The international politics of disease reporting: Towards post-Westphalianism?

Sara E. Davies
Griffith Asia Institute, Griffith University, Building N72, 170 Kessels Road, Nathan, QLD 4111, Australia.
E-mail: sara.davies@griffith.edu.au

Abstract Since the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003, there has been much discussion about whether the international community has moved into a new post-Westphalian era, where states increasingly recognize certain shared norms that guide what they *ought to do* in responding to infectious disease outbreaks. In this article I identify this new obligation as the ‘duty to report’, and examine competing accounts on the degree to which states appreciate this new obligation are considered by examining state behaviour during the H5N1 human infectious outbreaks in East Asia (since 2004). The article examines reporting behaviour for H5N1 human infectious cases in Cambodia, China, Indonesia, Thailand and Vietnam from 2004 to 2010. The findings lend strong support to the claim that East Asian states have come to accept and comply with the duty to report infectious disease outbreaks and that the assertions of sovereignty in response to global health governance frameworks have not systematically inhibited reporting compliance. *International Politics* (2012) 49, 591–613. doi:10.1057/ip.2012.19

Keywords: World Health Organization; East Asia; Avian influenza; international health regulations; state capacity

Inevitably, the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 has inspired much discussion about the changed understanding of what states *ought to do* when responding to infectious disease outbreaks and the question of whether changed expectations have actually changed behaviour. The chair of the negotiations on the revision of the 1969 International Health Regulations (IHR),1 Mary Whelan, expressed doubt that consensus on the revisions – which codified these changed expectations – would have been possible without the SARS outbreak in 2003 (Whelan, 2008, p. 5), implying that the consensus
remained a fragile one and the likelihood of compliance limited. Therefore, to understand whether there are new shared expectations about the prompt reporting of disease outbreaks and the extent to which these expectations have altered state behaviour, we need to examine behaviour in the immediate post-SARS setting. The aftermath of an event such as SARS is the perfect time to examine whether that sense of urgency generated by the crisis can be utilized to achieve long-term behavioural change (Whelan, 2008). David Heymann (2006, p. 352) has argued that this behavioural change is already evident: ‘the detection of, and international response to, the SARS outbreak clearly demonstrated that countries are willing to forgo the exclusive privilege of reporting and responding to infectious diseases occurring in their own territories in a manner over which they have supreme control’. He goes on to note that the East Asian response to Avian Influenza (AI), H5N1, which (re)appeared in December 2003 in poultry and went on to infect humans from 2004, was indicative of a normative change where the duty to report prevailed over the financial and political costs of not doing so.

This article examines Heymann’s claims in more detail. Did East Asian states, affected by H5N1 human infections in the immediate aftermath of SARS, satisfy expectations about their duty to report disease outbreaks promptly and transparently? The H5N1 outbreak is particularly interesting given that it emerged at a time when states were formalizing these new responsibilities in the revised IHR, which were then under negotiation (2004–2005) and that some states affected by H5N1 – China and Vietnam especially – were still recovering from SARS when this outbreak occurred. What is of particular interest is the alternative suggestion to Heymann (2006), which is that some degree of ‘rebalancing’ and reassertion of sovereignty occurred in the context of H5N1 in response to the overt interference of the WHO in domestic responses during SARS (Calain, 2007; Stevenson and Cooper, 2009; Hoffman, 2010).

The article will proceed with a discussion of the post-SARS environment, and then examine how the International Relations (IR) literature has understood the events that followed during the H5N1 outbreak. I outline a common understanding that has emerged of the H5N1 outbreak, which suggests that East Asian states ‘reverted to type’ and reasserted their sovereignty by refusing to cooperate with disease reporting requirements. However, this interpretation is not based on an empirical assessment of how states actually behaved. To remedy this, I test the extent to which states engaged in ‘frank and prompt reporting’ (Heymann, 2006, p. 352) during the H5N1 outbreak. Doing so reveals that states did overwhelmingly meet this duty, even during the years when they were not legally bound to do so (which was not until the IHR revisions came into force in mid-2007). I conclude that although sovereignty is undoubtedly an important influence on state behaviour, it need not be seen as antipathetic to states fulfilling their duty to report.
The international politics of disease reporting

SARS and the Duty to Report

The SARS outbreak, which emanated from South China in early 2003, has been identified as the trigger for inspiring states to accept these new duties to report disease outbreaks (Heymann and Rodier, 2004). However, even during the SARS outbreak, there was evidence of shared expectations about prompt reporting that led to international demands that the Chinese government engage in open and transparent reporting behaviour with neighbouring states and the wider international community, which was not at that point prescribed by international law (Cortell and Peterson, 2006). According to David Fidler (2004, p. 116), expectations that China should report a disease outbreak not covered by existing international conventions revealed that the WHO and the wider international community had ‘begun to move beyond the state centrism of Westphalian public health’.

However, even before SARS, states were progressively expecting new reporting behaviour. For instance, it has been argued that the WHO’s response to SARS and states expectations during SARS were possible because of the World Health Assembly (WHA) resolution 54.14, agreed to in 2001 (Fidler, 2004, pp. 117–118). WHA 54.14 (2001) was the first expression of an expectation that states had a duty to report outbreaks that could pose an international risk, and when they did not report an outbreak they expected the WHO to request for further information. This was dramatically new terrain for the WHO and for the states (Kamradt-Scott, 2010, p. 82), but the passing of this resolution arguably demonstrated states commitment to the concept even if the resolution itself was non-binding.

