

1997 Chadwick Lecture—Is a healthy North West Region achievable in the 21st century

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Figure 1 Edwin Chadwick.

Edwin Chadwick, the very name evokes powerful images of Britain at its most self confident and expansive. Victoria on the throne and the map of the world seemingly coloured pink. No challenge seemed too great for those mainly men who sought to conquer—other Peoples and Nations, the wilderness and the oceans and nature itself. Chadwick was truly a man of his times and a reflection of this unbounded self confidence, whose curiosity took him into a wide range of fields (fig 1).

In his time his preoccupations ranged from working conditions (he was Chief Central Commissioner to the Factory Act in 1833), The Poor Law Report of 1832, which he in part wrote and the subsequent Poor Law Amendment Act and Commission to which he was Secretary (fig 2).

His Report on the Sanitary Conditions of the Labouring Population, for which he is perhaps

best remembered today, and the subsequent Health of Towns Commission, to which he was Secretary, leading up to the first Public Health Act of 1848 of which he was the principal author. As a result of the act he became the paid Commissioner to the General Board of Health for its short life from 1848 to 1854. In between he had been centrally involved with the Police Act of 1839 and once his interest had been aroused by health matters he spent most of the remainder of his life immersed in questions of water, housing, sanitation, and sewerage, not to mention the cholera epidemics that afflicted the great towns in (1832 and 1848, 1854 and 1866) and the pressing question of cemeteries and the disposal of the dead. Towards the end of his life he still found the energy to engage with other issues such as education and mass transit. It was and is a formidable list.¹

So what were the conditions that so motivated Chadwick to the point of obsession? They are described at length in *The Sanitary Condition* and also feature strongly in the works of prominent novelists of the day such as *The Uncommercial Traveller* by Charles Dickens or *Mary Barton* by Elizabeth Gaskell (fig 3).²⁻⁴ But we will start with some of the observations made by Frederick Engels in his seminal account of *The Conditions of The Working Class In England*, first published in 1845.⁵

The background was one in which British society was being turned upside down against a tide of industrialisation, rural depopulation, and rapid urbanisation (fig 4). Between 1801 and 1829 for example, the population of Liverpool is estimated to have increased from 78 000 to 150 000 and by the early 1840s extreme population densities were being reported with overall densities for Leeds of 87 000 people to the square mile and for Liverpool almost 140 000 while in one part of London there were reported to be 243 000 and in part of Liverpool a ratio equivalent to 460 000 people to the square mile.⁶ The consequences in terms of squalor, degradation, and early death were dramatic and gross. In a prescient remark on the centralising tendency of manufacture, Engels comments "If it were possible for this mad rush of manufacture to go on at this rate for another century, every manufacturing district of England would be one great manufacturing town, and Manchester and Liverpool would meet at Warrington or Newton." Engels goes on to describe most vividly the brutality to be found within the north west. A few quotes will give a flavour:

Referring to the fact that ... "while Manchester has a very considerable commercial



Figure 2 Frontispiece of sanitary commission.

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Figure 3 Luke Fildes. *People waiting entrance to a casual ward.*

population...Bolton, Preston, Wigan, Bury, Rochdale, Middleton, Heywood, Oldham, Ashton, Stalybridge, Stockport...though nearly all towns of thirty, fifty, seventy to ninety thousand inhabitants, are almost wholly working-people's districts. Among the worst of these towns after Preston and Oldham is Bolton. It has so far as I have been able to observe in my repeated visits, but one main street, a very dirty one, Deansgate, which serves as a market, and is even in the finest weather a dark, unattractive hole in spite of the fact that, except for the factories, its sides are formed by low one- and two storied houses. A dark coloured body of water, which leaves the beholder in doubt whether it is a brook or a long string of stagnant puddles, flows through the town and contributes its share to the pollution of the air, by no means pure without it..." (fig 5 and fig 6).

And on living conditions in the Old Town of Manchester... "between the northern boundary of the commercial district and the Irk...Todd Street, Long Millgate, Withy Grove, and Shude Hill...utterly horrible." Engels goes



Figure 4 *Ironbridge.*



Figure 5 *Slum housing and back to backs.*



Figure 6 *Slum housing and back to backs.*

on to describe "Below (Ducie) bridge you look down upon the piles of debris, the refuse, filth, and offal from the courts..." And "...passing along a rough bank, among stakes and washing-lines, one penetrates into this chaos of small one-storied, one-roomed huts, in most of which there is no artificial floor; kitchen, living and sleeping-room all in one. Privies are so rare here that they are filled up every day, or are too remote for most of the inhabitants to use". The Health of Towns Commission had in fact recently reported that of 50 large towns examined in 1843-4, there was hardly one in which the drainage was good, and only six where the water supply was good. In parts of Manchester 33 privies had to supply over 7000 people—one for every 215.¹

Finally from Engels... "another feature most injurious to the cleanliness of the inhabitants, is the multitude of pigs walking about in all the alleys, rooting into the offal heaps. In almost every court one or even several such (pig) pens may be found, into which the inhabitants of the court throw all refuse and offal, whence the swine grow fat; and the atmosphere, confined

on all four sides, is utterly corrupted by putrefying animal and vegetable substances...”

