government about the profession and posts and to refine public health training for specialists, postgraduates and undergraduates.

#### **6.3.5.1 Use opportunities**

For some, current health sector reform was a valuable moment to profile, insert and embed public health and PHM in the services. A few saw that discussions about training requirements of hospital managers as well as debates about the NHI created opportunities to engage government about policy, service design, PHM and training for competent managers for the services:

There are very positive signs, [with] the Minister talking about people need[ing] management qualifications or at least need[ing] to be professional– and leadership institutes. ... So there are the right noises, which means it should be a very favourable time for you guys to push your speciality. (NGO1)

The NHI gives us a wonderful chance to yet again do the kind of stuff you wanted to do before apartheid disappeared and beyond apartheid, so it's a wonderful time to be around. (PoIMkr6)

Some outlined policy development, monitoring and evaluation, and managing contracting as potential roles for PHM within the NHI. Others remarked that public health professionals should be involved in the design of the NHI to safeguard against favouring the clinical at the expense of preventive and promotive focuses. A few remarked that the speciality should identify the skills required, and train a cadre of specialists able to work at a senior level, a role also advocated by specialists in Chapter 5:

People are talking about NHI commissioning. You can't do that without understanding how you measure outcomes ... Are we planning for where we should be in five years' time because the need will be there in five years' time.. but who is positioning the speciality? (NatMan1)

There are a lot risks going into national health insurance. In many countries, national health insurance often actually ends up remunerating the clinical... on a procedural type of basis – whatever – and often national health insurance is not very good at public health. (NatMan2)

### **6.3.5.2 Network and raise the profile of public health**

In view of the dearth of PHM specialists and trained people in the departments of health, many informants believed that developing a network of public health professionals and specialists would contribute to developing a coherent public health orientation in the services focused on population health outcomes:

I think it would be quite powerful to set up some kind of a group of public health people working in Government ... a network ... to see how the very exciting changes that are taking place in health... defin[e] what you want to achieve and what are the strategies in order to achieve it. How do you actually impact on population health... To me it is quite fragmented. You know [] does a lot in terms ... of the determinants of health, but I don't think anybody puts the pieces together. (NatMan1)

Many informants recommended that a forum of PHM training institutions be created to develop a common vision for the profession, to refine roles and identify its place in the services. Some believed that this group could then engage government in an ongoing forum to discuss public health, the profession and its positioning in the services. Some suggested that the tone of these discussions should emphasise developing trust and working relationships, and warned that public health specialists should not merely assert possible contributions and list competencies. As was suggested by specialists in Chapter 5, the value of PHM specialists could be demonstrated through showcasing functional examples of public health units at provincial and district levels, and its engagement in priority policy, planning and implementation issues. Government officials suggested to be part of discussions could be national and provincial health ministers and the National Health Council, together with other professional organisations such as the Public Health Association of South Africa (PHASA) and the College of Public Health Medicine (CPHM):

I think there needs to be a more active forum that engages, you know ... the Minister is very receptive to any idea. And maybe there is a discussion between public health and the Minister, to say: "We understand all of these priorities. How can we support you on NHI?" You see, the Minister is very open to this idea of doctors. (NatIns2)

We need to collectively document [public health units] and make a case study and suggest to all the other [] provinces that that's the way to go. So, we need to generalise from those two sets of experiences and say at a provincial level this is what we can do, and at a district level this is what they can do. (PolMkr5)

It depends very much on having full time staff [in PHASA] that can actually run with it. That would be one way of getting regular meetings with the Department of Health, you know, where some of these issues could be discussed. (Acad2)

### **6.3.5.3 Create posts**

As was identified by registrars and specialists in Chapters 4 and 5, some saw that this process would lead to advocacy for resources, with the creation of service posts for public health trained personnel and PHM specialists within public health units at provincial and district levels:

There should be two spaces in which we operate in broad terms. The one is a ring fenced earmarked specialists space, where you g[e]t posts that are a career path for ... Public Health Medicine specialists - and only Public Health Medicine specialists should be able to fill that post. And then we should have posts which are open to anyone ... in the broader public health discipline. (Acad1)

Whilst most believed the cost of creating PHM specialist posts would be prohibitive, one policy maker thought this would not be difficult provided it was appropriately motivated and had buy-in from the Ministry of Health. Others cautioned about having too high expectations of the impact of a few specialists in posts. A presence in the services would not mean that a full range of public health functions would be performed. Some believed that having a range of specialists in the services could be a role model for new specialists and attract people to specialise:

It has to be sold because you see there is always competition... The better developed and the more ownership a proposal has, the more likely it is to fly. No-one has ever, in eleven years, put in one budget for consideration to say we want to build up the public health discipline for example... If we wanted to create two hundred public health posts in the public sector we could do it. It is not even a big thing to do. If the Minister of Health said to us in the next three budgets "Look we really want to build the public health discipline" the same way he is talking about the district specialists... (NatMan2)

We need to be very careful in Public Health Medicine. We mustn't ask for too many things and promise to deliver on the full scope of Public Health Medicine and then fail to deliver. So we need to be mindful that the full spectrum of Public Health Medicine's skills and competency can't be delivered by just one or two Public Health Medicine specialist posts – [if] we ask for that, we are going to set up ourselves for failure. (PoIMkr5)

Many believed that not all specialists working in the services should be paid as specialists. Working in district and provincial managerial positions would be appropriate and valuable for newly qualified specialists embarking on their careers:

Well, I think they're going to have to be prepared to work in management and then the money question comes in – but I do think they would need to spend some time in district management or provincial management in order to get that understanding... of how the state functions [which] is very valuable. (NatMan1)

#### **6.3.5.4 Refine public health training**

Informants made recommendations for training for PHM specialists, the MPH and undergraduate health sciences, to enskill graduates for work.

##### *1. PHM training*

Informants believed that any PHM service posts that are created must be successfully filled by qualified and skilled staff, which has implications for recruitment for training. For some, this meant that the number of registrar posts should increase to cater for this anticipated demand. A few believed that for selection, registrars should demonstrate a prior social and service commitment, and leadership ability. One proposed that senior service doctors should be head-hunted for training:

I think that perhaps you've got to have a social activist background to do it. You've got to have good epidemiology, so you're not just being an activist. But, you've got to have that socialist background; otherwise it becomes sort of technical. (RetrdAc3)

You've got to go out and head-hunt people. You've got to go and get a guy out of the services and say "We've been spotting you [], you have been ranked the top CEO in the country". (PoIMkr3)

As was suggested by some specialists in Chapter 5, some informants believed that the PHM curriculum should be reviewed to ensure that graduating specialists have appropriate high-level skills, and address the skills gaps. Competencies proposed

corresponded with what informants believed to be a shortage in the health services – namely leadership, management, financial skills and research:

For as long as we take the approach that ... we can graduate specialists, with a pretty moderate level of knowledge and capability, we will put our graduates there in the field, who really don't help our cause to raise the overall standing of the profession. We've got to set higher standards. We've got to stick to those standards, and we've got to say we want people who can optimise excellence in our field. (NatIns1)

People don't plan their resources, they don't plan their facilities management, they leave it to the economists to do it ... We might be teaching it, but I think that's a vacuum. The strength is epidemiology; the weakness is management and planning. (PolMkr3)

In order to deal with the breadth of competencies, some informants recommended introducing selective tracks in specialist training. Suggestions included health systems, hospital management, human resources planning, epidemiology and infectious diseases. For some, these tracks could become sub-specialities at a later date. The tracks would incorporate theoretical and practical training:

So, for example, you can get a stream where you become a hospital manager, understanding how hospitals run and how hospital systems work ... internationally. Maybe there should be a stream ... looking at development of standards and norms, HR planning. (Priv1)

I mean in four years you cannot teach someone to become a really good epidemiologist. It's the general physician story wanting to be a cardiologist. You've got to go and do another two years. (RetrdAc2)

If you're going to go the health system route instead of research or occupational health, then people have to know how to work in the system and they have to understand some of the challenges in the system; and are the rotations actually equipping people for that at all? (NatMan1)

One informant saw that creating sub-specialties could be dangerous in promoting expectations for work in sophisticated, high-technical contexts. This would worsen inequities in the distribution of skilled human resources, and a broader training would be more appropriate for South Africa:

I think the tragedy of that is that when you split too much you then are training for America not for South Africa. Or you're training for Cape Town and Jo'burg and not for the majority of the country ... There will be people who would gravitate straight to that and they're not good for anywhere else, because they're too specialised. (RetrdAc2)

## 2. MPH training

It has been noted that informants believed that MPH curricula and products are hugely variable. Some proposed accrediting curricula through an external body outside of the training institutions:

[PHASA should have a] permanent structure and eventually one would also see that it would become the accreditation structure for courses in public health. The structure shouldn't fall under the schools because ... they can't be player and referee at the same time. (Acad2)

## 3. Undergraduate training

Informants outlined an approach for undergraduate public health training for health sciences students. As was suggested by registrars in Chapter 4, for some, this teaching should be prominent, integrated in service settings and clinical training, with small research projects forming the base of learning. This would be mutually beneficial, inspiring students and strengthening services:

Undergraduates, they know clinical medicine... One would use that as an advantage for them to participate in specific aspects of strengthening the health system. We would place them at facilities and let them do smaller research projects. So the important thing for me is to inspire them to want to improve and strengthen the health system when they qualify. (PolMkr4)

Less than 2% of the resources allocated for health training go to public health, so we're very marginal. We could and should overcome this separation between ourselves and clinical medicine by embarking on joint teaching, joint projects, instead of being sequestered off. (RetrdAc4)

## 6.4 DISCUSSION

This study explored perceptions regarding the value and place of public health and Public Health Medicine, the 'intended', amongst key informants with longstanding and senior positions in South Africa's health sector, in the context of health system reform in South Africa. Findings and recommendations are discussed in the light of literature on public health elsewhere.

All informants valued PHM and its competencies for the health sector, despite deficits in the past and present. Key skills valued were interpreting information from a range of sources, utilising these for decision making, a skill in demand in recent South

African health policy documents.<sup>26, 200, 272</sup> Positive attitudes may be influenced by many informants (63%), being PHM specialists themselves

#### **6.4.1 Absence of Public Health Medicine in the health system**

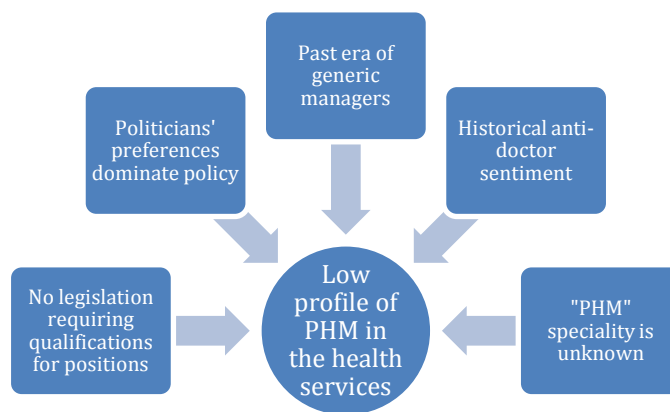
Informants believed an inordinate focus on clinical personal health services, a global phenomenon,<sup>30</sup> underlay the poor prominence of PHM in the health services. The low profile of the profession was a result of legislation and regulations that no longer required public health qualifications for service positions; an anti-doctor stance in health services; the rise of generic managers and appointments determined by equity policies, coupled with powerful politicians promoting their own approaches. These are highlighted in Figure 6.1.

As in South Africa in the 1990s, the installation of generic health managers formed part of health sector reform in New Zealand,<sup>383</sup> Australia,<sup>384</sup> and the UK.<sup>385</sup> 'New public management' was based on the notion that a professional ethos was at odds with sound management practice and was inconsistent with the objectives of greater efficiency and effectiveness. Study informants pointed to the negative consequence of this approach for PHM specialists and for service quality, and poor service outputs were highlighted in reviews of this approach in the UK.<sup>386</sup> Commentators on South Africa's health system highlight that the negative consequence of this approach was weak service management.<sup>28</sup> Political support, critical for public health policy, institutions and funding in South Africa, was also highlighted in reports outlining the development of public health capacity in post-communist Hungary.<sup>387</sup>

Informants saw that inadequate remuneration, bureaucracies and stifling of innovation negatively impacted on retention of PHM specialists in the public sector. Studies have shown that job satisfaction and retention of professionals require autonomy at work and supportive work environments.<sup>372</sup> Conducive work environments are required to attract and retain PHM specialists in posts, and this was highlighted by specialists in Chapter 5.

Like registrars and specialists in Chapters 4 and 5, most believed that PHM was largely unknown amongst professional and lay audiences, and was historically poorly

regarded by medical colleagues. This is an enduring theme, with PHM being characterised as a stepchild – the ‘Cinderella’ of Medicine –<sup>102</sup> 20 years ago and being given little time in medical training. The poor value of PHM, seen to be as outside of medicine, was a key theme in a New Zealand review of PHM career identities.<sup>123</sup> Some saw this changing, with public health becoming core to undergraduate medical training in South Africa,<sup>103</sup> and academic life. At UCT, for example, the dean’s 2014 report and faculty vision highlighted the School of Public Health and Family Medicine as a major generator of research income and outputs,<sup>388</sup> and at Wits, public health training initiatives like the Consortium for Advanced Research Training in Africa (CARTA)<sup>389</sup> and research achievements are highlighted on the Health Sciences Faculty web page.<sup>390</sup>



**Figure 6.1: Factors contributing to the low profile of PHM in the health services**

The uncertain identity of PHM, with its broad and superficial competencies and specialists dispersed in a variety of work contexts, was discussed by many respondents. Other researchers have also raised this, and in Singapore, PHM was “difficult to characterise” because it is intrinsically context-specific, with competencies spanning two broad dimensions – its orientation and competencies.<sup>391</sup> Its orientation is broad and multi-disciplinary, focussing on improving population health; its competencies define its professional status and role. The recognition of the contextual

nature and broad scope of public health practice underlay the expansion of the profession in England to incorporate non-medically trained professionals.<sup>155</sup>

Cognisance of this broad scope needs to be incorporated into defining its role, the speciality and its relationship to other public health professionals.

Some saw that poor advocacy for the discipline had contributed to ill-defined career paths and resulted in poor prominence in the services, issues noted by registrars and specialists in Chapters 4 and 5. This is shifting and advocacy for the profession over the last four years<sup>276</sup> may have contributed to PHM specialists being named in the 2014 “top 100 occupations in demand” jobs in South Africa.<sup>29</sup> It is crucial that care be taken not to merely assert PHM’s contribution, but to demonstrate value through registrars’ and specialists’ work and acknowledging the contribution of other public health professionals.

