Overview

In this chapter you will learn about the historical development of the public health movement. You will be introduced to some key documents that paved the way of the current public health movement and learn that public health scientists do not all share the same views about where public health should go.

Learning objectives

After completing this chapter you will be able to:

• describe the development of ideas on the role of public health
• discuss the arguments for and against societal interventions to promote health
• describe the scope to use advocacy to promote health and the limitations in doing so

Key terms

Intersectoral action for health  The promotion of health through the involvement of actors in other sectors, such as transport, housing, or education.

Libertarianism  Philosophical approach that favours individualism, with a free-market economic policy and non-intervention by government.

Public health  The science and art of promoting health and preventing disease through the organized efforts of society.

Historical development of public health

The development of public health started in the eighteenth century with the sanitary movement. The concept of contagion was key to this early development, whether from disease (cholera) or ideas (communism). Then, as now, policies were often motivated as
much by self-interest as by altruism. The very unsanitary conditions in the newly industrializing cities demanded a response but there was intense debate about what to do. Many of the discussions at the time resonate with contemporary ones about the balance between the role of the individual, with those who were regarded as 'the feckless poor' having only themselves to blame, and that of the state in protecting the population from a range of hazards and enabling them to make healthy choices. Again, the contemporary relevance of the debates will become apparent, in particular when we reflect on the concerns voiced by the employers of the time about the unfairness of the burdens being placed upon them to improve the conditions of their workers.

We then move on to the rise of what was called *preventive medicine*. This emerged in many developed countries in the middle of the twentieth century, coinciding with the rise of scientific medicine and optimism about its potential achievements. It was characterized by its focus on the concept of hygiene. This was not just in relation to infectious diseases but, in some countries in the 1930s, taking a rather less innocuous form with its emphasis on genetic or racial hygiene. The legacy of that period has had profound implications until the present day for the ability to undertake collective health interventions in the countries concerned. In this period health professionals assumed they knew best and played a key role. Education (especially when undertaken by doctors or nurses) was thought sufficient to change behaviour and much disease was avoidable by means of mass activities such as screening.

Later in the twentieth century, new ideas began to emerge, rejecting the dominance of the medical model. In 1974 the Canadian Government published the 'Lalonde Report', which proposed the *health field concept* (Figure 1.1).

This report signalled the beginning of a move away from the medicalization of public health towards one that emphasized the building of *healthy public policy*. In 1978, WHO expressed 'the need for urgent action by all governments, all health and development

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**Figure 1.1** The health field concept
workers, and the world community to protect and promote the health of all the people of the world’ in its Declaration of Alma Ata (World Health Organization 1978). Subsequently, there was a growing focus on intersectoral action, working with sectors such as housing, transport, education and others, enshrined in the World Health Organization’s ‘Health for All by the Year 2000’ (HFA) movement and eponymous declaration (World Health Organization Regional Office for Europe 1985). These principles were reinforced in the Ottawa Charter in 1986, which called for the following approaches to promote population health:

- building healthy public policy
- creating supportive environments
- strengthening community actions
- developing personal skills
- reorienting health services
- demonstrating commitment to health promotion

The HFA programme emphasized intersectoral action and, somewhat controversially at the time, the importance of certain prerequisites for health, such as peace and equity. In Europe it was developed into a set of 38 targets (World Health Organization Regional Office for Europe 1985). However, many of these were rather vague and unquantified, and of those that were quantified, some countries had already achieved them by the time they were published, while others had little chance of reaching them before the end of the century. In addition, while all European governments signed up to the idea of HFA, few went any further towards actually doing anything about it. Even when they did initiate healthy public policies, there was rarely any reference to HFA.

Yet internationally, HFA was effective patchily in catalysing action at local level, because public health advocates used the fact that their governments had endorsed it in order to support initiatives such as the ‘Healthy Cities’ movement, in which local administrations developed wide-ranging programmes to improve health, through setting and implementing local policies on transport, housing and education.

By the mid-1990s, when it became clear that ‘health for all’ would not be achieved by the year 2000, the World Health Organization policy strategy was renewed, leading to ‘Health 21’. This has a more limited set of targets but, like HFA, it has received relatively little attention by national governments (World Health Organization Regional Office for Europe 1999). It is currently being updated as ‘Health 2020’.

At the same time, however, a new issue had emerged that was seen, by many but by no means by everyone, to link closely with issues of health. Concerns about the global environment had forced governments to come together at the Rio Earth Summit. One of the outcomes of that meeting was ‘Agenda 21’, a plan for sustainable development. Many people who had been working to improve health locally, implementing intersectoral responses, saw this as a process that they could link with. As a consequence, in many localities there is now a close association between those seeking to enhance health and those working for a sustainable environment.