On a lighter, but still serious note, Engels makes some observations on the sale of condemned meat. I am indebted to Mike Eastwood (personal communication) for setting a context and providing an opportunity to refer to the issue of parochialism and local competition by drawing my attention to some verses from Deuteronomy, chapter 14 “Ye shall not eat anything that dieth of itself...thou shalt give it to a stranger that is in thy gates that he may eat it...or thou mayest sell it to an alien”. Engels reports “...a court leet held in Manchester...In one case, sixty-four stuffed Christmas geese were seized which had proved unsaleable in Liverpool, and had been forwarded to Manchester, where they were brought to market foul and rotten”.⁵ This anti-social disregard for the welfare of those from other parishes, towns and cities within the region was part of a wider parochialism and competition that militated against collaboration and strategic planning in the 1840s as it does today and as we shall see later Chadwick himself found this extremely frustrating. One vignette that illustrates the competition relates to Huskisson's death under the wheels of the Rocket at the Rainhill Railway trials. As the President of the Board of Trade was exanguinating at the side of the track there was a row about whether he should be taken to Manchester or Liverpool. Manchester won, Huskisson died, and the Liverpool surgeons claimed of course that it would have been different if he had been entrusted to their care!

So what about the health impact of all this?

The “health impact” as we might now call it was appalling and is documented in detail in *The Sanitary Condition*.² To quote from Flinn's introduction to the Edinburgh University republication in 1964 “The immediate starting point of Chadwick's sanitary enquiry was the expenditure in 1838 of public money by some poor law unions on the removal of ‘nuisances’, which may be taken to mean accumulations of human and other refuse believed to be the direct cause of disease. This disease, in its turn, was the cause of increased expenditure on poor relief. The unions in question had acted on the principle that the expenditure of £1 on elementary public health precautions could be made to save a probable subsequent expenditure of £10 in poor relief. But government auditors work according to the letter rather than the spirit of the law, and these items of expenditure by Boards of Guardians, on matters public health, statutorily ultra vires, were disallowed...” Plus ça change! I hear you say. Chadwick's inquiry took from 1839 to 1842 to complete and drew on contributions from an extensive range of sources from around the country. Remember that the registration of births and deaths, a matter dear to Chadwick's heart, was in its infancy and reliable information was hard to find. As a result Chadwick prevailed on his ground troops, the Poor Law doctors, prison superintendents and the like to find imaginative ways

of obtaining data. For example prison superintendents were encouraged to make comparisons of the health of prisoners and that of the working class under normal conditions while local parish union doctors were encouraged to carry out ad hoc enquiries into variations in mortality between streets with different rates of school absenteeism. A few statistics will suffice for comparison purposes but if ever there was an example of Bradford Hill's aphorism that “statistics are people with the tears wiped off” this is such.⁷ For example in Liverpool “where the condition of the dwellings are reported to be the worst, where, according to Dr Duncan, 40 000 of the population live in cellars, where 1 in 25 of the population are annually attacked with fever, there the mean chances of life appear to be still lower than in Manchester, Leeds, or amongst the silk weavers of Bethnal Green.” Figure 7 shows the deaths, distinguishable in classes, during the year 1840.⁸

“Of the deaths which occurred among the labouring classes, it appears that no less than 62% of the total number were deaths under five years of age”.

These statistics, shocking as they were, may not in the end have had as much impact as others that showed that the average age of death for “professional persons, gentry and their families” in Manchester was 38, compared with 52 in Rutlandshire.

According to Finer, when the report was published, the world hailed it as a masterpiece and the press lavished it with praise.¹ Over 10 000 copies were distributed free of charge and it was circulated to every mechanic's institute in the country. It led to the Royal Commission on the Health of Towns and ultimately to the 1848 Public Health Act. En route it fed a broad based Public Health Movement in particular through the formation of the Health of Towns Association and its branches throughout the country, which campaigned for sanitary reform.⁹ But how does it all fit together with Chadwick's life as a whole, spanning as it did almost the entire century, and what does it teach us 150 years later on the cusp of a new millennium about what and how we should improve the health of our people in the north west?

Chadwick's life and work; themes and hints for the 21st century

Chadwick was born in 1800, at Longsight, near Manchester, but moved to London with his father while still a child after his mother's



Figure 7 Average age at death. Liverpool 1840.



Figure 8 *Jeremy Bentham.*

death. Finer reports a strong Methodist background, with his grandfather a personal friend of Charles Wesley.¹ However, from his father he seems to have imbued some of the spirit of the French Revolution, without actually hitching his flag to the revolutionary mast. (His father James had been greatly influenced by the Revolution and had been side by side with Tom Paine in Paris in 1801). To cut a long story very short, Edwin's radicalism came to manifest itself through a different, utilitarian, edge once he had come under the influence of Jeremy Bentham as a young law student (fig 8). Bentham's utilitarian philosophy, usually presented as "the greatest good of the greatest number", met in Chadwick somebody who struggled to square the circle between individual and social interests in his pursuit of sound public administration based on general principles rather than "...temporary expedients for the purpose of accomplishing particular objects or to ward off particular inconveniences"¹ Chadwick's value system was to be distinguished from the Marxist on the one hand and the "anarchists" of the free market Manchester school of the 1840s on the other. He focused on order, cheapness, and efficiency and as Finer ascribes it the Social net product compared with the Private net product of naked capitalism that ignored the externalities or as Titmuss would put it 100 years later "Who pays? Who benefits? and on whom do the costs fall?"¹⁰ Again Finer, "More than anything...the 'preventive' aspect of legislation appealed to Chadwick" and this led him to consider what we would now call cost-benefit analysis, for example with respect to the vexed question of who should pay for sewerage—Chadwick suggested that the works should be

carried out 'by loans, paying interest on the security of the rates, and spreading the charge over thirty years during which the outlay should be repaid' By this kind of early private finance initiative Chadwick suggested that his measures would reduce sickness to at least one-third of the existing amount for a cost of 11/2 d per tenant per week, the landlord being responsible for the other 4d (an early health impact assessment). He also had something to say about management costs, arguing that "thesystem proposed by the Commission, including unlimited water and the salary of a Medical Officer (of Health), could be had for a mere 31/2d per week on the rent".¹