There is no doubt that SARS acted as the crucial ‘tipping point’ that galvanized states to accept the need for a new standard of reporting behaviour (Davies, 2011, p. 435). However, this could not have occurred without the WHO’s earlier efforts to promote new behaviours in the field of disease reporting and states acceptance of this need in 2001. During the SARS outbreak, a critical mass of support for the duty to report was again reached during the 2003 WHA. WHA Resolution 56.28 (2003) was unanimously passed, calling for completion of the revised IHR (1969) framework and draft regulations to be in place and ready for adoption by May 2005 WHA meeting (Whelan, 2008, p. 6). In the same resolution, it was noted that the as yet unrevised IHRs were ‘inadequate’ and failed to include specific actions required of member states and the WHO (WHA 56.28, 2003). Member states thus agreed that even before the adoption of the IHR revisions, they would ‘establish immediately a national standing task force or equivalent group and, within it, to designate an official or officials having operational responsibilities and accessible at all times by telephone or electronic communication, to ensure the speed, particularly during emergencies of both reporting to the WHO and consultation.’
with national authorities when urgent decisions must be made’ (WHA 56.28, 2003: Paragraph 3[2]).

After SARS, the shared expectation that states would report openly and promptly was again reaffirmed. At the WHO Global Conference on SARS in June 2003, all states agreed that: ‘Information should be communicated in a transparent, accurate and timely manner. SARS demonstrated the need for better risk communication as a component of outbreak control’ (O’Malley et al, 2009, p. 614). SARS was particularly exceptional because it exposed that a legal prescription for the duty to report was not the driving force required to change behaviour. SARS simply provided the ‘critical mass moment’ to turn that growing social expectation – states should report to each other openly and transparently – into prescribed practice (Davies 2011, p. 433).

But how should we understand the emergence of this duty to report and what impact it has had on state behaviour? Why would states agree to a behavioural expectation that may be politically or economically costly? One view is that the risk of not reporting has become more risky for the sovereign than to openly report. Price-Smith (2009, pp. 143, 149) notes that China – the country most recalcitrant in reporting the extent of their SARS cases – was also the country that paid the highest economic and political cost. In other words, self-interested behaviour can remain the dominant norm for the sovereign state – but what defines self-interest is not static – it too changes through interaction with the wider social environment (Finnemore and Sikkink, 1998, p. 912). As such, constructivists have argued contra the neo-utilitarian view of liberal and realist perspectives that the evident readiness of states to agree to shared rules that constrain their behaviour demonstrates the degree to which global governance frameworks shape state identity, function and roles. In other words, ‘a core constructivist research concern is what happens before the neo-utilitarian model kicks in’ (Ruggie, 1998, p. 867, emphasis added). In the area of health, the IR focus has been how to explain why the increase in global frameworks to address health concerns that were traditionally under the (confident) management of the state (Zacher and Keefe, 2008, p. 20). One explanation is that the ‘transition of public health governance on infectious diseases [for example] from the traditional Westphalian framework to something new … highlights changes that may be occurring to the general structure and dynamics of international relations in the era of globalization’ (Fidler, 2004, p. 8). This age of post-Westphalian global health governance has seen states socialized into cooperating in global governance frameworks and come to view such cooperation as serving their interests whether by resolving problems that cannot be resolving unilaterally or by reducing transaction costs through cooperation (Fidler, 2004).

Under the leadership of the WHO Headquarters in the mid–late 1990s, initiatives such as the Framework Convention on Tobacco Control and Global
Fund for AIDS, TB and Malaria achieved political and donor support that was relatively unprecedented (Lee et al., 2002; Ricci, 2009). From this perspective, the IHR revisions were just one of the several recent examples of states agreeing to sacrifice portions of their sovereign privileges by committing themselves to comply with international standard setting. SARS simply ‘changed the calculus of the material interests of member states to reflect the threat that disease posed to their material interests, resulting in rapid innovation and change of the existing regime’ (Price-Smith, 2009, p. 154). In the case of the IHR revisions, three of its revised demands that are especially significant for enshrining the duty to report over the core interest of state sovereignty (Mack, 2006, p. 366) are: (i) the duty of the state to notify the WHO within 24 hours of any emergency that may constitute a Public Health Emergency of International Concern (PHEIC); (ii) the duty to contain the outbreak at its source; and (iii) the obligation of national authorities to respond to the WHO’s request for further information (WHA 58.3, 2005: Articles 1, 4, 5, 6, 9, 12; Mack, 2006).

Having briefly documented the emergence of the ‘duty to report’, the article now turns to examine the extent to which it has influenced the reporting behaviour of East Asian states affected by the H5N1 outbreak.

H5N1 – Outbreak and Response

The H5N1 AI outbreak was first identified in poultry in East Asia in December 2003. The first cases of human infection with H5N1 were in 2004, with nearly all cases of human infection resulting from direct contact with poultry. The concern with H5N1 in the early days, which somewhat remains, is that H5N1 AI virus ‘remains one of the influenza viruses with pandemic potential, because it continues to circulate widely in some poultry populations, most humans likely have no immunity to it, and it can cause severe disease and death in humans’ (WHO, 2011a).

From 2003 to 2011, the highest cumulative total of human infections (and deaths) were (in order) in Indonesia, Egypt and Vietnam (WHO, 2011b, see Table 1). The disease appeared to peak in 2006, when the highest number of human cases of infections appeared (most occurring in Indonesia). By 2010, Indonesia, Egypt, Vietnam and China were the only countries to continue to experience human cases of infection (WHO, 2011b).

