Original Article

SARS, pandemic influenza and Ebola: The disease control styles of Britain and the United States

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Abstract   Some researchers claim that nation states have begun to conform to an internationally uniform response to infectious disease. A potential barrier to this development are the distinct systems of disease control that industrialized nation states have developed over long periods of time. I explain the divergent public policy responses of the United Kingdom and the United States to SARS, pandemic influenza and Ebola by taking a historical approach. I examine the different medical theories of disease that existed in Britain and America in the nineteenth century as each country began to develop its public health system. I also examine where in the state apparatus disease control was located in each country. In Britain disease control was historically part of the welfare sector of the state, while in the United States it was originally operated by the military. These different starting conditions helped push Britain and the United States along different paths of disease control and this helps explain why they respond to contemporary diseases in such different ways. The 'historical durability' national styles of disease may make it more difficult for the international community to enact a truly uniform response to pandemics.

Introduction

The first decade of the twenty-first century has seen the return of the threat of pandemic disease. In the last 15 years, the world has experienced outbreaks of SARS, 'avian flu' and 'swine flu' and last year the saw the start of the largest outbreak of Ebola ever recorded; the outbreak has so far claimed over 10 000 lives and infected over 24 000 people.

As social scientists have begun to examine how states respond to the threat of emerging and re-emerging infectious diseases (EIDs) some researchers (Fidler, 2004; Salehi and Ali, 2006; Keil and Ali, 2008; Youde, 2011; Davies, 2012) have argued that we are now entering a 'post-Westphalian' era of 'global health governance'. This view argues that states have begun to accept outside interference into their domestic disease control policies and have started to conform to an international standard of disease control. My research examines a potential barrier to the creation of a unified international response to EIDs: the distinct histories of disease control in Western industralised nations that helps produce divergent contemporary policies.

I compare the public policy response of two industrialized nations – the United Kingdom and the United States – and find that, beyond surface level similarities, the governments of these two countries have very different responses to contemporary EIDs. In response to SARS, pandemic influenza and Ebola, the British state adopted a voluntaristic and holistic approach; it encouraged the public to voluntarily follow its public health policies and considered the social and economic impact of outbreaks. American public health officials developed a narrower medical-legal approach to outbreaks that relied almost exclusively on a finding a biomedical solution and utilizing coercive legal authority to regulate citizens' behavior. In particular, the two countries have adopted divergent border control and quarantine policies; Britain has not tried to compulsorily isolate the sick or restrict their entry into the country, while the United States has set up and used the legal framework to do just that.

How can we account for the different responses that the United Kingdom and the United States have adopted? I argue that we can understand their divergent responses by taking an historical approach. Britain's system of disease control, formed in the early part of the nineteenth century, was influenced by the theory of miasma and was originally located in the welfare sector of the state. In the United States disease control, developed late in the nineteenth century, was influenced instead by germ theory and was historically part of the military. By the twentieth century, these initial differences congealed into distinct styles of disease control. I argue that the distinct responses of the British and American states to EIDs in the twenty-first century are the most recent iterations of styles of disease control that each country has been developing since at least the nineteenth century.

Industrialized nations like Britain and the United States have been developing their systems of disease control for over 150 years. While this has given them time to develop somewhat effective techniques, it has also meant that they have, to a certain degree, locked themselves into distinct styles of disease control. The 'historical durability' of such approaches presents a challenge to researchers and policymakers that see, and wish to see, a uniform international response to current EIDs.

Literature Review

Much of the recent literature on the public policy response to contemporary EIDs has focused on its globalized nature. Fidler (2004) has argued that we have entered a 'post-Westphalian' world of infectious disease. While he recognizes (see Fidler, 2003) the anarchical nature of international relations (the fact that nation states do not have to obey an authority higher than themselves), he claims that globalization and the subsequent international spread of disease means that states can no longer act autonomously from each other, but must enact a form of 'global health governance'.

Researchers (Fidler, 2004; Salehi and Ali, 2006; Youde, 2011; Dry, 2012) point to the revision of International Health Regulations in 2005, making them more stringent, as an example of how states are being pushed to conform to a new globalized form of disease control. Davies (2012) examines how South-East Asian states conformed to these regulations in their response to avian influenza, while Guénel and Klingberg (2010) describe how Vietnam's domestic state response to avian influenza was guided by global influenza governance as articulated by international agencies such as the WHO, the Food and Agricultural Organization of the UN and the World Organization for Animal Health.