In contrast, the commitment by national governments to improving health is less obvious. Some countries have developed health strategies but many are aspirational, providing little basis for concrete policies. We also have to take account of the facts that different countries have different models of public health delivery that reflect their politics, the evolution of their health care systems, their economic situations, and above all their histories.

Since the early 2000s it has become more widely recognized that the physical health of a population is not all that contributes to its productivity and success. Mental
health and wellbeing have begun to feature more prominently in national policy, both in terms of promoting better mental health of the population and in improving access to effective services for people with mental health problems. Internationally, WHO recognized that public mental health had been neglected and aimed to rectify this in its 2001 World Health Report, which emphasized the importance of mental health as being ‘crucial to the overall well-being of individuals, societies and countries’ (World Health Organization 2001).

In the UK, for example, the latest Mental Health Strategy for England is entitled ‘No Health Without Mental Health’ (DH 2011) and focuses on both services for people with mental illness and on promoting better public mental health. The workplace is a key environment for promotion of mental health and there is growing evidence that interventions in the workplace can improve or maintain an individual’s mental health. Interventions to enhance the amount of control people have over their work can be effective, and more so with those in lower paid, lower grade jobs. However, there is even greater evidence of effectiveness for interventions that address the culture and practices of the organization as a whole, as well as working with individual employees (Raine et al. 2010). Government policies that aim to improve mental health are not simply altruistic, of course. In the UK, mental illness accounts for over 20 per cent of the total burden of disease; as well as the costs of health care, productivity is lost and people unable to work due to mental illness are eligible for state benefits, so that the annual wider economic costs of mental health problems in the UK are estimated by government to be £110 billion a year (NHS Public Mental Health & Wellbeing website 2011).

There is evidence that cohesive communities and the presence of social capital are associated with better mental health than those lacking these characteristics. Perhaps not surprisingly, communities affected by adverse circumstances, such as war or following natural disaster (such as an earthquake or volcano eruption) have a higher prevalence of poor mental health, often for lengthy periods after the event has passed. Understanding these consequences of adverse events allows for effective interventions to be planned and implemented for protection of public mental health alongside interventions to protect the physical health of vulnerable populations.

There are two main reasons that the historical development of public health is relevant today. One is that, in many countries, what is called public health has still to emerge from the model adopted until the 1950s, telling people what they should and should not do, with little understanding of why they do things that will harm them. A second is that it helps us to understand that public health has always had an important political dimension. It is quite explicitly not value free. Its commonly used definitions talk about the organized actions of society. This assumes an acceptance that society, and not just a collection of individuals, actually exists and has identifiable responsibilities; and it assumes that it is justifiable to constrain the freedom of one individual to benefit the population as a whole. Indeed, a public health intervention may mean more than constraining someone’s freedom to do something. It may mean actively doing something to them, such as immunizing them against disease, fortifying their food with vitamins, or adding fluoride to drinking water.

**Activity 1.1**

Some people object to this vision of public health. Briefly describe the reasons why this might be the case.
Feedback

Some people take a very different view for various reasons. For example, Peter Skrabanek, who worked in an academic department of public health in Dublin, argued vehemently in the 1980s that many public health interventions were unjustified because we simply did not know enough about the determinants of disease and whether what we were proposing would work (Skrabanek and McCormick 1989). A refugee from then communist Czechoslovakia, he rejected what he saw as an over powerful role of the state. He described a whole range of activities, such as advocating a low-fat diet or cancer screening as ‘gratuitous intervention’. In particular, he argued that much of our apparent understanding of risk factors for common diseases stems from an inappropriate use of epidemiology, in which we seize on chance associations between risk factors and disease as signifying that the risk factor actually causes the outcome in question.

Bruce Charlton, writing from a libertarian perspective, argued that many public health policies amounted to ‘health fascism’, imposing a particular lifestyle on others whether they like it or not (Charlton 2001). This idea resonates in some countries in Europe where totalitarian regimes in the 1930s were extremely active in, for example, promoting exercise and opposing smoking. George Davey Smith has provided a detailed account of the anti-smoking policies pursued by the Nazis in pre-war Germany (Davey Smith and collaborators 1994), although this has subsequently been exaggerated by the tobacco industry (Bachinger et al. 2008), who have coined the term ‘nico-nazis’ to attack anti-smoking campaigners. In the UK the concept of the ‘nanny state’, using the analogy of a nanny telling children what to do, is often invoked by the tabloid press to oppose public health interventions and in recent times successive governments across the political spectrum have shied away from acquiring this image.