This is not the place to go into an exhaustive list of Chadwick's contributions to Public Administration and Public Health. That would be a lecture in itself and I would direct those interested to Finer's book or to Chris Hamlin's, which has just been published.¹¹ I hope I have given a flavour. However, from the point of view of the task this evening, and at this timely juncture with a new national government administration committed to improving the public health, there are two major themes running through Chadwick's contributions that are particularly apposite. These are the notion of "predisposing causes" and its expression in the Sanitary Idea, and Chadwick's obsession with optimal organisational arrangements and methods.

Predisposing causes and the Sanitary Idea

In among all the confusion that reigned about the causes of the cholera and other epidemic diseases in the mid-19th century with entrenched positions on the miasma by some and intransigent adherence to contagionism among



Figure 9 *William Henry Duncan.*



Figure 10 Overwater latrine.

others in the medical establishment, and the Royal Colleges, Chadwick came to the conclusion that cholera was rarely caused by personal contacts and that where and whether it struck was determined by “predisposing causes”.¹ These included overcrowding, filth, putrescent deposits, dampness, polluted drainage, emanations from foul sewers and cemeteries, impure water, certain types of food, as well as fatigue and intemperance. Well over 100 years before Thomas Mckeown was in a position to argue from the historical record that the greatest improvements in public health during this period had come from attending to the environment, Chadwick was convinced of it, as was William Henry Duncan in Liverpool, the first of the local Medical Officers of Health (fig 9).^{8 12} Finer comments that between 1839 and 1841, Chadwick’s thinking had completely shifted from a focus on the improvement of dwelling houses in itself to their external sanitation and drainage as part of a total system. For Chadwick this system included not only house drainage, main drainage, paving and street cleansing but over the course of time it came to include the ambition of a total closed system of water supply, sewerage, sewage treatment and land fertilisation wherein the “serpents tail had come to rest in the serpents mouth”. “To Chadwick, emptying sewers into rivers seemed like pouring away liquid gold”.² In the event Chadwick’s thinking was too far ahead of its time and the Sanitary Idea, of separating human and animal waste from food and water was not to make the ecological leap until today, in part a consequence of the resistance of another strong professional group with whom Chadwick had locked swords, the engineers (fig 10).

Optimal organisation and methods

From the beginning Chadwick was committed to ensuring that optimal frameworks provided the means for individual initiative to deliver progress and optimal social net product. He was guided in this by Bentham’s principle to “always do the same thing in the same way, choosing the best and always call the same thing by the same name”. And he energetically attacked any interest, group, profession or institution that stood in the way of these objectives. A comment on the administrative divisions at the local level that caused him a great deal of frustration at the ensuing duplication and vacillation has a contemporary ring—when

we consider the importance of a North West strategy for economic regeneration and of strategies for service provision that transcend the narrow interests of individual boroughs or cities. “The servile observance of the county-boundaries which have long ceased to have reference to any object of public utility which they might have had anciently, which would now divide towns and natural districts formed by the daily habits and conveniences of the people to which administrative arrangements should be made to conform”.¹ Later he was to suggest that all the complex authorities should be reduced to two definite units, the Poor Law Union (providing what we would now call health and social care) and the County (providing the bulk of the public health function other than personal care). He was convinced that the large towns such as Liverpool and Manchester must absorb the surrounding countryside and be constituted counties in themselves.¹ It would be interesting to know what he would make of the current configuration of local authorities, quangos, and post-NHS reform health authorities and trusts (“always call the same thing by the same name”) or of the failure of adjacent and complementary authorities to develop effective joint working—I think I know what his opinion would be!

Implicit in Chadwick’s thinking was the understanding of the physiologist, the architect, and the town planner, that form should follow function rather than the other way round and for Chadwick this also meant that public administration and its structures should change in a changing world. When it came to the appropriate form for the protection of the public health it was the 1848 Act that was intended to provide the framework building on the infrastructure of information now available as a result of the Registration Act of 1836. In his *Essay on the Means of Insurance*, he listed the potential uses of the information to be provided; To paraphrase:-

- The registration of the causes of disease, to inform treatment and prevention.
- The determination of the health of different environments.
- The determination of occupational health to enable workers in unhealthy industries to be compensated for damage to their health.
- The calculation of mortality rates.
- Monitoring of demographic changes.
- The determination of the incidence of accidents and disasters.
- The determination of death from other external causes including murder.

Am I alone in finding echoes of this in Jerry Morris’s agenda setting book, *The Uses of Epidemiology*, published in 1957?¹³

The means for delivering protection and improvement of the public health as intended by Chadwick as the principal measures of the Act were to be The General Board of Health nationally, with its Commissioners of whom Chadwick was to become the paid (that is, civil servant) Commissioner and Southwood-Smith the Medical Commissioner, and local boards either based on corporations where these



Figure 11 Egg shaped sewer.

existed or made up of elected representatives in areas with non-corporate towns. There were to be local medical officers of health:

“That for the general means necessary to prevent disease it would be good economy to appoint a district medical officer, independent of private practice, with the securities of special qualifications and responsibilities to initiate sanitary measures and reclaim the execution of the Law”.