H5N1 was first identified in poultry in South Korea in December 2003. In the same month, Thailand raised the alarm when the H5N1 virus strain was discovered in sick tigers and leopards in the Bangkok Zoo, which was traced to infected poultry being fed to the animals as the cause of their infection. Retrospective analysis in 2006 revealed that the first possible H5N1 poultry
and human cases emerged from China in November 2003 (WHO, 2011c). This case was most likely confused for a SARS case (Schnur, 2006).

In January 2004, Vietnam reported its first poultry outbreak of H5N1, followed in the same month by Japan, Hong Kong, Cambodia and Lao People’s Democratic Republic (PDR). Indonesia’s first report of poultry cases came in February 2004, at the same time as mainland China reported its first poultry cases (WHO, 2011c). In January, Vietnam reported its first H5N1 human case. By February, there were fears that the disease had already adapted to human transmission when a cluster of cases from one family was identified in Vietnam in February 2004 (WHO, 2011c). In the same month, Thailand reported its first two human infections (direct from poultry). By the end of 2004, Vietnam and Thailand confirmed six and five human infection cases, respectively. By 2005, Cambodia, China and Indonesia had confirmed cases of H5N1 human infections. By the end of 2005, Indonesia had the highest human case load of infections with 20 cases (WHO, 2011c). To get a sense of how serious the potential threat was, it is worth noting that the fatality rate for humans infected with H5N1 was 73 per cent in 2004, 63 per cent in 2005 and 43 per cent in 2006. Moreover, 90 per cent of the cases were in people under the age of 40 years (WHO, 2006).

At the outset of the H5N1 outbreak, there was no formal requirement for states to report and verify the disease because the revised IHR had not yet come into force (they did not do so until mid-2007). As the rate of infections
rose over 2005 and 2006, the 2006 WHA passed resolution 59.2, which urged all member states to implement on a voluntary basis the IHR 2005 in response to the threat posed by AI (WHA 59.2, 2006). As David Fidler and Lawrence Gostin (2008, p. 246) argue, resolution WHA 59.2 demonstrated not just the perceived threat posed by AI but widespread acceptance of the revisions that were not to come into force until June 2007.

The duty to report notwithstanding, there were several prima facie reasons to expect that states would not report H5N1 in a timely manner. First, states were not legally required to do so for the first three and a half years of the outbreak, as such governments might have been expected to comply only with their formal legal obligations (Lee and Fidler, 2007, p. 220). Second, the financial costs associated with confirming H5N1 outbreak, especially the destruction of poultry stocks and associated farming livelihoods, posed a major deterrent to reporting (Scoones and Forster, 2010). Third, these financial costs would also create additional political costs by devastating already vulnerable communities and placing intense pressure on governments to compensate and provide reassurances to save affected industries (Forster, 2010; Herington, 2010; Safman, 2010; Vu, 2010). Despite these barriers, the literature has characterised the reporting behaviour of affected states as falling into one of the three categories: those that positively complied (Vietnam, Lao PDR and Cambodia), those that did so more shakily (China, Thailand) and those that outwardly challenged the duty to report itself (Indonesia, Thailand). The general observation has been that the deterrents did not wholly inhibit reporting, but there were variations in how states understood their duty to report. Vietnam, Lao PDR and Cambodia were generally viewed as being positive, and presented as evidence of states embracing the need to engage in the global health governance framework to ensure greater assistance in identifying and preventing the outbreaks (de Sa et al, 2010). When inevitable delays in reporting was noted in these countries, it was reported as being due to capacity failures rather than direct political intent to deceive the international community or domestic audiences about the extent of the outbreak (Boltz et al, 2006; Ear, 2010; Herington, 2010; Coker et al, 2011).

At the same time, other states were criticized for their failure to adhere to the new duty to report, in particular prompt reporting and verification to the WHO of suspected outbreaks. In the second group, China’s retrospective release of information in 2006–2007 for outbreaks in 2003–2004 was met with some suspicion, with analysts asking whether these delays were the product of technical incapacity, bureaucratic difficulties or attempts at obfuscation (Chanlett-Avery et al, 2006, p. 10). Thailand and Indonesia were regularly criticized for substantial lags in their initial reports of poultry and human cases, with it being revealed in both instances that the governments knew of the possible cause but delayed the release of laboratory findings (Butler, 2005; Butler, 2006; Sipress, 2009). Thailand especially came under attack in the early stages of the outbreak.
The presence of large poultry industries in Thailand was especially identified as the possible cause of initial secrecy (Forster, 2010; Safman, 2010).

However, the third behavioural category challenged the duty to report itself. Although the issue of virus sharing did not come under the auspices of the IHR (1969 or 2005 versions), several analysts saw Indonesia’s move as a broader bid to challenge its putative obligations under the revised IHR (Stevenson and Cooper, 2009; Smith, 2012). Major concerns arose when Indonesia refused to share samples of the H5N1 virus from January 2007. Before this, it had been a long standing practice, as the creation of the Global Influenza Surveillance Network (GISN) under the WHO’s management in 1951, for states to share their influenza virus strains with all WHO collaborating laboratories (located in selected national laboratories) to allow them to assist with the production of vaccines and monitoring of virus strain mutation. Indonesia’s refusal to share strains via the GISN raised concerns about the potential for states to assert ‘viral sovereignty’ as a way of reasserting themselves in the face of global health governance (Holbrooke and Garrett, 2008; Stevenson and Cooper, 2009, pp. 1386–1387).