#### **6.4.2 Competencies and training**

Many academics were involved in both MPH and PHM training and noted that MPH programmes had boosted graduates’ careers and work quality. Informants’ widespread concern about the depth and unevenness in MPH training, particularly in management, was also noted by commentators about American programmes.<sup>71</sup> On the other hand, PHM training was seen to be unique, fast-tracking people to work in complex environments at leadership level. These are roles of PHM equivalents in the UK<sup>164</sup> and Canada.<sup>367</sup>

Overwhelmingly, the identified critical requirement for health service reform was leadership and management – particularly in policy and operational management – and this was also identified by specialists in Chapter 5 and in recent literature on South Africa’s health system.<sup>28</sup> Interestingly, many informants saw public health skills, particularly epidemiology, combined with management as being valuable at provincial and district levels. MPH professionals added technical skill, but doctors with MBAs were not desirable or viable professionals for the public sector. Well trained PHM specialists with public health and management competency add value, although are not the sole solution to South Africa’s health management crisis.

### 6.4.3 Positioning public health

For many, revisiting the identity and future of PHM was important, and differentiating public health specialists from other public health professionals were themes consistent with international literature.<sup>149</sup> Like respondents in the MPH study (Chapter 3), some argued that public health skills needed to be incorporated into other medical specialities, and this perspective is implicit in the design of MD-MPH programmes run in the USA.

The added value of PHM training is best understood by examining how informants differentiated the PHM specialist cadre from other public health trained professionals. PHM specialists were seen to have a broader set of competencies based on prior biomedical training which, coupled with an increased knowledge base and experiential learning, led to versatile highly trained professionals with 13 years of study and professional experience. Other public health professionals, on the other hand, have undergraduate training usually in health or social sciences, and two years' theoretical public health masters degrees, often completed part-time.

There were divided opinions as to whether other professionals threatened an ill-defined PHM specialist niche. Those with hierarchical perspectives believed that PHM specialists should lead public health teams and saw MPH graduates competing for the few existing jobs, making the speciality precarious. Hierarchy in public health practice features in health systems elsewhere and the UK enumerates nine levels in the health services.<sup>79</sup> Those appreciating the multi-dimensional nature of public health did not believe that clear professional boundaries should be identified. This went against the multi-disciplinary nature of the enterprise and the more fluid conceptions of public health that are implicit in literature emphasising multi-professional perspectives.<sup>149</sup> A multi-disciplinary and multi-professional identity is a central feature of public health internationally.<sup>8</sup>

The added value of medical training and the specialist status of PHM was raised by many. Biomedical insight was seen as critical for clinical epidemiology, leadership in communicable disease control, and for statutory functions arising from international health threats. A place for direct clinical involvement, particularly in the area of

infectious diseases with public health impact was mooted, and this is a competency of public health medical specialists in many countries – the US,<sup>107</sup> Canada<sup>347</sup> and Ghana.<sup>203</sup> Various specialist tracks are implemented in MPH offerings at universities in South Africa. In this vein, some proposed similar selective tracks for registrars. These suggestions echoed career tracks with fellowships in epidemiology and management, proposed at the inception of the College.<sup>282</sup>

As was found in the registrar and specialist studies, many believed the 2011 policy environment with public health units proposed at provincial and district levels, together with the NHI, provided the opportunity to embed PHM in the services. The NHI policy window could be easily dominated by clinical imperatives and public health functions need to be embedded in units that demonstrate added value.

Graduates from postgraduate public health and PHM programmes, should be 'service-ready', able to work at all levels of this reforming health system. Expertise in measurement sciences could add value by informing delivery, particularly at district level. Public health trained doctors were core to local government health services in pre-apartheid,<sup>220</sup> apartheid<sup>163</sup> and post-apartheid transition in South Africa, as well as in the historical<sup>392</sup> and contemporary British health system,<sup>163</sup> and the USA.<sup>167</sup> Public health doctors work at this level in many countries with decentralised health systems such as Ghana.<sup>206</sup> Many graduates of public health programmes, such as the Geneva<sup>85</sup> and the Ugandan School without Borders programmes,<sup>76</sup> worked at district level and this was a placement desired by many informant registrars in Chapter 4. Some informants proposed specifying public health training for senior district managers in the future and others believed that the speciality should be required for senior professionals managing complex institutions. Similar requirements exist in the UK and other countries, such as Norway.<sup>393</sup>

Some noted that the divide between academia and the business of the health sector, also identified by specialists in Chapter 5, was challenging and solutions needed to benefit both. These concerns were also noted by the IOM in the USA, who argued that continuing education for service staff arranged with academics, and practical placements for students in the services, would benefit both parties.<sup>107</sup> Informants

applauded new models of academic engagement, with specialists and academic joint appointees working in service capacities. Demonstrating this added value marketed the speciality, and specialists could identify service-related research questions, and innovate solutions.

Public health agencies in surveillance and disease control are not well developed in South Africa and responsibilities for health protection, a public health function elsewhere,<sup>63, 164, 394</sup> was hardly mentioned by informants.

As was suggested by specialists in Chapter 5, many informants identified that dialogue between government and public health stakeholders (universities, the College of Medicine and PHASA) was required to embed the profession in the services. Such conversations would identify public health competency gaps in the health sector, core competencies for PHM and other public health graduates, appropriate training placements for PHM, and service roles suited to the range of public health professionals. This, many believed, could lead to discussions about designating posts for specific public health professionals and motivating for the creation of positions for PHM specialists. Not all PHM specialists working in the state sector would work in designated positions, and some proposed that junior specialists may first need to work in non-specialist posts to gain good experience.

#### **6.4.4 Limitations**

This was a qualitative study and so the findings do not intend to be representative of all health system stakeholders' perspectives on the enterprise of PHM and the potential role of PHM specialists. An attempt was made to elicit opinions and reflections of stakeholders from a spectrum of historical, geographical and institutional bases – academic, health service, NGO and the private sector – and 31 interviews were conducted. The largely positive perspective about the role of PHM may reflect the high proportion of informants (63%) who were PHM specialists, but as was noted, this was a consequence of their important role in public health and PHM training.

Although senior managers from the private and NGO sectors were interviewed, perceptions about roles in the private sector and NGOs supporting the national Department of Health were not explored, as these informants were historically steeped in South African public sector health policy.

## **6.5 CONCLUSION**

A clear finding from the interviews was that Public Health Medicine is an evolving discipline that has shifted over time in response to, and in concert with, South Africa's evolving health system. Many informants saw PHM to be a fairly invisible discipline with an ill-defined identity.

Informants agreed that PHM could, and in some cases does, contribute and is key to the success of current health reform in South Africa. Many saw it possessing a unique but comprehensive set of competencies, and that it is uniquely poised to train the strategic managers needed in the services.

Most believed that PHM could provide the 'public health intelligence' function in health services, bringing information drawn from routine data, surveillance and international literature to bear on decision making and policy. The major gap seen in the health services was a competent senior cadre of health managers – people who understood the demands of, and requirements for, appropriate and efficient health services and could operate in these systems. They needed to engage with disease profiles and service interventions, have skills to manage complex institutions and draw on external expertise. Seasoned PHM specialists should contribute at this strategic leadership level, but this was not the entry point for new specialists or the career destination of all. Not all senior management positions require speciality qualifications, and the suggested inclusion of graduate public health degrees coupled with management skills for public service officials needs to be canvassed and carefully managed with stakeholders.

Interestingly the anticipated rivalry for posts and employment between PHM and MPH graduates was hardly raised. Each was seen to be a flawed product, yet had value and could complement the other.

At present, whilst in principle PHM is acknowledged to be a key discipline in current health reform initiatives in South Africa, its contribution is unsure. With few exceptions, driven by key individuals motivating for its presence, it is not embedded in positions in the health system at any level – municipal, district, provincial or national. The profession is not perceived to be driving policy, implementation, research and quality assurance in institutions, although many leaders driving these processes came through this training.

Registrar training programmes which have the time and orientation for both theoretical and experiential training need to be assessed to ensure that graduates exiting are able to take on these levels of service work. There are challenges to academic PHM, with academics juggling competing teaching, research and service demands, but these are issues faced by all service oriented academics. However, minimal investment in academic PHM put its future in some settings at risk. Academic expertise could inform service priority setting through harnessing “intelligence” – analysing service data and research, and upskilling the expertise of personnel; and in turn, the services are a rich terrain for health professional training, to mutual benefit.

Most informants believed that advocacy for the profession was required in the current policy context. The current health system reform initiatives – enhancing the skills base of districts, training appropriate health managers, the Office of Standards’ Compliance and the NHI – are huge opportunities to reshape and insert public health and PHM into the services. Structures with public health functions at all levels in the health services, and posts for PHM specialists as well as other public health professionals in a range of institutions, need to be created and then filled.

Issues related to the ‘identity’ and ‘culture’ of PHM need to be addressed in order to ensure its future success. It has a dual ‘identity’, being a medical speciality and wanting to maintain this on the one hand, and being part of a multi-disciplinary public health workforce in a democratic South Africa on the other. ‘Cultural’ dualities exist in its scope of practice – which are disciplinary based, yet context dependent and specific. Dualities exist in its competencies, which are mostly technical yet firmly

within a socially committed ethos. It needs to advocate for itself, but not only for itself, in order to have impact.

This chapter presented the perceived 'intended' role of PHM specialists and their perspectives on the future of the speciality. Earlier chapters presented findings on doctors completing postgraduate public health training and future specialists' 'desired' roles (Chapters 3 and 4 respectively) – while specialists' actual roles were presented in Chapter 5. Congruence between findings in the studies in the three previous chapters were highlighted, and matches between the desired, actual and intended roles are presented in the next, final chapter.

**CHAPTER 7:**  
**PUBLIC HEALTH MEDICINE AS A SPECIALITY:**  
**SYNTHESISING THE EVIDENCE**

This thesis set out to explore the role of Public Health Medicine (PHM) specialists in South Africa's health system in a context where the speciality seems largely invisible, despite investment in the training of PHM specialists, current health system reforms being premised on public health approaches and models for service delivery, and PHM specialists ranking high on the list of scarce professional skills in South Africa.<sup>29</sup>

This chapter reviews the findings of four studies that explored the motivations (the 'desired'), work (the 'actual') and potential (the 'intended') roles for the speciality from the perspectives of doctors undertaking postgraduate training in public health, of PHM specialists in practice and key stakeholders with long-standing experience in a range of work contexts in South Africa's public health system.

Perspectives of doctors undertaking the University of Cape Town's (UCT's) Master of Public Health (MPH), those completing specialist training and those in practice were described in Chapters 3, 4 and 5 respectively. Additionally, present and future roles of PHM specialists from the perspective of those in training (Chapter 4), those in practice (Chapter 5), educators, employers and policy makers (Chapter 6) were outlined. A mix of quantitative and qualitative methods was used, which together give insight into the match between 'desired', 'actual' and 'intended' use of doctors with public health expertise.

This chapter synthesises the key findings from all the studies by comparing and contrasting themes that emerged, and discussing these in the light of international literature. Literature about motivations and career paths of specialist public health doctors, public health practice and physicians with non-specialist postgraduate public health training were used, due to the limited literature found about specialists.

Firstly, the demographics of respondents, those completing MPHs, those in specialist training and those in practice, are compared. A synthesis from all four studies is then presented, outlining the motivations for studying public health, perspectives on public health training, career paths, the presence of public health and potential roles in South Africa's health services. A comparison of the results of all four studies is shown in Table 8.

The possible reasons for PHMs' invisibility raised in Chapter 2 (page 83) are then discussed. This is followed by a discussion about four issues and tensions impacting on the future insertion of PHM in South Africa's health service. These are 1) PHM as a discipline in the face of multi-disciplinary practice; 2) historical dualities; 3) PHM's ill-defined identity; and 4) the current policy moment. Finally, limitations of the study, recommendations and conclusions are presented.

## **7.1 DEMOGRAPHICS OF PUBLIC HEALTH TRAINED DOCTORS**

The specialist career paths study, Chapter 5, found that there are fewer than 150 Public Health Medicine specialists in South Africa and 50% are over the age of 49. The 2015 HPCSA register lists 136 specialists, and 64 registered between 2000 and 2015 – giving a mean annual number of 4 specialists since 2000 (median 4; IQR:2-6).<sup>395</sup> This number is lower than is required to replace those who are anticipated to retire. Women were younger and constituted more recent graduates. The ageing public health workforce and the feminisation of medicine and the public health workforce are features noted internationally.<sup>119, 357, 396</sup>

Interestingly, both doctors undertaking MPH studies and PHM specialisation started their training after many years of practice – a median of 8.7 and 7 years respectively – and many had completed other degrees before doing so. The time between undergraduate training and specialisation or graduate study may indicate that public health is attractive to graduates with service experience who, reflecting on their practice, wish to impact on the health sector to improve health status at a population level rather than on an individual level, or incorporate these perspectives into already established careers. Mature students are also prominent in many international graduate public health programmes,<sup>61, 396</sup> and is noted in a New Zealand study on

PHM professional identity.<sup>123</sup> Many specialists (45%) subsequently completed other degrees (PhDs, MBAs or other specialisations), reinforcing the understanding that doctors with MPHs and PHM specialists are a mature, well trained cadre.

An understaffed public health workforce is widely acknowledged in both developing<sup>209</sup> and developed countries,<sup>107, 397</sup> including South Africa,<sup>26</sup> and has been noted by the WHO.<sup>83</sup> Recently (2014) PHM specialists were identified in the top 100 of scarce skills in South Africa.<sup>29</sup> Remedying this shortage requires increasing production of professionals with appropriate competencies, this being a recognised challenge globally for public health education.<sup>398</sup>

The increasing numbers and probable majority of women public health professionals requires that conditions for employment should include varied employment options, including part-time options, which implies additional training numbers. The consequence of a female-majority profession may “humanise” the style of practice,<sup>399</sup> but devalue the profession in the eyes of other medical specialists, employers and the public,<sup>400</sup> but a predominant female medical profession is not restricted to public health and is an emerging phenomenon globally.<sup>358</sup>

## **7.2 MOTIVATIONS FOR STUDYING**

Doctors who undertook MPHs (Chapter 3) did so mainly to advance their careers or to change from clinical practice to research, policy or management work. On the other hand, motivations for specialising found in the registrar study (Chapter 4) were a desire for careers to impact on health systems through designing and implementing responsive effective services and research to support health services which arose from difficult clinical experiences. Similarly, working specialists (Chapter 5) were motivated by desires for social change, impacting on health services to meet the needs of the population. Essentially both latter groups’ motivations were altruistic which resonates with the literature that highlights that social justice and altruism underlie public health and PHM approaches and practice.<sup>37, 41, 123</sup>

Registrars valued becoming specialists, which signalled success and commanded salary advantage. Specialist respondents (Chapter 5) also valued the designation although some noted that this was of little value for positions and remuneration, and a fifth had not registered as specialists with the HPCSA largely for these reasons. The Occupational Specific Dispensation (OSD) opened up salary parity for specialist designated positions in the public sector, such as ‘joint appointment’ staff. While this spurred many to register, this did not benefit specialists in management positions in the services. Beside the smaller proportion of clinicians who registered as specialists, no statistical difference was observed in career destinations (by employer or work content) for non-registered compared to registered specialists.