The central board was to exercise some control over the local boards, which were required to be set up on petition of one tenth of the rate-payers or could be imposed on local authorities if the crude death rate exceeded 23 per 1000 population. Once set up, the boards were subject to certain compulsory provisions in the Act including the appointment of a Surveyor and Inspector of Nuisances, to procure an ordnance survey, make sewers, require owners and occupiers to provide house drains, cleanse the streets, remove rubbish, register slaughter houses and lodging-houses and provide sufficient water, as well as being permitted by the Act to pursue other permissive functions. I wonder what the equivalent might be today for the proposed Health Action Zones?

The short life of The General Board and the reasons for its failure are a matter of historical dispute although Chadwick’s capacity to antagonise all but the most avid supporter is pretty clear. He certainly paid no heed to Oscar Wilde’s advice that “you can’t be too careful about your choice of enemies”!¹⁴ But neither is in dispute the pressure and the urgent need for a statutory framework, for although seven or eight large towns such as Manchester, Leeds, Birkenhead, Nottingham, Liverpool, and New-

castle had promoted private bills to give them the powers to act and to anticipate the imposition of a local board by Westminster the stream of sanitary reports had left most local authorities unmoved.¹ A parallel here with the variable state of Joint Consultative Committees and conflicts over the use of joint funding and the failure of the major agencies now involved in public and environmental health and personal health and social care to act in a concerted and strategic fashion in response to a range of challenges including inequalities in health and health and social care (in particular primary and community care, affecting the elderly and mentally ill, and winter pressures on acute hospital beds) and the implications of the Rio conference and Local Agenda 21 for policies for sustainable development at all levels?

The ecological condition of the north west population

The failure of implementation of the 1848 Act other than in the handful of towns previously indicated and the related demise of the Central Board of Health meant that progress in improving the public’s health was more or less arrested until 1875 when the second Public Health Act made compulsory what had previously been largely optional. This is not to say that some towns, notably Liverpool, achieved reasonable success for example in laying some 200 miles of sewers in under 20 years. However, between 1851–60 and 1881–90 the national death rate fell only from 22 per thousand to 19.¹

In 1997 looking back for over a century we are perhaps in a position to see how far we have come and to have some indication as to how far and where we may choose to go. Certainly there may be lessons to learn.¹⁵ We are again in



Figure 12 North West Region communications.



Figure 13 Report of North West Health.

the midst of a revolution, this time an information revolution, rather than a sanitary one. We are in the middle of a period of massive structural adjustment with traumatic implications for labour markets and this time global migration and mega-urbanisation and suburbanisation. Our lives have been transformed by the internal combustion engine, rapid transit and air travel and the communications revolution. If Chadwick's egg-shaped sewer was paradigmatic of the industrial age the fibre optic cable is likely to be its equivalent today (fig 11).

Two world wars, 50 years of the National Health Service and many administrative reorganisations later much to do with our health has changed dramatically. In the north west, having long been used to two health regions based on Manchester and Liverpool each with its own medical school, we now find ourselves in one region of 6.6 million people extending from Ambleside to Crewe and from the Irish Sea to east of the M6 motorway (fig 12) with, at the time of writing 16 health authorities, relating to a varied pattern of local authorities, with or without co-terminosity, and the plethora of other agencies, international, national, regional and local that impact on public and environmental health ("Always do the same thing in the same way, choosing the best and always call the same thing by the same name"). This new region not only contains eight universities and five degree awarding colleges, training people for a comprehensive range of disciplines and professions concerning the health of both the public and of the environment, a region that is increasingly orientated towards Brussels and Europe, as well as to Westminster, but it is a region that still today manifests much of the worst health in the United Kingdom and much of the parochialism that so frustrated Chad-

wick. I will take a few minutes to sketch out the principal features based on my 1995 Regional Public Health Report and its forthcoming equivalent (fig 13).^{16 17}

First, on population

If the Victorians preoccupation was with a burgeoning urban population of cellar dwellers and the like, ours is increasingly focused on the challenges posed by a shrinking and aging population on the one hand and unplanned teenage pregnancy on the other.

Why is this latter an issue at all when faced with the former? It is an issue because, living as we do in the European country with the highest teenage pregnancy rate, and in the region with some of the highest rates not to mention here in Manchester, which has the second highest under 16 pregnancy rate in the country, standing at twice the national rate we have so far failed to put in to place what is known to work (acceptance of teenage sexuality, good quality information and sex education, and not least ready access to good quality, user friendly clinical advice on contraception)^{18 19} and have tolerated services continuing to be provided in ways that do not work. The price we are paying for this is the failure to make the most of the fundamental resource for health within the region, the personal skills and capabilities of each individual. Too often the consequence of teenage pregnancy is not only the prospects of the sadness of an induced abortion or of a child endeavouring to provide unsupported parenting to another child in a sophisticated, complex and rapidly changing world where the acquisition of personal skills may be the only way of securing employment, but the termination of any prospects for what Chadwick might have referred to as "self improvement" through education. I can hear his words echoing down the century... "Education was desirable because it turned pauper children into productive citizens and prevented them from becoming permanent inmates of the workhouses; because it prevented juvenile delinquency...because it increased a labourer's skill, productivity and earning power; because it prevented the growth of the criminal classes..." and so on.¹ But perhaps most importantly one of the highest correlations with future life expectancy and with health is with the level of educational achievement attained and some of us still subscribe to the notion that education in a liberal sense is desirable in itself—"Education, Education, Education" as the new administration might put it.