Another criticism is that the intersectoral approach that is now a feature of public health is a form of ‘health imperialism’, with ‘health’ being equated with ‘happiness’ or ‘wellbeing’. Criticism focuses in particular on the WHO definition of health as ‘a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity’ (World Health Organization 2003), which is seen as allowing public health professionals to justify their involvement in many issues where they really have no right to be.

Then there is the charge that some forms of public health intervention are patronizing and do not respect the autonomy of the individual. This is especially likely to be levelled in relation to activities such as social marketing, in which techniques traditionally associated with commercial advertising are used to promote healthy messages.

Finally, public health may on rare occasions involve depriving someone of their liberty. In the past this was much more frequent, typically in relation to psychiatric illness or contagious disease. Indeed, in some countries the threshold for detention in a health facility remains low and, in others, such as the USA, the emphasis on a criminal justice rather than a health response to illicit drugs, means that very large numbers of people (predominantly young male African-Americans) serve long periods in jail. This raises even more profound issues. A variant on detention is compulsory treatment in a non-custodial setting, as is commonly used for treatment of TB (DOT: directly observed treatment) and for people with severe, enduring mental ill health.

We cannot assume that everyone sees the world in the same way – indeed, some of you may have very different views. And even if we agree on an approach in broad terms we may still have many questions of detail.

Who provides the voice of society? Is it the government? What if they have been bought by powerful vested interests, such as the tobacco or oil industry? Is it our local community leaders, who may understand our concerns better than politicians who only visit us when they need our votes, showing little interest at other times?
What freedoms are we willing to give up for the collective benefit? The right to bear arms? The right to travel at speed on open roads, free from the threat of speed cameras? The right to smoke in public places? The right to feed ourselves and our children a daily diet of junk food? What do you think?

Activity 1.2

You will now read extracts from two papers that address some of these questions. The first is by Beaglehole and Bonita (1998) and the second by Rothman and colleagues (1998). These papers set out a quite different vision of the role of epidemiologists in public health and where public health should be going.

Read the extracts and summarize briefly the arguments of both of them. Then, decide which vision you identify with most closely and say why.

Extract from Beaglehole and Bonita (1998)

The discipline of public health
Epidemiology is flourishing, especially clinical epidemiology, but there is a shortage of epidemiologists and the workforce is not representative of the population worldwide served. Epidemiologists have collaborated with laboratory scientists to explore the mechanisms of disease and gene-environment interactions, although the danger is that such collaboration could reduce epidemiology to a mere tool of molecular biology which requires DNA samples from human populations. More importantly, epidemiology focuses on the fundamental social, economic, and cultural determinants of health status. Ecological variations are under investigation and multidisciplinary studies of the effect of the socioeconomic environment on the health of populations may yet inform social policy.

The other disciplines of public health are less well developed. For example, it is difficult to implement the powerful rhetoric of the Ottawa Charter on health promotion, and much health-promotion practice uses an outdated model of health education. Health promotion is further hampered by the privatisation of health care services and the division of ‘purchaser’ and ‘provider’ functions. This organisational model diverts attention from the powerful intersectoral determinants of health and discourages cooperation between health sectors. Only a few useful insights are available from attempts to develop intersectoral public health policy, such as work on food and nutrition.

The practice of public health
The key themes in public health practice are recurrent and must be readdressed by each new generation of public health professionals in a dialogue with the populations they serve. Most importantly, the scope and purpose of public health is unresolved. What are the current limits of public health? Should public health professionals be concerned with the fundamentals of health such as employment, housing, transport, food and nutrition, and global trade imperatives, or should attention be restricted to individual risk factors for diseases? A broad focus inevitably leads to involvement in the political process, an arena which is not emphasised in current training; the intersection between public health and democracy demands exploration.
No country has implemented the full range of public health functions. Public health in the USA was described in 1988 as being in ‘disarray’ in a report by the Institute of Medicine (IOM). The report stimulated programmes to link academic and practising public health communities and to upgrade public health leadership. There has also been progress in the organisation of state health agencies and the public health infrastructure, but there is still little focus on policy development at the state level. Lack of resources at the local level is the main reason for failure to implement the IOM recommendations, and public health agencies remain crippled by the need to provide last-resort medical care. In the UK, the emphasis has been on strengthening public health medicine which is increasingly concerned with the purchase of health services. The rest of the public health workforce is professionally and institutionally fragmented and there is no national focus for public health outside of communicable disease. Academic public health is dominated by public health physicians and is not integrated with operational public health services; there is also a lack of co-ordinated infrastructure for public health functions. Although the Labour government promises to target health inequalities, it will be hard to produce measurable results while continuing to stress the merits of a meagre public purse.

