For debate

The impact of globalization on public health: implications for the UK Faculty of Public Health Medicine

Kelley Lee

Abstract

Background There has been substantial discussion of globalization in the scholarly and popular press yet limited attention so far among public health professionals. This is so despite the many potential impacts of globalization on public health. Defining public health broadly, as focused on the collective health of populations requiring a range of intersectoral activities, globalization can be seen to have particular relevance. Globalization, in turn, can be defined as a process that is changing the nature of human interaction across a wide range of spheres and along at least three dimensions. Understanding public health and globalization in these ways suggests the urgent need for research to better understand the linkages between the two, and effective policy responses by a range of public health institutions, including the UK Faculty of Public Health Medicine.

Methods The paper is based on a review of secondary literature on globalization that led to the development of a conceptual framework for understanding potential impacts on the determinants of health and public health. The paper then discusses major areas of public health in relation to these potential impacts. It concludes with recommendations on how the UK Faculty of Public Health Medicine might contribute to addressing these impacts through its various activities.

Results Although there is growing attention to the importance of globalization to public health, there has been limited research and policy development in the United Kingdom. The UK Faculty of Public Health Medicine needs to play an active role in bringing relevant issues to the attention of policy makers, and encourage its members to take up research, teaching and policy initiatives.

Conclusions The potential impacts of globalization support a broader understanding and practice of public health that embraces a wide range of health determinants.

Keywords: globalization, public health, global health, health policy

Introduction

The purpose of this paper is to discuss the potential impacts of globalization on public health, and to encourage the UK Faculty of Public Health Medicine to consider how it might contribute to addressing these impacts through its various activities. As a starting point, it is recognized that the term 'public health' remains a continued source of debate and confusion. In this paper, public health is understood in a broad sense as 'the collective action taken by society to protect and promote the health of entire populations'.[1] Such activities are concerned not only with 'the control of infectious disease, but also with the control of other conditions which entail not only population/ legislative control but also changes in individual behaviour' (Ref. 2, p. viii). The key features of this broad perspective are that public health is concerned with the health of population groups, and that the promotion of public health practice encompasses a range of intersectoral activities, from the provision of health care services, to the promotion of changes in human behaviour, to actions to improve the environmental (social and natural) determinants of health.[3,4] Admittedly, how different activities are balanced within any society, the appropriate institutions to provide them and the priority they are given on the public policy agenda varies by national context.[5,6] For the purpose of this paper, it is the focus on the collective health of human populations, and on both the individual and structural determinants of health, that makes globalization particularly relevant to public health, perhaps more so than any other branch of medicine.

London School of Hygiene and Tropical Medicine, University of London, Keppel Street, London WC1E 7HT.

Kelley Lee, Senior Lecturer in Global Health Policy
E-mail: K.Lee@lshtm.ac.uk

The paper begins by defining globalization with particular relation to public health. Admittedly, globalization has come to mean many things to many people. As Jones[7] wrote, globalization is 'amongst the most abused and misused terms in popular usage'. A broad approach is encouraged, which seeks to go beyond rhetoric and imprecision. This is followed by a discussion of specific impacts that globalization may have on public health, with specific reference to the United Kingdom, using varied rather than comprehensive examples to illustrate. The paper concludes with consideration of potential ways that the UK Faculty of Public Health Medicine might support effective responses to the challenges posed by globalization.

What is globalization? A definition for public health

The existing literature on globalization is abundant and fast growing, offering a virtual mountain of publishing across a number of different fields and from a broad range of perspectives. A cursory glance at selected works soon reveals a clear difference of opinion as to what precisely is globalization. For economists, globalization is an emerging global economy; for international lawyers, it is threatened changes to the legal status of states and their citizens; for information technologists, it is a global information network; and for researchers in cultural studies, it is the potential creation of a global culture through, for example, the mass media. There are many other perspectives from other fields. All of these views, of course, contribute individual pieces to a large and rather complicated puzzle.

As well as recognizing different features of globalization, opinion is widely divided as to the precise impacts of globalization on individuals and societies. Different philosophical and ideological starting points have led to often polarized views on the positive and negative impacts of globalization. Undoubtedly, this is because the process is creating both winners and losers. One of the key challenges for policy makers is to better understand the varying impacts of globalization and how these can best be mediated. Yet once again, this makes the agreement of a single definition of globalization elusive.

A review of the existing literature on globalization[8] has identified some of the key defining features of globalization. Broadly, globalization can be defined as a process that is changing the nature of human interaction across a wide range of spheres (e.g. economic, political, social, cultural, technological, environmental). This process is described as 'global' because traditional boundaries separating individuals and societies have become increasingly eroded. Most prominent have been state boundaries, but increasingly perhaps, boundaries dividing different social (e.g. health, education) and economic (e.g. manufacturing, services) sectors, scholarly disciplines, and

religious and other cultural beliefs, for example, also seem to be being eroded.