### **7.3 UNDER- AND POSTGRADUATE PUBLIC HEALTH TRAINING**

Undergraduate public health courses impacted minimally on decisions to pursue postgraduate public health training, for all three groups (MPH doctors, registrars and specialists). Public health teaching was reported as disliked or largely invisible in the curriculum – although many had trained in an era before undergraduate medical curriculum reform in South Africa. More recent graduates regarded exposures to community settings and registrar mentors as formative, which may signal improvements in this training. This finding matches similar research in other countries. For example, undergraduate public health exposure was also unimportant in decision making for public health specialist careers in a large British study<sup>119</sup> and in a qualitative study on PHM professional identity in New Zealand,<sup>123</sup> but community exposures were motivators for public health careers in the USA.<sup>316</sup>

Despite the relative unimportance of undergraduate public health exposure for their own training, doctors undertaking MPHs or specialist training believed that attention should be paid to undergraduate training. They believed that public health perspectives would better prepare doctors for service settings, develop their abilities to integrate public health approaches into clinical work and attract doctors to postgraduate public health training and careers.

They recommended that public health learning should prioritise issues relevant to clinical practice, and be integrated into clinical contexts. Community attachments with projects in core public health disciplines such as epidemiology, biostatistics; and skills in critical review of journal articles; were identified as key, as were exposures to role models such as registrars who could profile public health roles. These perspectives are consistent with calls in the international medical education literature for doctors to transform health services to incorporate promotive and preventive approaches into their practice,<sup>98</sup> and produce better health outcomes on a systems level.<sup>99</sup>

Some informants from the MPH and key informant studies highlighted the desirability of including public health skills and approaches into other medical specialist training. Many medical specialists seek this training. Although making these perspectives more central to undergraduate training may partially fill this need, the MPH research training fills a niche for doctors.

Theoretical training at a postgraduate level was valued by MPH doctors, registrars and specialists who believed this prepared them for subsequent careers. Doctors doing the MPH wanted the research and technical skills together with population approaches offered for career progression. On the other hand, registrars and specialists valued the combination of broad experiential and theoretical training which prepared them for public health careers in the health sector. For registrars, careers anticipated were in policy development, animating health systems development and, for some respondents, future research and teaching that would impact on health systems. For specialists, training gave skills, career direction and opened job opportunities. Skills obtained were chiefly quantitative, in epidemiology, communicable disease control, monitoring and evaluation and service related research, together with management experience.

Respondents in all four studies highlighted the value of practical experience during training, and this was seen to be the added value of the four year registrar training. Practical exposure to the services alerted participants to the core competencies to be acquired during registrar training. Registrars voiced some mismatch between what was taught and skills that were needed in service settings, while the key informants

also noted gaps, namely theoretical and practical training in monitoring and evaluation and skills in leadership, which would make trainees work-ready. Similar deficiencies are noted in public health education internationally.<sup>398</sup> Key informants singled out a range of management competencies as the critical skills gap in South Africa, and identified seasoned PHM specialists as potentially filling strategic health service management gaps. Management is an acknowledged public health core skill internationally<sup>32</sup> and a core competency of PHM specialists in South Africa.<sup>294</sup>

Stewardship for health management training is unclear in South Africa. In contrast, Brazil has a network of schools of health governance set up by FIOCRUZ, the national public health institution, which teaches governance in health systems and services to public sector managers.<sup>193</sup> In 2007 around 40 000 'practitioner-students' were enrolled.<sup>199</sup>

Academic partnerships with the services which would embed the speciality in the services were proposed by registrars and key informants. These could provide public health training for employees, placements for students, and work and research opportunities for specialists. The value of such mutually beneficial partnerships was noted in the USA between schools of public health and health authorities;<sup>107</sup> similar relationships could be built locally.

#### **7.4 CAREER PATHS**

About a third of PHM specialists worked in government health services at the time of the survey – with similar proportions in 'joint appointment' positions and in universities. The rest worked in NGOs, in research institutions or independently.

Over half the specialists surveyed had worked in the health services at some point, with a handful having worked in service posts reserved for doctors with specialist qualifications. Many had left due to job frustration, or to move to fresh challenges and academic work. In view of the need for public health expertise in South Africa's health service, it is concerning that a proportion were not retained in this sector. The issue of recruitment and retention of specialists has also been highlighted by the CMSA which noted a 25% decline in specialists/sub-specialists between 1997 and 2006 in the South

African public sector.<sup>335</sup> While the driver for participants' decisions to specialise was to contribute to improving population health and health services, many were not actually retained in the services. Frustrations at work and perceived shrinking South African job opportunities, driving departures from the public sector and emigration, are ameliorable factors that require attention.

Nonetheless, specialists were highly satisfied with their careers, regardless of role or employer, with older specialists being more content. These work settings (academia, and government agencies) and roles (managers, public health practice and research) were also highlighted as career paths of Community Medicine doctors in Canada,<sup>347</sup> PHM specialists in New Zealand,<sup>123</sup> and doctors with public health training in the USA.<sup>117</sup>

Although registrars believed that career paths were contested and ill-defined, with competition from other public health trained professionals, they were optimistic about job options and many identified 'public health unit' district work as appealing. With a few exceptions, these positions do not exist but they have been identified as niches for PHM in the 2011 HRH national policy.<sup>26</sup>

## **7.5 PUBLIC HEALTH'S PRESENCE IN SOUTH AFRICA'S HEALTH SERVICE**

Despite a sizeable proportion of PHM specialists in the health services, their perceived absence was noted by informants. The one third 'joint appointment' specialists are probably seen as academics. Although over 20% were in non-academic service posts, their invisibility may be due to the absolute numbers of PHM specialists being small, widely dispersed, not in prominent positions or not working as PHM 'specialists'.

Registrars, specialists and key informants believed their absence was due to the few numbers and lack of prominence, and outlined a range of reasons for this. Few posts led to few specialists being employed, the major reason given being the historical disproportionate dominance of clinical personal services, which persists in current health reform. For example, PHM specialists were left out of strategies to 're-engineer primary health care' which further resourced clinical specialities to enhance service quality.<sup>136</sup>

Respondents also believed the few health service posts earmarked for PHM specialists was due to the absence of statutory requirements mandating the employment of public health trained professionals and doctors. PHM specialists are present in the services in the management establishment, but not in designated specialist positions. Many argued that, furthermore, the past era of generic managers, an 'anti-doctor sentiment' and poor retention of specialists contributed to this diminished presence.

All three groups thought that PHM had a weak profile, being largely unknown by the public and poorly regarded by medical colleagues, and this was an identified theme found in a New Zealand study of PHM professional identity.<sup>123</sup> This was exacerbated by the persona of PHM specialists, which was self-effacing or self-identified in disciplinary areas such as epidemiology or occupational health. The invisibility in undergraduate training noted by registrars and MPH doctors contributed to this poor profile. Participants in the registrar, specialist and key informant studies believed this profile was changing in academic and service contexts, however, due to visible excellent work – with public health research acknowledged as a generator of income and publications in some university reports<sup>388</sup> and faculty profiles.<sup>390</sup>

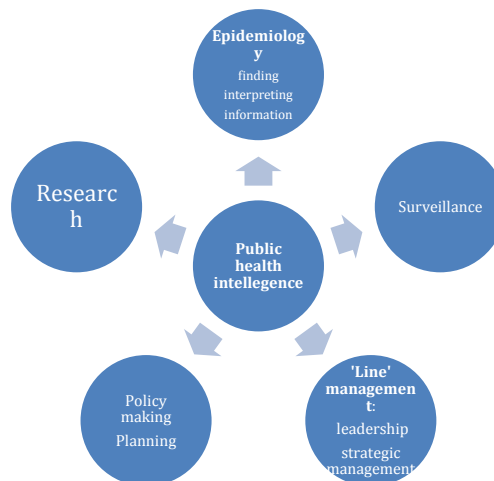
## **7.6 PUBLIC HEALTH MEDICINE'S POTENTIAL ROLE**

Despite professional boundary blurring with other public health trained professionals, and the wide yet context-specific nature of the speciality, respondents in all studies believed PHM offered critical skills for the development of health systems. It provided competencies for the assessment of population health risks and disease burdens, for prevention and promotion of health, research for policy development, in leadership, which correspond with functions in countries elsewhere.<sup>123, 164, 367</sup>

Specialist respondents believed that the unique medical background enabled appreciation of service realities and communication with colleagues. Their bio-medical knowledge is useful for the design and implementation of promotive, preventive, curative services for the disease burden of populations. Specialists' broad theoretical and experiential training together produced versatile professionals able to work in complex service settings operating at a high level with competencies spanning strategic and technical functions, which could fast-track them for leadership. Many

believed that a public health approach together with management skills and capacity in research was a powerful combination that could impact on the development of appropriate services.

The registrar, specialist and key informant respondents agreed that the PHM’s contribution centred on a ‘public health intelligence’ function – finding and interpreting information; supporting services through management and leadership, providing policy-making and planning capacity and, research (Figure 7.1). Respondents from all studies identified roles in the services at provincial and district levels and some argued that PHM should be a requirement for senior ‘line’ management posts in the future. These competencies are central to public health globally and are identified as core to health systems and service strengthening.<sup>6, 54</sup>



**Figure 7.1: Identified PHM functions in the health service**

Roles in management at all levels of the services for public health trained professionals are valued and advocated in many countries’ health sector. In Ghana, the reason for establishing the School of Public Health was to provide personnel for “several newly created administrative districts and municipalities to address emerging health issues”.<sup>206</sup> Except in the UK, qualifications are rarely a requirement for posts, but graduates from Zimbabwe’s<sup>401</sup> FELTP programme were “virtually guaranteed of jobs” and they, and Ugandan public health graduates,<sup>76</sup> head district, provincial and national public health programmes.

**Table 8: Comparing findings from the four studies<sup>xii</sup>**

Factor:	MPH Doctors (Chapter 3)	Registrars/ new specialists (Chapter 4)	PHM Specialists (Chapter 5)	Stakeholders (Chapter 6)
<b>Participant demographics and characteristics</b>				
Age (median)/ Gender	37 years (2011) Women (64%)	Women (71%)	50 years (2012) Women respondents (46%)	
Time to study/ specialisation	Median: 8.7 years		Median: 7 years	
Other training before and after	Yes		Yes	
<b>Perspectives on postgraduate public health training</b>				
Motivations for studying	Advance careers; Change careers to research, policy or management	Career to impact on responsive equitable health systems	Social justice; to impact on health services	
Training	Research and technical skills are valuable	Combination of theory and practice for health sector careers	<i>(Echoed both registrar and stakeholders positions)</i>	Quantitative skills in service settings, together with management
Placements	Potentially valuable	Valuable and unique		
Prepares for careers	Yes. Skills, job opportunities and career direction			
Value of being a specialist		Signals success Remuneration	Yes but of questionable value	
<b>Perspectives on undergraduate public health training</b>				
Impact of undergraduate on PH training	Minimal But role models & community exposures		Minimal	
PH invisible in undergraduate training	Yes			
<b>Career paths</b>				
From training	<i>Desired:</i> Career progression in research & existing careers	<i>Desired:</i> Policy development, systems strengthening	<i>Actual:</i> Government health services; academia, NGOs, research, independent	<i>Intended:</i> Technical and leadership skills for all levels of the public health sector
Possible locations in health service		National, provincial & district		National, provincial & district and institutes
Designated positions?		Yes - but not specified	Senior	Senior provincial, national

<sup>xii</sup>

Shaded cells indicate that the topic was not broached in interviews or in questionnaires.

Continued:

Factor:	MPH Doctors (Chapter 3)	Registrars/ new specialists (Chapter 4)	PHM Specialists (Chapter 5)	Stakeholders (Chapter 6)
<b>Recommendations</b>				
Address specific competency training gaps		Management	Strategic management	Critical management gaps & leadership
Undergraduate public health	Important Prepare for service Integrate PH approaches into practice Attract to PH training/careers	Important		
Other specialist training	Incorporate PH training			Incorporate PH training
Academic partnerships with services		Useful for mentorship	Delivers expertise and value	
Competition with other PH professionals	Yes. Delineate difference with PHM	Yes, but optimistic	Yes, not own issue	Yes, but each has own niche
<b>Public Health Medicine's identity and presence</b>				
Identity: ill-defined	Approach & set of skills, but not a practice	Ill-defined scope of practice	Blurred boundaries with other professionals	Invisible, poorly regarded
Causes of perceived absence	Few numbers Seen as academics Few statutory posts			
Overwhelming dominance of the 'clinical'	In undergraduate training		In the health services priorities	
<b>Future of Public Health Medicine speciality</b>				
Profile changing		Academic insertion into services demonstrates value		Where there is presence
Potential role		Critical for health systems development, assess burden of disease, implementation, research, leadership		
Health intelligence role		Finding and interpreting information Supporting services through management and leadership Providing policy-making and planning capacity Research		
Value of medical background?		Appreciate service realities, communication with colleagues, bio-medical knowledge useful for design and implementation of promotive, preventive, curative services for 'burden of disease'.		
Unique value?		Versatile professional with competencies for leadership. Combination of skills		

In countries such as the USA,<sup>107</sup> India<sup>118, 402</sup> and Canada<sup>106</sup> specialist doctors in preventive or community medicine provide both primary clinical care and manage health services, which differs from the South African context.

## **7.7 ADDRESSING THE SUPPOSITIONS FOR PHM'S ABSENCE**

Four propositions exploring possible reasons underlying PHM's absence in the health services were outlined in Chapter 2:

1. public health skills were not prioritised as critical to health reform;
2. PHM specialists were not appreciated as the speciality is a) unknown, and b) graduates were interchangeable with cheaper personnel; c) they were not service ready;
3. the skills base is valued but not prioritised in view of other demands; or
4. graduates are not willing to work in the state health sector.

The studies found that all postulated reasons in this cascade were partially true, and no single reason explained PHM's absence. Responding to each:

1. The clinical paradigm was largely hegemonic in spite of public health approaches and concerns being valued by all. Improving management skills was the major preoccupation of stakeholders, although the importance of a combination of public health skills and management was highlighted.
- 2a) The speciality was not prominent or well known, despite many PHM specialists working in academic and service settings. This may a combination of specialists' being self-identified in a component PHM area, working in non-specialist positions, and/or poor advocacy for the speciality.
- 2b) PHM specialists were not interchangeable with other postgraduate public health professionals, as they have broader and deeper knowledge and competency.
- 2c) Graduates are largely service-ready, although not universally.

3. The skills base is unevenly valued but in some provinces, has translated into the establishment of public health units, demonstrating value.
4. Graduates are, at least in principle, willing to work in the state health sector but this requires attention to supportive working environments that value autonomy and innovation.