The Indonesian Ministry of Health argued that it withheld the virus samples because virus sharing was unjust when the supplying country could not be guaranteed equitable access to vaccine and antiviral treatment from the developed countries that primarily manufactured these products on the basis of the viruses freely given (Sedyaningsih et al., 2008). Eighteen months later, in June 2008 (and a year after the IHR [2005] had come into force) then Indonesian Health Minister Dr Siti Fadilah Supari further questioned whether the government should even regularly report H5N1 human infections to the WHO (Branswell, 2008). Dr Supari’s suggestion was seen as a significant challenge to the duty to report. However, in their written justification over the virus-sharing dispute, the Indonesian Ministry of Health did not refer to Dr Supari’s comments regarding the IHR. The Ministry argued that their primary concern in terms of IHR reporting was the government’s decision to conduct case confirmation within country rather than sending samples to a WHO collaborating laboratory for confirmation of diagnosis (Sedyaningsih et al., 2008). Although the Ministry did apparently delay announcing some H5N1 human infections, particularly during 2009 where there are no details on such outbreaks on the WHO’s Disease Outbreak News (DON) Website, the WHO Headquarters has continued to argue that it was promptly informed by the government of every outbreak during this period (Branswell, 2008, Interview, 2011d). Indeed, the Indonesian government immediately supplied confirmation of two H5N1 human cases days after Dr Supari’s comments ( Reuters, 2008). Nonetheless, Dr Supari’s actions concerning virus samples and musings on the IHR gained support from other member states in the ‘developed South’ and particularly Asia sparking discussions about ‘developing countries [being] increasingly suspicious’ of the global health security initiative that inspired the IHR revisions (Aldis, 2008). Moreover, although the Indonesian response
during H5N1 was only one of three variants evident during the crisis, it is the one that has received most attention.

The culmination of these events during the H5N1 outbreak, particularly instances of delayed reporting by China and Thailand, and the virus sharing challenge by Indonesia, prompted some analysts to question the post-Westphalian optimism expressed in the introduction and immediately after SARS. Indeed, this view has come to include some notable earlier advocates of the post-Westphalian era (Fidler, 2010b). It has been suggested that the arrival of a ‘post-Westphalian era’ has been ‘overstated’ (Price-Smith, 2009, p. 154), and shared expectations around the duty to report may not be sufficient to induce states to change their behaviour and that powerful countervailing sovereign interests will likely override the perceived duty to report (Hoffman, 2010, pp. 514, 519).

Two principal sets of explanations were offered to explain this apparent backlash. The first concern was that the securitized rhetoric attached to emerging infectious diseases since the 1990s had been accepted so readily that states were coming to view it as legitimate to (re)assert their sovereign right over their reporting behaviour, response and control of specimens. When disease outbreaks were associated with great economic costs – as was the case for Indonesia and other affected states – states were encouraged by securitization to respond through a security lens and privilege unilateral action over multilateral cooperation (Calain, 2007; Elbe, 2010; Forster, 2010; on costs see Coker et al., 2011). As Stefan Elbe explained:

As fear about the threat of a possible human H5N1 pandemic spread across the world, many governments scrambled to stockpile anti-viral medications and vaccines, albeit in a context where there was insufficient global supply to meet such a rapid surge in demand. Realizing that they were the likely ‘losers’ in this international race, some developing countries began to openly question the benefits of maintaining existing forms of international health cooperation. (Elbe, 2010, p. 476)

The second explanation was that ‘WHO illustrated during the SARS crisis what leadership in global health looks like in a post-Westphalian world’, that H5N1 reaffirmed that this had the potential to not just be an anomaly, and that this had prompted some states to respond by protecting their sovereignty from what they now viewed as a sustained attack (Stevenson and Cooper, 2009, p. 1390). According to this line of thinking, the assertion of ‘viral sovereignty’ during H5N1, predominantly led by Indonesia but with the tacit support of the region (Fidler, 2010a, p. 288), could be understood as a statement (predictable perhaps as noted by Smith, 2012) that states could question their duty to report to the WHO in the manner proscribed and expected. It has also been argued that the significance of WHA resolutions has been overstated. For example, WHA
Resolution 59.2 (2006) only called for states to ‘voluntarily’ comply with the revised IHR in their response to H5N1; regardless of the phrase adopted, WHA resolutions are not legally binding resolutions (Irwin, 2010, p. 9). The Indonesian-led opposition may also be interpreted as an inevitable backlash against what many saw as the WHO overstepping its role in 2003 during the SARS crisis (Cortell and Peterson, 2006). From this perspective, the cooperation enjoyed during the SARS crisis was a product of exceptional circumstances and outside that context states would revert to type and seek to control outbreak news and manage their own response to outbreak events (Smith, 2010).