Indeed, some (Fidler, 2004; Salehi and Ali, 2006; Sivaramakrishnan, 2011; Dry, 2012) have argued that national governments and international agencies *should* adopt a globally unified approach. Salehi and Ali (2006) take a 'globalized approach' to understand Toronto's response to SARS and assert that local governments must adopt a 'new political mindset [that] acknowledges that states must pool resources, share responsibility and perhaps, even compromise some degree of sovereignty to achieve a collective protection against global health threats' (p. 380).

My research examines a potential barrier to this call for an internationally uniform approach to disease control: the distinct systems of disease control that states have developed over long periods of time. I adopt what Taylor (2013) calls the 'policy legacies approach' and what has also been called the method of 'path dependency'. This approach focuses on how actions taken by the state during a 'critical juncture' in the past can set up a self-reinforcing feedback loop that allows the state to develop a distinctive style of behavior that shapes their actions over time and into the present (Mahoney, 2000).

Using this approach Baldwin (2005) accounts for the divergent AIDS policies of the United States, Britain, Germany, France and Sweden by observing their divergent histories of disease control. Taylor (2013) adds to this approach by examining how public policy is influenced by 'disease identities'. She argues that Britain, France and Germany conducted border screenings for tuberculosis, but not for HIV, in part because tuberculosis sufferers were historically identified in

negative terms (that is, poor and negligent), while persons with HIV came to be thought of as individuals with certain rights. I add to this approach by focusing on the medical understanding of disease that exists when a state first begins to construct its disease control system and where disease control is placed within the state apparatus.

There are, of course, many factors that influence the disease control policies of states like Britain and the United States. Researchers have examined how the political structure of the state influences how it responds to disease. Ackerknect (1948) argued that whether nineteenth century European states used draconian measures like quarantine or less severe measures like sanitation was shaped by, respectively, how autocratic or liberal they were. My own research does not support Ackerknecht's claims; nineteenth-century America cannot be considered more autocratic than nineteenth-century Britain and yet it still adopted a much more quarantinist approach to disease control.

Yet, the purpose of this article is not to ignore current political structures and instead make a mono-causal argument about the role of history on contemporary public policy. For example, Keil and Ali's (2008) examination of how the decentralized nature of Canada's federal system and the rise of neoliberalism shaped Toronto's response to SARS, creating a 'localization of emergency planning', is well argued. Instead, the goal of this article is simply to highlight how the past helps shape the present and to show how actions taken by the state during the formative period of public health in the nineteenth century have long-lasting consequences that help shape the contemporary responses of states to infectious disease. Let me begin by examining the differences in how Britain and the United States responded to contemporary EIDs.

The Contemporary Response to EIDS in Britain and the United States

While on the surface there are some similarities in how Britain and the United States dealt with SARS, pandemic influenza and Ebola (for example, both countries utilized contact tracing, implemented disease surveillance and reporting, and relied on the development of vaccines and antivirals), they in fact responded to infectious disease in fundamentally distinct ways. Below I describe their main differences: (i) differences in the use of border controls and domestic quarantine, (ii) variation in the use of coercive state power and (iii) the distinction between the broad holistic response of Britain and the narrower medical-legal approach of the United States.

In regards to border control, Britain has generally not tried to restrict the entry of potentially contagious persons into the country. When SARS appeared in 2003, the newly formed Health Protection Agency (HPA) did not prevent possibly infected travelers from entering the country and nor did it attempt to screen travelers arriving at airports (HPA, 2003; Harper, 2004). Likewise, officials declared that closing the border would be largely ineffective against pandemic influenza. Modeling suggested that even if it was 99.9 per cent effective, such actions would only delay an epidemic by 2 months (HPA, 2007; Department of Health (DH), 2011). British policies changed slightly in response to the outbreak of Ebola. While Britain has not denied entry to passengers traveling from West Africa, starting in October 2014 it began to screen air passengers. Health officials checked the temperatures and asked passengers from West Africa to fill out health reports (Gov.uk, 2015).

