The development of public health medicine

The year marks an important anniversary for public health in England – 50 years since the foundation of the National Health Service (NHS) and 150 years since the legislative measure that laid the foundation for an organised public health service to improve the health of local populations: the Public Health Act of 1848.

During the lifetime of the NHS, public health practice has broadened its traditional scope from preventing and controlling communicable diseases to concerning itself with the determinants of the diseases of modern civilisation such as heart disease, cancer, stroke and accidents. New skills have been developed in the assessment of health needs and in the planning and evaluation of health services. Epidemiological research has made important contributions to the understanding of the aetiology of chronic diseases, and health services research has emerged as an academic discipline, albeit yet to realise its full potential. Against a background of decline in mortality from the great communicable disease scourges of the past, prevention, surveillance and control have remained important public health activities at local level to reduce illness caused by infection. However, new and complex dimensions have arisen in relation to communicable disease which have removed it from the realm of purely professional practice and into the arena of public debate and political controversy.

Throughout the 50 years of the NHS, the public health practitioner has worked within a variety of organisational structures. This has brought its own tensions. Crises of identity and confidence have emerged as the specialty has had to reinvent itself to meet the challenges of the day. This paper discusses the development of the main aspects of the practice of public health medicine during the history of the NHS.

Origins and traditions: the sanitary idea

Public health medicine as a discipline of medical practice has its origins in the concept of ‘state medicine’, which emerged as a focus for debate and a force for change within the great sanitary movement in Victorian England. MacLeod traces the widespread usage of the term ‘state medicine’ to the Germany of the early 19th century, in which every state appointed a physician to act as sanitary and judicial medical officer. Whilst ‘state medicine’ may seem today to have an unduly authoritarian ring, another historical concept, ‘medical police’, seems almost sinister. These archaic terms might throw few echoes to the present day but the contemporary exposition of their purpose is relevant a century and a half later: Smith in 1821 defined ‘medical police’ as concerned with ‘the application of medical knowledge to the benefit of Man in his social state’, whilst Rumsey, referring to ‘state medicine’ in 1846, said: ‘the preservation of the health of the people is increasingly regarded as a national obligation’.

The rise of the public health practitioner within the state system can be traced back to the publication in 1842 of the General report on the sanitary condition of the labouring population of Great Britain, a document inextricably associated with the name of Edwin Chadwick. This period has been described as ‘the great years of public health agitation, the seedtime for all the great measures and investigations that followed on from the Report’. Based upon carefully researched references to primary sources (many foreign), and packed with data, the Sanitary Report created a sensation, selling in higher numbers than previous government reports. The fact that 10,000 copies were circulated free of charge meant that it easily outstripped the 1,500 copies of the popular Sketches by Boz and rivalled some of Sir Walter Scott’s works. In the report, Chadwick wrote: ‘it would be good economy to appoint a district medical officer, independent of private practice and with the security of special qualifications and responsibilities to initiate sanitary measures’.

Local medical officers were already in place as part of the Poor Law system but their responsibility was to provide care for the sick poor. However, many had drawn attention to the dire social circumstances of those living in the slums of cities and towns. The development of the public health movement and that of the Poor Law medical services are strongly interrelated. Illness due to poor sanitation and overcrowded living conditions became recognised as a major contributor to pauperism. The living conditions for city dwellers during the industrial revolution, and the powerlessness of those experiencing them, is illustrated by the remonstrance made to the Times reproduced in Fig 1; it has added poignancy by being printed as pen and. The Poor Law commissioners began to see the importance of prevention to their work. Indeed, Edwin Chadwick was a major figure within the Poor Law system before turning his attention to public health reform.

LIAM J DONALDSON QHP MD FRCSEd FFPHM
FRCP, Regional Director, NHS Executive: Northern and Yorkshire Region, and Professor of Applied Epidemiology, University of Newcastle upon Tyne, Newcastle

Professor Liam Donaldson is Regional Director and Director of Public Health for one of the eight regions of the NHS in England. This role encompasses strategic management as well as involving him in national policy-making and planning. He has more than a decade of experience in dealing with problems of standards of clinical care in a large and complex service. He holds a Chair in Applied Epidemiology in the University of Newcastle upon Tyne and has published widely on health service, professional practice and public health issues.
There was much debate at the time about the wisdom of combining the two strands of state medicine – treatment and prevention – which would involve Poor Law medical officers taking on a public health remit. The Public Health Act of 1848 (the crowning glory of Chadwick’s public health endeavours), however, formalised the division between Poor Law and Public Health. They were not seen as compatible: the Poor Law focused on reducing costs through deterrence, whereas the Public Health movement demanded expenditure to achieve prevention and therefore was not consistent with Poor Law principles6.