Looking at the nature of these changes more closely, we can see that change is occurring across at least three dimensions. The first, the spatial dimension, concerns change in how we experience and perceive physical space. On the one hand, there is a growing 'sense of the world as a single place'[9] as a result of increased travel, communication, trade and other shared experiences. In contrast, with a world divided into 190-odd sovereign and territorially distinct states, globalization seems to be challenging the organization of societies along strictly defined national borders. The popular image of the 'global village' within which world citizens engage with one another across vast distances, derives from this perception.

On the other hand, there is also evidence that globalization may be reinforcing existing geographical boundaries or creating new divisions within and across countries. Rather than physical space becoming irrelevant, it is being redefined along different parameters. Whereas many activities are becoming more global in scale (e.g. automobile manufacturing), others may be becoming more local, national or regional. The renewal of nationalist conflict in parts of central and eastern Europe, for example, illustrates the continued importance of geographical territory at least to some. Furthermore, novel ways are emerging that redefine physical space in innovative ways. The advent of cyberspace and virtual realities (e.g. virtual conferences, virtual offices), for example, are changing our experience of space. Thus, the spatial dimension of globalization represents diverse changes in the way people interact. Geography continues to be a fundamental feature of human societies, but how we experience and perceive space is being changed in different ways.

The second dimension of globalization, the temporal dimension, concerns changes to the actual and perceived time in which human interaction occurs. In many ways, there seems to be a speeding up of timeframes.[10] A notable example is communications, which, with the development of satellite technology, facsimile and the internet (including e-mail), allow messages to be sent and received in microseconds. The sheer pace of technological change also means that investment in new computer hardware and software, and acquiring the knowledge to use it, is needed more rapidly. Such technologies, accompanied by deregulation, have led to an acceleration of global trading in currencies, which totals US$1.7 trillion daily worldwide, two-thirds of this trade being for less than 7 days (*The Economist*, 25 October 1997). Similarly, mass transportation, in the form of high-speed trains and supersonic airplanes, allows travel to distant locales within a few hours.

As well as an acceleration of timeframes, there also seems to be increased frequency of human interaction. Globalization is characterized by intensification of human contact. In everyday life, people are moving around more often via tourism, commuting, business and migration (voluntary or otherwise). For the average senior manager, this means more frequent
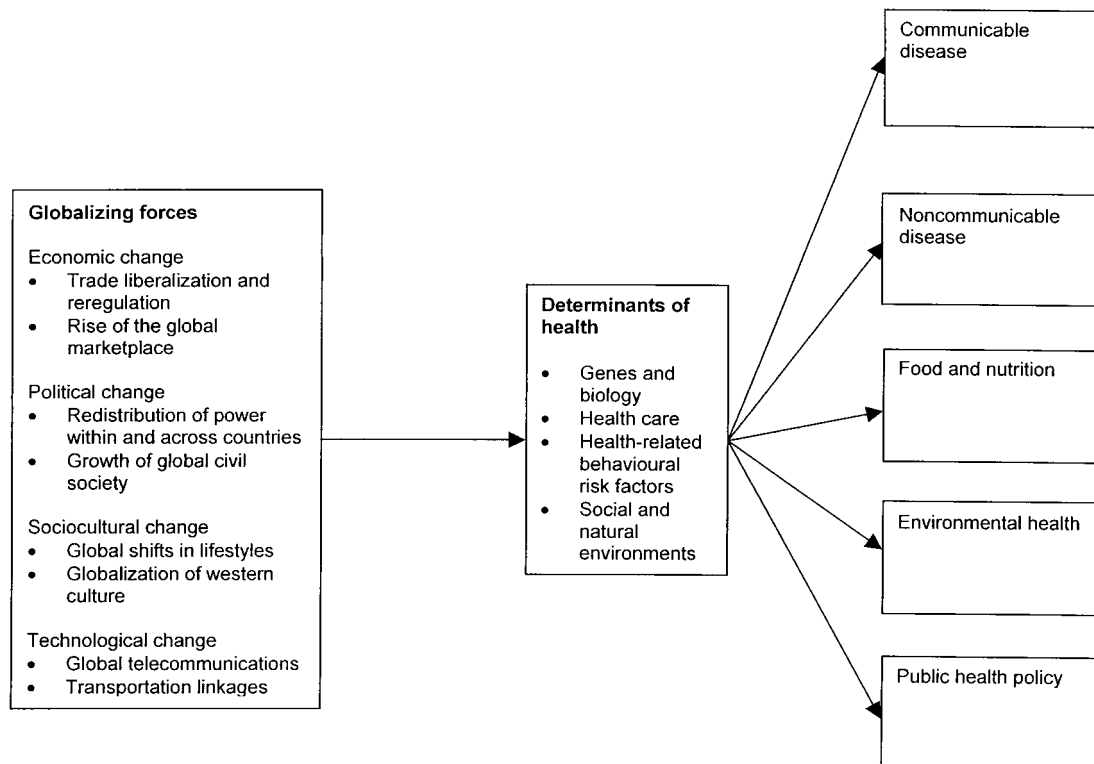
Figure 1 Globalization, the determinants of health and implications for public health.