In terms of quarantine, in the case of both SARS and 'swine flu' the British government only recommended that persons should voluntarily isolate themselves in their own homes (HPA, 2003; HPA, 2009; DH, 2011). Health officials acknowledge that quarantine may have to be implemented in extreme situations (HPA, 2007), but in contrast to America, they have not created specific laws or regulations to carry this out. After Britain's first and only domestic case of Ebola, Prime Minister Cameron said he would consider compulsorily quarantine for returning health workers from West Africa, but after his Chief Medical Officer, Sally Davies, advised him against it the practice was not adopted (Donnelly, 2015).

The United States, on the other hand, has been much more willing to enforce border control measures and to implement domestic quarantine. In 2003 President Bush placed SARS and Ebola on a list of diseases that allowed border agents to detain potentially sick passengers (Spiro, 2003). Similarly, in response to the threat of pandemic influenza, the Department of Homeland Security and the CDC developed a public health 'Do Not Board' list that enabled medical personnel to deny persons the right to board a plane if they were infected with a contagious disease (Swendiman and Jones, 2009).

In terms of quarantine, the United States has set up the legal basis and organizational foundation for compulsory isolation. Federal law allows for quarantine for select diseases through the Public Health Services Act of 1965. Ebola, SARS and pandemic influenza were added to the list by President Bush (Cohen and Cook, 2008) and in 2014, President Obama amended Bush's executive order to allow for the isolation of persons just showing symptoms of SARS or Ebola (White House Office of the Press Secretary, 2014b).

In addition, after the 11 September attacks of 2001, Gostin (2001) was asked by the CDC to produce what came to be known as the Model State Emergency Health Powers Act (MSEHPA). The idea was that individual states would use this document to craft their own disease control laws. The model act allows a state to

forcibly quarantine entire groups of people and it is possible for an individual person to be isolated for up to 10 days without a court hearing. As of 2006, 38 states have passed versions of the act, some with very strict quarantine laws. Washington State passed regulations that allow, without a court order, for the compulsory quarantine of not only persons who show symptoms, but also those who were simply exposed to an infectious disease (Cohen and Cook, 2008).

Compulsory quarantine has been used in a number of cases. In 2007 a Russian man was isolated in an Arizona hospital jail for just over 10 months because he had a drug resistant strain of tuberculosis (Knox, 2007). More recently, in response to Ebola states such as New York, New Jersey, Illinois and California, created policies that called for a compulsory 21 day quarantine on returning health-care workers from West Africa. New Jersey attempted to enforce these regulations when it compulsorily quarantined a returning nurse, Kaci Hickock for 3 days. When she was released to return home to Maine, health officials there tried, unsuccessfully, to quarantine her in her house (Swaine and Glenza, 2014).

Overall, the United States employs a more direct and coercive use of state power to control disease than the United Kingdom. A prime example of this difference are the policies and actions taken by the states in response to Ebola. However, coercive policies are found not just in the quarantining power of the states, but also in other compulsory disease control policies that the states possess. For example, the MSEHP act also allows for mandatory medical examinations and testing, mandatory vaccinations and required medical treatment. A person who refuses these procedures can be forcibly isolated (Gostin, 2001).

Unlike the United States, British authorities have generally not adopted the use of compulsory measures. Officials admit that various acts allow the state to carry out coercive actions (HPA, 2007), yet the HPA claims that compulsory measures will have little effect on stopping the spread of disease and should generally not be utilized (HPA, 2007). Likewise the Department of Health claims, 'The presumption is that the Government will rely on voluntary compliance with national advice' (DH, 2011).

Instead of coercion, Britain attempts to influence behavior through public health education campaigns. During the 2009 H1N1 influenza outbreak, the Department of Health created its 'Catch It, Bin It, Kill It' campaign. An informational leaflet was delivered to nearly every home in Britain, public messages about the disease were on the television, radio and billboards, and a phone-line and Website were set up (Hine, 2010). Recently the United Kingdom has attempted to export this approach to West Africa; Britain has funded educational campaigns on Ebola in countries like Guinea, Sierra Leone and Liberia (Gov.uk, 2015).