There are, however, at least three problems with these dominant understandings of how East Asian states responded to the H5N1 outbreak. First, adherents to this line of thinking need to explain why sovereignty concerns seemed to matter more for some states than for others. As I noted earlier, Indonesia and Thailand are assumed to be more protective of their sovereignty than both Cambodia and Vietnam. Given regional similarities in their dispensations towards sovereignty and the fact that the latter countries have been subjected to conflict and external aggression in the past few decades, the norm of sovereign non-interference alone cannot explain the variance in their behaviour (Vu, 2011). Second, too much weight is given to Dr Supari’s comments and there is little evidence to suggest that they were part of a more concerted push against the duty to report or other global health governance norms. Supari’s (speculative) comments were offered once in an interview given only 1 year before she stepped down as Health Minister. Beyond this, there is no other prima facie evidence that Indonesia proved more resistant to promptly reporting H5N1 outbreaks to the WHO authorities. Third, and crucial for establishing the second point, claims about the sovereignty backlash are made in the absence of empirical evidence about what states actually did in terms of their reporting behaviour of H5N1 human infections from 2004 to 2010. Establishing the reporting behaviour of H5N1 affected states over a sustained period of time, rather than providing selective snapshots, will go a long way to establishing whether states have in fact modified their behaviour in line with shared expectations about the prompt reporting of diseases.

**Tracing H5N1 Reporting Behaviour**

This section examines the extent to which East Asian states complied with the duty to report by examining every report of H5N1 infection in the region between 2004 and 2010, noting not just official (government) confirmations of outbreaks, but the outbreak reports provided to the WHO by governments. Because of the variation in languages and different styles of reporting outbreaks via official Ministry of Health Websites (that is, some states report weekly or monthly, some report all immediate suspect outbreaks, some only report...
laboratory confirmed outbreaks), I examined the public communication of outbreak events by all states that recorded H5N1 human infections in the East Asian region between 2004 and 2010 via one disease monitoring website, ProMED Mail (PMM). I then compared the reports for each case under PMM with the issuing of WHO alerts on the same outbreak that are usually released by the government for the WHO to then post on its DON site. PMM is one of the oldest (created 1994) independent (non-state managed) publicly available International Surveillance and Response Programs, with a high correlation between its initial reports and event verification (Madoff and Woodall, 2005; Hitchcock et al 2007). It has strong moderator presence and access to subscribers who provide important insight into outbreak events that may have otherwise been overlooked if not for these ‘insider informants’ using PMM to communicate outbreak events (Madoff and Woodall, 2005; Brownstein et al, 2008). Although the moderated service of PMM means that there is the potential for a report to be discarded because of the moderator believing it not to be relevant, or for a disease outbreak to be missed because the system does not use a text mining tool (that sifts news media source providers such as FACTIVA), PMM has been widely acknowledged as often pre-empting WHO receipt of reports, and accurately reporting outbreak events confirmed by the WHO (Madoff and Woodall, 2005, pp. 725–727; Conway et al, 2010).

Table 2 details how the reports were identified and the countries for which reports were collected. I compared reports of H5N1 human infections on PMM with WHO receipt of reports, over a 6-year time span to indicate how states actually behaved in relation to the putative reporting duties. Within the PMM reports I noted whether there was a high volume of ‘informal’ reports or ‘rumours’ being circulated about any particular outbreak that was not confirmed by the government. The number of rumours per year per country were so low that I did not include this data. In sum, PMM reports detected nearly all outbreak reports attracted government response. Although the WHO DON site does not report all outbreaks reported to Headquarters (Interview, 2011a), here we may observe whether there is a general trend of governments reporting outbreaks to the WHO and to what extent states sought to comply with this new duty to report.

When the reporting behaviour was collated (see Figures 1–3), it became clear that states were almost consistently maintaining the lead in reporting human outbreaks. Of particular interest, H5N1 reporting steadily increased after 2006, but just as crucially reporting rates to the WHO were highly correlated with official reports. This is of note considering that the IHR did not come into force until mid-2007, and as noted by others, prompt compliance with the IHR prompt reporting procedure was voluntary under WHA Resolution 59.2 (2006) at this time (Irwin, 2010).

The core findings from my data set are threefold. First, Figure 1 demonstrates that the East Asian region had a steady reporting pattern that correlated closely
with the number of cases in the region for that period, as shown in Figure 2. In 2005 and 2006, the peak years for H5N1 human infection cases, affected governments were issuing regular updates of outbreaks. Moreover, there was a good correlation between the number of reports that the government were issuing and the confirmations by the WHO (which can only be publicly provided after receipt of government information). In 2005, there were only 10 official reports concerning outbreak events that were not published on the WHO Website – this is for all the three governments that had human infections that year (Indonesia, Thailand and Vietnam). In 2006, there were only eight official reports released by the five governments that experienced outbreaks, which were not published on

### Table 2: H5N1 reporting framework

| Country       | Formal (PMM sourced) | WHO DON (WHO website) |
|---------------|----------------------|------------------------|
|               | • Reported H5N1 human infection between 2004–2010<sup>a</sup> | • Government confirmation via media or, • Direct reporting from government public release | • Reports issued upon receipt of government report to WHO |
| Cambodia      |                      |                        |                                                             |
| China         |                      |                        |                                                             |
| Indonesia     |                      |                        |                                                             |
| Thailand      |                      |                        |                                                             |
| Vietnam       |                      |                        |                                                             |

<sup>a</sup>Due to volume of reports on PMM (thousands in case of China for example), reports were traced every 2 weeks, which explains the reduced number of entries for countries such as Indonesia and Vietnam. In addition, countries that did not have a case threshold of 5 or above were excluded (that is, Lao PDR, Myanmar); Cambodia was included due to regularly reporting for nearly all of the years examined. Finally, Bangladesh has reported human infection cases, but I have excluded them from this analysis due to case threshold.
the WHO site. By 2008, the gap had narrowed to one official report that was either not sent on to the WHO, or the WHO opted not to publish on the DON site. Notably, in the light of the discussion in the previous section, this was in the same year that the Indonesian government – which accounts for the majority of cases in that year – discussed withholding reports. In sum, reports to the WHO were regular – both before the IHR coming into force and afterwards – and states always outpaced the WHO in their official reports of cases. There was only two instances (on 6 January 2005 and 16 June 2005) when the WHO reported on its DON site H5N1 outbreaks not yet confirmed by the state – Vietnam. Moreover, it appears that the mid-2007 date for when the IHR revisions came into force did not have any discernible effect on reporting, suggesting that the duty to report was in play before the IHR coming into formal effect.