The loss of population from the region, the hollowing out of our urban cores and the urbanisation of the countryside, and the aging of the population are different but sometimes related issues. The conglomeration of Manchester and Liverpool, not to mention many of our other centres of population has now occurred de facto if not de jure; perhaps the economy of the region and the sound and efficient administration of public services would be better ensured if we were to accept it; we might even find that more of our children could find employment locally rather than having to

move to the south east if we planned the region as a region rather than as a set of parishes or townships or competing boroughs that had even passed their sell by date by Chadwick's time. That is not to say that some questions of health and social policy, such as the continuing care of the elderly or mentally ill are not best tackled at a neighbourhood and locality or district level.

However, the primary demographic influence on health and health services for the foreseeable future is likely to be presented by the collapse in overall fertility rates (fewer women having fewer children at later ages, average 1.7 in 1995 compared with 2.6 in 1971) and the rapidly increasing numbers of people living to old or very old age (the numbers of people in the region aged 85+ is anticipated to increase by 15 000 by the year 2001 and will constitute about 13% of all pensioners, significantly more in St Helens and Knowsley and South Lancashire). An aging population is not all bad news—far from it—most people who reach retirement age can now anticipate a good 10 years or more of a full and active life and we have barely scratched the surface of how to mobilise their interests, skills, experience, and contributions to the benefit of everybody. Chadwick would have been appalled by the waste! However, 25% or more of the very elderly, equivalent to an increase of about 4000 by the year 2001, will experience brain failure or dementia in one form or another and the care of the frail elderly in dignity and comfort, and preferably in a home environment for as long as possible is a challenge on the scale of those to which I have been referring this evening. Turning to patterns of health and disease:

Patterns of health and disease

The good news is that the pattern of ill health that was so familiar 100 years ago, dominated as it was by the infectious diseases and epidemics, has been transformed, although the appearance of HIV/AIDS and other newly emerging infections, (BSE, MRSA, legionella, cryptosporidium, *Escherichia coli*, hepatitis of various kinds and the prediction that we are due a serious influenza pandemic of historic proportions in the near future) reminds us of the importance of maintaining eternal vigilance and should make us reflect on how our infatuation with technical, quick fix medicine in the 1950s and 60s caused us to allow our traditional public health systems to run down. It brings to mind the Danish poet Piet Heins little Grook "Problems worthy of attack prove their worth by hitting back".²⁰

What has largely replaced the infectious diseases as the causes of premature death and disability are of course the chronic, non-communicable and degenerative diseases including those related to accidents and trauma, which is the leading cause of death and disability from the age of one year until the mid-30s. Heart disease and stroke, cancers, especially those that are smoking related, mental health, alcohol and drugs, the litany is familiar. In 1995 there were almost 77 000 deaths from all causes in the North West

Region representing an age standardised death rate of 8.4 per 1000, less than half that reported in 1881–90, but the highest rate of any of the eight English regions.

In the first Chadwick lecture last year, Sir Douglas Black spoke on deprivation and health and reviewed the evidence on inequalities in health.²¹ It is not my intention to repeat his lecture here but the change of government, the establishment of a new enquiry under Sir Donald Acheson by the Minister for Public Health, and the recent publication of a report by the Joseph Rowntree Foundation have all given a new impetus to tackling inequalities in health as a central plank of policy. A few statistics taken from Dorling's Rowntree report²²:

- Of the 10 places in Britain where standardised mortality rates are high and rising, six are in the North West (Oldham SMR 131, Salford 131, Manchester 121, Birkenhead 121, Bolton 118, and Liverpool 117). Translated into real people, putting the tears back on to a certain extent, this is equivalent to almost 11 000 excess deaths over one year compared with what would have been expected had the national rate prevailed and includes almost 3500 in Manchester and 3000 in Liverpool.
- Of places where infant mortality rates are high and rising in male infants one out of four, Blackburn, is in the North-West.
- Of places where child mortality rates are high and rising, two out of four for males, St Helens and Manchester, and two out of five for females, Manchester and Birkenhead, are in the North West. Male child mortality rates have increased steadily in Manchester, in relation to the country as a whole, while in relation to the rural districts of Gloucestershire, for example they have fallen very quickly in recent years. The gap between these two places is such that, proportionally, almost eight times more male infants died in Manchester in the 1990–92 period, than in rural Gloucestershire. Tackling this effectively will require coherent strategy, policy and practice between many agencies, not least the local authorities and health authorities. Will history or the people forgive those who allow ego, personal or organisational ambition or turf wars to intervene in what needs to happen?

What we now know is that much of the improvement in public health since the 1840s, at least until recent years, has come about largely as a result of environmental and social changes rather than from technical, medical interventions.¹² Thomas McKeown, in his book on the role of medicine, concluded that "in order of importance the major contributions to improvements in health in England and Wales (between 1838 and 1970) were from the limitation of family size (a behavioural change), increase in food supplies (a proxy for improving standards of living and increased agricultural productivity), a healthier physical environment and specific preventive and therapeutic measures." This re-introduction of the environment into the equation after a sustained period when it had been subordinated to the

clinical and the therapeutic has paved the way for both the New Public Health and now the New Environmental Health. Of imminent importance is their re-integration as a unity.