travel abroad, more people to network with, more publications to review, and more e-mails and voicemails to respond to. To some extent, this can lead to a slowing of human interaction. The experience of 'information overload' (for example, it is estimated that 40 000 articles in the field of medicine are published each month) can mean that we need longer to understand tasks and make decisions. Policy makers who need to consult with a larger number and wider range of stakeholders may find the process more time-consuming. Overall, rather than an 'end of history',[11] globalization is bringing diverse changes to how we perceive and experience time.

Thirdly, the cognitive dimension of globalization concerns changes to how we think about the world and ourselves. A variety of thought processes – the creation and exchange of scientific knowledge, ideas, norms, beliefs, values, cultural identities – are being affected by globalizing forces. These forces are varied and include the mass media, educational institutions, think tanks, scientists, consultancy firms, public relations offices such as 'spin doctors', the Internet, international organizations and tourism. Once again, there is evidence of diverse changes. On the one hand, there is a greater sharing of thoughts through, for instance, the growth of popular global culture (e.g. Hollywood films, pop music, fashion), worldwide dissemination of scientific research, and adoption of international agreements (e.g. human rights, environmental protection, reproductive health). On the other hand, there is resistance to the global spread of thought processes through, for example, the

exemption of cultural industries from free trade agreements, resurgence of religious fundamentalism and assertion of ethnic identities.

Together, changes to these three dimensions have accounted for the diverse and, at times, contradictory nature of globalization. Defined in this way, globalization can be seen as a complex process with wide-ranging consequences. This paper now turns to the potential impacts of these changes on public health.

The potential impact of globalization on public health

Defined as above, with globalization occurring across multiple spheres and dimensions, we can begin to identify some of the ways that the process may have an impact on public health. This is conceptualized in Fig. 1, which illustrates how globalization, as a phenomenon driven by a variety of globalizing forces, can affect the determinants of health and, in turn, key areas of public health.

The complex linkages between globalizing forces, the determinants of health and public health are only beginning to be explored, and a clearly defined research and policy agenda to understand and respond to the challenges posed is much needed. The following sections seek to contribute to this task by briefly discussing more specifically some of the key concerns of public health and the potential impacts of globalizing forces on them.

Communicable diseases

Whereas communicable diseases now account for only 0.5 per cent of all deaths in the United Kingdom (Ref. 5, p. 171), and about 1.2 per cent in richer countries,[1] they continue to account for a large proportion of the global burden of disease especially in low-income countries. Furthermore, this world-wide impact is inequitably distributed within countries, with disadvantaged populations experiencing a far greater incidence. Since the mid-1990s there has been renewed attention given to communicable diseases, most notably emerging and re-emerging diseases, after several decades of relative complacency. In large part, this has been due to a recognition the globalizing forces are allowing certain diseases, such as tuberculosis, malaria and cholera,[12] to become a serious threat to public health once again. In addition, there are fears that new diseases or strains are emerging as a result of deforestation, water pollution and antimicrobial resistance.[13,14]

In the United Kingdom, public health can be most directly at risk from global trends in communicable diseases as a consequence of the increased mobility of humans, plants and animals across national borders. The United Kingdom, as an island state, has long engaged in substantial levels of trade and migration. More than one million people travel between OECD (Organization for Economic Cooperation and Development) countries and lower-income countries each week. The United Kingdom receives half a million visitors per week and almost one million people travel abroad from the United Kingdom each week.[15] The country is a key transit hub in the world's air transportation network (e.g. Heathrow Airport), with passenger numbers continuing to grow each year. The creation of 'open borders' by the European Union, and possible extension of membership to eastern and central Europe, will lead to even greater transborder mobility.