Whilst the Public Health Act of 1848 provided scope for the appointment of medical officers of health in each district, it was unsuccessful in this respect because the measure was only permissive. By 1854, of the 182 towns that could, through the Public Health Act or local Acts, have appointed medical officers of health, only 29 had done so (less than one in six)7. A central Board of Health was created which ran for 10 years until 1859, when its responsibilities were taken over partly by the Home Office and partly by the Privy Council within which Sir John Simon led a medical department. The abolition of the Board of Health led to the departure of Chadwick and it was left to Simon and others to carry forward his ideals.

Another major advance in the development of public health practice came through the reform of local government in London and the creation of 48 districts. Each was required to appoint a medical officer of health. These new appointees set to work to eradicate the ‘sanitary nuisances’ of the capital, but outside London these important posts still did not emerge. It was not until the passing of another Public Health Act in 1872 that over 1,000 provincial medical officer of health posts came into being. The scope and influence of these early appointments on local health matters was far reaching. A typical annual report might cover: building regulations for new houses; sanitary improvement of old houses; arrangements for public water supply both as to quantity and quality; sewerage and drainage; removal of excreta and refuse; regulation of cowsheds, dairies, and milkshops; prevention of smoke from factories; effluvia from noxious trades and nuisances from stables; provision for public vaccination and revaccination; enforcement of the powers of the Public Health Act relating to infectious diseases; action taken by the local authority with regard to the prevention of the sale of unwholesome food and the adulteration of food and drugs; the securing of recreation grounds, baths and washhouses; regulation of burial grounds and cemeteries; action of the sanitary authorities with regard to uncertified deaths; and neglect of infants8.

Following a Royal Commission in the early 1870s, legislation was passed to establish a central department, the Local Government Board, which brought together responsibility for public health and the Poor Law as well as creating local sanitary authorities. The first Diploma in Public Health (DPH) was granted by Trinity College, Dublin in 1871; other universities later followed suit, and the qualification became mandatory for the practice of state medicine. Relationships between the medical officers of health and the Local Government Board remained poor until the latter was abolished with the creation of a Ministry of Health in 1919 (bringing together all health responsibilities from various parts of Whitehall). The Local Government Act, passed in 1929, brought local authorities into being.

Thus, by the 1930s, medical officers of health had a formidable power base: they were medical officers in local authorities with wide responsibilities for local populations (covering prevention, some treatment services, community care, and rehabilitation); they held a statutory qualification;

Fig 1. Letter to the Times, Tuesday 3 July 1849.

A sanitary remonstrance

Sur – May we beg and beseech your protectshion and power. We are Sur, as it may be, livin in a Wilderness, so far as the rest of London knows anything of us, or as the rich and great people care about. We live in muck and filthe. We aint got no priviz, no dust bins, no drains, no water-splies, and no drain or suer in the hole place. The Suer Company, in Greek St, Soho Square, all great, rich and powerfoul men, take no notice wasitemeveder of our complaunts. The Stench of a Gully-hole is disgustin. We all of us suffer, and numbers are ill, and if the Cholera comes Lord help us.

Some gentlemans camed yesterday, and we thought they was comishoners from the Suer Company, but they was complaining of the noosance and the stench our lanes and corts was to them in New Oxford Street. They was much surprizd to see the seller in No 12, Carrier St, in our lane, where a child was dyin from fever, and would not beleave that Sixty persons sleep in it every night. This here seller, you couldnt swing a cat in, and the rent is five shillings a week; but there are greate many sikh deare sellers. Sur, we hope you will let us have our complaunts put into your hinfluenshall paper, and make our houses decent for Christions to live in.

Preave Sur come and see us, for we are livin like pigs, and it aint faire we shouldle be so ill treted.

We are your respeckful servents in Church Lane, Carrier St, and the other corts.

