

PUBLIC HEALTH IN THE DEFENCE MEDICAL SERVICES

DA Ross¹, RL Pudney², AH McG Macmillan³

¹Consultant/Senior Lecturer Public Health, Army Medical Directorate. ²Specialist Registrar Public Health COS Health/DGMS, RAF High Wycombe. ³Colonel Commandant RAMC/Late Defence Consultant Advisor in Public Health, RHQ Royal Army Medical Corps.

Introduction

The primary role of the Defence Medical Services (DMS) is the maintenance of health and the prevention of disease. This statement does not set out to belittle the other vital roles (collection, treatment and evacuation of the wounded or the supply of medical materiel) but emphasises that wherever Service personnel serve, and whether or not there is a likely physical or enemy threat to them, there is an underlying potential set of challenges to their health, and thus their availability for employment. Many specialist branches within the DMS make a contribution towards this primary aim but only one is totally focused on it: public health (PH).

The primary role has a key word within it: health. The World Health Organisation (WHO) [1] defined this as *“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”*. It is not an absolute concept and one must be clear that there is a continuum of health status, between well-being and ill-health, held by individuals. The definition has had many adjustments and additions since it was first articulated in 1948 and in a military context, the WHO conception must be broadened to embrace fitness in addition to well-being.

There are wider determinants to health (Figure 1), many of which healthcare providers can not influence. These determinants affect individuals and individuals add up to populations, and unlike clinical specialities which focus on the individual, it is population health with which PH is concerned. The concept thus moves on to considering the wider PH. PH can be defined [3] as *“the science and art of preventing disease, prolonging life and promoting health through the organised efforts of society”*. This statement highlights that public health practice also involves engagement with areas outside of healthcare in order to improve the health of the population.



Figure 1. The Wider Determinants of Health

Corresponding Author: Lt Col DA Ross, MSc MBBS MFTM RCPS(G) FRSPH FFPH FRCPC, Consultant/Senior Lecturer Public Health, Army Medical Directorate, Former Army Staff College, Slim Road, Camberley, GU15 4NA

History

The PH movement stems from the mid 19th Century when society started to get to grips with the scourge of epidemic disease. The cholera outbreak and Jon Snow’s epidemiological work [4] is a good early example of modern PH. It was based on sanitary hygiene and epidemic disease control. Later on, the speciality evolved to consider distinct populations with maternal and child populations being the first to be targeted because of high maternal and infant mortality rates [5].

In parallel, the military started to address the issue. Disease had traditionally caused (and still does) armies far more mortality and morbidity than the enemy ever had. The Crimean War was in many ways the nadir of such military experience and in the fall-out of that campaign a Professor of Hygiene, Edmund Parkes (Figure 2), was appointed in 1860 and became the father of Army Hygiene, later to become Army Health. Army Health encompassed PH, environmental health and industrial health. This overarching approach remained until the 1970s when civilian colleagues moved into two distinct groupings with their own academic qualifications: occupational medicine (OM) and community medicine. The two disciplines had some common ground and skills but were significantly diversifying in the light of medical and scientific advance. In the 1980s, community medicine reverted to the title of PH Medicine then back, finally, to PH. This happened because society had almost forgotten about communicable disease and had become susceptible again to its ravages.



Figure 2. Edmund Parkes

Although the Army has a long history of PH practice, the RAF also has a growing cadre of PH consultants and allied professionals.

Even the Royal Navy recruited a trained PH consultant for while at the beginning of this century. The growing acceptance and understanding of the need for PH expertise in promoting the health of Service personnel has meant that, as in the NHS, the PH agenda has gained momentum with increasing interest and engagement of branches outside of medicine. This collaborative working underpins PH and is a key area of PH practice.

PH Today

The core skill and tool of PH is epidemiology. This is defined [6] as *“the study of the distribution and determinants of health related states or events in specified populations, and the application of this study to control of health problems”*. In this context, study includes surveillance, observation, hypothesis testing, analytic research and experiments. Distribution is about the analysis by time, place and categories of persons affected. Health-related states include diseases, causes of death, behaviours such as tobacco use, reactions to preventive regimens and the provision and use of health services. Control makes explicit the aim of epidemiology, which is to promote, protect and restore the PH.