## **7.8 SYNTHESISING THE KEY ISSUES**

Findings from the four studies went beyond these explanations and found four emerging issues that together underlie the conundrum and crossroads that PHM faces in South Africa. Two are tensions:

1. PHM's wish to become an identified, prominent discipline/speciality on the one hand, and its multi-disciplinary nature on the other;
2. PHM's dual history of both reinforcing dominant policy whilst specialists created models and approaches promoting social equity and justice.

The other two issues are:

3. PHM's ill-defined identity which reinforces its poor visibility and insertion in the health services; and
4. the current health policy and system opportunity.

### **7.8.1 Public Health as a speciality and its multi-disciplinary nature**

PHM's professional identity is foregrounded though discussions about differentiating it from other public health trained professionals and practitioners. The professional status of PHM with delineated knowledge, a service ideal, and exclusive jurisdiction<sup>124</sup> is challenged by a more inclusive model that embraces transdisciplinary team work.<sup>129</sup> This tension or contradiction is perhaps implicit in PHM's professional identity and echoes debates about scopes of practice raised in initiatives to implement "task shifting".<sup>131</sup>

Conceptualising PHM as a separate stand-alone profession flies against public health's multi-disciplinary identity that draws strength from teams of professionals with various competencies. A 'Public Health Medicine profession' is an oxymoron. This

does not mean that a professional identity should be dismissed. PHM needs to position itself alongside other professionals, embrace multi-disciplinary teams and assume a broad public health identity.

The interdependence of other professionals in team work is not unique to public health. It is key in the practices of psychiatry, palliative medicine and oncology.<sup>403</sup> Each professional plays important and changing roles, with professional boundaries being context-specific and shifting in the interests of patient care.

### **7.8.2 The heritage of Public Health Medicine in South Africa**

PHM reveals itself as a changing discipline that has both been complicit in maintaining inequity and social power relations and in challenging inequity, both present and invisible in South Africa's health system. Its service presence has been episodic, with long-standing roles in local authority health services which disappeared during the post-apartheid 1994 transition and may return through the establishment of public health units in district health services. This fits well with its 'community-engaged' approach and the district health system in South Africa. Local health services is the traditional terrain of public health doctors, often leading health services in the historic<sup>404</sup> and recent British health system,<sup>163</sup> in Norway<sup>393</sup> and Ghana.<sup>206</sup>

The speciality in South Africa has roots in health services and academia. Service roots were doctors performing public health functions in the sanitarian tradition – protecting the public against health hazards, preventing ill-health, often being agents of social engineering. As in Brazil,<sup>179</sup> a parallel history of involvement in social medicine initiatives co-exists, with doctors in multi-professional teams innovating service models based on population health needs. This approach – Community Oriented Primary Care (COPC) – impacted on innovative service models in many countries.<sup>180</sup> Academic PHM specialists provided leadership for the profession and were instrumental in the setting up of schools of public health at many universities in South Africa – and their quantitative training colours the speciality. The strengths of this heritage – in disease control, innovative health models and in epidemiology – together with management and emerging health systems expertise, needs to be galvanised for PHM to carve work spaces.

### **7.8.3 A vague identity**

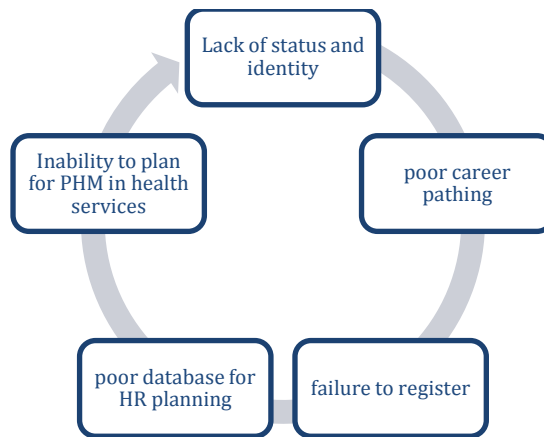
Respondents in all four studies voiced that public health practice was ill-defined. MPH doctors saw it as an approach and, set of skills to enhance career development, but not a specific practice. Some registrars explicitly voiced that it had an ill-defined identity and scope of practice, and specialists saw that there were blurred professional boundaries between themselves and other public health professionals. Many specialists felt that it was widely unappreciated and some saw little value in registering as PHM specialists. Key informants, regardless of being PHM specialists, believed that it was poorly regarded and largely invisible.

A concern with the identity of the speciality and unclear career paths is a dominant theme since the speciality began,<sup>102</sup> and persists. In spite of being an accredited medical speciality in South Africa, calls to define its role and establish public sector posts continue “after 30 years’ existence as a speciality”.<sup>208</sup> Its uncertain role and identity, noted particularly by registrar informants – the “specialty for non-specialists” – may be due to the South African context as well as the innate nature of public health work. Elsewhere, PHM as a speciality is noted as “difficult to characterise”, as it has context-specific roles and a broad competency.<sup>391</sup> Its practice has ill-defined boundaries as, firstly, ill health at a population level is underpinned by inequality; and secondly, improvements require intersectoral action for societal change, beyond the practice of these specialists. The multi- and inter-disciplinary approach, a leading theme of public health literature internationally<sup>79</sup> may also contribute to uncertainty about its role and definition.

#### **7.8.3.1 A vague identity begets poor insertion into the health services**

It was difficult to identify who should be included in the sampling frame for the specialist study. Inaccuracies in the HPCSA specialist database as well as failure of many to register, made this impossible to firm up with certainty. This resulted in an inability to describe the numbers of specialists, where they work and their roles. Without a robust, accurate human resources database that enumerates the size and distribution of these specialists and other health practitioners, sound human resources planning, particularly in a phase of health sector reform, is not possible. The

relationship between factors impacting on an inadequate presence in the health service is depicted in Figure 7.2.



**Figure 7.2: The synergistic relationship of factors impacting on PHM’s poor insertion in South Africa’s health services**

#### **7.8.4 Public health and current health sector reform**

The 2011 HRH strategy document<sup>26</sup> recognised that public health personnel were not institutionalised in South Africa’s public health sector, and that personnel performing public health functions are “not appropriately trained in epidemiology, planning and statistical analysis”. The document does not articulate a fuller set of competencies for public health or propose where such personnel should be embedded in health structures. Public health is largely seen as an auxiliary technical function supporting clinical health service delivery within service institutions.

The re-engineering of PHC<sup>136</sup> and HRH strategy<sup>26</sup> documents proposed that public health units, concentrating public health skills, be established at a provincial and district level. In order to maximise impact of these resources, these units need to be linked to each other, and nationally to the proposed National Institute for Public Health discussed below. As happens internationally, a South African public health agency, in areas of population health status, could have a surveillance and research function to inform policy and programmes.<sup>405</sup>

Registrars saw the future of PHM as bright, and referred to the recent acknowledgement that these competencies were indeed required. Places for public health professionals are emerging in provincial and district health services. However, besides roles in the Office of Health Standards Compliance, no other national roles specific to PHM were articulated. This may be due to the poor prominence of re-emerging national public health institutes, including cancer registries and disease control agencies. The possible development of a national public health institute for South Africa (NAPHISA)<sup>xliii</sup> – along the lines of other agencies globally such as CDC (USA) and FIOCRUZ (Brazil) that monitor and respond to changing patterns and determinants of health and disease,<sup>58</sup> and develop evidence-based policies – may become a future important base for public health professionals and PHM specialists. Such agencies are being set up in many countries, including in lusophone Africa.<sup>58</sup>

Interestingly, the importance of intersectoral approaches did not emerge from any of the four studies, which may be due to little focus and experience with these initiatives. To achieve health goals embodied in the 2003 Health Act – an improved quality of life for all – public health approaches are needed that reinforce intersectoral, inter-disciplinary and community-orientated in service delivery.<sup>398</sup> Public health professionals in the health sector are well placed to lead intersectoral action between government departments and civil society partners to ensure “Health in All policies”<sup>46</sup>. A focus on key factors underlying population health – housing, transportation, clean energy, food security, alcohol and tobacco, employment and education – is required. The health impacts of policies and programmes need to be demonstrated and advocacy for proven strategies undertaken. PHM specialists and professionals trained in health promotion are well placed to contribute here.

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<sup>xliii</sup> NAPHISA is a unit that will be responsible for the surveillance of communicable and non-communicable disease, occupational health and including injury and violence prevention (communication with Dr Natalie Mayet from the FELTP programme at the National Institute of Communicable Diseases, 17 June 2013).

## 7.9 LIMITATIONS

This thesis explored the 'desired', 'actual' and 'intended' roles of doctors with advanced public health training in South Africa. It did not seek to explicitly compare the roles of public health doctors with other public health professionals, and this could be a future exploration which could fruitfully contribute to delineating roles and responsibilities, amongst the ranges of public health professionals in practice. Whilst many recommendations are made regarding production, training and employment of PHM specialists, these may be relevant for the broad range of public health professionals as well.

Although effort was made to maximise the response rates for the two quantitative studies – the MPH doctor study, and the specialists' career paths studies – whilst adequate, they may belie selection biases, with more invested respondents participating. Inaccurate sampling frames – the HPCSA register, the CMSA register and University databases – all contributed to the uncertainty as to the size and distribution of PHM specialists in South Africa.

The findings of the two qualitative studies – the registrar study and the key stakeholders' study – whilst generating a range of rich themes related to the study questions, are not generalisable to the full range of specialists in training or stakeholders in public health. There may be 'actors' in health policy or managers in the public or private sector who hold contrary views and believe that the speciality has no specific value and should be subsumed. This is not a job evaluation study that sought to assess the work outputs and impacts of public health trained doctors and thus measure their contribution. This would be neither possible nor ethical. There is no database that tracks the work-life of public health trained doctors or PHM specialists that could facilitate such an enterprise. The validity of such a study – either self-reported or workplace instituted – would be questionable and obtaining consent for such a project would not be possible. Nonetheless the availability of databases that follow up graduates from such programmes would be an invaluable resource that could facilitate monitoring the size, distribution and work of these trained doctors.

## 7.10 RECOMMENDATIONS

These findings and analysis indicate the need to articulate a clearer identity for public health and for Public Health Medicine, and to produce public health trained personnel, doctors and specialists, with competencies that fit skills gaps and enhance public health functions in South Africa's health sector.

Firstly, in line with the identity and necessity of multi-disciplinary nature of public health practice, the professional status of PHM in South Africa needs to be redefined as a profession that does not seek exclusive jurisdiction. Its identity falls within a broad family of public health professionals with shared approaches, competencies and practice. The uniqueness of PHM specialists comes from a combination of their medical training coupled with broad theoretical and practical experience, both assessed, which prepares them for work in a range of settings.

PHM needs to affirm other professionals' roles, embrace multi-disciplinary teams and assume a broad public health identity, whilst maintaining competencies that are explicit and accredited. Some specific functions that require clinical insight coupled with public health training may be appropriate for these specialists, such as communicable disease control statutory functions.

Moves to professionalise public health have taken place in the UK and the USA. In South Africa, PHM could form a subset of a public health 'profession'. This could only occur once core competencies are agreed, with a certified exit qualification for public health professionals, particularly MPH graduates. This is taking place in the USA<sup>406</sup> where there is agreement about a unique knowledge base with accredited training programmes and career paths independent of any other occupation or profession with separate credentials. An analogous process could be implemented in South Africa – and is on the agenda of the Association of Schools of Public Health in Africa (ASPHA).<sup>407</sup>

### **7.10.1 Producing the public health workforce**

In view of the scarcity of health service managers with public health training in South Africa<sup>275</sup> and of PHM specialists,<sup>29</sup> and the progressing age of public health specialists, there is some urgency for increasing specialist output. This requires resourcing of recruitment, funding and training. The increasing proportions of possibly part-time women specialists, requires increasing numbers of posts and part-time training options. Candidates recruited for specialist training in South Africa should fit the ethos underpinning the profession, and demonstrate that they value social justice and the development of equitable health systems. Attention needs to be given to this particularly if the production of specialists is to be increased.

Gaps in specialist training, targeting service settings with good mentorship, particularly in strategic management, need to be addressed to prepare graduates to be work ready. This training must be revamped in the context of improving management and public health training for all levels of health workers, to develop a skilled public health workforce overall, as in Brazil.<sup>193</sup> Making an MPH degree an entry requirement for admission to registrar training would allow time in a four year programme to augment theoretical training in areas identified as gaps by respondents in the registrar, specialist and key respondents – and allow practical application of skills and the achievement of competency.

A forum is required of public health and PHM stakeholders – trainers and employers of graduates – to discuss curricula and service placements, firm up competencies and training, and to map the way forward for roles and posts. Attention should be given to core competencies for MPH degrees in South Africa. Such a forum could contribute to the revitalisation of public health and PHM.

Whilst public health is largely learnt at a postgraduate level and is a recognised speciality, it is not the sole concern or competence of few skilled specialists. It was noted that incorporating competencies into undergraduate learning could both add capacity to the services where these doctors work, and attract doctors to specialist training and practice. These perspectives are present in international medical education literature calling for doctors to transform health services to incorporate

promotive and preventive functions,<sup>98</sup> to produce better outcomes at a systemic level.<sup>99</sup> Integrating public health approaches and concepts into clinical teaching; community attachments, with projects using core public health disciplines such as epidemiology; biostatistics; and, skills in critical review of journal articles would enable an exposure to public health practice and skills for life-long learning. Exposure to role models such as registrars could assist in profiling public health roles.

### **7.10.2 Employing and retaining public health specialists**

Health service planning requires an accurate database of the size, age profile and geographic distribution of health professionals. The updating and maintenance of the HPCSA database of health professionals, broken down by profession and specialist discipline, is critical. Investment in systems that update and timeously produce information for planning is urgently required.

The failure of some potential specialists to register with the HPCSA means that information regarding the specialist pool will remain inaccurate. Initiatives such as the OSD have incentivised registration but specialist posts commanding OSD remuneration are few. Many PHM specialists are in senior management positions which may be sufficient for satisfied incumbents but is unlikely to attract new specialists. The public service salary structure for management staff needs to be reviewed to accommodate the appointment of these specialists into management positions.

As current policy states, PHM posts need to be created in public health units at district, provincial and national level. Many registrars were excited by prospects of working in these capacities at a local level. A risk with the establishment of these posts, however, is that there will not be sufficient PHM specialists to fill them. This gap could be overcome through the creation of structures that have place for PHM specialists, multi-disciplinary teams and other public health personnel. Such service settings with specialist presence could accommodate registrars, MPH practica students, and could also become service placements for undergraduate students who then experience public health work in practice.

In view of past experience, employment of these specialists requires adequate remuneration coupled with a supportive work climate with professional autonomy, acknowledgement, and professional advancement – factors seen as predictors for job satisfaction.<sup>376</sup> Retention of scarce cadres of staff requires attention and measures to ameliorate the reasons given for job moves – such as frustrations with bureaucracies, and non-specialist salaries – need to be overcome so that specialists are retained and maximise their impact.