The United States has also used public health education as part of its response to contemporary EIDs; public communication is mentioned in various state documents (for example, Homeland Security Council, 2005; Government

Accountability Office (GAO), 2011; CDC, 2010). Yet it is nowhere near as central or as comprehensive as it is in Britain. Overall, rather than relying on direct coercion to carry out its public health policies, as is more often the case in the United States, Britain uses public education campaigns to guide public behavior so that it 'naturally' conforms to the health outcomes it wishes to produce.

The last difference that can be observed is what I label the holistic approach of Britain versus the narrower medical-legal focus of America. While Britain considers the social, political, economic implications of an outbreak, the United States seems only concerned with its biological aspect. British officials have considered how an outbreak would destabilize community social networks (HPA, 2007); what is the best way to maintain public order and ensure the provision of basic social services like food and gas (Hine, 2010; DH, 2011); how to deal with a large number of deaths (Home Office, 2007; HPA, 2007; DH, 2011); how to keep the economy going through a period of stress (HPA, 2007; DH, 2011); and how to deal with a large number hospitalizations and dispense drugs to a sick populace (HPA, 2009; Hine, 2010).

This holistic approach is epitomized in a chapter title from the DH's (2011) pandemic influenza strategy document: 'The Whole of Society Response'. In rather bureaucratic language the chapter begins, 'An effective response to an influenza pandemic relies upon cross-government and cross sector collaboration to manage wider societal impacts and the interdependences between health responses and other sectors' (DH, 2011, p. 56). Again, the United Kingdom has recently tried to export this approach to West Africa in its fight against Ebola. There it has tried to develop health-care infrastructure, arrange safe burials, provide emergency supplies, set up 'community care centers' and attempted to improve public information about the disease (Gov.uk, 2015).

This holistic approach of Britain contrasts with the narrower medical-legal focus of the United States. Disease control in America focuses on disease surveillance and reporting, contact tracing, epidemiological investigations and producing vaccinations and medications to limit the spread of the disease. This is generally how American public health organizations responded to SARS, the 2009 influenza pandemic and Ebola (CDC, 2004; CDC, 2010; GAO, 2011; White House Office of the Press Secretary, 2014a). Instead of Britain's 'Whole of Society Response', in America we get a much narrower medical-legal approach that focuses nearly exclusively on locating the infectious virus, producing medicine and antivirals, and creating the legal foundation to isolate the sick.

What explains the divergence in how Britain and the United States respond to infectious disease? Researchers sometimes point to political culture to explain the policy actions of the state. That does not seem to work in this case. While America has been described as a model of 'liberalism', in which the state should not intrude into the private lives of citizens (see Hartz, 1955), the American

state has taken various coercive actions to control the spread of disease and seems quite willing to restrict individual liberties in the name of public safety. Other researchers examine political structure. Mann (1993) notes that the British state has historically been more centralized than the American state. Yet, while the level of centralization may affect the capacity of the state to implement disease control it does not seem to explain the different styles of disease control that Britain and the United States have adopted.

Perhaps differences in the level of technology (that is, a higher level of bio-medical technology in America) is the reason why the United States adopts a narrower bio-medical response? However, Weatherall *et al* (2006) describe Britain and the United States as having a similar level of medical technology to respond to infectious disease throughout the twentieth century and into the twenty-first century. Rather than confining ourselves to the present, I argue that, while not the only factor, the different ways in which disease control became institutionalised in Britain and the United States from the nineteenth to twentieth century helps explain why they take such divergent actions in response to infectious disease in the twenty-first century.

The History of Disease Control in the United Kingdom and the United States

To understand the distinct responses of Britain and the United States, I use the approach of path dependency. Path dependent analyses claim that actions taken at a 'critical juncture' (that is, formative period) can set up a feedback loop that sends social actors down distinct historical paths (Mahoney, 2000). The critical juncture for Britain and America is when in the nineteenth century each government started to develop its system of disease control, the state of medical knowledge that existed at that time, and where disease control was placed within the state apparatus.

