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Introduction

There has been increasing public health emphasis upon the management of global disease threats. In particular, it has been suggested that, judging from the historical rate of incidence, a severe worldwide influenza pandemic is likely to be imminent (Lazzari & Stohr, 2004; Webby & Webster, 2003; Webster, 1997). Such an event carries the potential to cause widespread social and economic disruption. This risk therefore gives rise to a range of institutional and public expectations and reactions. A climate of heightened vigilance and surveillance, and both pre-emptive and reactionary health measures, result.

Intensified awareness surrounding the pandemic potential of influenza has resulted in a number of global pandemic scares. Prominent examples include SARS (2003) and H5N1 avian influenza (2004–2006). The largest recent global alert surrounded the 2009 A/H1N1 strain of influenza, which is commonly referred to as swine flu. Critically, unlike both SARS and avian influenza, on 11 June 2009, H1N1 was officially declared by the World Health Organization (WHO) to constitute an influenza pandemic – the first pandemic declaration in 40 years (Cohen & Enserink, 2009). From a critical social scientific perspective, this declaration was not merely a result of a set of scientific facts which objectively characterized H1N1 as a ‘pandemic’. Rather it was a consequence of socially negotiated definitions of both the H1N1 virus and the term ‘pandemic’, which was apparent in the discourse and actions of various public health stakeholders. The most notable of these actors was the WHO.

Within the contemporary framework of global public health, the WHO is principally responsible for the monitoring and reporting of infectious disease threats and for organizing and coordinating global

reactions. Most importantly, the WHO is also solely responsible for producing authoritative global definitions of the term 'pandemic', and declaring whether any given threat constitutes a pandemic event. In this way, the actions of the WHO, and the conceptions of disease which underlie these actions, are fundamental to the social framing of a disease as 'pandemic', and the global reactions that follow. The WHO's June 2009 declaration of the H1N1 pandemic produced reactions from governments and public health bodies worldwide. It prompted the implementation of national pandemic preparedness plans and global reactions, such as the production and distribution of vaccines and a heightened interest in border control.

The H1N1 virus spread globally and at a rapid rate following its initial detection (refer to Appendix 1 for a timeline of events). However, as the situation developed, it became increasingly clear that the 2009 strain would not result in high morbidity and mortality. By the WHO's official declaration of the end of the pandemic on 10 August 2010, only approximately 18,500 laboratory-confirmed deaths had resulted from H1N1 globally (WHO Situation Update, 11 August 2010). Though the measurement of mortality in the case of pandemics is difficult to quantify (Monto, 1987), it is clear that in relation to previous influenza pandemics, which produced death rates from approximately 33,800 in the USA and 30,000 in England and Wales for the least severe (Hong Kong Influenza, H3N2, 1968/1969) through to 50 million globally for the most severe (Spanish Influenza, 1918/1919), the H1N1 pandemic was comparatively mild (Cox & Subbarao, 2000; Nguyen-Van-Tam & Hampson, 2003; Taubenberger & Morens, 2006).

As a reaction to a perceived lack of impact, the pandemic declaration by the WHO, and the actions which followed it, were called into question by numerous state and public bodies. These actors questioned fundamental facets of the WHO's construction, including the organization's characterization of H1N1, its definition of the concept of 'pandemic' and its depiction of risk. First and foremost among the institutional critics was the Council of Europe, which projected the concerns of European member states with regard to the WHO's management of H1N1. The ensuing controversy highlighted the centrality of the WHO's construction of the threat in framing reactions, and the fragile nature of those constructions.

The evidence that the WHO's perspective was susceptible to criticism shows that its construction of H1N1 had not obtained scientific closure. In fact, the WHO's depiction of the H1N1 pandemic was fundamentally unstable, rendering the critique of its response possible. The

case study of the H1N1 pandemic therefore demonstrates the centrality of the social construction of scientific fact in framing the perception and management of infectious disease threats. It also demonstrates how the accounts of the actor responsible for defining the 'fact' of infectious disease (here the WHO) can become contested. This contestation was a consequence of the lack of closure and inherent ambiguity in the underlying construction of the phenomenon.

In attempting to understand the contestation of the WHO's management of H1N1, two important questions emerge: How was the disease constructed by the WHO in such a way as to precipitate global action, and how was this construction rendered liable to fundamental critique? This book seeks to understand how the H1N1 pandemic was constructed and managed by the key defining organization of the WHO. It furthermore aims to explain the mechanisms which rendered those constructions and management strategies vulnerable to critique by outside actors. In doing this, it investigates the way in which the WHO represented the H1N1 pandemic, including the organization's risk narrative surrounding the event. Second, the book explores the wider social and institutional structures which formed the WHO's account and subsequent management of the disease. Third, given that the WHO's perspective became widely contested, the book seeks to understand the lack of scientific closure surrounding the concept of the H1N1 pandemic. It investigates why the WHO's construction was fragile, and demonstrates how this led to the contestation of the WHO's account by the prominent critic of the Council of Europe.