### **7.10.3 Implications for health policy**

Frank discussion with service stakeholders about training needs and personnel requirements should increase the numbers of PHM specialists in the services who, in turn, enhance programmes in disease surveillance and prevention, health promotion, hospital management and provide leadership in the health sector, as has happened elsewhere.<sup>85</sup> Together with other health workers and public health professionals working in existing and emerging structures in the health sector, they will enhance the health status of South Africa's population through functions and services that address health needs.

Public health is needed to reinforce intersectoral, inter-disciplinary and community-orientated approaches in the health services<sup>398</sup> to achieve an “improved quality of life for all”, the goal embodied in the 2003 Health Act. PHM specialists and professionals trained in health promotion are well placed to drive and lead intersectoral action between government departments and civil society partners to ensure “Health in All policies”<sup>46</sup>. A focus is required on key factors underlying population health – housing, transportation, clean energy, food security, alcohol and tobacco, employment and education – and health impacts of policies and programmes need to be demonstrated with advocacy for proven strategies.

In South Africa, a public health workforce with field-epidemiology training, supported by laboratory and health systems, is emerging – but its presence is uneven. More robust health systems are required with competence in multi-disease public health surveillance and response co-ordination, together with systems that address the burden of communicable and non-communicable diseases. The absence of a trained

public health workforce and health systems to support them was identified as the key reason for the uncontrolled Ebola outbreak plaguing specific West African countries,<sup>408</sup> and requires attention in South Africa as well. The establishment of a NAPHISA, linked to provincial and district public health intelligence with support for surveillance, policy and implementation, is required.

#### **7.10.4 Further research**

This thesis has identified contributions of PHM specialists and public health trained doctors in South Africa's health service through both qualitative and quantitative methods. The quantitative methods were cross-sectional in nature and so it was not possible to assess the motivations and contribution of these doctors over time. No study that prospectively follows these groups exists; neither does a system that follows up cohorts of students existing postgraduate public health programmes in South Africa. This makes it difficult to assess the impact of postgraduate training over time and the products of this training.

Systems need to be instituted that follow up the cohorts of MPH and MMed alumni from training institutions, which will allow further research about the contributions of the public health workforce. Research is required that provides information regarding roles of public health professionals, doctors and specialists; best practice for these scarce professionals; clarification of core skills – to provide insight into the design of public health training, the public health workforce and the required skills mix for planning in a reforming health system. Multi-country studies are required that compare and contrast public health professionals and medical specialists, particularly in LMIC; these can lead to fruitful collaborations for research and training. Such research could draw on health systems methodology and consider the interplay of actors, process and historical and contextual factors.<sup>409</sup> Documentation and analysis of the process and towards a public health profession is required, and needs to include all stakeholders in this process.

## 7.11 CONCLUSION

The motivation for this thesis proposed a number of suppositions for Public Health Medicine's being largely invisible in South Africa's health system. These ranged from it not being required, to being unknown, to being interchangeable, to having poor products or being unavailable. Information gleaned showed that PHM specialists are required, but are largely absent. The studies demonstrate that complex factors underlie this absence. 'Desired', 'actual' and 'intended' roles are congruent, PHM is valued by stakeholders and is currently highlighted as a scarce priority resource, yet this has not translated into public health structures and PHM posts within the health system.

The reasons for it being eclipsed and largely unknown stems from factors innate to public health, to its practice in South Africa and the development of South Africa's health system. Public health practice is by nature context-specific with individual competencies that could be practised by others, thus making it difficult to define. Public health 'specialist' practice was identified historically with elitist and politically oppressive government, whilst another equally important part of its tradition, social medicine, demands a commitment to social justice and cuts across professional domains, rendering its specificity ill-defined. In addition, the unfolding maturation of South Africa's restructured health service with political, administrative and disease challenges, has not prioritised public health functions and capacity.

This may be shifting with the recent recognition that PHM specialists rank high on the list of scarce professional skills in South Africa, but the place for this cadre in this and in health workforce documents is not articulated. This is a task for the profession going forward. It needs to engage with senior policy makers in a spirit of collaboration for health sector reform; demonstrate strengths; show evidence of added value; develop proposed structures that have obvious value for services at all levels in the system; assist in piloting models for NHI oriented services; and train increasing numbers of specialists with skills sets appropriate for service settings. These specialists, together with a cohort of professionals developed through context-specific management training and accredited MPH degrees should contribute to appropriate

services and policy environments that improves health outcomes in line with South Africa's economic position. This will ensure that Public Health Medicine specialists make a critical contribution to South Africa's health system particularly in an era of an ambitious reform project – the NHI – that redefines the way health services will be delivered.

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## **APPENDIX A**

### **REFERENCES - LISTED ALPHABETICALLY**

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## **APPENDIX B**

### **MPH STUDY**

## Ethics approval letter



Health Sciences Faculty  
Research Ethics Committee  
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Telephone [021] 406 6626 • Facsimile [021] 406 6411  
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04 June 2010

HREC REF: 251/2010

Dr V Zweigenthal  
Public Health & Family Medicine

Dear Dr Zweigenthal

**PROJECT TITLE: DOCTORS AND MHPs : MOTIVATIONS OF SOUTH AFRICAN MEDICAL GRADUATES STUDYING MASTERS IN PUBLIC HEALTH.**

Thank you for submitting your study to the Health Science Faculty Human Research Ethics Committee.

It is a pleasure to inform you that the Ethics Committee has **formally approved** the above-mentioned study.

**Approval is granted for one year till the 15<sup>th</sup> June 2011.**

Please submit an annual progress report if the research continues beyond the expiry date. Please submit a brief summary of findings if you complete the study within the approval period so that we can close our file.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

**Please quote the REC. REF in all your correspondence.**

Yours sincerely

**PROFESSOR M BLOCKMAN**

**CHAIRPERSON, HSF HUMAN ETHICS**

Federal Wide Assurance Number: FWA00001637.

Institutional Review Board (IRB) number: IRB00001938

## First letter to potential respondents inviting participation

---

Dear Colleague,

I am doing a study that seeks to identify the motivations of medical doctors' who have recently completed or are currently completing the Masters in Public Health course at the University of Cape Town as well as their reflections on the value of the MPH training for their anticipated subsequent work.

Your participation would be greatly appreciated and the findings will be used to determine the future teaching needs of the school.

Your participation is completely voluntary and your decision to participate will, in no manner, affect your assessments in the programme. The researchers involved in this project are School staff members who are not responsible for running the MPH programme.

The survey has approximately 30 questions and should take about 20-25 minutes to complete.

The study is being administered through *Vula* – the University of Cape Town's online course administration site. Once the survey is available, you will receive an email with a link that will take you to the survey site page on *Vula*, which will come from my Research Assistant, Emma Marquez. This will allow participants' responses to remain anonymous through the evaluations tool on the site. Please note, that although you will be asked to fill out a consent form, your answers to the survey will remain anonymous.

In the next few days, we will send you an email inviting you take part in the study and give the instructions to access the *Vula* site.

I look forward to your participation.

Should you have any questions regarding the survey, please do not hesitate to contact me. I can be reached by telephone at 021-4066714 or through email:

[Virginia.zweigenthal@uct.ac.za](mailto:Virginia.zweigenthal@uct.ac.za).

Sincerely,

Dr. Virginia Zweigenthal

**Invitation letter to participate in study  
and instructions for online VULA based questionnaire**

---

**From:** Emma Marquez <emma.marquez@uct.ac.za>  
**To:** .....  
**CC:** Virginia Zweigenthal <Virginia.Zweigenthal@uct.ac.za>  
**Date:** 7/11/2011 12:41 PM  
**Subject:** Motivations of Medical Doctors studying Masters in Public Health at UCT

Dear All,

My name is Emma Marquez, and I am working with Dr. Zweigenthal to complete her project on the motivations of medical doctors completing MPHs.

The study is being administered through *Vula* – the University of Cape Town’s online course administration site. I have now added your email addresses to our site and you should receive an email with a link to the site shortly.

*Instructions for Vula:*

For those participants who do not have a *Vula* account, an invitation will be sent to you via email, which will prompt you to accept the invitation and will take you to the *Vula* site. You will then create a user name and password and complete the log-in information. Once you have created an account, you will be logged into *Vula*. The survey and consent form are housed as a course, which is entitled “Drs and MPH 2011.”

For those participants who do have an existing *Vula* account based on your UCT email address, I have added your campus ID to the *Vula* site. The study will show up as a course called “Drs and MPH 2011” in your course toolbar.

Clicking the course title on the top toolbar will bring you to the Course homepage. From there, the first step is to fill in the Consent Form. This is listed on the left hand side of the screen. Once you have clicked on the link, it will say “Tests and Exams,” but you are the right place.

Please note: we have created the consent form as an exam so that we may have a record of those participants who have consented. However, your participation in the survey will remain anonymous as it is designated as a course evaluation.

Please read the consent form carefully and tick the appropriate boxes. After the consent form is filled out, please click “Submit for Grading” rather than “Save”. This will take you to another page where you will need to click “Submit for Grading” a second time. You will then be taken to a confirmation page. You have now completed the consent form.

The next step is to take the survey. The link to the survey is under “Drs and MHP

survey” on the left hand side of the page. This link will bring you to a page that says “Course evaluations” – again, you are in the right place. We have housed the survey in the Evaluations section so as to ensure anonymity of the responses and so they are not linked in any way to the Consent form. The survey is titled “Study into the motivations of doctors completing the Masters of Public Health at UCT” and should be listed on the page as an open survey. Once the survey is completed, click “submit” and you will be taken to the confirmation page. You will then receive an email confirming that the survey has been submitted.

If you have any questions or difficulties regarding *Vula*, please do not hesitate to contact me.

Thank you very much for your participation.

Sincerely,

Emma Marquez  
Research Assistant  
University of Cape Town  
School of Public Health and Family Medicine  
Mr Sinai International Exchange Program Fellow

## Consent form

---

### Study into the Motivations of Doctors studying

#### Masters in Public Health at UCT

#### Consent Form for Participants

- I am a lecturer at the University of Cape Town (UCT), and I am doing a study in order to find out about the motivations of doctors who are currently studying the Masters in Public Health (MPH) at UCT.
- The purpose of the study is to understand the motivations of doctors choosing to study Public Health and make recommendations to improve the Public Health training at an undergraduate level.
- I would like to invite you to participate in the study and complete the questionnaire attached. The questionnaire asks for some information about yourself and your medical studies, as well as the reasons for deciding to do a MPH at UCT and what your career plans are after you complete the degree.
- You do not have to answer any questions that make you uncomfortable and can also withdraw from the study at any time without any consequences.
- You should not feel compelled to participate and your decision to participate will, in no manner, affect your assessments in the programme. The researchers involved in this project are School staff who are not responsible for running the MPH programme.
- However, I would like to encourage you to consider participating as the study may benefit the quality and value of undergraduate and postgraduate training in public health for future students. If you do agree to participate, please be as truthful as possible when answering the questions.

#### CONSENT

- I hereby give my consent to participate in this study.
- I understand I am taking part freely without being coerced into doing so.
- I am aware that my answers and opinions will remain confidential.
- I understand that I can withdraw from the study at any time without any consequences.
- By completing this questionnaire I confirm that I am willing to participate in this study.

Signature of participant.....

Date: .....

**If there are any questions arising from your participation you may contact me :**

**Dr Virginia Zweigenthal, email : [virginia.zweigenthal@uct.ac.za](mailto:virginia.zweigenthal@uct.ac.za) or : 021-406-6714**

# Questionnaire

## Study into the Motivations of Medical Doctors studying

### Masters in Public Health at UCT

Firstly it would be useful to find out some information about you, where you studied and the MPH course you followed:

1. Age: .....
2. Gender: .....
3. Nationality .....
4. Academic institution where Medical degree was obtained: .....
5. Year Medical degree was obtained: .....
6. Other tertiary qualifications: .....
7. Part-time/Full-time MPH: .....
8. What year did you start the MPH at UCT .....
9. What year did you complete the MPH at UCT .....
10. If you have not completed the MPH, when do you aim to complete it? .....
11. How many semester courses have you completed? .....
12. MPH Track:

What track did you select when you started the course:

General	Clinical	Epidemiology	Health Economics	Wasn't sure
---------	----------	--------------	------------------	-------------

13. Did you change track? Yes  No

14. If so, what did you change to

General	Clinical	Epidemiology	Health Economics
---------	----------	--------------	------------------

15. Why did you change track?

.....  
.....

16. What set of MPH courses did you select and why?

.....  
.....

**Secondly it would be useful to understand what motivated you to do an MPH**

17. What was your motivation to do an MPH?

Wanted to since undergraduate	Want the research training	Requirement for promotion	Part of change in career path	Mentor encouragement	Other
-------------------------------	----------------------------	---------------------------	-------------------------------	----------------------	-------

Please explain:

.....  
.....

18. What advantages do you see for doctors to do a MPH?

.....  
.....  
.....

19. Was pursuing a MPH or higher training in Public Health encouraged at your medical school?

Yes  No

20. Why did you choose to do the MPH at UCT?

Alma Mater	Location	Friends or family at UCT	Expertise	Bursary	Not accepted elsewhere	Other, please explain
------------	----------	--------------------------	-----------	---------	------------------------	-----------------------

Please explain:

.....  
.....

21. Where did you hear about the MPH course run at UCT?

Medical school faculty or staff	UCT faculty or staff	UCT website	Friends or family	Advertisement	Other
---------------------------------	----------------------	-------------	-------------------	---------------	-------

Other, please give detail:

.....  
 .....

22. Did you move to Cape Town to do the MPH? Yes  No

23. If **yes**, from where: .....

***Undergraduate Public health training:***

24. What undergraduate public health teaching did you receive? (select ALL that apply)

Content/lectures	Skills	Clinical exposure	Assigned projects	Volunteer experience	Other please explain
------------------	--------	-------------------	-------------------	----------------------	----------------------

Please give detail about this training – length of exposure, integrated with clinical work/stand alone; focus (e.g. epidemiology/health promotion/understanding health services/other): .....

.....

25. Did your undergraduate exposure to Public Health play any role in your deciding to pursue postgraduate training in Public Health? Yes  No

Please explain:

.....  
 .....

26. Looking back on your undergraduate training, what aspects of Public Health:

- a. Should be focused on more: .....
- b. Should be down played more: .....

27. What changes would you suggest for the undergraduate public health curriculum that would encourage doctors to do the MPH?

.....  
.....

**Rating the MPH course that you did:**

Did the MPH programme live up to your expectations in terms of what you hoped to learn? Yes  No

Please elaborate

.....  
.....

28. Once started, was there content or skills that you would have liked to acquire that were not offered? Yes  No

Please explain

.....  
.....

29. What type of job did you have when you started the MPH: (e.g. PHC clinician, Programme manager, Researcher, specialist (which)): .....