As Britain began to develop its system in the first half of the nineteenth century it was influenced by the prevailing miasmatic theory of disease (a belief that disease is caused by noxious gases that are released from filthy physical environments), while as the United States formed its disease control system near the end of century, it was influenced by new ideas about contagion and the rising germ theory of disease. In addition, in Britain disease control was originally located within the welfare sector of the state, while in the United States it was developed as part of the military. Over time, these different 'starting points' pushed Britain and the United States along distinct trajectories of disease control. Britain developed a sanitation-based style of disease control that came to focus on improving the living conditions of the working classes, whereas the United

States developed a quarantine-based style that focused more on border control and the domestic isolation of the sick.

Let me first examine the development of disease control in Britain. We see that right from the beginning, disease control in Britain was connected to welfare policy. In the late 1830s Edwin Chadwick, in his role as Secretary for the New Poor Law Commission, arranged to have medical professionals examine the relationship between unsanitary physical environments, outbreaks of disease and welfare rates. The doctors' reports (Arnott and Kay-Shuttleworth, 1838; Smith, 1838; Smith, 1839) all came to the same conclusion: unsanitary environments and the noxious gases that emanate from them, help cause outbreaks of disease. Disease, in turn, helped increased the rate of poverty in the country.

A few years later Chadwick released his own study, *Report on the Sanitary Condition of the Labouring Population of Great Britain* (1842) that came to the same conclusion: filthy streets, the lack and inferior condition of cesspools and bad ventilation were the underlying cause of disease. Chadwick (1842) then advocated public sanitation not just to improve the country's public health, but also its financial health as outbreaks caused impoverishment and thus increased the number of welfare recipients.

After an outbreak of Cholera in 1848, the British government formed a General Board of Health, passed the 'Public Health' and the 'Nuisances Removal and Diseases Prevention' acts, and created a system of local public health boards. Streets were washed, rules requiring the proper ventilation of workhouses were instituted, and private homes were cleansed. Chadwick became the head of the General Board and continued to connect disease control to public welfare.

Around the same time the United Kingdom also moved away from a policy of maritime quarantine. In 1849 the General Board of Health argued that the practice was useless as 'modern' theory showed that disease was caused by the sanitary state of the domestic environment (General Board of Health, 1849). In the 1860s John Simon, now the country's chief public health official, made similar arguments; Simon (1866) claimed that border controls were futile and that it was better to focus on improving the sanitary condition of the country. From 1850 to 1866, only 26 ships were quarantined in British ports and then the practice was eliminated altogether by the 'Sanitary Act' of 1866 (McDonald, 1951).

In the second half of the nineteenth century Britain's disease control system expanded to consider not only the physical condition of urban areas, but also the social conditions in which the working classes lived. At this time poverty came to be seen as an independent cause of disease (see Simon, 1858; Murchison, 1862). Industrial working conditions began to be regulated to reduce the spread of disease. The 1866 Sanitary Act mandated that workhouses had to be well

ventilated and not overly crowded. Medical and nuisance officers had to ensure that towns had clean water, that markets provided 'wholesome' food and that homes were made out of proper building materials (see Smith's *Manual for Medical Officers of Health*, 1873). In essence, sanitary reforms became the way to not just improve the physical environment of the working classes, but their social conditions as well.

In the twentieth century Britain continued to rely on this general framework of disease control. The Local Government Board (LGB), now the main public health body of the United Kingdom, enacted a series of social programs to reduce the spread of disease: it created a system of state-funded tuberculosis sanatoriums, a network of sexually transmitted disease clinics and 'Schools for Mothers' and 'Baby Clinics' to reduce infant mortality (Eyler, 1997).

During the 1918 influenza pandemic both the LGB and the newly created Ministry of Health rejected the imposition of a maritime quarantine (Johnson, 2006). Instead the state responded to the pandemic with a widespread public health education campaign. In the London neighborhood of Islington, 10 000 handbills on influenza prevention were distributed to shops, schools and libraries and 150 posters were displayed in public areas (Johnson, 2006). Even after the pandemic was over, the Ministry of Health continued to educate the public about how to avoid disease and stay healthy; it put up posters describing the 'Seven Rules of Health' and displayed movies about how to avoid the flu through personal cleanliness (Jones, 1994).