With greater worldwide mobility of people, through business, tourism, rural–urban migration and displacement, the risk of importing and exporting communicable diseases increases. The incidence of imported malaria to the United Kingdom, for example, has grown as tourism to endemic countries has expanded.[16] Similarly, the annual influenza outbreak each year is part of a worldwide transmission of the virus that has accelerated with the growth of air travel. It was alarm by public health officials over the possible global spread of the 'Hong Kong flu', a highly lethal strain, which led to the mass slaughter of poultry in the former colony.[17]

As well as human-borne diseases, the greater movement of animals, plants and other goods across the globe, through international trade for example, poses new challenges for public health. The weak regulation of trade in rubber tyres led to the introduction of *Aedes albopictus* into the United States, Brazil and parts of Africa from Asia. The mosquito is known as a vector for encephalitis and dengue fever, diseases that are now becoming endemic to those regions.[18] Similarly, insufficient regulation of safety in the global trade of blood products (e.g.

plasma), worth an estimated US$5 billion in the late 1990s, contributed to the worldwide spread of hepatitis B and human immunodeficiency virus (HIV).[19] With the launch in Seattle in December 1999 of the most inclusive trade negotiations yet, the trend towards opening borders ever more widely is likely to continue.

Globalization therefore poses new challenges to public health systems in the areas of communicable disease. It is clear that greater controls over human mobility would be ethically and practically difficult, and efforts to hinder the international flow of goods would encounter strong resistance by powerful trade interests. None the less, public health officials must rethink existing approaches to preventing, controlling and treating communicable diseases towards a more global perspective. Most immediately, measures to strengthen national, regional and global surveillance and monitoring, currently in progress, will need to focus particularly on building strong capacity across all countries, notably lower-income countries. Prevention, control and treatment strategies also need to be revised to take account of how globalization is changing the spatial, temporal and cognitive dimensions of communicable disease. As an important part of such strategies, public health must be far more pro-active in supporting appropriate regulation of global activities that affect human health.[20]

Noncommunicable disease

As well as new global threats from communicable diseases, which have perhaps most captured the fears of policy makers and film directors, there are implications raised by globalization for noncommunicable diseases. Indeed, a large majority of deaths (11 million) annually in wealthier countries are due to noncommunicable diseases in adults, including cardiovascular diseases (5.5 million), cancer (2.5 million) and respiratory disease (1 million).[1]

One of the foremost global public health challenges at present is tobacco-related diseases. Tobacco is a global industry worth US$400 billion annually. The UK company British–American Tobacco (BAT), with its recent takeover of Rothmans International for £5 billion, is among the three largest tobacco companies in the world at 14 per cent of the world market (Philip Morris remains the largest privately owned tobacco company, surpassed only by the Chinese government's state tobacco monopoly). Although markets are shrinking in North America and western Europe, companies have strategically targeted new markets in Asia, Africa, South America and, since the end of the Cold War, eastern and central Europe.[21] There are over one billion smokers in the world, half of whom will die from the habit. Currently there are 3.5 million annual deaths from tobacco, expected to rise to 10 million by 2030 (70 per cent in developing countries). Extensive research shows that, as well the human costs, tobacco-related morbidity and mortality incurs direct and indirect costs that far outweigh any economic gain from employment and taxation.[22]

To tackle this major burden of disease, public health officials have largely relied on health education campaigns, assisted in some countries by higher taxation of tobacco products and regulation of advertising and sales. However, these efforts have had limited effect on a global industry advantaged by huge marketing budgets and influential links with governments. Recognizing this challenge, WHO's Tobacco Free Initiative was initiated in July 1998 'to coordinate an improved global strategic response to tobacco as an important public health issue'. Its aim will be to promote a variety of measures to reduce tobacco production and consumption around the world including the agreement of an international convention. The effectiveness of this initiative will depend much on the mobilization of wide-ranging support at the national level, for which public health professionals should play a key role. In support of WHO's development of an International Framework Convention on tobacco control, the UK government's new strategy on tobacco control, published in December 1998, will include a range of initiatives including up to £60 million to the NHS for smoking cessation initiatives over 3 years and a further £50 million for public health education.[23] The strategy also aims to address the failure to reach the target of the the Health of the Nation initiative to reduce smoking by children aged 11–15 years from 8 to 6 per cent (met instead by an increase in smoking to 12 per cent in 1994).[24]

Other noncommunicable diseases can be understood in relation to global changes in lifestyle and the environment. The rising incidence of coronary heart disease, certain cancers and diabetes in many populations are closely related to poor nutrition, obesity and sedentary lifestyles. These risks, in turn, are being contributed to by the multi-billion pound marketing of particular consumerist lifestyles via the mass media. The global rise in the rate of television viewing, for instance, has been linked with declines in physical activity. Children have been particularly vulnerable to these increasingly globalized lifestyle messages, from the marketing of breastmilk substitutes, to the widespread promotion of processed and convenience foods. The link between noncommunicable diseases and environmental degradation is also being increasingly understood. The depletion of the ozone layer, for example, is believed to be leading to rising incidence of skin cancers. Deterioration in air quality has also been associated with rising incidence of asthma, notably in children, and retardation of mental development (as a result of lead ingestion).