This is a wide ranging brief and has two principal sequelae, thinking about populations, as opposed to individual patients, and taking a longer term view on events beyond a consultation, clinical intervention or full consultant episode. It also means mastering skills and competences in a number of related subjects, notably health economics, statistics, health psychology, health sociology, health education and promotion and management theory. Vitality, the gathering and management of health and social information is critical to an effective PH service. It is a rigorous, science (evidence)-based discipline which will assess health needs then go on to assess the effectiveness of health outcomes through evaluation. Health protection from both communicable disease and environmental hazards remains a cornerstone of PH.

In the UK it is now accepted that PH specialists and consultants may work in three distinct areas – Health Protection; Health Improvement; or Health Services (Figure 3). Some individuals operate in one area alone such as Health Protection in a Health Protection Unit (HPU), others cover the broad church e.g. working in a Primary Care Trust (PCT).

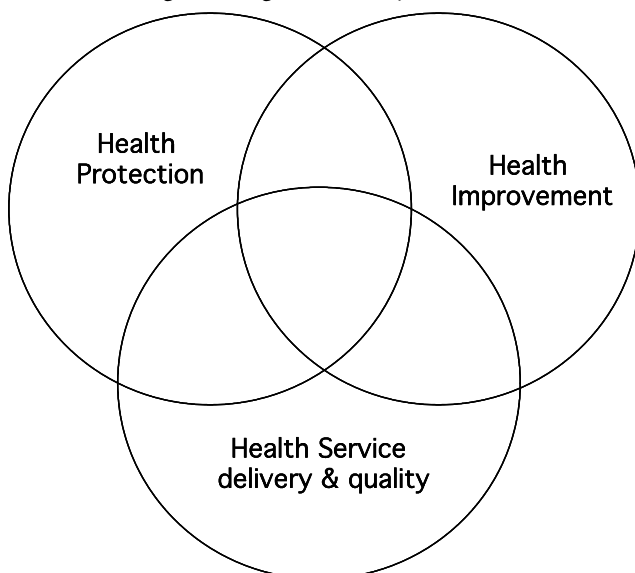


Figure 3. The Three Domains of Public Health

Within the DMS, PH has traditionally been provided at a single Service level with an overarching strategic PH function from the Centre. This structure has resulted in individuals working in singleton posts often “fire fighting” and making it difficult to deliver long term aims that may improve the health of the Armed Forces. In a similar fashion in the NHS, placing the bulk of the PH function at PCT level has had a similar effect.

Several reviews of the DMS have failed until now to embrace the idea of Service PH specialists and consultants working as a team in order to deliver the core outputs, which for the Armed Forces are in the areas of Health Protection and Health Improvement. This may in part reflect the difficulty of defining the role of PH in an occupational environment. The DMS fundamentally is there to ensure that Service personnel are fit for task and there is a marked emphasis on OM. However as previously described the wider determinants of health are broader than an individual’s occupation and it is here where the specialties diverge. OM is interested in the impact of occupation on fitness of the individual or occupational group whereas PH aims to identify and address any aspect of a population’s environment, which affects its health and therefore fitness for task. There are subtleties to this difference but as they are increasingly understood, the benefits of PH expertise become increasingly desirable and there are efforts to ensure that maximum gain is achieved for both the Centre and the single Services from the cadre.

Selection and training

There is scope for the employment of about 12 PH consultants/specialists in the Armed Forces, the majority coming from the AMS. There are 4 well-recognised training posts by the Faculty of PH (the national body responsible for PH training in UK and soon likely to transform into a Royal College in its own right) – based at DMSD, AMD, Air and BFG Health Service. Training is mainly in-house as the majority of the core PH competences can be comfortably attained working in military PH. However each new trainee will have a tailored programme that will not only meet his/her career expectations but also the needs of the individual. As a consequence a period of time at some point in an individual’s training will be spent outside. This might be in the Department of Health, PCT, HPU or in some cases outside the UK at the WHO or the European Centre of Disease Control. There is therefore a degree of flexibility in the training programme.

In order to start training, applicants must first satisfy the Post Graduate Dean that they are suitable. The Faculty gives clear guidance on eligibility for training [7]. Doctors must have completed Foundation Stage 2 training, although in the DMS a trainee usually enters training after spending a period of time in a clinical specialty either in primary or secondary care and may even be accredited as a GP or Consultant. Applicants who are not medically qualified must have a good first degree or higher degree in a subject relevant to PH and must have at least 3 years of experience in a field relevant to PH.