Public health: the way forward

The central challenge for public health practitioners is to articulate and act upon a broad definition of public health which incorporates a multidisciplinary and intersectoral approach to the underlying causes of premature death and disability. Since the value system of public health professionals tends to be egalitarian and supports collective action, it is important to affirm and make explicit these values and to seek public support for them.

A broad focus easily leads to accusations of ‘woolly breadth’, but this breadth is exactly what public health should be about. The challenge for public health practitioners is to justify and promote global concerns and at the same time proceed with evidence-based, public health programmes that deal with disease-specific factors and more general issues such as health inequalities. By contrast, the competing pathway, and one which increasingly characterises modern public health, is narrowly focused on health services research, evidence-based health care, and the search for new risk factors at the individual level. This activity will improve the effectiveness and efficiency of medical services, but clinical medicine is only a small part of the total public health endeavour.

An initial challenge is to improve worldwide health statistics. Sample sentinel populations are adequate to monitor trends in mortality and morbidity rates and risk factors. WHO should develop basic monitoring systems with electronic communication methods. A fundamental organisational challenge is the relationship between public health and medical-care policy. Public health is the poor cousin to medical care, both in terms of budget and status. Typically, the public health sector receives less than 5 per cent of the total health care budget and, from a policy perspective, is overshadowed by the demands of acute medical-care services and the power of the pharmaceutical industry.

Ideally, the public health sector rather than the medical care sector, should be responsible for population health status and for informing and monitoring all government policy initiatives that affect population-health status. Perhaps a more feasible option is for equality between the interests of public health and medical care through a Minister of Public Health supported by an independent Ministry.
WHO is the obvious focal point for worldwide public health leadership, and for the first decades of its existence it has fulfilled this role. The question now is whether WHO can be reformed, after more than a decade of decline, to articulate a broad vision with a focused set of priorities and withstand the increasing encroachment of vested commercial interests in the guise of collaboration. As WHO’s leadership has declined, other agencies, particularly the World Bank, have taken up this role often with even less explicit public health imperatives.

At the local level there is much to be gained by a closer relationship between the practitioners of public health and the society they serve. The ideology of individual responsibility and reliance on market forces must be challenged to develop strong and enduring partnerships between public health practitioners and communities, and to rekindle a commitment to sharing the benefits of national wealth. A global deregulated economy is unlikely to provide the appropriate basis for a fair and ecologically sustainable world.

There is justification for optimism. The opportunity exists for public health considerations to become central to the role of the World Trade Organisation. The revision of the health-for-all strategy includes a firm commitment to reduce poverty and its effects on health. The World Bank has recognised the need for a strong and effective state in the process of social and economic development. The next important step is to reduce Third World debt and reverse the negative effects of structural readjustment programmes. There is potential for the development of a constructive partnership between the World Bank and WHO.

Although the past 20 years have seen a stagnation in income growth in many regions, the eradication of absolute poverty, the most important priority for human development, is a feasible goal. Health professionals have a particular responsibility to exert pressure on national governments and the World Bank to support policies to reduce poverty and oppose those that increase it. Public health education for much of the world is a welcome development and public health-leadership programmes are under development. The positive impact of environmental activists on the health of communities and positive connections between academic and practical public health are promising. These developments will encourage the empowerment of local communities, a necessary step in the rejuvenation of public health. If public health becomes more broadly focused, the health outlook will be better for all.

Extract from Rothman and colleagues (1998)

Accusation 1: epidemiology is too individualistic
As with other biomedical sciences, epidemiology yields practical knowledge. Many applications can be carried out directly by individuals. For example, information about the risks of having unprotected sex can persuade people to change their sexual behaviour, and information about the risks of smoking can motivate smokers to give up their habit. These actions are, to some extent at least, personal choices, which public health programmes can influence through educational materials, as they have done through campaigns on smoking and health.

Other epidemiological knowledge, however, cannot be easily applied without actions at societal level. Thus, smallpox could not have been eradicated without a clever, global strategy to contain it, and malnutrition rooted in poverty cannot be
The emergence of public health and the centrality of values

Prevented without societal interventions that ease the burden of poverty or that address malnutrition directly.

The distinction between individual and societal applications of epidemiological knowledge are at the core of the new wave of criticism. The central complaint is that epidemiologists have focused on individual risk factors to the exclusion of broader societal causes of disease.