Finally, many forms of substance abuse need to be addressed from a global perspective. Alcohol consumption, for instance, may be linked to changing work patterns and lifestyles as a consequence of an emerging global economy. Increased workplace insecurity, workloads and hours of work, or the lack of work altogether (unemployment) for many, has been part of the 'new global division of labour'. The global trade in illicit drugs is also a major challenge for public health. [The OECD estimates that US$122 billion is spent annually in the United States and Europe on heroin, cocaine and cannabis, of which 50–70 per cent (up to US$85 million) is laundered and invested in other enterprises.[25]] As Stares (Ref. 25, p. 1) writes, 'What was once called ''the American disease'' is fast becoming a global habit. By all indications, the market for illicit drugs is expanding inexorably around the world. Simply put, more kinds of drugs are becoming more available in more places than ever before.' In Europe, the economic problems in the former Soviet Union have led to a flourishing illicit drug industry, with substantial supplies reaching the United Kingdom. The burden for public health officials lies largely in treating the health consequences of illicit drug use at the local level, but increasingly these efforts will need to be linked with global efforts at prevention and control.

Food and nutrition

The global dimensions of food and nutrition relate to how food today is produced, processed, marketed and consumed increasingly on a worldwide scale. Historically, although food products have been traded internationally for centuries, the bulk of our food was produced and consumed locally. During the twentieth century, however, food became an increasingly global industry dominated by multinational companies seeking greater economies of scale.[26] There are a number of public health issues raised by this increasingly global food industry.

Beginning with the agricultural and livestock sector, there has been a trend over recent decades in many industrialized countries towards greater concentration and intensity of production within larger concerns, as well as the worldwide trade of foodstuffs. Undoubtedly this has led to benefits for public health, notably the availability of a wider variety of fresh fruits and vegetables at all times of year. Greater economies of scale have also yielded lower per unit costs and thus lower costs for consumers. Furthermore, the global food trade can support the livelihoods of many farmers including poor farmers in lower-income countries (e.g. European consumption of bananas from Latin American and Caribbean countries).

However, modern production methods have also involved practices such as widespread pesticide, antibiotic and hormone use, monocropping, genetic modification and factory farming. In the United Kingdom, concerns over modern farming methods have been given added impetus by the well-publicized crisis over bovine spongiform encephalopathy (BSE) and new variant Creuzfeldt–Jacob Disease (nvCJD).[27–29]

The way in which food is increasingly processed is also a global issue. Companies such as Monsanto, Nabisco, General Foods and Del Monte operate on a worldwide scale, producing primary foodstuffs in sites all over the world, processing them in-house, or selling them onwards to processors and manufacturers for sale around the world. One potential public health risk from this highly integrated industry arises from the difficulties faced by national public health systems of controlling a globally distributed food hazard. The current campaign over the introduction of genetically modified (GM) food to the

United Kingdom is a good example. Mixing bioengineered soya products with normal ones, Monsanto has encountered strong resistance by the British public to the lack of choice over whether to consume GM food. Fears of potential environmental effects, as well as unknown long-term risks for human health, have led to a clear rejection of the production methods of the global food industry. As recently declared by 130 leading food writers and chefs in the United Kingdom, 'We want safe, wholesome, naturally produced food. We like products that are geographically specific. We want to encourage small scale food and true crop diversity' (The Guardian, 31 January 1999). Similar fears in Europe over imports of hormone-treated beef (including progesterone and testosterone) from the United States were rejected by the World Trade Organization (WTO), on the basis of new standards for trade restrictions based on health, as scientifically unjustified.[30]

Amidst the crisis over BSE–nvCJD, and the limited current knowledge about the long-term health and environmental consequences of current agricultural and livestock-raising practices, these concerns do not seem unreasonable. Indeed, the BSE issue highlights many of the challenges posed by globalization for public health officials. Although attention has focused on the United Kingdom, there is clear evidence that BSE is far from being simply a British issue. The export of British beef and beef products, breeding cattle and animal feeds worldwide has led to BSE cases being reported in Ireland, Denmark, Germany, Portugal, the Falkland Islands, Canada and Oman. Yet perhaps more worryingly, cases unrelated to imported cattle or animal feed have been reported in such countries as Switzerland, France, Belgium and the Netherlands. More worrying still are the cases of related diseases, transmissible spongiform encephalopathies (TSE), in a wide range of other animals including zoo animals (e.g. cheetah, ostrich), farmed and wild elk, mink and domestic cats in many different countries.[27] A further concern is the potential risk of transmission through blood products (e.g. Amerscan Pulmunate II) and surgical procedures. The number of unknown variables surrounding BSE (e.g. infectivity load, incubation period of disease, rate of infection, number of infected cattle consumed by public), and the global reach of the livestock industry, means that public health officials simply cannot predict accurately the true health risk to the United Kingdom and worldwide.[31]