The new public and environmental health

When Harold Wilson spoke of an old flame tarted up, he was talking about the newly promoted high speed gas. However, despite the many lessons that are to be learnt from an examination of our predecessors in public administration and public health there are some clear distinctions to be drawn between the Victorian Utilitarians and proponents of the New Public and Environmental Health movements and in particular the strategy of Health for All by the Year 2000 as adopted by the World Health Organisation.²³ Equity of access to health, to a healthy environment and to appropriate health and social care is not the same thing as the greatest good of the greatest number.

Sustainability in environmental management and in the provision of health and social care is far removed from either the Sanitary Idea or the thinking that lay behind the Poor Law and Chadwick's proposals for the Poor Law Amendment Act, in particular the policies of "lesser eligibility" and the "workhouse test" with its ending of outdoor relief.

(One of my worst nightmares in recent years was that we might finish up with its modern equivalent—the virtual workhouse based on electronic tagging). And at the heart of both these new movements and their expression in the like of the Healthy City initiative is the commitment to such notions as participation, empowerment and capability building, multi-professional and inter-agency working and partnership between public, professional, and public servant.^{24 25} Developing a local city or regional health plan based on these principles, bottom up planning with strategic underview and shared ownership cannot be done overnight. The Liverpool City Health Plan has taken the best part of 10 years. I don't believe it needs to take 10 years but dare I suggest it, Manchester, for example, could benefit from learning from Liverpool's experience! (fig 14).

The rediscovery and re-invention of public health from the early 1970s grew out of a number of concerns, not least the escalating costs of treatment dominated health services and growing inequalities in health despite the increasing expenditure. If the early years of this new movement emphasised health education, personal prevention and lifestyle change the emphasis has more recently shifted to the re-orientation of health services and to policies for health and for the environment. In England the previous government's Health of the Nation strategy can be seen to have reflected this with its emphases on risk factors and lifestyle health promotion and its comparative underplaying of macro health policy and action on settings and environments and its aversion to Europe and learning from others.²⁶ The new administration has clearly identified its intention to focus much more on the "predisposing causes". The Health Action Zones, which will be part of the

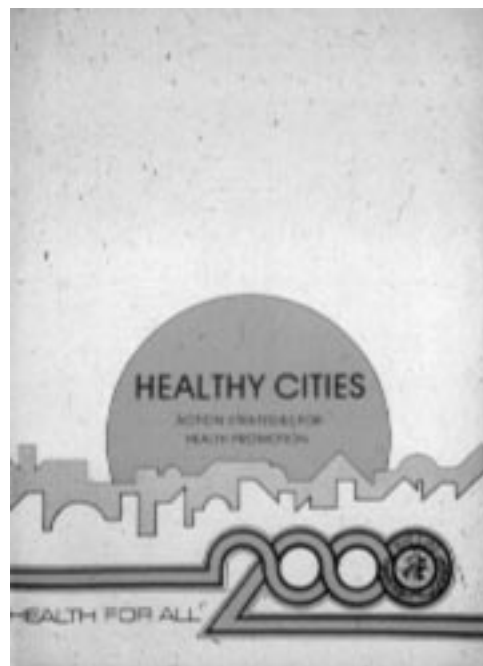


Figure 14 Healthy Cities.

new National Public Health Strategy should provide an opportunity to cut through many of the organisational obstacles to effective joint working on the predisposing causes of ill health.

The environment impacts on health in multiple ways, the homes we inhabit, the routes and methods of transport we take, the air we breathe, the water and food we imbibe not to mention the economic and social environments whose profound effects are often discounted or attributed to individual weakness. Chadwick and his colleagues were confronted by the immediate and dire consequences of what were essentially very local forms of pollution. Partly as a consequence of their success in diverting that pollution (rather than responding with an ecological approach whereby the "serpents tail was in the serpents mouth"); partly because of the continued growth of population, of urbanisation and of industrial processes, all now on a global scale, we are now being confronted by the ecological consequences on a regional and global basis for the human habitat, for human health and for those who share it with us. And we still have the inherited consequences of the past 150 years. The North West Region covers 11% of England's land area but has 24% of all derelict land; 9.4% of the housing stock is unfit and 22% requires renovation. We have 22% of all "poor" and 42% of all "bad" river water in England and Wales.²⁷

The important points to make are that the scale has changed from local to global and back again (think globally and act locally, think locally and act globally), that the essentially mechanistic approach of the Victorian engineers was flawed (if only they had listened to Edwin, as by now I think we can call him) and that we are now becoming painfully aware of the consequences of allowing a separation to develop between public, environmental, and social health. The recent report of the Environmental Health

Commission, Agendas for Change, set up by the Chartered Institution of Environmental Health, is a most valuable contribution to healing these schisms, based on the premise that we should “look after the things that look after us”.²⁸ So what is to be done?

The way ahead—A healthy North-West Region in the 21st century

The public or population health approach brings three perspectives to bear on the health of the population and seeks to set them in a physical, social, and policy context. These perspectives are those of :

- The total population.
- Sub-populations that are at high risk.
- Groups whose health is already damaged.

It is an approach that seeks to mobilise resources (sometimes financial or professional, often social or environmental). It is my view that Health Authorities require Directors of Resources rather than Finance Directors, to optimise the health of the population. In this the link to a Chadwickian or Benthamite utilitarianism is clear. Effective action hinges on a clear understanding of both the problems and the issues. In this, Chadwick’s preoccupation with data, with statistics and reports was well grounded. If the mission of public health is to promote and protect the health of the population its capacity to do this depends on its ability to recognise situations that have the potential to injure the health of the population:

- Identify the groups in the population that are most at risk.
- Formulate interventions that have the capacity to reduce incidence and prevalence.
- Implement these interventions effectively in order to make an impact.²⁹

The response that is needed consists of a set of policies, programmes, and projects based on general principles but where possible tailored to specific conditions, tackling the predisposing causes wherever possible but otherwise pursuing curative or remediable action where this can be justified on grounds of equity, outcomes based on evidence and the sustainable use of resources.

