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Scales of governance: The role of surveillance in facilitating new diplomacy during the 2009–2010 H1N1 pandemic

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ABSTRACT

The 2009–2010 H1N1 influenza pandemic has highlighted the importance of global health surveillance. Increasingly, global alerts are based on 'unexpected' 'events' detected by surveillance systems grounded in particular places. An emerging global governance literature investigates the supposedly disruptive impact of public health emergencies on mobilities in an interdependent world. Little consideration has been given to the varied scales of governance – local, national and global – that operate at different stages in the unfolding of an 'event', together with the interactions and tensions between them. By tracking the chronology of the H1N1 pandemic, this paper highlights an emergent dialogue between local and global scales. It also draws attention to moments of national autonomy across the global North and South which undermined the WHO drive for transnational cooperation.

1. Introduction

In a speech to the WHO Executive Board on 18 January 2010, Director-General Margaret Chan reviewed progress in public health during the first decade of the twenty-first century and outlined some of the challenges ahead. In relation to the ongoing H1N1 pandemic influenza outbreak, she drew attention to the importance of global health surveillance:

'This is the first pandemic to occur since the revolution in communications and information technologies. For the first time in history, the international community could watch a pandemic unfold, and chart its evolution, in real time' (WHO, 2010a).

In an age of rapid disease spread, facilitated in large part by widespread aeromobility, emphasis has been placed on international cooperation in 'detecting and responding to unusual outbreaks, wherever and whenever they might occur' (Ingram, 2009: 1; Budd et al., 2011). One aspect of this cooperation has been the international community's increased use of, and reliance on, event-based information systems such as the Global Public Health Intelligence Network (GPHIN) and HealthMap. Whilst traditional indicator-based surveillance routinely report *cases* of disease, usually on a weekly or monthly basis, event-based surveillance aims to rapidly detect, report and assess public health *events*, including clusters of disease and rumours of unexplained deaths. Significantly, event-based systems make judgements about disease risk by monitoring often unverified media sources. Within the extensive literature on the event, this paper is informed by Anderson and Adey's observation that events may emerge unexpectedly and threaten to disrupt the 'complex interdependencies' that are associated with mobility in the modern world (2012: 27; Cabinet Office, 2004; Dillon, 2007; Barker, in press). These events may take the form of infectious disease outbreaks, terrorist attacks, civil unrest and weather-related emergencies (Anderson and Adey, 2012). Crucially, they are located in specific places, detected by information systems, and communicated to other systems to form a *network*. As a consequence, these places assume a particular significance, as information about the event is broadcast to subscribers to these systems, including international institutions, such as the WHO.

Within the wider surveillance literature, the expansion and deployment of these global networks have been discussed in relation to cross-border mobilities (Adey, 2009; Amoore and Hall, 2009), medical diagnostics (Thacker, 2005; Bauer and Olsen, 2009), bioterrorism (Parry, 2009; Calain, 2007), and public health events (Baker and Fidler, 2006; Castillo-Salgado, 2010). Yet, little consideration has been given to the operation of individual surveillance systems. Equally, within the domain of global governance, there has been a dearth of analysis into the ways in which the WHO and its member states use the 'informal' information supplied by these systems to make judgements about the spread and severity of global disease outbreaks. In this article, we place the activity of these systems within the context of the

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2009–2010 H1N1 pandemic, considering how disease risk comes to be represented, and acted upon, across local, national and global scales of governance. Using Margaret Chan's call for 'new' international health diplomacy, we draw attention to the importance of places, often situated in countries of the global South, in providing the source material for specific global alerts, and we examine the subsequent responses by member states across the global North and South.

Our analysis was informed by policy documents, working papers and pandemic preparedness plans produced by the WHO and individual countries. Reference was made to current epidemiological literature. Empirical data was obtained via personal communications with public health officials based at GPHIN, the WHO and within the UK. This included information relating to volume of articles retrieved, classification of risk, issuing of alerts and further developments of the system. Finally empirical material on the H1N1 pandemic was obtained from Health Map, an open-access event-based system, dispatches from national regulatory bodies such as the Centres for Disease Control and Prevention (CDC) and news organisations, for example, *BBC News Online*. The data collection from this combination of sources facilitated analysis of the operation of global surveillance networks and the nature of global public health governance.