A second important finding is that those states critiqued for possible non-compliance with their duty to report – China, Indonesia and Thailand – were found to be reporting regularly. Of course, there are attendant questions surrounding the validity of the data and what it is actually telling us. Most notably, are states pre-empting media releases or controlling them (Davies, 2012)? This is obviously very difficult to measure, but the possibility that reporting is largely controlled by the state should not be excluded. Nonetheless, it appears that the international attention attached to H5N1 cases led to a concerted effort by states to be seen as on the frontlines in response (Coker et al., 2011).

The third important finding was the variation of state reporting behaviour beyond the graphs shown here. There were several important inconsistencies. Whereas Cambodia, China and Thailand released official reports that closely correlated with the WHO’s confirmation of received reports from these countries.

Figure 2: H5N1 cases – WHO cases. WHO cumulative cases of H5N1, 29 December 2010 (only lab confirmed cases).
(variation was no more than one case difference), Indonesia and Vietnam showed variation at different times. Indonesia had a strong reporting relationship with the WHO during the early phase of the outbreak. From 2007, variation started to emerge. In 2007, 5 reports were not passed on to WHO (or not reported), in 2008 there were 3, in 2009 there were 4 and then in 2010 there were 4 government reports that were again not published on WHO site. Both the WHO Office in Indonesia (who reports cases to the WHO Headquarters) and the Indonesian Health Ministry have argued that these discrepancies between what the Indonesian government was reporting and WHO site was listing as confirmed outbreaks was a product of the WHO Headquarters being informed but choosing not to publish the information (Interview, 2011c). A less official line expressed in a separate interview was that the WHO Office staff in Indonesia, during the public dispute with Dr Supari from 2006–2009 and prior to her stepping down, were always promptly informed but requested from 2008 that the WHO Headquarters not immediately publish all outbreak events online (Interview, 2011d). What is remarkable about this less official explanation is that the Indonesian Health Ministry officials still sought to inform the WHO of outbreaks (possibly without the Health Minister’s permission), even during the height of the dispute, and the Ministry officials appeared to trust the WHO officials sufficiently to continue reporting information it did not want publicized.

In the case of Vietnam, viewed as a ‘positive’ reporting case, the earlier phase of reporting from the government to the WHO was more sporadic – more than even at the height of the ‘dispute’ between Indonesia and the WHO. In 2005, the government reported 21 cases but the WHO issued only 12 reports.

Figure 3: H5N1 cases 2004–2010, by country.
As noted earlier, two of these 12 reports were issued by the WHO without first confirming their existence from the government. From 2007 onwards, the correlation between the WHO and the government reports is almost identical, with only a difference of one case in some years. What is also very interesting about the Indonesia and Vietnam cases has been the strong emphasis in the literature that Indonesia’s behaviour is a ‘sovereignty’ or ‘securitization’ backlash; while Vietnam has been acquiescent. These findings reveal that even at the height of dispute between the WHO and Indonesian government reporting remained strong in comparison to the relationship between the WHO and Vietnam (viewed for the most part in positive terms). Despite significant differences between what Vietnam was obviously experiencing but not communicating to the WHO in the earlier years of the outbreak, there was little suspicion attached to this country’s motivations. Whereas, the honesty of the Indonesian government was questioned, it seems, solely on the statements of the Health Minister in 2008. The lack of concern about Vietnam is all the more interesting given that the country’s lack of freedom of the press means, in contrast with Indonesia’s freer media structures, that there is little in the way of an informal reporting structure to keep the government ‘accountable’ (for example, Vu, 2010; Interview, 2011b; Davies 2012).

Post-Westphalia and Localization

In the aftermath of SARS and the IHR (2005) revisions, the WHO Headquarters argued in the 2007 World Health Report that ‘in an electronically transparent world where outbreaks are particularly newsworthy events, their concealment is no longer a viable option for governments’ (WHO, 2007, p. 13). In relation to the H5N1 human-to-human infections, which began in late 2003, it was argued that early behaviour indicated that states were willing to confirm outbreak reports and even report outbreaks themselves to the WHO – indicating a high level of norm internalization (Heymann, 2006, p. 352). However, the virus sharing disagreement between Indonesia and the WHO Headquarters, the comments of Dr Supari and then the variations in reporting time frames (Enemark, 2007; Stevenson and Cooper, 2009; Elbe, 2010; Fidler, 2010b; Smith, 2010; Smith, 2012) prompted concern that statements such as the above by the WHO in their 2007 World Report were overly optimistic.