30. Type of employing organisation: (e.g. government hospital, department of health, research institution, NGO (local or international), University):

.....

31. How many years were you in the job before you decided to do the MPH? .....

32. Are you still in the job you were in when you started the MPH?

Yes  No

If **no**, why not? Please give details: .....

33. Has having an MPH impacted on your day to day job? .....

34. Do you think that the MPH impacted on your career direction in any way?

Yes  No

Please give details:

.....  
.....

35. What kind of future career do you think the MPH will equip you for?

Research	Managerial position	International NGO	Governmental position	Consultant	Other; please explain
----------	---------------------	-------------------	-----------------------	------------	-----------------------

Please explain/give detail:

.....  
.....

36. Where do you see yourself in your future career?

Continue in present role	Management	Researcher	International NGO	Consultant	Other; please explain
--------------------------	------------	------------	-------------------	------------	-----------------------

Please give detail/explain:

.....  
.....

37. Do you have any suggestions that would make completing an MPH more attractive to doctors?

.....  
.....

**Thanks for your participation**



## **APPENDIX C**

### **REGISTRAR STUDY**

## Ethics approval



### Amendment Form

Date	29 June 2012
HREC REF Number	251/2010
Protocol number (if applicable) & Protocol title	Doctors and MPHs: motivations of South African graduates studying Masters in Public Health
Principal Investigator	Dr Virginia Zweigenthal
Department / Office Internal Mail Address	School of Public Health and Family Medicine Room 2.24 Falmouth Building Entrance 5

### List of Proposed Amendments with Revised Version Numbers and Dates

<b>AMMENDMENTS.</b>
CHANGED FROM: <del>Doctors and MPHs: motivations of South African graduates studying Masters in Public Health</del>
CHANGED TO: Doctors who study Public Health: motivations of South African graduates undertaking Masters in Public Health and Masters in Medicine (MMed).
<b>ADDED COMPONENTS (28 June 2012)</b>
<b>A. Aim and Objective:</b>
Describe the motivations of South African medical graduates who have chosen to undertake the 4 year Public Health Medicine specialisation in the Western Cape, and their perceptions of the value of this training for their anticipated career path. This study has the following objectives:
<ol style="list-style-type: none"> <li>1. To describe the motivations of registrars and recently qualifying graduates to undertake medical studies and their work trajectory to the point of commencing their registrarship;</li> <li>2. To understand the motivations underlying their choice of Public Health specialisation.</li> <li>3. To identify career path options that registrars are contemplating and the reasons underlying these choices.</li> <li>4. To ascertain the issues underlying their choice of jobs.</li> <li>5. To obtain opinion as to what registrars and new graduates perceive as the opportunities for the profession's role and future direction.</li> </ol>

HREC office use only (FWA00001637; IRB00001938)		
<input checked="" type="checkbox"/> Approved	<input checked="" type="checkbox"/> Type of review: Expedited	<input type="checkbox"/> Full committee
This serves as notification that all changes and documentation described above are approved.		
Signature Chairperson of the HREC	Date	3/7/12

RESEARCH ETHICS COMMITTEE  
2012 -07- 02  
HEALTH SCIENCES FACULTY  
UNIVERSITY OF CAPE TOWN

## Consent form for focus group on Public Health Medicine.

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- I am a Public Health Medicine specialist and researcher in the School of Public Health of Cape Town (UCT), and am doing a study to find out about the contribution of Public Health Medicine specialists to the development of health services in South Africa, and the reasons doctors choose to specialise in Public Health Medicine.
- As part of the study, I am conducting focus groups amongst Public Health Medicine registrars in to find out what their thoughts are about these issues and their experiences of Public Health.
- Thanks for agreeing to participate in the study. Your participation is voluntary and your identity will not be disclosed.
- You do not need to respond to questions or issues that make you uncomfortable and may also withdraw from the study at any time without any consequences.
- Please treat the discussion as confidential.
- The focus group will be recorded and transcribed. The interview should take around an hour.

**If there are any questions arising from your participation you may contact :  
Dr Virginia Zweigenthal, email : [virginia.zweigenthal@uct.ac.za](mailto:virginia.zweigenthal@uct.ac.za) or : 021-406-6714 or  
My supervisor for this project, Prof Leslie London – [leslie.london@uct.ac.za](mailto:leslie.london@uct.ac.za)**

### CONSENT

- I hereby give my consent to participate in this study.
- I am aware that the interview will be tape recorded
- I understand I am taking part freely without being coerced into doing so.
- I am aware that my answers and opinions will remain confidential.
- I understand that I can withdraw from the study at any time without any consequences.
- I would like to receive a copy of the research findings:

..... Date: .....

Name                      Signature

..... Date: .....

Virginia Zweigenthal (signature)



## Information sheet and interview guide for registrar focus groups

---

Thank you so much for agreeing to take time out for the focus group. As part of my PhD I am doing a study to understand what the motivations and intentions of Public Health Medicine registrars are about public health, the training they get and ideas about future work are.

Everyone here is a registrar in Public Health. Most have trained at a South African University and have worked in the health services for a period of time.

I have asked you to participate in the focus group as I think that a group discussion about these things would be very valuable. You have all read and signed the consent form. Is there anything anyone would like to ask about the process at this stage.

1. I would like to start off by asking what kinds of experiences brings people like yourself to choose training as a Public Health Medicine specialist.
2. Do you think undergraduate exposure to public health affects people's decision making to do Public Health as a speciality?
3. At this stage what career options do you think people exiting from the programme would have?
4. To what extent do you think that the training registrars have prepares them for their future work?
5. To what extent do you think that the work placements registrars have prepare them for their future work?
6. What are your thoughts about the future of Public Health in South Africa?
7. Anything more someone would like to add?

**Thanks you so much for your participation.**

## Information sheet and interview guide for newly qualified specialists

---

Thank you so much for agreeing to take time out for the interview. As part of my PhD I am doing a study to understand what the motivations and intentions of Public Health Medicine specialists are about public health, the training they get and their ideas about future work. As someone who has recently completed your training through UCT you will have thought about these a lot and so I would love to tap into your reflections.

You have read and signed the consent form. Are there any issues you wish to clarify? I would like to start off by asking you what your previous work experience was and what led you to choose training as a Public Health Medicine specialist.

1. Some doctors have done MPHs rather than the specialisation. What are the factors that led you to choose to do the specialisation rather than the MPH?
2. What was your undergraduate exposure to public health, and do you think this had anything to do with you choosing to do public health as a speciality?
3. At this stage what kind of work do you want to do and experience do you want to get?
4. In the medium/longer term what kind of work do you think you want to do?
5. To what extent do you think that the academic training you had so far prepared you for your work?
6. To what extent do you think the registrar rotations prepared you for your work?
7. What are your thoughts about the future of Public Health and Public Health Medicine in South Africa?
8. Anything more you would like to add?

**Thanks you so much for your participation.**

**APPENDIX D**

**SPECIALISTS' AUDIT**

## Ethics approval letter for the Specialists' Careers Path Study



UNIVERSITY OF CAPE TOWN

Health Sciences Faculty  
Research Ethics Committee  
Room E52-24 Groote Schuur Hospital Old Main Building  
Observatory 7925  
Telephone [021] 406 6626 • Facsimile [021] 406 6411  
e-mail: lamees.emjedi@uct.ac.za

07 September 2010

HREC REF: 410/2010

**Dr V Zweigenthal**  
Public Health & Family Medicine  
Falmouth Building  
Medical School

Dear Dr Zweigenthal

**PROJECT TITLE: CAREER PATHS OF PUBLIC HEALTH MEDICINE SPECIALISTS IN SOUTH AFRICA: AN AUDIT OF SPECIALIST GRADUATES 1995-2010**

Thank you for submitting your new study to the Faculty of Health Sciences Human Research Ethics Committee.

It is a pleasure to inform you that the FHS HREC has **formally approved** the above-mentioned study.

**Approval is granted for one year until 15 September 2011.**

Please send us an annual progress report (website form FHS 016) if your research continues beyond the approval period. Alternatively, please send us a brief summary of your findings so that we can close the research file.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

**Please quote the REC. REF in all your correspondence.**

lemjedi

**PROFESSOR M BLOCKMAN**  
**CHAIRPERSON, HSF HUMAN ETHICS**

Federal Wide Assurance Number: FWA00001637.  
Institutional Review Board (IRB) number: IRB00001938

This serves to confirm that the University of Cape Town Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP) and Declaration of Helsinki guidelines.

The Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.

**Letter to respondents (whose email addresses were later found)  
inviting participation in study**

---

**From:** Virginia Zweigenthal  
**To:** .....

**Date:** 2012/10/27 04:50 PM

**Subject:** Fwd: Public Health Medicine audit

**Attachments:** HMC article Naledi April 2012.pdf

Dear Colleague,

You may have received an invitation previously to complete a questionnaire that aims to probe the career trajectories of Public Health Medicine specialists and their reflections on the profession and public health in general in South Africa. Thus far out of a possible 220 responses I have received 70 and really need further data to describe the diverse and rich contribution that Public Health Medicine specialists have made.

The work of Public Health Medicine specialists is increasingly being profiled in the literature and Health Management Review Africa has run a series detailing the work of PHM specialists. I attach an example of an article which profiles Dr Tracey Naledi, who works in a Provincial health department. The research I am doing intends to detail and analyse work of specialists, and the variety of experience of specialists would add huge value.

To increase the responses and obtain varying experience and perspectives, I have reopened the survey and would like to encourage you to take 20 minutes out of your time to complete it. An email through SurveyMonkey will be sent to you which if opened will take you to the survey website.

I look forward to your participation in the study. Please let me know if there are issues you wish to query.

Regards,

Virginia

Dr Virginia Zweigenthal

Senior Lecturer

School of Public Health

University of Cape Town

Tel: 021-406-6714

Cell: 0832677122

## Letter to CEO Colleges of Medicine of South Africa to access PHM Database

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UNIVERSITY OF CAPE TOWN



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### School of Public Health & Family Medicine

Faculty of Health Sciences

9/9/2010

Anzio Road

Attention: The CEO  
College of Medicine (SA)  
Rondebosch  
Cape Town

Dear Mrs Bothma,

#### **Re: Access to College of Public Health Medicine data base**

In consultation with the President of the College of Public Health Medicine, Professor Shan Naidoo, I wish to do an audit into the career paths of Public Health Medicine graduates from 1995 to the present. The audit intends to establish the career paths of all graduates in order to inform the College as to the training needs, and how it should position itself to address the needs of future graduates.

This audit forms part of my research portfolio and has the support of the Head of our School at UCT, Prof Leslie London who is a co-investigator on the study. The research proposal has been approved by the UCT Research Ethics Committee – HREC Ref: 410/2010 – attached.

The research requires a database of Public Health Medicine/Community Health specialists who will be invited to participate in the audit. I would request that I am able to access a copy of the up-to-date database of the members – current and lapsed. In accordance with the REC approval, the database will not be shared with any third party and only utilized for this purpose. The names of the people on the database will not be divulged to any third-party or be used as identifiers in the study report.

I trust that you would consider this request favourably.

Many thanks,

Dr Virginia Zweigenthal

Senior Lecturer: Public Health

**Consent form for online SurveyMonkey® survey  
sent to potential respondents**

**Career paths for Public Health Medicine Specialists**

**Informed Consent Form for Subjects:**

This introduction gives some background to the study and asks for your participation.

I am a public health medicine specialist working at the University of Cape Town, and am doing a study that aims to explore the contribution of public health medicine (PHM) specialists in South Africa and document their working lives. This research comes out of a realisation that the work and career paths of public health/community health specialists in South Africa is relatively unknown.

The purpose of the study is to document the career trajectories and choices of PHM specialists, their perspectives on their work in order to make recommendations to trainers of specialists and potential employers in planning for the future of the profession

As a Public Health Medicine /Community Health specialist who completed a MMed at a training University or a qualification through the Colleges of Medicine, I would like to invite you to participate in the study, and complete the questionnaire. I would appreciate it if you could take the time - around 20 minutes - to do this.

Please do not feel compelled to participate, and you do not have to answer any questions that make you uncomfortable. You can also withdraw from the study at any time.

I would encourage you to participate as the study may benefit the design of training and contribute to understanding the career options of future specialists. If you do agree to participate, please be as honest as possible when answering the questions.

If you wish, I will send you a copy of the report that will be written coming out of the study.

If you have any questions arising from your participation you may contact me:

Dr Virginia Zweigenthal,  
email : virginia.zweigenthal@uct.ac.za or  
Tel: +27 21 408 6714

**1. CONSENT**

**I hereby give my consent to participate in this study.**

**I understand I am taking part freely without being coerced into doing so.**

**I am aware that my answers and opinions will remain confidential.**

**I understand that I can withdraw from the study at any time without any consequences.**

**By completing this questionnaire I confirm that I am willing to participate in this study.**

Agree

Disagree

Online SurveyMonkey® questionnaire  
on career paths of Public Health Medicine specialists

**Career paths for Public Health Medicine Specialists**

**QUESTIONNAIRE**

Please complete the following as fully as you can.

**2. PERSONAL PROFILE**

**It would be helpful to have some information about you.**

What is your age?

What is your gender?

What is the country of your birth?

**3. Are you currently registered as a doctor with the Health Professions Council of South Africa (HPCSA)?**

yes

No

If NO, please outline reason (s)

**4. UNDERGRADUATE MEDICAL TRAINING**

What is your undergraduate medical degree?

Where did you do your training?

When did you obtain your degree?

**5. POSTGRADUATE PUBLIC HEALTH OR COMMUNITY HEALTH SPECIALIST TRAINING:**

Where did you do your postgraduate public health training?

Institution

Other (please specify)

**6. Years when trained**

What year did you start your training?

What year did you finish?

## Career paths for Public Health Medicine Specialists

**7. REGISTRAR TRAINING.** The Registrar training consists of service placements, formal courses, individualised training, and mentoring. I would like your feedback about each of these. Please complete the information for each of your training rotations.

	location:	Duration	Registrar type	Role (tick ONE that best fits your role)	Sphere	rating
Rotation 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Rotation 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Rotation 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Rotation 4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Rotation 5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Rotation 6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Other (please specify)

**8. Are there placements that you would like to have had but did not get an opportunity to experience?**

Yes

No

Give detail

**9. FORMAL COURSE WORK:** Some registrars completed formal courses prior to entering the registrar programme. If applicable please list.

**10. Many training programmes require that registrars complete formal courses during their training (e.g. MPH; DOH; other). List the courses you completed and whether you recieved formal credit for them.**

	Course	Credit
1	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>

If other (please specify)

## Career paths for Public Health Medicine Specialists

### 11. OTHER ACADEMIC TRAINING:

Was provision made for additional training to address the core competences of a public health medicine specialist?