Through an analysis of statements and documents from the time of the pandemic, the book investigates the way in which the WHO conceptualized and constructed both the specific infectious agent, influenza A/H1N1, and the notion of 'pandemic'. It focuses upon the following key questions:

- How did the WHO represent the nature of H1N1?
- How did the WHO characterize H1N1 as a 'pandemic'?
- How did the WHO represent the risk surrounding H1N1?
- How did the WHO characterize its reactions to H1N1?
- What institutional structures underpinned the WHO's representation and management of H1N1?
- What other social factors played a part in producing the WHO's representation and management of H1N1?
- Given the contestation of the WHO's account, in what ways had it been rendered susceptible to contestation?

- What was the basis of the Council of Europe's contestation of H1N1, and in what ways did the WHO's representation determine the substance and form of this critique?
- Thus, as this work progresses I will explore the characteristics of the WHO's representation of the H1N1 pandemic, and the way in which this representation became open to contestation.

Embedded within a context of scientific uncertainty, and following an institutionalized reaction to infectious disease and a reframing of roles within global public health, the WHO's construction of the H1N1 pandemic was rendered liable to significant external critique. As I examine each aspect of the WHO's management of H1N1 in turn, I show that that the WHO's framing of H1N1 as a pandemic threat was fragile and unstable as a result of the context of scientific uncertainty, institutional path dependence and shifting institutional roles within global health. Combined with the perceived mildness of the disease as events unfolded, and the democratized nature of scientific research, the WHO's account became susceptible to contestation by outside actors.

I take a look at the problem of H1N1 in a holistic manner, starting from the small-scale characterization of the problem (the definition of the virus itself) and enlarging my focus to look at the problem of H1N1 in relation to the structures of global public health. I first explore the WHO's construction of the H1N1 virus (Chapter 2), which is key to framing actors' reactions to the pandemic. I investigate the inherent fragility of that construction, and examine the ways in which this uncertainty underpinned subsequent events. I move on to studying the way in which the WHO framed the problem of pandemic risk, and show how the organization attempted to maintain this characterization of risk despite the evident mildness of the disease over time (Chapter 3). Next (Chapter 4) I explore the fact that this risk construction was only possible through the institutional definition and classification of pandemic threats, made through the WHO's Pandemic Alert Phases. As such, I investigate these phases, looking at their definitional ambiguity, and demonstrating that the WHO's classification of 'pandemic' was ill-constructed and, combined with the lack of disease severity (and with the fragility of the initial construction of H1N1), was liable to outside critique.

Moving away from the act of defining the pandemic, I broaden my gaze to examine the institutional processes and politics that underpinned the response to H1N1 (Chapter 5). I start by examining the WHO's reaction. Since the WHO had depicted H1N1 as a high risk,

it needed to take some action in its management. I demonstrate how this action was framed through path-dependent institutional processes, which led to a significant emphasis upon mass vaccination. The WHO's characterization and actions surrounding H1N1 were formed within conditions of scientific uncertainty and (path-dependent) entrenched institutional process. This resulted in the contestation of the organization's decision-making by many outside actors.

Looking at these criticisms sheds further light on the WHO's construction and management of H1N1. An important voice among these was that of the Council of Europe, whose critique of the WHO I explore next (in Chapter 6). Here, the fragility of the WHO's construction of H1N1 and 'pandemic' come to the forefront, and this is fundamental to the Council of Europe's critique of the institution. To end, (Chapter 7) I broaden my focus even further – to the effects and impacts of this event on the structures and institutions of global public health. I demonstrate that the instability of the WHO's constructions, and the ability of the Council of Europe to question them, were framed within the wider structure of global public health. Here I show that the changing nature of public health undermined the authority of the WHO and in part helped to produce the lack of clarity and closure in the its construction of the H1N1 pandemic.

It is clear that the instability of the WHO's construction of H1N1 was a function of the social context within which the organization was acting. This book demonstrates the manner in which the definition of a pandemic can become fundamentally open to contestation. It illustrates the impact of scientific uncertainty on the management of contemporary global risks, contributing to the understanding of scientific knowledge production under conditions of uncertainty. The case study of the WHO's management of H1N1 therefore helps to illuminate both the contemporary reaction to pandemics and the problems of risk-managing institutions in dealing with fundamentally uncertain and novel events.