The increasing transborder incidence of foodborne diseases is also a growing concern for public health officials. In the United States, an organization known as Public Citizens Global Trade Watch[32] reported that 'fast tracked' trade agreements have significantly threatened food safety, with a dramatic increase of dangerous foods being imported. The report states that imported food to the United States is three times more likely to be contaminated with illegal pesticide residues, for example. Yet inspections of imported foods has declined substantially, with 74 import inspectors responsible for almost 2.4 million pounds of meat and poultry annually. Worldwide there have been many recent well-documented cases of

transborder food poisoning from raspberries, strawberries, snack products, shellfish and coconut milk. The precise scale of the problem is difficult to assess given the absence of foodborne disease surveillance systems in many countries or weaknesses in existing systems.[33] In the United Kingdom, which imports and exports substantial amounts of food, it is unclear whether the proposed creation of a Food Standards Agency will be accompanied by sufficient inspection measures to prevent further increases in the incidence of foodborne disease.

A final food-related issue of concern to public health is the increasing incidence, most notably in richer countries, of obesity. Although higher yields of food production and worldwide trade have led to widespread improvements in diet, a growing problem in many countries is 'overnutrition', accompanied often by a deterioration in the quality, if not quantity, of nutrition. This problem has been most familiar to the United States in recent decades, but in the United Kingdom there has also been a significant rise in the number of overweight and obese people. About 50 per cent of British men and women are now overweight, with average weight increasing between 1984 and 1995 by 6.5 and 4.55 kg, respectively.[34] Similarly, a 1996 National Audit Office progress report on the Health of the Nation initiative found that actual trends were moving in the opposite direction from the target of reducing obesity. Rather than reducing the proportion of obese men and women from 7 to 6 per cent, and from 12 to 8 per cent, respectively, this has risen to 13 and 16 per cent, respectively.[24]

The links between obesity and such conditions as hypertension, hypercholesterolaemia, non-insulin diabetes mellitus and certain cancers are well proven (Ref. 2, p. 170). The causes of obesity are complex but there is much research that links the shift towards unhealthy (e.g. sedentary, fastfood) lifestyles over the last generation as a key factor.[35] Moreover, as described above, such a lifestyle is increasingly global in character, promoted by companies through global marketing, as well as changes to work patterns and social trends. Efforts at health promotion and education, therefore, must not only address lifestyles and patterns of behaviour locally, but need to tackle global influences in the way we live.

Overall, the links between food, globalization and public health are complex, and embrace a wide range of issues concerning nutrition, lifestyles and environmental health. International co-operation to address some of the above concerns has centred on the Codex Alimentarius Commission, an intergovernmental body created by WHO and the Food and Agriculture Organization (FAO) to ensure that internationally agreed food standards, guidelines and recommendations are consistent with the protection of health. Yet the food industry itself, and the existing system that regulates it, is in considerable flux. The negotiation of an Agreement on Agriculture by the WTO in coming years, in particular, will have profound implications for food production and trade worldwide. With the exception of food standards, broad public health concerns related to the globalization of food and

nutrition (e.g. dietary change, environmental degradation, livelihoods of small farmers) are not being addressed.

Environmental health

The links between the environment and health are complex, and concern a wide range of issues such as water and sanitation, air quality, food supply and housing. The adoption of the first UK Clean Air Act in 1956 marked the beginning of improvements in air quality especially in urban areas. Since the 1950s, it has been more widely recognized that the links between the natural environment and human health are not only of national concern, but are invariably a global issue. The UN Conference on Environment and Development held in Rio de Janiero in 1992, and efforts to reach consensus in recent years on greenhouse gas emissions to slow global warming, illustrate the collective nature of the issues at hand.

Global environmental conditions, and changes to them, can be seen to have short-term and longer-term effects on public health. Short-term effects often derive from natural or manmade disasters that can create public health emergencies because of a lack of food, water, sanitation and basic health care. Such emergencies can be contained within national borders (e.g. flooding in Bangladesh, earthquake in Colombia), but often there are spillover effects. Displaced populations can migrate into neighbouring countries and can destabilize local communities (e.g. Rwandan refugees in Zaire). Sudden and mass migrations of people can lead to environmental damage and, in turn, create serious health risks, such as cholera and dysentery (among the Rwandan refugees in Goma, Zaire, there were 70 000 cases of cholera, resulting in 12 000 deaths in July 1994[36]), which can only be addressed by the international community.[37]