Yes

No

Give detail

**12. MENTORING: Mentoring by an academic or service specialist is a component of teaching. Did you have identified mentors?**

Yes / No

Rating

Mentor	Yes / No	Rating
	<input type="text"/>	<input type="text"/>

**13. Are there any recommendations that you would like to make to academic trainers about the Registrar rotation so that learning is maximised?**

Yes

No

Give detail

### 14. QUALIFICATION OBTAINED:

When you finished your training what specialist qualification did you obtain? (Tick all applicable)

MMed

CMSA Fellowship

Other

If other, give details:

## Career paths for Public Health Medicine Specialists

**15. Did you register your public health qualification with the Health Professions Council of South Africa (HPCSA)?**

yes

No

Outline reason(s) for doing this

**16. Did you register as a Public Health Medicine / Community Health specialist with the HPCSA?**

yes

No

Outline reason(s) for doing this

**17. Have you undertaken any additional formal studies since qualifying as a specialist?**

yes

No

Give details (e.g. PhD, other Masters, MBA)

## Career paths for Public Health Medicine Specialists

### WORKING LIFE

In this section we wish to capture as much detail about your career path post your public health qualification as possible. Please complete as fully as possible.

#### 18. What was your first job post qualification?

Employer	<input type="text"/>
Country	<input type="text"/>
Position	<input type="text"/>
Dates (from when to when)	<input type="text"/>
Reasons for taking the job	<input type="text"/>
Reasons for leaving the job	<input type="text"/>

#### 19. What was your second job post qualification?

Employer	<input type="text"/>
Country	<input type="text"/>
Position	<input type="text"/>
Dates (from when to when)	<input type="text"/>
Reasons for taking the job	<input type="text"/>
Reasons for leaving the job	<input type="text"/>

#### 20. What was your third job post qualification?

Employer	<input type="text"/>
Country	<input type="text"/>
Position	<input type="text"/>
Dates (from when to when)	<input type="text"/>
Reasons for taking the job	<input type="text"/>
Reasons for leaving the job	<input type="text"/>

#### 21. What was your fourth job post qualification?

Employer	<input type="text"/>
Country	<input type="text"/>
Position	<input type="text"/>
Dates (from when to when)	<input type="text"/>
Reasons for taking the job	<input type="text"/>
Reasons for leaving the job	<input type="text"/>

## Career paths for Public Health Medicine Specialists

### 22. What was your fifth job post qualification?

Employer

Country

Position

Dates (from when to when)

Reasons for taking the job

Reasons for leaving the job

### 23. What was your sixth job post qualification?

Employer

Country

Position

Dates (from when to when)

Reasons for taking the job

Reasons for leaving the job

### 24. Do you think that your public health medicine training contributed to your career direction?

- Yes
- No

Give details:

### 25. Besides your specialist training are there any other factors that have determined your career trajectory to date?

- Yes
- No

Give detail

### 26. Are there competencies that you were trained in that you have not used in your work?

- Yes
- No

Give detail(s)

## Career paths for Public Health Medicine Specialists

**27. Are there competencies that you did not get in your training that you subsequently needed?**

Yes

No

If yes, explain why or how? If not, why not?

**28. How would you rate your career trajectory thus far?**

1=has not met

2= ambivalent

3 = satisfied

4 = very pleased

5= found my niche

expectations

Please elaborate

**29. Are you currently employed by the department of health?**

Yes / No

If No, would you consider this as a longer term career option?

**30. Do you think that the recently implemented Occupational Specific Dispensation (OSD) for doctors attracts PHM specialists into the public service?**

Yes

No

Don't know

Please explain

## Career paths for Public Health Medicine Specialists

**31. The Minister of Health has called for a "re-engineering" of the Public Health service. This has fore-grounded Public Health strategies and, positioned PHM Specialists as critical players in the revised health service. Set out below are some roles that PHM Specialists / other public health professionals could perform. On a scale of 1 - 4 can you rate whether these are roles that PHM specialists are specifically needed?**

	rating
Strategic planning:	<input type="text"/>
Programme design:	<input type="text"/>
Epidemiology:	<input type="text"/>
Surveillance:	<input type="text"/>
Health information:	<input type="text"/>
Management (hospital, district, other line, programme):	<input type="text"/>
Research	<input type="text"/>

Explain

**32. In your opinion are there roles that PHM specialists would ideally be suited to:**

- yes
- no
- Not sure

Give detail

**33. Some people have said that other professionals (e.g MBA, MPH, Health Economists) could perform the roles that PHMs Specialists do. Do you agree with this?**

- Yes
- No
- Not sure

Give detail

**34. Do you have any suggestions on ways to improve the career paths of PHM specialists in South Africa?**

## Career paths for Public Health Medicine Specialists

**35. Please give other comments that you would like to make.**

**36. Indicate if you would like a copy of the report from the study: (tick)**

Yes

No

If yes, please supply your contact details:

**Letter to invite participation in survey for potential respondents with  
NO Email address**

---

UNIVERSITY OF CAPE TOWN



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**School of Public Health & Family Medicine**

Faculty of Health Sciences  
Anzio Road  
Observatory, 7925  
SOUTH AFRICA  
Telephone: (27 21) 4066300  
Fax: (27 21) 4066163

**Head of Department:** Professor Leslie London

26 October 2012

Dear Dr [],

I am conducting a study to explore the work of Public Health Medicine specialists in South Africa and their career paths. This research comes out of a realisation that the work and career paths of public health/community health specialists in South Africa is relatively unknown. The study will assist in knowing what kind of contribution and role we have and can play and should assist both trainers of specialists and potential employers in planning for the future of the profession.

This study started in 2011 and initially included specialists studying in the post 1994 era. I wish to expand this to include everyone who is listed in the HPCSA, College of Medicine or university databases, so as to have a broader perspective. You may be retired or no longer practicing. Nonetheless, your experience and thoughts on public health/Community Health would be valued. I would appreciate you taking the time - around 20 minutes - in the next two weeks to complete the questionnaire. The research Ethics Committee at the University of Cape Town has approved this study - ref. 410/2010

If you could you please complete the questionnaire by the end of September 2012, and mail it back to me in the envelope enclosed. Please do not hesitate to contact me if you have any queries or comments.

I look forward to your participation.

Regards,

---

Dr Virginia Zweigenthal

## Consent form for postal respondents

---

### Career paths for Public Health Medicine Specialists

#### Informed Consent Form for Subjects

This introduction gives some background to the study and asks for your participation.

I am a Public Health Medicine Specialist and lecturer at the University of Cape Town (UCT), and I am doing a study that aims to explore the contribution of Public Health Medicine (PHM) specialists in South Africa and document their working lives. This research comes out of a realisation that the work and career paths of public health/community health specialists in South Africa is relatively unknown.

The purpose of the study is to document the career trajectories and choices of PHM specialists, their perspectives on their work in order to make recommendations to trainers of specialists and potential employers in planning for the future of the profession.

As a Public Health Medicine/Community Health specialist who completed a MMed at a training University or a qualification through the Colleges of Medicine, I would like to invite you to participate in the study and complete the questionnaire attached. I would appreciate it if you could take the time- around 20 minutes – to do this.

Please do not feel compelled to participate and you do not have to answer any questions that make you uncomfortable. You can also withdraw from the study at any time.

I would like to encourage you to participate as the study may benefit the design of training and contribute to the understanding of career options of future specialists. If you do agree to participate, please be as honest as possible when answering the questions. If you wish, I will send you a copy of the report that will be written coming out of the study.

If you have any questions arising from your participation you may contact me :

Dr Virginia Zweigenthal,

**email** : virginia.zweigenthal@uct.ac.za or : 021-406-6714

#### **CONSENT**

**I hereby give my consent to participate in this study.**

**I understand I am taking part freely without being coerced into doing so.**

**I am aware that my answers and opinions will remain confidential.**

**I understand that I can withdraw from the study at any time without any consequences.**

Signed: ..... Name (optional): .....

Date: .....

## Questionnaire for postal respondents

---

### QUESTIONNAIRE

*Please complete the following as fully as you can.*

#### PERSONAL PROFILE

1. Age: .....
2. Gender: .....
3. Country of your birth: .....

#### UNDERGRADUATE MEDICAL TRAINING:

4. What is your undergraduate medical degree?: .....
5. At what institution did you do your training? .....
6. When did you obtain your degree? .....

#### POSTGRADUATE PUBLIC HEALTH/COMMUNITY HEALTH SPECIALIST TRAINING:

7. At what institution did you do your training? .....
8. What year did you start your training? .....
9. What year did you finish? .....

10. **REGISTRAR TRAINING:**

Registrar training consists of service placements, formal courses, individualised training, and mentoring. I would like your feedback about each of these. Please complete the information for each of your training rotations. (Should you need more space, please continue overleaf)

	rotation 1	rotation 2	rotation 3	rotation 4	rotation 5	rotation 6
<b>Location</b>						
<b>Duration</b>						
<b>Role</b>						
Please rate each rotation appropriately 1=poor (frustrating), 2= an OK experience, but no real added value 3= useful (gave useful insight); 4=good learning experience (able to use skills developed on a daily basis); 5=invaluable and gave direction to career choice						
<b>Rating</b>						

11. Are there placements that you would like to have had but did not get an opportunity to experience?

Yes:  No:

Give detail: .....

.....

12. **Formal Course Work:** Some registrars completed formal courses prior to entering the registrar programme. If applicable please list:

.....

.....

.....

13. Many training programmes require that registrars complete formal courses during their training (e.g. MPH; DOH: other). List the courses you completed and whether you received formal credit for them.

Course	Credit?
--------	---------

.....	Yes/No
-------	--------

.....	Yes/No
-------	--------

.....	Yes/No
-------	--------

.....	Yes/No
-------	--------

14. **Other academic training:**

Was provision made for additional training to address the core competencies of a Public Health Medicine specialist? Yes:  No:

Give detail: .....  
.....

15. **Mentoring:**

Mentoring by an academic or service specialist is a component of teaching. Did you have identified mentors? Yes:  No:

How would you rate him/her: 1 = poor  2= OK  3= good  4= outstanding

16. Are there any recommendations that would like to make to academic trainers about the registrar rotation so that learning is maximised? Yes:  No:

Give detail: .....  
.....

17. **Qualification obtained.**

When you finished your training what specialist qualification did you obtain? (Tick all applicable)

MMed  CMSA Fellowship  Other

If other, give details:

.....

18. Did you register your public health qualification with the Health Professions Council of South Africa (HPCSA)? Yes:  No:

Outline reason(s) for doing this: .....  
 .....

19. Have you undertaken any additional formal studies since qualifying as a specialist:

Yes:  No:

Give details (e.g. PhD, other Masters, MBA): .....  
 .....

20. **WORKING LIFE**

In this section we wish to capture as much detail about your career path post your public health qualification as possible.

Work post qualification (please complete table and use additional space if necessary)

Employer	Geographical location	Position	Dates (from when to when)	Reasons for staying	Reasons for leaving
1					
2					
3					
4					
5					
6					

21. Do you think that your Public Health Medicine training contributed to your career direction?

Yes:  No:

Give details: .....  
.....

22. Besides your specialist training are there any other factors that have determined your career trajectory to date? Yes:  No:

Give details: .....  
.....

23. Are there competencies that you were trained in that you have not used in your work?

Yes:  No:

Give details: .....  
.....

24. Are there competencies that you did not get in your training that you subsequently needed?

Yes:  No:

If yes, explain why or how? If not, why not? .....  
.....

25. How would you rate your career trajectory thus far?

1=has not met  2=ambivalent  3=satisfied  4=very pleased  5=found my niche   
expectations

26. Are you currently employed by the South African department of health? Yes:  No:   
 If No, would you consider this as a longer term career option? Yes:  No:

27. Do you think that the recently implemented Occupational Specific Dispensation (OSD) for doctors attracts PHM specialists into the public service? Yes  No

Please explain: .....

.....

28. The Minister of Health has called for a “re-engineering” of the Public Health service. This has fore-grounded public health strategies and, positioned PHM specialists as critical role players in the revised health service. Set out below are some roles that PHM specialists/other public health professionals could perform. On a scale of 1-4 can you rate whether these are roles that PHM specialists are specifically needed.

Strategic Planning	1 = wasted resource	2 = not needed	3 = added value	4 = critical
Programme design	1 = wasted resource	2 = not needed	3 = added value	4 = critical
Epidemiology	1 = wasted resource	2 = not needed	3 = added value	4 = critical
Surveillance	1 = wasted resource	2 = not needed	3 = added value	4 = critical
Health Information	1 = wasted resource	2 = not needed	3 = added value	4 = critical
Management (hospital, district, other line, programme)	1 = wasted resource	2 = not needed	3 = added value	4 = critical
Research	1 = wasted resource	2 = not needed	3 = added value	4 = critical

Please explain: .....

.....

29. In your opinion are there roles that PHM specialists would be ideally suited to?

Yes  No

Give detail:.....  
.....

30. Some people have said that other professionals (e.g. MBA, MPH, Health Economists) could perform the roles that PHM specialist do. Do you agree with this? Yes

No

Give detail: .....  
.....

31. Do you have any specific suggestions on ways to improve the career paths of PHM specialists in South Africa?

.....  
.....

32. Please give other comments that you would like to make.

.....  
.....

33. Indicate if you would like a copy of the report from the study:

Yes  No

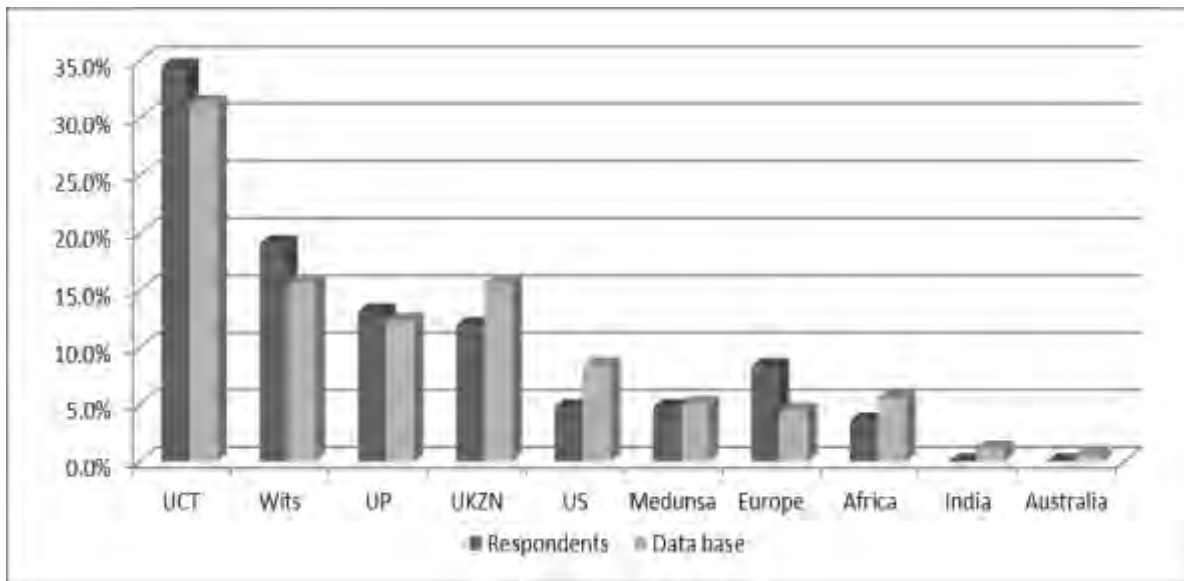
If yes, please supply your contact details: .....  
.....