The question less explored in the literature is whether the normative expectation that states would report outbreaks promptly and transparently, as called for by the WHO, has actually been translated into behaviour. In this article, I have sought to show that for the case of H5N1 – notable for its immediacy post SARS and before the IHR revisions formally came into force – states in East Asia did appear to behave as if they believed themselves to be duty-bound to report promptly. Even those states that complained loudest about the WHO
(Headquarters) assertiveness tended to report diseases regularly and promptly. When there were discrepancies (for example, Indonesia and Vietnam), they are minimal when their reporting pattern is viewed over the volume of cases across the six years. This section will now briefly examine how this compliance might be explained in the context of the post-Westphalian versus Westphalian argument.

Constructivist IR theory has traditionally understood the process by which norms shapes behaviour as one of ‘norm diffusion’ involving ‘adaptive behaviour in which local practices are made consiste

| Stage          | Description                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Prelocalization| Local actors may at first resist an external norm – either due to doubts of utility, adaptability or that it might undermine existing beliefs and practices. Therefore, it is vital that some aspect of the existing norm is found to have not adequately met ‘new and unforeseen challenges’ |
| Local initiative| At this stage, some local actors will start to borrow and frame the external norm to suit the local audience. Local actors must be ‘willing and credible’ – they cannot be seen as representing the wishes of an outside force |
| Adaptation     | External norm will be ‘reconstructed’ to fit local beliefs and practices and likewise, local beliefs and practices will be adjusted to the behaviour required of the external norm |
| Amplification  | Finally, there are new instruments and practices developed from the ‘syncretic normative framework’ – where local practices and influences are still visible, but the presence of the external norm is now visible |

According to Acharya (2009, p. 19), norm localization ‘does not extinguish the cognitive prior or identity of the norm-takers but leads to its mutual inflection with external norms. In constructivist perspectives on socialization, norm diffusion is the result of adaptive behaviour in which local practices are made consistent with an external idea. Localization, by contrast, describes a process in which external ideas are adapted to meet local practices’. The trajectory for localization, according to Acharya, progresses in four stages (Table 3).

What my findings have revealed is that given the conformity to the reporting norm during the H5N1 outbreak in East Asia, the duty to promptly report
disease outbreaks is best understood as being at the ‘local initiative’ stage where local actors are ‘willing and credible’ participants in the disease reporting framework but the process of adaptation and amplification are still nascent.

Sovereignty has not been evoked to deny the duty to report nor has it led to states abrogating their perceived duty. Instead, East Asian states have demonstrated a strong interest in being seen as competent handlers of the outbreak, partly because of external funding attached to pandemic response and partly because of political interest in responding to an outbreak that was crippling poultry industries around the region (Coker et al., 2011). Meanwhile, China was later commended for being remarkably cooperative in reporting H5N1 cases to the WHO, many think precisely because of its embarrassment after SARS (Interview, 2010; Interview, 2011a). This is consistent with Acharya’s local initiative stage where states are cognizant of local expectations regarding handling of outbreak events as much as they are of the international community’s demands and norms (Harrington, 2010; Elbe, 2010).

However, as Figure 3 and my third point regarding state reporting behaviour above point out, there were inconsistencies. The question is whether these inconsistencies illustrate a failure to reconstruct the external norm, resulting in reassertions of sovereignty, or whether they were simply products of states interpreting the norm and adapting it to their context and circumstance (Davies, 2011). For instance, Dr Supari’s comments and actions regarding virus sharing did not alter the actual reporting relationship between the WHO Headquarters and Indonesian Health Ministry. Even though Figure 3 appears to show the Indonesian government not passing its reports on to the WHO, we know from reports that outbreak information was shared (Reuters, 2008). Interviews with key stakeholders from the Indonesian government, the WHO Office in Jakarta and the WHO Headquarters (Interview, 2008; Interview, 2011a; Interview, 2011c; Interview, 2011d) have confirmed that officials-level practice of reporting and verifying was not affected by the political debates about virus sharing and reporting. Political sensitivity amended how the reports were communicated, but the reporting relationship remained intact. The ‘international’ duty to report was amended to reflect local needs and priorities, but it was not breached. The same explanation has been expressed regarding earlier discrepancies between Vietnam’s official reports and the WHO’s reports of H5N1 (Interview, 2011b). Moreover, in the case of Vietnam and Indonesia, some delays in reporting appeared to be largely rooted in difficulty communicating outbreaks via decentralized health channels and poorly equipped laboratories outside of capitals (Forster, 2010; Vu, 2010). It is of note that IR appreciations of the H5N1 case have emphasized sovereign obfuscation over sovereign capacity to meet the duty to report for explaining state behaviour during H5N1 (Davies, 2011).

Do these findings suggest that the post-Westphalians were right all along? Not yet. While the graphs demonstrate that the desire to internalize the norm
to report promptly and openly is evident in the region, if we understand Archya’s argument concerning how norms are localized – particularly in the Asian context – there are crucial adaption and syncretic hurdles to be jumped. In other words, the way in which this duty is interpreted and implemented will depend on how it is affected by resource constraints, political systems, political instabilities, natural disasters and crises, and other cherished principles. All of this creates the potential for backtracking when circumstances persuade states that non-compliance would serve them better than compliance. These circumstances were apparent during the course of the H5N1 outbreak but more often than not the duty to report was fulfilled, if imperfectly.