Pearce, one of the harshest critics of epidemiologists, portrays this slant as a personal and political choice (Pearce 1996). In his view, it is not so much the lure of science as an end in itself that has swivelled epidemiologists to a biomedical orientation; rather it is a tide of political conservatism and a personal indifference to the health problems of others that account for the new direction in epidemiology. According to Pearce, epidemiologists are so self-indulgent that they prefer to study ‘decontextualised individual risk factors’ instead of ‘upstream’ causes of health problems, such as poverty…

Accusation 2: epidemiologists need more moral and political fibre

Critics contend that epidemiologists have a greater responsibility than merely to study the causal role in human health of factors such as poverty or tobacco consumption. In their view, epidemiologists must also strive to eradicate the upstream causes of health problems. For example, if epidemiological research indicates that poverty causes malnutrition, which in turn causes infant death, the epidemiologist’s responsibility is to work towards the elimination of poverty. This activity requires the lumbering apparatus of social and political forces to be set in motion – something that most epidemiologists have been loath to attempt. Critics claim that today’s epidemiologists lack the moral resolve and political fire to complete their professional mission.

In short, some critics believe that epidemiologists of today lack a firm commitment to public health. Instead, claim the critics, they fritter away their professional time by studying scientific minutiae at the expense of urgent public health problems.

Knowledge before action, or ‘Ready, Fire, Aim’?

There is no denying that epidemiologists have progressively concentrated on the details of causal mechanisms. The only surprise to us is that anyone would regard this preoccupation with causal mechanisms as a problem. In past decades, epidemiologists could be criticised for studying mostly superficial relations between exposure and disease occurrence. Now the field is maturing, along with other biological sciences, and such superficiality is gradually being replaced with clearer insights into causal pathways. Whereas epidemiologists once studied factors such as dietary-fat consumption and total serum cholesterol, they have now progressed to classifying dietary fat by chemical structure – by comparison of low to high lipoprotein ratios – and are moving on to assessing the protective effect of antioxidants on fat-induced endothelial impairment.

Is the preoccupation with causal mechanisms as detrimental as critics allege? – Not if reasonable knowledge of causation is deemed a sensible antecedent to intervention. If the moral purpose of epidemiology is to alleviate the human burden of disease, the primary task of epidemiologists should be to acquire insight into the causal chain, starting from root causes and continuing up through the beginnings of
the disease itself. True, we do not necessarily need to know every detail about the pathway between intervention point and outcome; we can infer the effects of interventions even with gaps in understanding. Knowledge is never perfect, and action is often indicated in the face of substantial uncertainty. Public health professionals, however, do not have a license to tinker promiscuously with society. Public health programmes may be conceived and implemented with great hope and yet turn out to be useless, or even damaging. One and a half centuries after Snow’s work on cholera, the public health threat from the disease lingers, as research continues into how pathogenicity of the *Vibrio* organism depends on the El Niño Southern Oscillation, and how cholera may spread between continents through ocean currents. For cholera, as for other diseases, the more knowledge we acquire of causal pathways at all points – from the most ‘fundamental’ or ‘ultimate’ social, political, and economic determinants to the molecular and biochemical determinants most proximal to disease occurrence – the better the foundation we lay for any effective public health action.

To observe, for example, that in regions where poverty is rife, a given disease occurs at a greater rate than in areas not affected by poverty, is surely not enough. Epidemiologists have been preoccupied with methodology mainly because they understand that such comparisons are often affected by innumerable biases that can lead to false inferences. Their preoccupation with methods is the inevitable evolutionary consequence of their drive to understand the causes of disease in the natural human environment – rather than in the laboratory cage or the petri dish. The same kind of concern that makes epidemiologists wary of ecological comparisons impels them to carry out randomised trials when experiments are ethical and feasible.

**When is intervention most effective?**

Generally, the further upstream we move from the occurrence of disease towards root causes, the less secure our inferences about the causal path to disease become. Even if our inference is correct, moreover, intervention with respect to upstream causes may be less efficient and therefore less effective than intervention closer to disease occurrence. Consider the causal path: poverty to malnutrition to infection to death. Control of infection at the level of the human individual may be the most efficient way to prevent death in this causal chain. True, if control of infection does not address the malnutrition underlying the infection, the infection is likely to recur; one might therefore reasonably look upstream to address the malnutrition problem. Nevertheless, if we attempt to combat malnutrition without also dealing with the concomitant infections, many people will die needlessly. Furthermore, there may be little that an epidemiologist can do in the short term to overcome malnutrition as a population problem. To awaken the public or political authorities to the problem of malnutrition and to redirect societal resources may eventually do the trick, but public health accomplishments mediated through social changes are won slowly. In the meantime, through their study of risk factors at the individual level and by the use of randomised trials, epidemiologists have discovered that vitamin-A supplements can prevent serious morbidity and many deaths in malnourished children. This knowledge will save lives, despite the fact that it does not alleviate gross malnutrition, does not require manipulation of any upstream cause, and is obtained from the type of epidemiological work that critics of epidemiology disparage.
What is the public health solution to the poverty problem?
The ultimate step in the preceding intervention scenario is to eliminate the poverty that causes the malnutrition. The critics urge that we take this step. It requires deep societal involvement in a laudable public health end — one that any humane person would embrace. Yet, it is only fair to ask whether epidemiologists have the means to eradicate poverty. Is poverty eradication a public health programme? How exactly should it be accomplished? Economists would seem the most likely candidates to supply the answer, which might go something like – ‘Let markets be free to expand without guiding them too firmly’. But other economists might give a different answer. Do the critics of epidemiology suggest that epidemiologists should lobby against international trade barriers, or in favour of them, in the pursuit of their public health objectives? Perhaps the critics believe that epidemiologists should second-guess economists and attempt to eradicate poverty using their own epidemiological model.