**Thank you for your participation!**

## Comparing respondents to specialist database

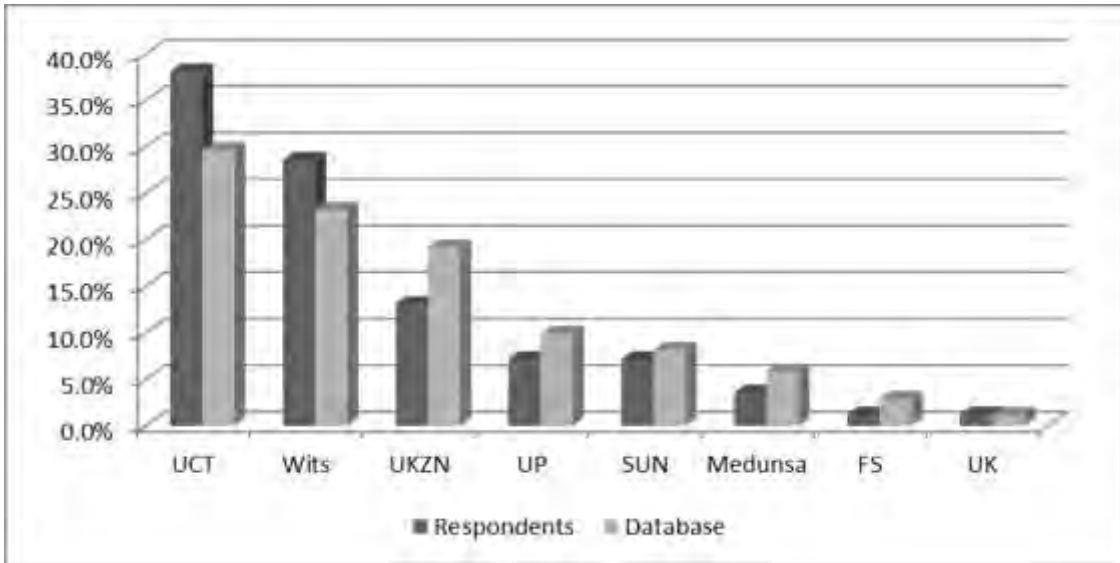
Respondents of the careers path audit were compared to the 'all specialists database' for demographic details for the specialist audit (Chapter 5) to ascertain whether there is a selection bias present.

### 1. Training Institutions



**Figure of medical studies training institutions or countries  
(respondents: n= 84; database: n=179)**

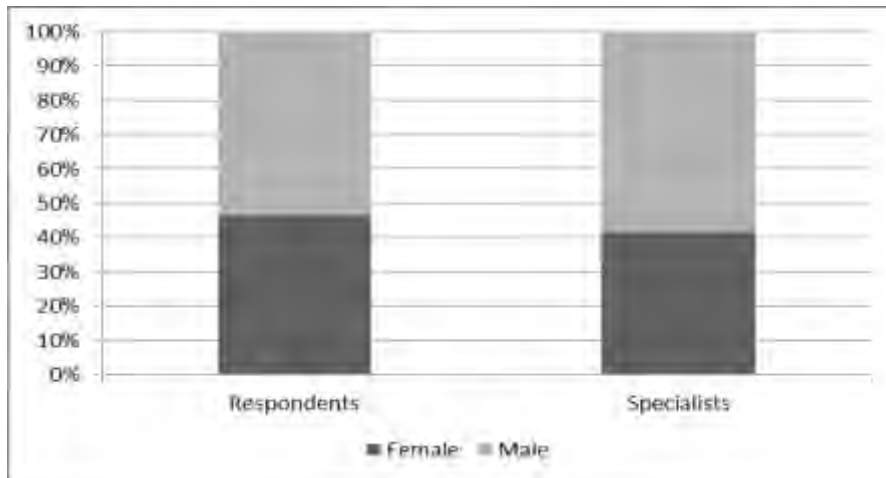
Although there seems to be a lower response rate from UKZN trained specialists this proportion (11.9%) is similar to the database overall (15.6%) with  $p=0.42$ .



**Figure of specialist training institutions or countries  
(respondents: n= 84; database: n=172)**

Although UCT and Wits appear to be better represented in the respondents these proportions are not significant. UCT respondents are 38% of respondents and 30% of specialists ( $p=0.18$ ) and Wits are 29% of respondents and 23% of specialists.

## 2. Gender



**Figure of gender of respondents (n=84) and all specialists (n=183)**

These proportions are equivalent.

## **APPENDIX E**

### **KEY INFORMANTS' STUDY**

## Ethics approval



UNIVERSITY OF CAPE TOWN

Faculty of Health Sciences  
Human Research Ethics Committee  
Room E52-24 Groote Schuur Hospital Old Main Building  
Observatory 7925  
Telephone [021] 406 6626 • Facsimile [021] 406 6411  
e-mail: shuretta.thomas@uct.ac.za

16 May 2011

HREC REF: 229/2011

Dr V Zweigenthal  
Public Health & Family Medicine

Dear Dr Zweigenthal

**PROJECT TITLE: UNDERSTANDING THE ROLES OF PUBLIC HEALTH PROFESSIONALS  
IN THE PUBLIC HEALTH SECTOR IN SOUTH AFRICA.**

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee for review.

It is a pleasure to inform you that the Human Research Ethics Committee has **formally approved** the above-mentioned study.

**Approval is granted for one year till the 30 May 2012.**

Please submit an annual progress report (FHS016) if the research continues beyond the expiry date. Please submit a brief summary of findings if you complete the study within the approval period so that we can close our file.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

**Please quote the HREC REF in all your correspondence.**

Yours sincerely

**A/PROF MARC BLOCKMAN**  
**CHAIRPERSON, FHS HUMAN ETHICS**  
Federal Wide Assurance Number: FWA00001637.  
Institutional Review Board (IRB) number: IRB00001938

S Thomas

**Information sheet and informed consent form for one-on-one interview  
on Public Health Medicine**

---

- I am a Public Health Medicine specialist and researcher in the School of Public Health of Cape Town (UCT), and am doing a study to find out about the contribution of Public Health Medicine specialists to the development of health services in South Africa, and the reasons doctors choose to specialise in Public Health Medicine.
- As part of the study, I am conducting 1-1 interviews amongst people who have been involved in public health over the years to find out what their thoughts are on these issues and their experience of public health. I would like you to be part of the study and discuss your perceptions about public health, the development of the discipline in South Africa, and your thoughts about its contribution and future.
- Thanks for agreeing to participate in the study. Your participation is voluntary and your identity will not be disclosed.
- You do not need to respond to questions or issues that make you uncomfortable and may also withdraw from the study at any time without any consequences.
- The interview should take around an hour, and will be recorded and transcribed.

**If there are any questions arising from your participation you may contact :**

**Dr Virginia Zweigenthal, email : [virginia.zweigenthal@uct.ac.za](mailto:virginia.zweigenthal@uct.ac.za) or : 021-406-6714 or**

**My supervisor for this project, Prof Leslie London – [leslie.london@uct.ac.za](mailto:leslie.london@uct.ac.za)**

**CONSENT**

- I hereby give my consent to participate in this study.
- I am aware that the interview will be tape recorded
- I understand I am taking part freely without being coerced into doing so.
- I am aware that my answers and opinions will remain confidential.
- I understand that I can withdraw from the study at any time without any consequences.
- I would like to receive a copy of the research findings:

..... Date: .....

Name                      Signature

..... Date: .....

Virginia Zweigenthal (signature)

## Interview guide for *trainers* of public health skilled personnel

---

Thank you so much for agreeing to take time out for the interview. As part of my PhD I am doing a study to understand what the opinions of key public health practitioners are as to the roles in South Africa are regarding public health, particularly Public Health Medicine.

I know that you have been involved in training, research and policy making for public health teaching over many years. I would like to tap into your experience of this and have your thoughts about the value of training and the directions public health has taken over time.

1. Firstly, I want to ask you what your experience of working as a public health professional in South Africa has been.

2. Why did you choose to work in policy work and move out of clinical?

3. What do you think the place of public health is in the public sector health services?

*(Probe: national, Provincial, District health departments and various programmes, hospitals)*

4. How do you think the role of public health doctors and specialists have changed over time?

5. Public health/community health specialists were the health manager of a municipality or hospital superintendents. This is no longer the case. What do you think about this?

*(Probe: for the services; for the profession)*

6. Formal public health qualifications are not required for many positions in the health sector in South Africa. Why do you think that is so?

How do you think the Department of Health regards public health expertise?

7. There are few positions for Public Health Medicine specialists in South Africa. Why do you think this is so?

8. What sets of public health skills do you think are the biggest priority for the services?
9. What roles do you think Public Health Medicine specialists could play in organisations outside of the public sector?  
*(Probe: Private sector, NGO sector, research, other e.g. education)*
10. What do you think the differences between the various public health trained professionals are?
11. What do you think the attitude is of the medical profession to public health expertise and PHM specialists?
12. What recommendations would you have as to what the services should do about incorporating PH expertise, professionals and specialists into the services?
13. How do you think the Department of Health regards public health expertise?
14. There are a variety of postgraduate training for public health -certificates/ diplomas/ masters in public health. How do you see these as differing?
15. What are the jobs that your graduates moved into?

As you know the national department of health is embarking on a process to revitalise the health services including district health services. This involves human resources planning, service planning and will be the first phase towards the NHI implementation.

16. A human resources plan was released late last year that aims to right-size human resources for the public sector health services. What do you think about the plan?

17. The plan aims to strengthen the health services and public health and PHM specialists are given some prominence. The document states that Public Health Medicine qualifications should be a prerequisite for appointment into posts.

- What do you think about this?

18. The PHC re-engineering document has clinical teams as a strategy to improve the health status within districts. Specialist teams are clinical and Public Health Medicine is left out of this.

- What are your thoughts about this?

19. What recommendations would you make about the focus and direction of educational institutions for the training of PH professionals?

20. Anything else you wish to add?

## Interview guide for *employers of public health skilled personnel*

---

Thank you so much for agreeing to take time out for the interview. As part of my PhD I am doing a study to understand what the opinions of key senior health managers are about Public Health Medicine specialists in the services.

I know that you have been involved in health service management/other for many years and I would like to tap into your experience and thoughts about the needs of the health services and for public health expertise.

1. Firstly, I want to ask you about your experience of the practice of Public Health in South Africa.
2. What do you think the needs for public health expertise are in the services?
3. Do you think that these needs have changed over time? Tell me more about this.
4. What has your experience been of working with people with formal public health skills?  
What kind of value have they added?
5. Are there any functions for which you feel public health expertise would be valuable?  
(*get spontaneously identified areas*)  
Anything else?
6. If you were given the option to employ public health professionals for positions within the services what type of professional would you chose for what positions?  
(*researcher note: probe the difference in roles between the MPH (types), MBA and PHM specialist?*)

7. What are your thoughts about the role and usefulness of a public health trained doctor?  
*(Probe: doctor with a MPH/other University degree compared to PHM specialist)*

8. What challenges do you see in the ability of the services (provincial/district level) to attract or retain professional staff with Public Health skills?

*(Probe/reminder: public health skills set is too scarce, too expensive or too mobile to attract or retain staff. )*

As you know the national department of health is embarking on a process to revitalise the health services including district health services. This involves human resources planning, service planning and will be the first phase towards the NHI implementation (– to improve equity and access to services).

9. Recently a Human Resources plan that aims to right-size human resources for the public sector health services was released.

- What do you think about the plan?

10. The plan is to strengthen the health services and public health and Public Health Medicine specialists are given some prominence and the document states that Public Health Medicine qualifications should be a prerequisite for appointment into posts.

- What do you think about this?

11. The re-engineering document has clinical teams as a strategy to improve the health status within districts. Specialist teams are clinical and Public Health Medicine is left out of this.

- What are your thoughts about this?

We are now reaching the end of the interview and I would like to ask:

12. What recommendations would you make to training institutions of public health about what competencies they should focus on or change.

*(Probe: Investment in Public Health Medicine training, MPH training)*

13. Do you have any other thoughts and comments that you would like to add?

**Many thanks for participating**

## Interview guide for *policy makers* of public health skilled personnel

---

Thank you so much for agreeing to take time out for the interview. As part of my PhD I am doing a study to understand what the opinions of key public health practitioners are as to the roles in South Africa regarding public health, particularly Public Health Medicine.

I know that you have been involved in policy making for public health over many years. I would like to tap into your experience of this and have your thoughts about the value of the directions public health has taken over time.

1. Firstly, I want to ask you what your experience of working as a public health professional in South Africa has been.
2. Why did you choose to work in policy work and move out of clinical?
3. What do you think the place of public health is in the public sector health services?  
*(Probe: national, Provincial, District health departments and various programmes, hospitals)*
4. How do you think the role of public health doctors and specialists have changed over time?
5. Public health/community health specialists were the health manager of a municipality or hospital superintendents. This is no longer the case. What do you think about this?  
*(Probe: for the services; for the profession)*
6. Formal public health qualifications are not required for many positions in the health sector in South Africa. Why do you think that is so?  
How do you think the Department of Health regards public health expertise?
7. There are few positions for Public Health Medicine specialists in South Africa. Why do you think this is so?

8. What sets of public health skills do you think are the biggest priority for the services?

9. What roles do you think Public Health Medicine specialists could play in organisations outside of the public sector?

**(Probe:** *Private sector, NGO sector, research, other e.g. education)*

10. What do you think the differences between the various public health trained professionals are?

11. What do you think the attitude is of the medical profession to public health expertise and PHM specialists?

12. What recommendations would you have as to what the services should do about incorporating PH expertise, professionals and specialists into the services?

As you know the national department of health is embarking on a process to revitalise the health services including district health services. This involves human resources planning, service planning and will be the first phase towards the NHI implementation (– to improve equity and access to services).

13. A human resources plan was released late last year that aims to right-size human resources for the public sector health services .

- What do you think about the plan?

14. The plan aims to strengthen the health services and public health and PHM specialists are given some prominence. The document states that Public Health Medicine qualifications should be a prerequisite for appointment into posts.

- What do you think about this?

15. The PHC re-engineering document has clinical teams as a strategy to improve the health status within districts. Specialist teams are clinical and Public Health Medicine is left out of this.

- What are your thoughts about this?

16. What recommendations would you make about the focus and direction of educational institutions for the training of PH professionals?

17. Anything else you wish to add?

**Many thanks for participating.**