Britain utilized this general style of disease control to handle the next major disease threat to the country, the AIDS crisis of the 1980s. In terms of border controls, the government never used a positive HIV status as a reason to deny either entry into Britain or the ability to immigrate (Baldwin, 2005). Instead, as was the case in 1918, public education became the main focus of the response to AIDS. By 1986 there were television and radio announcements about the disease and in 1987 health officials created a national 'AIDS week' and an informational leaflet about AIDS was mailed to 23 million homes in Britain. Officials also adopted a holistic response to the crisis: counselors were provided to deal with the psychological effect of becoming HIV positive; officials considered how HIV might affect the blood supply; and economists performed an economic cost-benefit analysis of prevention versus treatment of AIDS (Berridge, 1996).

When the United States began to respond to disease in the second half of the nineteenth century its style of disease control was, unlike Britain, influenced by new ideas about contagion and the rise of the germ theory of disease. In the 1860s, the New York Academy of Medicine (see *Medical and Surgical Reporter,* 1866) and the city physician of Boston, Damon (1866) both affirmed the contagiousness of cholera and accepted John Snow's theory of water-borne transmission. A general belief that 'germs' caused disease was espoused in both

public health journals (see the 1874 publication of *The Sanitarian*) and the popular press (see Beecher and Stowe, 1869; Kellogg, 1875).

When yellow fever struck the country in 1878, the Yellow Fever Commission similarly asserted that the disease was contagious and endorsed quarantine as the best way to control its spread (Ellis, 1992). That year President Hayes signed the 'National Quarantine Act' that created a system of quarantine stations and instituted a set of rules that state governments and local cities had to follow. By 1883 quarantine was overseen by a military organization, the Marine Hospital Service, which became the present day United States Public Health Service (USPHS) in 1912 (Ellis, 1992). To this day there is still a military aspect to government's disease control system in the form of the US Public Health Service Commissioned Corps overseen by the Surgeon General.

The 1880s and 1890s represented a consolidation of America's germ-based quarantine approach to disease control. American public health officials began to adopt a 'bacteriological' approach to disease control. Officials traveled to German laboratories, at that time the center of the study of germs, and then formed their own laboratories around the country (Fee, 1994). Described as the 'bacteriological revolution' (a revolution that Worboys (2006) argues never occurred in Britain), US public health officials began to lose interest in sanitation and instead focused on controlling the infectious bodies of the sick (Humphreys, 1999; Duffy, 1990). In the early part of the twentieth century this style of disease control was given the name 'New Public Health' (to distinguish it from the earlier sanitary focused approach). Writings by public health leaders (see Chaplin, 1910; Hill, 1916; MacNutt, 1915) focused on eliminating germs and controlling the bodies of the sick who carried them. MacNutt (1915, p. 91) wrote 'Human conduct is the great factor in public health, and also the most difficult to control'.

By the end of the nineteenth century public health officials in America started to use quite coercive methods to restrict the movements of the infectious. In 1892 when a relatively mild outbreak of typhus in New York was connected to a ship from Eastern Europe, health officials ordered the capture and isolation of all the ship's Jewish passengers. Boardinghouses and synagogues were inspected by armed sanitary police and the sick were forcibly removed to hospitals (Markel, 1997). In 1900, when cases of the plague appeared in San Francisco and Honolulu, public health officials instituted a community wide quarantine of Chinatown districts in both cities. Armed guards barred any of the residents from leaving and in Hawaii the whole district was accidently burnt to the ground (Markel, 1997; Mohr, 2005).

One well-known historical example of quarantine is the case of Mary Mallon, otherwise known as 'Typhoid Mary'. In the early part of the twentieth century, Mallon was isolated on North Brother Island off of New York City for over 23 years of her life because she was suspected of being a typhoid carrier (Leavitt,

1996). So whereas Britain gave up the practice of quarantine in the nineteenth century, border controls and the domestic isolation of the sick became one of the main techniques for controlling the spread of disease in the United States.

When the influenza pandemic struck in 1918, the United States, unlike Britain, attempted to enforce a maritime quarantine. The USPHS directed personnel to inspect all incoming ships and to quarantine any vessel found with infected passengers (USPHS, 1919). And while Britain tried to educate the public about the disease, health officials in the United States mandated a series of compulsory actions. San Francisco ordered all citizens to wear facemasks in public, New York and Chicago arrested people caught spitting or sneezing without covering their nose and numerous other cities shut down all public places of gathering (Crosby, 1989).