All poverty is unacceptable
We agree wholeheartedly that the study of the social causes of disease is an important epidemiological goal, and that societal causes can explain much of the variation in disease occurrence. We abhor tobacco promotion and production. We would like to see the eradication of poverty, and agree that epidemiologists should be well educated with regard to their public health role.

Nevertheless, the importance of societal causes of disease does not mean that biological pathways to disease should be ignored, or that epidemiologists who choose to study causal mechanisms have been neglecting their mission. Furthermore, as with any public health professionals who share humanist values, epidemiologists do not need to establish the health effects of poverty to know that society should aim to eliminate it. Today’s critics of epidemiology use health as an argument for social ends — such as the eradication of poverty — the desirability of which is obvious and quite independent of their public health consequences.

Perhaps the most valuable message in this new criticism of epidemiology is simply that those who wish to ease the burden of disease should not forget that the people of the world often bear larger burdens than those we sometimes choose to study. Nevertheless, epidemiologists cannot be expected to solve every problem, especially not those beyond our expertise.

Epidemiologists are not social engineers; they are public health scientists who have a right to specialise as they see fit. They should be free to choose the subject of their inquiries, whether it be social causes or molecular causes of disease.

It is remarkable that epidemiologists are now chastised for their scientific accomplishments, which include such victories as the elaboration of the effects of tobacco smoking on many diseases, and the effect of folic acid on neural-tube defects. Countless other fragments of useful epidemiological knowledge, such as the benefits of breast milk over infant formula, have enabled many people to improve their health even if they could not avoid poverty and repression. If an astrophysicist can study the origin of the universe without apology, should an epidemiologist have to apologise for work that is so practical?
Feedback

Summary of the arguments of both papers:

Beaglehole and Bonita argue that public health should take a multidisciplinary and intersectoral approach to dealing with health problems worldwide and that this would involve public health scientists becoming increasingly concerned with the political process. They suggest that public health measures should be global in perspective, and that epidemiology should focus on the fundamental social, economic and cultural forces affecting individual behaviour and health status. They argue that public health should proceed with evidence-based, public health programmes that deal with disease-specific factors and more general issues such as health inequalities, rather than adopting a narrow focus on activities such as health services research and evidence-based health care, or – a main criticism of epidemiology – on the search for new risk factors at the individual level. They suggest that the public health sector rather than the medical care sector should be responsible for population health, and that there should be a closer relationship between public health practitioners and the society they serve.

Although Rothman and colleagues agree that the study of the social causes of disease is an important epidemiological goal and that social inequalities should be eliminated within and between countries, they believe that the work of epidemiology in acquiring insight into the specific causes of diseases is essential to lay a good foundation for effective public health actions. They argue that epidemiologists are not social engineers or economists, but public health scientists who have the right to specialize. They also suggest that because public health accomplishments mediated through social changes are won slowly, epidemiologists help in the meantime to gain significant knowledge that can save lives (for example, vitamin A supplementation to save the lives of malnourished children) although not resolving global upstream causes such as malnutrition or poverty.

Factors that might have influenced your choice:

There is, of course, no good or wrong answer in this exercise and various factors might have influenced your choice in deciding which vision you identify most closely with. One of them is probably the type of work that you are doing. For example, if you are involved in more methodological epidemiological work investigating disease causation, you probably identify more closely to the views of Rothman and colleagues. Conversely, if you are closely involved in public health policy and political processes, your views might then be closer to those of Beaglehole and Bonita. Undoubtedly, both visions offer advantages and are important to the future of improved public health and better health worldwide.

Activity 1.3

This activity relates to gun control as a public health issue.

In March 1996 a man walked into a school in Dunblane, Scotland, armed with an assortment of high power handguns. He made his way to the gym hall and opened fire on a class full of 4- and 5-year-old children, killing 16 children and their teacher. Then he turned one of his own weapons on himself. One year later the British government imposed a comprehensive ban on the private ownership of handguns.