John Scott (and 55 others)
and they were protected from dismissal by the Minister of Health.

In delivering the Fitzpatrick Lecture to the Royal College of Physicians in the year before the establishment of the NHS, Sir Arthur MacNalty (former Chief Medical Officer) traced the development of state medicine in England from the succession of Queen Victoria in 1837 to the end of the First World War in the reign of King George V. He remarked on the gulf that had developed between the medical officers of health and the practitioners of clinical medicine. He attributed this to: the technological glamour of surgery; a lack of understanding of preventive medicine; and a fear of bureaucratic control, interference and organisational structures (all of which were perceived by the wider medical profession as associated with the public health services). Local public health duties, and with them the medical officer of health posts, were carried forward to local authorities at the onset of the NHS in 1948.

The passing of the medical officer of health

In 1974, the first major reorganisation of the NHS since its inception brought together hospitals, family practitioner services, public health and community health services under one framework. Unification within the NHS of the so-called tripartite health service (regional hospital boards, executive councils and local authority health services) also created a new type of medical practitioner – the ‘community physician’. In effect, community medicine was a new specialty though its first entrants were doctors who were already established as administrative medical officers in the regional hospital boards, the medical officers of health of the local authorities, and those who had worked within academic departments of social medicine.

The term ‘community medicine’ had been first used generally in the 1950s and 1960s. For example, in 1959, the (then) Chief Medical Officer had written that the medical officer of health should ‘increasingly regard himself as a community physician who should act as a link between the public health services and the hospital and practitioner services’. The term was specifically used by the Royal Commission on Medical Education which reported in 1968 and this was the stimulus that ultimately led to the Faculty of Community Medicine of the Royal Colleges of Physicians (London, Edinburgh, Glasgow) being established in 1972. The extinction of the post of medical officer of health 126 years after the appointment of the first illustrious bearer of this title – William Henry Duncan of Liverpool – caused little outcry. It was a time of considerable optimism for the dawn of a new era of preventive medicine. The closer alignment with other branches of medical practice, access to the resources and administrative machinery of the NHS, and the reaffirmation of a central purpose of improving the health of local communities all seemed to bode well for the future of the specialty. Morris wrote inspirationally of the potential for the new role, calling for younger physicians to join the new specialty.

In the NHS that followed this major reorganisation, the fledgling community physician found himself or herself serving health authorities with a wide range of responsibilities. The new post-holders were called upon, for example, to provide the local or regional health services with help in the assessment of health needs; the planning, development and evaluation of health services; the surveillance of chronic diseases and the organisation of preventive programmes; and the identification and control of communicable diseases and environmental hazards.

The specialty was finding its feet, debating its new role, setting up the first training programmes for new recruits. The scope and complexity of the new task was huge; the concept of ‘community medicine’ was alien to the clinical branches of medicine and to the administrators of the new unified health service. Expectations were high that results would be delivered by the new breed of public health doctor, yet it was not clear what the visible markers of success would be. It is not surprising that the credibility and self confidence of community physicians did not always remain high in these early years. The role was reassessed, refocused and strengthened by a review of the public health function carried out by a committee chaired by the Chief Medical Officer in 1988. This led to a change in the name of the specialty to public health medicine, removing some of the confusion that had always rested with the term ‘community medicine’. The basic framework of public health practice, with directors of public health at regional and district level supported by consultants in public health and in communicable disease control, remains in place today. The range of modern public health practice includes the domains of development, intervention, enquiry, and communication (Fig. 2).
Coming to grips with the modern epidemics

During the early years of the NHS, awareness of the importance of the chronic disease epidemics (cardiovascular disease, cancer) dawned gradually as communicable diseases continued to take their toll, albeit on a lesser scale than in the past. Epidemiological research began to throw light on the aetiology of these diseases. In Britain, Doll and Bradford Hill’s elucidation of the association between smoking and lung cancer was a turning point. In the USA, population based prospective studies such as that in Framingham, clarified the role of risk factors in the causation of cardiovascular disease.