2. Biosecurity and technological openness

In recent years, 'biosecurity' – defined by Braun as 'political responses' to the 'unpredictability of molecular life' (2007: 19) – has become a prominent site of enquiry as scholars have sought to understand various forms of expertise and practices through which disease threats are articulated and managed (King, 2004; Collier and Lakoff, 2008; Bingham et al., 2008; Ingram, 2010). Biosecurity operations are enacted within what Bingham et al. describe as a 'complex geography' where 'states and locales are increasingly asked to conform to what is regarded (in the metropolitan core) as a safe world' (2008: 1529). According to this perspective, it is the 'centralised expertise', often located in the countries of the global North, that press for 'globalising biosecurity practices' (Bingham et al., 2008: 1529), seeking 'maximal cooperation from all countries' (Ingram, 2009: 2). In leading this drive for cooperation, transnational institutions, such as the WHO, the UN Food and Agricultural Organization (FAO) and the World Bank have been perceived as enacting measures that, arguably, focus unduly on 'problems' in the global South (Brown and Bell, 2008; King, 2002).

This cooperative endeavour, within a supposedly imperial frame, is an outcome of a global approach to more broadly defined 'health security' that emerged in the late 1990s and which extended beyond infectious diseases to consider also threats to human health posed by bioweapons and radiation leaks (Ingram, 2009: 1). At the turn of the twenty first century, the development of global surveillance networks began to change profoundly practices of health security at national and transnational scales. These networks electronically monitor online news sources and, in the case of 'syndromic surveillance', non-diagnostic information (Fearnley, 2008: 1615)[1]. Following the September 2001 terrorist attacks, the widespread collation of such 'informal' information became a significant component of 'bioterrorist 'early-warning' systems' (Parry, 2009: 1; Fearnley, 2008). During the 2003 Severe Acute Respiratory Syndrome (SARS) outbreak, this new form of technological surveillance also assumed a specific significance in detecting the onset of epidemics.

We contend that the SARS outbreak did not solely act as a catalyst for the development of more sophisticated global surveillance systems (Blench, 2008a). The event also demonstrated how global mobility, facilitated in particular by a far-reaching global airline network, enabled hundreds, if not thousands, of human pathogens to circulate the world's airways (Budd et al., 2009). It was this epidemic which highlighted, for the first time, a global 'epidemiological vulnerability', when the SARS coronavirus spread rapidly along major airline routes to infect localities in over 25 geographically spread countries, including Hong Kong, the UK and Canada (Budd et al., 2009: 427; Bowen and Laroe, 2006).

The speed of the infectious disease transmission, juxtaposed with its highly disruptive impact on urban populations, demonstrated the significance of far-reaching *globalised* surveillance networks in detecting early signs of emerging infectious disease. It also highlighted the need for more advanced preparedness across national and global scales (Collier and Lakoff, 2008; Fearnley, 2008). Rather than tackling specific dangers, preparedness is concerned with 'generic capacities that will enable responses to a broad spectrum of contingencies' (Ingram, 2010: 296; Fearnley, 2008). At a national scale, preparedness planning has been guided by the framework documentation published by the WHO and adopted by its member states (WHO, 2009a). For example, the UK's *Pandemic Flu: a national framework*, published in 2007, detailed various interventions including the stockpiling of drugs, and the imposition of restrictions on internal travel and public gatherings (Cabinet Office and Department of Health (DH), 2007). When one focuses on this national scale, it is apparent that, notwithstanding the drive for global cooperation led by the WHO, practices vary widely between countries, implying that internationally-imposed frameworks for health security may be 'more precarious and prone to breakdown than we usually give credit' (Bingham and Hinchliffe, 2008: 190). The SARS outbreak demonstrated, nevertheless, that, through the influence of global surveillance networks and the information that they supplied, consistencies could be identified in the timing of the interventions by individual states. Building on Ingram (2010), we argue that these networks have come to play an important mediating role in the spaces between preparedness and response.

Global surveillance networks: from 'informal' information to issuance of alerts.

Although event-based surveillance networks have been examined in relation to geopolitical debates concerning the expansion of sovereign power (Braun, 2007; Weir and Mykhalovskiy, 2010), little investigation exists into their role in shaping the interactions between different scales of governance as an infectious disease event emerges. We address this by analysing the *operation* of these networks, including the practices they deploy, and their role in converting informal information, derived from particular places, to globally significant alerts, arguably 'disrupt[ing] national boundaries' of outbreak notification (Mykhalovskiy and Weir, 2006: 42).

On the global scale, several authors have documented the role of networks such as GPHIN in the detection of rare but high-impact outbreaks (such as SARS and H5N1 ('Avian') influenza) (Weir and Mykhalovskiy, 2006, 2010; Zong and Zeng, 2006). According to Keller et al. (2009), almost all major disease epidemics investigated by the WHO over the last decade were first identified through these sources. The WHO claim these networks have proven to be particularly effective in detecting outbreaks among populations that 'do not access health care through formal channels' (2008a: 4). Consequently, biosecurity practices, notably alerts, have become ever more embedded in the

[1] According to Fearnley, 'nondiagnostic information' includes pharmaceutical sales, emergency room triage logs and 911 calls (2008: 1615).