What is needed to deliver these policies, programmes, and projects are organisations that are “fit for purpose” wherein structure follows function.

Policies, programmes, and projects

Policies to optimise population health and reduce inequalities in health and access to health care must consider a range of causal factors (P Flynn, personal communication). These operate at a number of levels and interact in different ways for individuals and households. They include:

- The wider economic, social, cultural and environmental influences on people’s overall quality of life.
- The health potential of individuals and the resources and the resources households and groups possess or have access to in order to make informed choices over the conditions that affect their health (Titmuss’s “control over resources through time”¹⁰).

- The services, facilities, networks and skills available within communities to support health and treat illness.
- The barriers to adopting healthier lifestyles for different groups.

Inequalities in access to health services can reduce the effectiveness of policies aimed at preventing illness in the most vulnerable groups, some of the greatest inequalities being in access to preventive services for children and in primary care.

This poor access to health services has an additional dimension for ethnic minority groups (P Flynn, personal communication).³⁰

The range of factors influencing inequalities in health and access to health care require policies that recognise their impact on individuals within particular households and groups and different types of social area.

A strategy to combat inequalities in health will need to define particular high risk groups and target these, within wider health policies. For example the main groups in poverty are:

- The low paid
- The unemployed
- The elderly dependent on state benefits
- The long term sick and disabled
- Single parent families

Similarly, the examination of social areas identifies the overlapping concentration of problems and groups in particular inner city areas, which often include:

- Limited employment opportunities and poverty and poor health in groups such as the young unemployed with no qualifications, the long term unemployed and single parents. The social disadvantage of individuals tends to overlap within households; in many inner city areas such as Manchester around half the children live in households where there are no wage earners.
- Low income households occupy poorly maintained housing stock, where there are direct links between factors such as inadequate heating and damp and respiratory diseases. Housing management policies can concentrate on particularly vulnerable households in the worst housing where they become stigmatised and excluded groups.
- A degraded environment with poor local community facilities. The main roads for heavy commuter traffic (on whom do the costs fall?) contribute to pollution and high accident mortality rates for young children.
- Inadequate primary and community health services including a relative lack of preventive services. The rates of use of emergency hospital services will be twice those in the more affluent areas reflecting in part a less effective balance between primary and secondary care services.
- Poor educational standards and fewer children leaving school with qualifications. There are likely to be higher levels of risk taking behaviour and teenage pregnancies and a perpetuation of low levels of income and high unemployment.

And finally, but very important, not least in this region:

- High levels of mental illness related to the poor physical and social environment, crime and fear of crime.

We need to think about this and the implications for the vision, functions, responsibilities and structure of a Health Action Zone designed to tackle inequalities in health.

The new government in appointing the first ever Minister for Public Health, exactly 150 years after Duncan's appointment here in the North West, has signalled its intention to place public health at the heart of its programme. It is following through with this intention with a new strategy for public health that will be put forward in a green paper this autumn, to be followed by a white paper next spring with legislation to follow. The prospects of a new Public Health Act are imminent, those prospects are challenging and present us with historic opportunities.

We already have some indications of the likely themes and emphasis of the new strategy from ministerial speeches in Liverpool and London and from work that has been commissioned.^{31 32}

- The health of children and the healthy school.
- The health of people of working age and the healthy workplace.
- The health of the elderly and
- The prevention of tobacco related disease will be central elements.

Sir Donald Acheson's review of policies to tackle inequalities in health will impact on all these areas and the Chief Medical Officer, Sir Kenneth Calman has a project to recommend how the public health capability can be strengthened.

It is clear that there is a commitment at government level to ensure that cross governmental, interdepartmental working for public health becomes a reality and the proposed Health Action Zones at the sub-Regional level should provide the framework for effective programmes of joint working where it is currently failing. The proposed Healthy Living Centres will provide an opportunity to create focal points to build capability for health within our community at a local and regional level. We await the details but one is tempted to wonder whether these could be the antecedents to the new Local Boards of Health if they succeed in delivering what their populations need.

If so, we have an obligation to learn the lessons of history and to make them work.

Certainly the current fragmentation of effort means that while there are very many examples of good practice in health promotion, health protection and health care to be found both nationally and regionally, there is no equity of coverage and there is often a confusion of understanding. For example with the term "health promotion itself" as to what the actual content of programmes is and what should be expected of them ("Always do the same thing in the same way choosing the best and always call the same thing by the same name"). While Chadwick's cynicism and even hostility to the medical contribution can no longer be justified, evidence-based practice is in its infancy, as

is a whole hearted acceptance of the need for multi-disciplinary team working based on mutual respect and partnership and many of the professional institutions and regulating bodies, including Royal Colleges, again have failed to keep up with the new agenda.³³ It would be surprising if, when the task in hand becomes clearer, and the importance of effective joint working at local, district, regional, national and international levels, and of effective vertical integration between them, is made explicit, that there is not a clearly defined public health function at the Regional level for the first time with important links to the Regional Development Agencies, Regional offices of Government, the Regional Association of Local Authorities, Environmental Agencies, Constabularies and so on—perhaps a Regional Board of Health and with the prospects of Regional Government on the horizon. The structure should follow the function.