The longer-term impacts of global environmental change on public health have attracted growing attention in recent years. A good example is the nuclear accident at Chernobyl in the Ukraine in 1980, which, in addition to immediate health effects on local communities, illustrated the long-term and geographically widespread effects of environmental damage on human health. Two decades later, WHO's International Programme on the Health Effects of the Chernobyl Accident continues to study these effects, which include contamination of grazing lands in the United Kingdom. Global climate change, as a result of the greenhouse effect, is perhaps the most profound long-term change, with average world temperature expected to increase by 1.0–3.5°C over the next century. The consequences for human health involve changes to the distribution and incidence of communicable (e.g. malaria, Hantavirus pulmonary syndrome) and noncommunicable (e.g. skin cancer, asthma) diseases,[38,39] food production and human migration.

Finally, the link between public health and the environment includes the potential for new knowledge and products that could benefit human health. With growing incidence of multidrug resistant tuberculosis, drug resistant malaria, and antibiotic and antimicrobial resistance worldwide, attention has turned to finding new plant and animal derivatives that could yield preventive and curative treatments. The importance of the natural environment to health was recently highlighted by the discovery of the origins of the HIV in a subspecies of chimpanzees. Yet hopes for developing a cure and vaccine for humans are tempered by the threatened imminent extinction of the species as a result of human hunting and habitat destruction from logging.[40]

The globalization of health care organizations

There remains considerable debate regarding the extent to which health care organizations are changing as a consequence of globalization. Some argue that national health systems remain largely national in terms of service delivery, health care workers, training and regulation, and are unlikely to follow the route of, for example, automobile manufacturing.[41] Others, however, observe a trend towards an increasingly transborder provision of health care through the physical migration of health professionals[42] and the development of telemedicine and teleconsulting across national boundaries.

Whether or not globalization is affecting the spatial dimension of health care organizations, it is clear that there are changes along the cognitive dimension (i.e. how we think about health care). The globalization of information technologies has enabled public health professionals to exchange knowledge and experience to an unprecedented degree. This exchange, in turn, has accelerated the dissemination of certain values, beliefs and practices in health care across national settings. A good example is the concepts of evidence-based medicine and clinical practice guidelines, which, as Lohr *et al.*[43] have described, have rapidly spread from the United Kingdom and North America to Europe and beyond. Of course, the opportunity to share knowledge more widely, and to learn from the practices of others worldwide, is of potential benefit for public health practice and should be supported. None the less, sensitivity to the appropriateness of health care practices to other national settings, and the feasibility of transferring them from relatively affluent settings to those with more limited resources, is centrally important.

Public health policy

How public health policies are made – who participates, what is the process, how are priorities set and what underlying values guide decision making – has changed worldwide in recent decades. To a large extent, these changes have been a reflection of national circumstances and health needs. However, the global flow of ideas, values and beliefs about health, health care and health policy has also strongly influenced policy making in both higher- and lower-income countries.

In many countries around the world, including the United Kingdom, the period from the early 1980s saw a decline in support for public health care systems. This has been especially

evident in lower-income countries and 'countries in transition' (e.g. eastern and central Europe), where resources have been most constrained. In the United Kingdom, a range of health reform measures have been introduced during the past two decades to improve allocative efficiency, including internal markets, hospital trusts, fundholding and private insurance schemes. Values based on competition and individual responsibility, however, did not necessarily complement the underlying collective philosophy of public health. Hence, reforms were implemented amidst increased health inequalities.[44] In recent years, the Labour government has claimed a renewed commitment to public health with the appointment of a Minister of Public Health,[45] the proposed creation of a Food Standards Agency, and support for a variety of new public health initiatives (e.g. related to cancer, coronary heart disease, tobacco).

The global dimensions of many public health issues today, as described above, raise questions regarding the need to rebuild public health systems in collaboration with regional and global level efforts. The Treaty of Amsterdam will extend the authority of the European Union over public health matters that will present an opportunity to address many of the public health issues raised in this paper. Under Director General Gro Harlem Brundtland, WHO is also seeking to play a more active role in addressing global health challenges such as tobacco control and malaria. How public health professionals in the United Kingdom could contribute to the activities of these organizations will need to be considered more fully.

As well as regional- and global-level linkages, public health policy making may need to accommodate a wider range of stakeholders. As part of efforts to strengthen good governance in a wide range of settings – government, clinical practice and corporations – there are initiatives to improve decision making about health matters through, for example, more public participation (e.g. primary care groups, BSE inquiry), evidence-based practice, public–private partnerships and accreditation. In the context of globalization, there are many public health issues that are not resolvable within the health sector alone because of their intersectoral and transnational nature. Although the Department of Health, the national health system and public health professionals will continue to form the backbone of the United Kingdom's public health system, many global health issues will require a broader coalition of stakeholders and knowledge than hitherto drawn upon. Public health professionals may need to consider going beyond traditional circles of contact, to engage other parts of governmental (e.g. Department of Trade and Industry, Department of the Environment) and nongovernmental organizations.