Also in 1996, in Port Arthur, Tasmania, a man armed with semi-automatic weapons walked into a café and killed 35 people. Soon afterwards, the Australian government
introduced a ban on semi-automatic rifles and pump action shotguns, a national gun registration scheme, and a buy-back programme to reduce the number of weapons in circulation.

In April 1999 two pupils in Columbine, Colorado, walked into their school armed with a sawn-off shotgun, a semi-automatic rifle, a handgun and a selection of grenades. Within a few minutes they had killed 13 of their fellow students and teachers before shooting themselves. Although there had been four other multiple shootings in American schools in the preceding two years, the legislative response was essentially limited to additional funding for ballistics testing and media campaigns. Controls on gun ownership were seen as a non-starter.

In 1998, handguns were used to murder 51 people in New Zealand, 54 people in Australia, 19 in Japan, 54 in Great Britain, 151 in Canada, 373 in Germany and 11,215 in the United States.

Use the following resources to acquaint yourself with the background to the three events and the arguments for and against gun control in the USA.

- You can read about the Columbine shooting and the responses to it on various websites including: http://news.bbc.co.uk/1/hi/world/americas/324995.stm
- Details of the Dunblane shooting and responses to it can also be found on several websites including: http://www.dvc.org.uk/~johnny/dunblane/ (Dunblane massacre resource page 2005).
- You can read about the Port Arthur shooting in an Internet article from Bellamy (2005) and on different websites.
- For further reading on the issues surrounding gun control in the US see documents from the National Rifle Association (2005), a powerful and well financed organization lobbying against gun control in any form, and from The Brady Campaign to Prevent Gun Violence (2005), an organization dedicated to gun control and named after Jim Brady, press secretary to President Ronald Reagan, who was shot and seriously wounded during an assassination attempt on President Reagan.
- For another perspective on advocacy in relation to gun control, you may want to view the film Bowling for Columbine, directed by Michael Moore (2002).

Now answer the following questions:

1. In your opinion, should gun control be a public health issue? Why do you take this view?
2. The US Centers for Disease Control (CDC) has been criticized by some American politicians for becoming involved in this issue, especially when there are much more important matters to deal with. What criteria might an organization such as CDC adopt when deciding what to focus its efforts on?

Feedback

1. This is a matter for you as an individual. The purpose of this exercise is to allow you to reflect on why you hold the view you do, and to consider why others may take a different view.
2. Criteria that might be considered include:
   - the current burden of disease attributable to the issue in question: how much death and disability does easy availability of guns cause?
   - the scope for preventing this burden: will gun control be effective in reducing deaths and disability?
• the future consequences of failing to act: this is especially relevant with infectious disease where the current burden may be small but the scope for spread great, for example, the early stages of the AIDS epidemic;
• the cost of acting: in many areas of life states decide that the cost of intervening to save a life is too high, although the implied value of a life varies widely – for example being prepared to spend enormous sums to reduce a death in a plane or train crash but much less to prevent a death on the road;
• the feasibility of acting: this is something to consider. What are the obstacles to action and what are the opportunities? Who are the stakeholders, what are their positions, and how might they be influenced?;
• where you sit in the spectrum between extreme libertarianism (the role of the state should be as small as possible) and collective action.

Activity 1.4

This activity relates to alcohol consumption as a public health issue.

The harm to physical and mental health caused by alcohol is a major global public health problem. The problem of alcohol misuse continues to grow throughout the EU and in other developed countries. The EU is the heaviest drinking region of the world, with on average 11 litres of pure alcohol being consumed per adult each year. Alcohol is associated with scores of medical conditions from those affecting the unborn child to chronic diseases of adulthood, as well as many social harms including domestic and stranger violence and road traffic accidents: it causes an estimated 115,000 deaths in people up to the age of 70 each year across the EU, even after allowing for prevention of some deaths attributable to moderate consumption (Anderson and Baumberg 2006). More men than women drink and most people consume alcohol within low levels of risk. The disease burden of alcohol is massive and should include consideration of the impact on health and wellbeing of relatives of dependent drinkers and the victims of alcohol related crime and injury, as well as the harmful effects on drinkers themselves. Alcohol causes proportionately more harm in younger people: in Western European countries an estimated 25 per cent of male mortality and over 10 per cent of female mortality in those aged 15–29 years is alcohol related.

There is evidence that demonstrates an association between harmful drinking (i.e. drinking associated with harmful outcomes) of both total quantity consumed and patterns of consumption. The riskiest pattern for short-term harmful outcomes is so-called ‘binge’ drinking. Whereas the volume of consumption is associated primarily with long-term consequences, risky patterns of drinking are mainly associated with acute consequences. In summary:

• the higher the total volume of alcohol consumption, the greater the risk of harm; and
• the more alcohol consumed on one occasion, the more serious the injury or crime.