This all helped to re-orientate public health practice and provided a basis for intervening against causes of chronic disease and premature death. Through the 1950s and 1960s, programmes to address the modern epidemics were established in some parts of Britain, often led by innovative medical officers of health. They tended to be directed at single issues: smoking cessation, diet in pregnancy, fluoridation. At this time, organised public health action was more often concerned to implement specific preventive action such as immunisation and vaccination. In this climate of thinking, presymptomatic screening came to the fore in the 1960s as a new weapon in the preventive medicine arsenal. Early claims for the justification for presymptomatic screening for chronic disease rested on a compelling argument: if the prognosis for many diseases is better if they are diagnosed early, and if new forms of testing allow earlier diagnosis, then people will benefit. It only became apparent later that this central argument could be fallacious: if so, it would be unethical to call for a population to attend for testing from which they could derive no benefit except the knowledge that they had a disease. Criteria were then devised to judge the merits of embarking upon presymptomatic screening programmes on a whole population basis.

Time-honoured procedures such as routine examinations in infancy and childhood, antenatal screening, and testing for certain abnormalities in the newborn, have remained in place and developed over the years. Screening for women’s cancers has been the main population screening activity to have entered practice and become reasonably comprehensive during the life of the NHS so far. Cervical cancer screening at first developed in a poorly organised fashion but measures taken in the mid-1980s, helped by the advent of computer technology, allowed call and recall and laboratory reports to be automated. An important landmark was the introduction of presymptomatic screening for breast cancer, organised through regions to a national blueprint. This programme was the first to be established on the basis of careful evaluation of research evidence whereas many earlier screening programmes had crept into use on the supposition that early diagnosis must be beneficial.

Presymptomatic screening continues to remain an issue, with the need to ensure that the advent of cheap, non-invasive tests for markers of early disease does not lead to pressure for uncritical adoption of whole population screening. In the year of the 50th anniversary of the NHS, a National Screening Committee issued its first report. Earlier it had signalled a new rigour to public health policymaking and practice by advising that screening for prostatic cancer should not be introduced as the research evidence did not support it – a decision that will have to be reviewed regularly as the evidence evolves.

Health for all and all for health

The impetus to address the problems of the health of the population in the first three decades of the NHS did not come from within. The renaissance in public health – introducing a new focus and energy to tackling the growing burden of chronic disease – was international in its origins. The probable turning point was the publication in 1974 of a report written by the Canadian Minister of Health (Marc Lalone), A new perspective on the health of Canadians. In Lalone’s ‘health field concept’, health was recognised as being a function of lifestyle and the environment as well as being influenced by human biology and health care provision.

Of great significance was the resolution of the thirtieth World Health Assembly at Alma Ata in 1977 that: The main social target of government and of the World Health Organisation (WHO) in the coming decades should be the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.

The adoption of the ‘Health for all by the year 2000’ theme underpinned the public health policy of many governments of the world, including Britain, which as a member state of the WHO was a signatory to the development of this policy in the European region. Such an approach, captured in compellingly expressed statements of purpose – adding life to years, adding health to life, adding years to life – was the inspiration for national documents that set targets for health improvement.

Local public health action in Britain in the late 1970s and 1980s drew on this international spirit of renewal and re-focusing of public health action. One innovative example was the Healthy Cities programme which co-ordinated action to improve health by making an impact on the way that cities across Europe were run and aiming for a high degree of public visibility. As the NHS became a more managed service in the 1980s, public health goals were a feature of declarations of purpose quite widely within NHS organisations. This should not be dismissed as mere agenda-setting. The incorporation of public health priorities in mission statements, corporate plans, goals and objectives wove the philosophy into the fabric of the NHS.

The new international public health movement had also dealt with the question of equity in health, a subject that had obsessed the champions of the Victorian period. The need to recognise the obvious disparities between different
socio-economic groups as a priority for the practice of public health in Britain was clear. In 1977, the then Labour government in Britain set up a working party under the chairmanship of Sir Douglas Black with the task of examining national and international evidence on inequalities in health and making recommendations for public policy. The report24, when it was published, was received by the incoming Conservative government and given a very limited circulation and no government support. This is seen by many as a dark period for public health within the NHS as it embarked on an era when ‘inequalities’ was seen as a value-laden term and the term ‘variations’ as its more acceptable substitute25.

The Labour government that came to power in the spring of 1997 proposed a policy26 for improving the health of the population which once again recognised the importance of the wider determinants of health – poverty, employment, physical and social environment, education – and called for all organisations and individuals to work together in a contract to achieve better health for the country. By a twist of history, the new government appointed the country’s first Minister for Public Health, a move first called for by Sir John Simon in 1854.