As for projects, a term much used and confused, there is an urgent need to get away from projects as an end in themselves and to see them as a means to an end, to pilot innovation or as a tool for reorientating main programmes. If the NHS in all its parts (hospital and primary care services and local government and the partnerships across society) is to be a meaningful health promoting and protecting public health organisation the major project must be the reorientation of all those organisational infrastructures and systems that must be fully engaged.

The reorientation of information, education, research, and development

Unfortunately, the emphasis on individual, medical interventions, at the expense of population and high risk group measures, the schism between public, environmental and social health, and general inter-organisational dysfunction have conspired to deprive us of information systems that are fit for purpose. We may have plenty of financial information about hospital beds and even on length of stay, throughput, the notorious efficiency index, and possibly soon comparative outcome measures between hospitals. However, this is a long way from the kind of intelligence that would enable us to build up an integrated picture of populations, risk groups and patients and clients to inform us properly about the choice of policies and programmes that would have the greatest health impact.

If this is a criticism of the information available to us it is also one that is applicable to the way in which we organise those other "organised efforts of society" to improve public health—I refer especially to the education and training of all those who have a part to play, ranging from the public as individuals, members of families and groups and the first line in building public health capability, through the members of many disciplines, clinical, environmental and social and others in politics and the arts and beyond who bring special expertise to bear, to those who carry the epithet of "public health" in their job title but who don't own the

field and who have a duty in my view to facilitate rather than control something; some find this difficult.³⁴

I refer also to the research effort that must underpin evidence-based policy and practice but in which at the moment too often the public's health seems to play second fiddle to the providers of education and research.

And I refer to the way in which the different agencies and public bodies, professional groups and their organisations need to be working in a coordinated and a strategic fashion rather than so often seems to be the case of fighting for turf. I see no evidence that what needs to happen will happen unless it is put on a statutory and formal basis. Learning that lesson lost the Victorians almost 30 years.

The North West vision

In the North West Regional Office of the NHS we stand ready to play our part. In the short time in which it has been in existence the office has radically restructured itself to place health as well as health care at the heart of its agenda. It is an organisation that looks out across the Region, beyond the NHS as well as to Whitehall and through its work with the World Health Organisation in Copenhagen and Geneva (Healthy Cities, Healthy Regions, Community Orientated Medical Schools, etc) is helping to develop the sense of the North West as part of Europe and part of an international public health network. Through its specialist teams in Research and Development, Education and Training, Nursing, Priority Services and Public Health and through the analytic services it is providing strategic support for health development through the three North West zones in Greater Manchester, Merseyside, Cheshire, Lancashire and South Cumbria. Through the various task forces that have now been established in partnership with district health authorities it is seeking to pave the way towards a more coherent and multi-disciplinary approach to population health, the health of special areas and groups within the region and to ensure that high quality personal health services are equitably available throughout the region. This is perhaps particularly well illustrated by the work on reshaping cancer services across the North West in line with the Calman-Hine report.³⁵ However, structure must follow function and depending on the outcome of current policy formation nationally and locally it is vital that we structure our multi-professional public health capability to optimise the partnership with the public.

Should Huskisson fall under a train today, or his great great grand daughter have need of a youth advisory service our objective would be that there should be no need to dispute the relative merits of the quality of care in Liverpool or Manchester, Barrow or Crewe. Should Chadwick revisit us to check on the soundness of our public administration and our adherence to the values that he espoused we would hope that he would find us working to general principles albeit tailored to specific conditions and a commitment to equity and sustainability rather than lesser eligibility and



Figure 15 Ashton calling for Chadwick.

the sanitary idea. We might hope that he would find us “always doing the same thing in the same way choosing the best and always calling the same thing by the same name”. But we know we have some way to go.

So, what is the answer to the question? Is a healthy North West Region achievable in the 21st century? The answer is undoubtedly, yes. But the answer is only yes if we bear in mind the recognition that health is always the dynamic product of one animal species in a wonderful but uncontrollable cosmos. All we can ever hope to do is understand the laws of nature and to work within them to optimise our biological and human potential.

I would identify three lessons from the work of Edwin Chadwick that seem especially relevant at this time of opportunity:-

(1) Structure must follow function and function should follow vision. We must be clear about what it is that we are trying to do and then develop appropriate organisational forms—they are unlikely to be the same ones that we currently have. But having found them we should follow Bentham and always call the same thing by the same name, etc. Albeit that there should be scope for local adaptation to suit local circumstance.

(2) The tension between a central and a local focus needs to be managed creatively whether the centre is European or international, national, regional or district. The main task is to line up all the ducks in a row around any particular issue. In public health pragmatism is probably the first law coupled to the ethical imperatives of equity and sustainability.

(3) Perhaps the most important lesson from Chadwick and his era and especially with regard to the boards of health, both national and local is that if you miss your chance it may not come around again for another generation. We have a once in a century opportunity to make a difference. Will history forgive us if we get it wrong?

As the Minister for Public Health, Tessa Jowell, is apt to say (and again I paraphrase) “Government must do the things that only government can do, public services must do what only they can do and individuals and families must do what is theirs to do”. Let us make sure that together we take the opportunity presented to us at this moment to secure Health for All in the North West as we enter the 21st century in whatever circles or organisations we move and within the ambit of our own

influence. Let us aim to get all the ducks in a row! (fig 15).

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