A successful initial interview with the single Service Consultant Adviser in PH is a necessary preamble to the application as he/she not only advises the Dean and his Medical Director General but is the best vehicle for access to the various application forms and their proper completion. Under the Dean’s aegis the applicant will undergo the national application process which consists of numeracy and literacy aptitude testing as well as formal interview.

Whilst military candidates are not in competition for the same jobs, this system ensures that military candidates meet the standards required of their civilian contemporaries. Following a successful selection outcome, the Dean will issue a DMS National Training Number and the specialist registrar/trainee is then lined up with an approved training post.

Assessment

Training in PH usually takes 5 years full time. One year is spent either full time or part time on an academic course (MSc or MPH) with the remaining 4 years spent in higher specialist training posts.

Training is described in terms of 3 phases, progression between these phases is determined by Part A and Part B membership examination success and reflects a trainee’s progression from basic knowledge and understanding to independent PH practice.

The Faculty's membership examinations are intended to be taken, and passed within the first 3 years of training. Part A is a knowledge-based written examination taken within the first 18 months, usually following the MSc/MPH. Part B is an oral exam based on PH scenarios and tests a candidate's ability to apply knowledge, skills and attitudes gained in the first 2-3 years of training.

As well as exam success, training progress, in common with clinical specialities, is monitored and assessed by the annual review of competence progression. Trainees provide written evidence of their progress in the form of a portfolio which contains evidence of successful completion of PH competencies as well as results of examinations in the preceding year.

Successful completion of training allows the individual to apply for a certificate of completion of training. Armed with this, an application for an Armed Services Consultant Appointment Board (ASCAB) can be made through the Dean. Each ASCAB is specialty dependant and composed of civilian appointees although both the Dean and the Consultant Adviser are in attendance. In addition the Surgeon General usually attends.

Continuing Medical Education

Training does not, however, finish with appointment as a consultant and posting to a suitable post. PH involves an acceptance of life-long learning and the specialty is committed to Continuing Professional Development (CPD). To remain in good standing as a consultant, a record of CPD is required of each consultant and is submitted to the Faculty annually. CPD is also a vital part of annual appraisal and revalidation.

Opportunities after Training

Whilst Service need dictates where an individual is posted there are opportunities to practice PH in a range of environments and by and large focus on one or more specialist areas. Some consultants/specialists will remain as generalists in PH and others will sub specialise into the areas of health protection or health information. A few (but now the minority) will use PH as a stepping stone to Command and Staff roles in the DMS as the skill set is an ideal professional match for that function including the third PH branch of health services' evaluation.

In addition to the day job, PH opens opportunities in teaching, lecturing and training of all medical officers. DMS consultants at the centre and single Service level participate in an on call rota to ensure that there is robust health protection support both internally and externally e.g. support to DMS environmental health teams and local HPUs in the investigation of outbreaks in barracks.

Finally as the Armed Forces finds itself embroiled in "humanitarian" type missions it is likely that the operational role will become more formalised. This may mean deploying to provide advice to the Civil-Military Cooperation activities and playing a significant part in health reconstruction. Or it may involve short but rapid deployments to manage outbreaks or conduct local needs assessments to inform the mission. In the last year as an example we have employed 2 consultants in two six month tours in the civil-military co-operation post in Afghanistan and have deployed three medical teams each with a PH consultant to investigate disease outbreaks in Cyprus and Afghanistan and to conduct a Medical Force Protection Audit in Afghanistan.

Conclusion

The practice of PH offers a varied and challenging career in the DMS. It contributes massively to the effectiveness of the Armed Forces but provides an unequalled opportunity to work with those that determine the style and direction of Defence and how it employs its personnel. It is intellectually stimulating and professionally satisfying. However, it is essential to develop patience and take a longer view on life than sometimes fits into the military culture. Anyone interested in a career in PH is welcome to contact the corresponding author who will point him or her in the direction of the appropriate single Service PH advisor as well as have an informal discussion if desired.

References

1. WHO Constitution 1948.
2. AMS Core Doctrine pamphlet 1 – Principles.
3. HMSO. Public Health in England. Cmd 289, January 1988.
4. John Snow. The Cholera Near Golden Square, and at Deptford. Medical Times and Gazette 1854; 9: 321-22
5. Hansard. Health Select Committee 2nd Health Report, 19 March 2001, Paragraph 25
6. Last J M. A Dictionary of Epidemiology, 4th Edition, p 62. LEA 2001.
7. FPH Public Health: Specialise in the bigger picture 2006