The 'New Public Health' approach was then adopted by the Malaria Control in War Areas (MCWA) military organisation that was created during World War II. From the start the MCWA was dominated by scientists; parasitologists, biologists, entomologists and other fields related to malaria and mosquitoes filled the ranks of the new organization. Although MCWA was also concerned with educating the public, its main strategy was to eliminate mosquitoes and their larva through insecticides. The MCWA became the CDC in 1946 and its focus on disease surveillance, investigation and laboratory research became a model for disease control in the United States (Etheridge, 1992). The history of the creation of the CDC is another example of how, like the USPHS, a contemporary US disease control organisation has its roots in a military organisation.

In response to the AIDS crisis of the 1980s, the United States once again diverged widely from the policies implemented in Britain. Unlike Britain, the United States used a positive HIV status as grounds for denying entry to foreigners. By the 1990s the Immigration and Naturalization Service (INS) began one of the largest programs for testing HIV in the world; every year roughly half a million potential immigrants were tested as well as 2.5 million persons in the United States seeking to gain legal residence (Baldwin, 2005). These policies were only overturned by President Obama in 2010.

While the United States also used public education to respond to the AIDS crisis, its programs were neither as comprehensive nor effective as Britain. Public education campaigns started much later in the United States and were weakened by conservative politicians who objected to frank discussions of sex and did want to promote the use of condoms (Baldwin, 2005). In general, while Britain tried to educate its citizens about AIDS, the United States took a more directly coercive, legal approach. For example, the United States mandatorily tested all federal prisoners, military personnel and members of the Foreign Service (Rubenstein *et al*, 1996) and started to criminalize certain sexual

practices. In San Francisco and New York City, public health officials shut down bathhouses frequented by homosexual men and made public sex in such facilities illegal (Baldwin, 2005).

Conclusion – The Past Manifested in the Present

We thus see how the disease control policies of Britain and the United States traveled down distinct historical paths along the nineteenth and twentieth century. As each country formed disease control with a different medical understanding of disease (miasma versus germ theory) and located disease control in different sectors of the state apparatus (the welfare sector versus the military) they began to institutionalize very different styles of disease control. This helps, I argue, explain why Britain and the United States have such different responses to contemporary EIDs.

While Britain has begun screening passengers for Ebola, its general lack of border controls and quarantine reflects its longstanding repudiation of these practices. Likewise, just as it relied on such measures in 1918 and during the AIDS crisis of the 1980s, Britain now uses public health education campaigns to achieve voluntary compliance in the twenty-first century. Finally, Britain has taken a holistic approach to contemporary EIDs (an approach that considers the social and economic effects of an outbreak) because historically it has connected disease to the social and economic conditions in which people live.

We can likewise understand America's contemporary use of border controls and quarantine when we realize how it relied on such measures throughout the nineteenth and twentieth century. Likewise, we can understand why the United States has adopted more compulsory measures by observing its long-term use of the coercive power of the state to control the spread of disease. Formed in an environment of germ theory, operated by the military, the system of disease control in the United States has historically focused on controlling the infectious and 'dangerous' bodies of the sick. Lastly, the narrower medical-legal approach of the United States is a reflection of the bacteriological focus of style of 'New Public Health' developed in the early twentieth century and developed by such organizations like the CDC.

In a way, the contemporary responses of Britain and the United States are simply the latest manifestation of a style of disease control that each nation has been developing since at least the nineteenth century. Some public policy analysts now believe that nation states are converging on one international standard of disease control. This perspective claims that as we now live in a 'post-Westphalian' world of infectious disease, a unified global response is

required. Yet, a potential barrier to this convergence is the historically distinct systems of disease control that nation states have built up over time.

Like other forms of public policy (for example, education, welfare and so on), disease control tends to be 'historically durable'. That is, once a style of disease control is developed it tends to become institutionalised and carried into the future policy actions of the state. This means that as states have had different histories of dealing with disease in the past, they continue to practice distinct styles of disease control in the present. These public policy differences, produced by the distinct and historically durable systems of disease control that nations have built up over long periods of time, represent a challenge to the adoption of a truly coordinated and unified international response to infectious disease.

About the Author

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