The potential role of the Faculty of Public Health Medicine

Since the mid-1990s, there have been a number of initiatives that seek to begin understanding and addressing the impact of globalization on health. Among these are reports by the US Institute of Medicine,[46] New York Academy of Sciences[47] and US National Science and Technology Council;[48] a new programme of work on globalization by WHO; a joint project by WHO, The Rockefeller Foundation and the Society for International Development (SID) entitled 'Responses to globalization: rethinking equity and health'; and the creation of new research and teaching programmes in leading schools of public health worldwide.

In the United Kingdom, initiatives have included a policy review programme by the Nuffield Trust in association with the Royal College of Physicians, entitled 'Global health, a local issue',[49] that seeks to raise awareness of globalization and stimulate UK and international action; and the formation of an informal Working Group on Globalization, Environmental Change and Health at the London School of Hygiene and Tropical Medicine to bring together research and teaching. Notably, in contrast to the US government, the UK Department of Health or other government bodies have not yet taken up issues of global health as a whole, although a House of Lords Select Committee Report on Antibiotic and Antimicrobial Resistance reported in 1998 on this issue.[50]

The Faculty of Public Health Medicine, established in 1972, as a central pillar in the institutional framework for public health in the United Kingdom, has a potentially key role to play in strengthening responses nationally, regionally and globally to global health issues. Global health has relevance to all three stated objectives of the Faculty, as follows.

(a) To promote for the public benefit the advancement of knowledge in the field of public health medicine

There is a growing, but still limited, body of empirical research on the global dimensions of public health, and even less specifically relating to the United Kingdom. The potential research agenda is vast and interdisciplinary (Lee 1999), yet vital for informing and supporting the development of effective public health responses. The Faculty could thus play an important role in the following ways:

(1) by encouraging its members to support research on the global dimensions of public health through their own projects or collaboration on other projects;
(2) by supporting a Faculty member to serve as a visiting fellow at a recognized institution to carry out research on global health;
(3) by supporting the dissemination of research findings on the global dimensions of public health; for example, at scientific meetings, by publications (e.g. newsletters, *Journal of Public Health Medicine*, report of a working party) and at the Faculty's website;
(4) by initiating and supporting, in collaboration with other public health bodies, a research agenda on globalization and public health;

(5) by providing financial support for research projects on selected global public health issues.

(b) To develop public health medicine with a view to maintaining the highest possible standards of professional competence and practice

There is currently no taught course in the United Kingdom at undergraduate or postgraduate level specifically focused on global health issues. It is a component of a small number of courses in health policy and related subjects, and is beginning to be included, for example, in leadership training (e.g. The Judge Institute, Cambridge University). A number of courses are already being developed in the United States (e.g. at Yale University, Johns Hopkins University, George Washington University). In the United Kingdom, the Faculty should support teaching and best practice on global health issues in the education of doctors in public health medicine. This might be achieved in the following ways:

(1) by encouraging UK schools of public health to include teaching about global health issues in existing undergraduate and postgraduate courses;
(2) by carrying out a survey of teaching on global health issues in other countries to help in the development of courses in the United Kingdom;
(3) by providing accreditation to future courses on global health in the United Kingdom;
(4) by drawing attention to the need for specialist training and practice in global public health (e.g. medical officers at ports of entry).

(c) To act as an authoritative body for the purpose of consultation in matters of education or public interest concerning public health medicine

There has been limited attention given by policy makers in the United Kingdom, including the Department of Health, to the health challenges posed by globalization. There is thus an opportunity for the Faculty to take a leading role in bringing greater awareness of these issues and, by developing its own knowledge base, act as a source of consultation and information for policy development. This could be achieved in the following ways:

(1) by joining with other UK professional bodies in health and medicine (e.g. Royal College of Physicians, Public Health Association) in calling for the Department of Health and others to give higher priority to analysing and developing policy responses to global public health issues;
(2) by joining with other public health organizations in Europe in calling on the European Union to give higher priority to global public health issues;
(3) by using the professional and moral standing of the Faculty to support the Department of Health and others in ensuring

that public health is given appropriate priority in, for example, trade negotiations;
(4) by providing independent professional advice on the medical aspects of global public health issues as needed, for example, in negotiations under the WTO or in the UN Environmental Programme;
(5) by encouraging Faculty members to initiate discussion of global public health issues among health professionals and policy makers;
(6) by drawing to the public's attention the relevance of globalization to public health through, for example, press releases on specific global public health issues.

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