**Communicable disease control: from the professional to the political**

The communicable disease control function has continued to be a key part of public health practice throughout the 50 years of the NHS. The main communicable diseases that were prevalent as causes of death and morbidity in the early years of the NHS have been largely controlled, mainly because of the success of immunisation programmes in infancy and childhood. Smallpox, still a minor threat in 1948, was later eradicated worldwide. During the 1980s and 1990s, communicable diseases, though no longer common causes of death, repeatedly hit the newspaper headlines. The issues that caused public concern were much more complex: the emergence of seemingly new diseases (eg Lassa fever, AIDS), old foes that regained a foothold (eg tuberculosis), conflicts of interest between government, food producers and protection of the public health (eg *Salmonella, E. coli*, bovine spongiform encephalopathy), the emergence of resistant organisms as a result of weak clinical policy (eg meticillin-resistant staphylococci), unrestrained use in animal husbandry (eg multi-resistant salmonellae), and the sudden loss of life in the young (eg meningococcal septicaemia). Public health at local, regional and national level has a vital role to play in addressing these new challenges and to restore public confidence in the integrity of the service.

**The rise of an evaluative culture: decisions based upon evidence**

The early traditions of public health were to inform policy and guide programmes of action through the assembly of health statistics to describe the main problems of the day. Thus, William Farr (who became the first Registrar General) worked closely with both Chadwick and then Simon to describe the pattern of death and identify unhealthy districts in Victorian England. This tradition of mapping small areas to examine pockets of ill health and deprivation did not become well established in the NHS until relatively recently22 28 but is still a methodology capable of acting as a galvanising force for change in priority-setting and policy-making at local level. Formal development of the methods of health needs assessment as a mainstream part of the health service’s work is really only a feature of the 1990s29, whilst, aside from data derived from statutory registration, routine health surveillance has been largely restricted to communicable diseases. Recently, lifestyle surveys, both national30 and local31, have provided more routinely available data on health status relevant to modern public health concerns.

During the last two decades in the NHS, evaluating health services and assessing their quality has become a feature of the work of many public health practitioners at local level. In part, this is because of the central role of departments of public health within organisations which are responsible for planning and commissioning patient care services as well as improving the health of populations. As the senior medically qualified staff member, the public health doctor can often provide insight for lay managers into complex clinical issues and act as a point of liaison for clinical staff in hospitals and general practice; in part, though, it is also because public health has a legitimate interest in ensuring maximum gain in health outcome from the activities of health services. However, the practical methodologies in this field have yet to be fully developed. Useful *ad hoc* local studies are regularly undertaken but a proper conceptual framework for this area of work is still lacking. Important developments have taken place in methodologies for assessing outcome32.

The major evaluative development of the 1990s has been the rapid inculcation of a philosophy of evidence-based practice, initially into clinical medicine33 but gradually extending to public health interventions and evidence-based decision-making in health care more generally. A new statutory duty for quality in the NHS through clinical governance34 provides a fresh impetus for a fundamental rethink of this field at the end of the 1990s.

**Conclusions**

Public health medicine has established itself within the lifetime of the NHS as a specialty of medical practice, with a focus on the health of populations consistent with its venerable traditions. As the organisational structures of the NHS changed over the years, so public health practice embraced a health services dimension to its work. Looking to the future of public health medicine beyond the first 50 years of the NHS, further change is inevitable. Public health will become increasingly multi-agency in its orientation and
multidisciplinary in its delivery – no longer the sole province of the NHS or of doctors. Evidence will guide public health policy formulation and the design of practical interventions on a much greater scale than hitherto. Practitioners will need new skills to deliver this style of working. Population screening will throw up even greater challenges associated with the new genetics. Above all, public health practitioners will need to continue to demonstrate their independence of judgement and their fearlessness to champion the causes of the day.

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Address for correspondence: Professor Liam J Donaldson QHP, Regional Director, NHS Executive: Northern and Yorkshire, John Snow House, Durham University Science Park, Durham DH1 3YG.

Stop Press – 15 July 1998: We congratulate Professor Liam Donaldson on his appointment as Chief Medical Officer, announced today.