So, national alcohol policies must address both total consumption and risky drinking. Policies can be directed at the population or at individuals. With the exception of brief intervention with risky drinkers in primary care, the most effective interventions are usually population based and influence supply, availability and access to alcohol, with particular need to consider young people.

What policies are most likely to be effective in the EU (or in your country or region) in reducing the health and social burden of alcohol?
Feedback

Alcohol policy measures should combine both policies directed at the whole drinking population and measures directed at more risky drinkers with more detrimental drinking patterns (Allamani et al. 2001; Babor 2002; Edwards, 2001). This is because alcohol-related harms stem mainly from alcohol consumption in the general population, rather than from alcohol consumption by a specific group of risky drinkers. Reducing total alcohol consumption in a population will result in a reduction in alcohol-related public health problems, while implementing interventions focused on high-risk drinking, like interventions to reduce drink-driving, will result in a reduction of specific types of harm, such as accidents. Interventions directed at drinkers in general will however also affect heavy and risky drinkers.

Policy interventions can be categorized as follows (EUPHIX):

- policies that reduce drinking and driving;
- policies that support education, communication, training and public awareness;
- policies that regulate the alcohol market (regulating physical availability; taxation and pricing; regulating alcohol promotion);
- policies that support the reduction of harm in drinking and surrounding environments;
- policies that support interventions for individuals (treatment and early intervention).

Regulating the market through taxation is an effective policy. In regions with high-risk alcohol use, such as most European countries, taxation has the greatest and most cost-effective impact on reducing the average burden of high-risk alcohol use. This has led to calls for minimum alcohol pricing as a means to reducing overall consumption. In many countries, including the UK, large retailers can and frequently do choose to sell alcohol at minimal profit, so undermining the effect of high taxation. This has led some experts, including England’s former Chief Medical Officer and the National Institute for Health & Clinical Excellence (NICE 2010), to call for a minimum price per unit of alcohol, so that the consumer cannot purchase legally at a lower price. Voluntary agreements with the retail trade or manufacturers have so far been shown to be ineffective, but no Western government has yet imposed a minimum pricing policy, although at the time of writing the Scottish government is proposing to do so. Indeed, in the UK, the Treasury has not yet closed the loophole whereby supermarkets reclaim Value Added Tax (VAT) (a sales tax) when discounted alcohol is a ‘promotion’ (Chick et al. 2010). While the average price of alcohol was about £1.10 (£0.96; $0.69) per unit in 2010, researchers found that a sample of people with alcohol-related illness were paying an average of £0.43 (£0.38; $0.27) per unit, mainly by buying in shops and not in drinking settings (bars, pubs, etc.). In addition to a minimum price, per se, the possibility of variation in VAT in different alcohol sales settings and changes in duty on alcohol are other possible policy options (Sheron 2010).

You may also be interested in the first EU Strategy on alcohol, which was adopted by the European Commission in October 2006 (EC 2006). It identifies five priorities, which are to:

- protect young people, children and the unborn child;
- reduce injuries and deaths from alcohol-related road accidents;
- prevent alcohol-related harm among adults and reduce the negative impact on the workplace;
• inform, educate and raise awareness on the impact of harmful and hazardous alcohol consumption, and on appropriate consumption patterns; and
• develop, support and maintain a common evidence base.

Activity 1.5

Imagine that you are a political adviser to the health minister of a country of your choice in which guns are widely available or there are no controls on access to alcoholic beverages. Your minister thinks that a stance on either issue should be taken, on grounds of public health, but his/her colleagues believe they have nothing to do with him/her. Describe the arguments that you would use in a briefing, putting the case for these being legitimate health concerns.

Feedback

The main arguments you might make centre around the burden of disease (access to guns and alcohol are both important causes of avoidable death and disability), the scope for prevention, and that these are legitimate areas for the state to get involved.

Summary

This chapter discussed the historical development of public health. It described how ideas on the role of public health have changed since the eighteenth century, and described some key international documents on the role of public health. It also discussed the arguments for and against societal interventions to promote health.

References


The emergence of public health and the centrality of values


Further reading

implications’, provides an overview of the values underpinning health systems in Europe, contrasting them with those in the USA.

National Mental Health Development Unit: http://www.nmhdu.org.uk/nmhdu/ (Unit operational 2009–11; website maintained afterwards)


Reynolds L, McKee M (2010) Organised crime and the efforts to combat it: a concern for public health. Globalization & Health 6: 21. This paper argues that an area not normally seen as being the concern of the public health community actually should be, because of its many consequences for population health.