Conclusion

The H5N1 crisis showed that states acted as if they had a duty to promptly report disease outbreaks. Sovereignty was not employed as an excuse to avoid compliance by failing to report. As noted by one health official, ‘we are a competitive group in ASEAN, if we can’t be seen to be doing the right thing in front of our neighbours … that is worse than anything WHO can say’ (Interview, 2011e). Amitav Acharya (2009, p. 5) has noted in the case of Asia, ‘new international norms do not enter into a local normative vacuum’. Sometimes new norms can amplify local norms or be made to fit local norms with some form of normative compromise. This normative compromise is evident in the region in relation to the duty to report. Of course, in East Asia, sovereignty and non-interference remain sacrosanct, but the way in which these principles are understood is changing to permit some degree of sovereign responsibility (Bellamy and Davies, 2009). Moreover, sovereignty and non-interference have never meant that member states do not need to be aware of the impact of their domestic political actions on each other (Acharya, 2009).

The response to H5N1 may therefore have been as much about responding to regional demands for notification as it was to responding to the WHO’s demands. One example of this that is having great success in the region but receives little discussion within IR circles has been the Asia Pacific Strategy for Emerging Diseases (APSED) that is now in its second phase (2010–2015). The purpose of APSED, which includes member states to the WHO South East Asia Regional Office and the WHO Western Pacific Regional Office, with the engagement of the ASEAN Secretariat, is to promote regional understandings and interpretation of the IHR revisions, regional understandings of how responsible states engage in disease outbreak surveillance, response and communication (Li and Kasai, 2011).

In sum, claims that there has been a sovereignty backlash against the duty to report diseases and that this is forestalling progress on global health governance only reflect part of the picture. Of course, sovereignty and politics play
important roles but it is important to understand the extent to which behaviour is actually shaped and to do so on the basis of empirical evidence of what that behaviour actually is. Evidence from H5N1 suggests that concerns notwithstanding East Asian states do behave as if they believe themselves to have a duty to report. The source of this change is most probably a combination of global norms, institutional standard setting, self-interest and – importantly – regional peer pressure.

Acknowledgements

The author would like to acknowledge the helpful comments received from Alex Bellamy, Adam Kamradt-Scott, Simon Rushton and Jeremy Youde. Dr Davies would specially like to thank those who gave their generous time in interviews. While personal attribution cannot be made to those interviewed, they know who they are, although all possible errors are sole responsibility of the author. Finally, this research was supported under Australian Research Council’s Discovery Projects funding scheme (Project Number DP0878792).

About the Author

Sara E. Davies is a Senior Research Fellow, Human Protection Hub, Griffith Asia Institute and Centre of Governance and Public Policy. Sara is also Program Director of the Prevention of Genocide and Mass Atrocities projects funded by the Asia Pacific Centre for the Responsibility to Protect and AusAID. Her publications include Global Politics of Health. (Cambridge: Polity Press, 2010).

Notes

1 The IHR is the legal instrument that guides cooperation among states in their response to infectious disease outbreaks. Calls for its revision had successfully led to a unanimous resolution on the matter in the 1995 World Health Assembly. However, the revision process had experienced some lag in momentum before SARS in 2003 (Kamradt-Scott, 2010).
2 The first appearance of H5N1 in poultry livestock was in Hong Kong in 1997, which also led to the infection of six people (from direct poultry contact). I explain below the importance attached to how human transmissions occur.
3 A PHEIC is defined in Article 2, IHR (2005) as involving the ‘international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade’. Annex 2 provides the criteria states are to use for assessing whether an outbreak is a potential PHEIC (WHO [2008]: Annex 2).
4 There have been isolated cases of suspected human transmission, in Vietnam (2004) and Indonesia (2006). The case in North Sumatra, Indonesia in May 2006 was the largest suspected
human-to-human transfer cluster (eight cases, seven deaths) and has been linked to the first dispute between the WHO and the Indonesian government regarding release of the virus sequence data (Roos, 2008; Sipress, 2009, pp. 38, 126).

5 Dr Supari was reported as questioning whether the 24-hour requirement of the IHR (2005) was necessary and that she would prefer to provide reports every 6 months (Branswell, 2008).

6 www.promedmail.org/

7 www.who.int/csr/don/en/

8 PMM reporting accuracy has been measured at 91 per cent (Freifeld et al, 2008, p. 150).

9 *Citations are in not order of who was interviewed.*

References

Acharya, A. (2004) How ideas spread: Whose norms matter? Norm localization and institutional change in ASEAN regionalism. *International Organization* 58(2): 239–275.

Acharya, A. (2009) *Whose Ideas Matter? Agency and Power in Asian Regionalism.* Ithaca, NY: Cornell University Press.

Aldis, W. (2008) Health security as a public health concept: A critical analysis. *Health Policy and Planning* 23(6): 369–375.

Bellamy, A.J. and Davies, S.E. (2009) R2P in the Asia Pacific: Problems and progress. *Security Dialogue* 40(6): 547–574.

Boltz, D.A. et al (2006) H5N1 influenza viruses in Lao people's democratic republic. *Emerging Infectious Diseases* 12(10): 1593–1595.

Branswell, H. (2008) WHO says Indonesia has given assurances it will report bird flu cases. *The Canadian Press* 12 June, http://www.breitbart.com/article.php?id=cp_g2s6mgm636&show_article=1.

Brownstein, J.S., Freifeld, C.C., Reis, B.Y. and Mandl, K.D. (2008) Surveillance Sans Frontieres: Internet-based emerging infectious disease intelligence and the HealthMap project. *Public Library of Sciences (PLoS) Medicine* 5(7): 1019–1024.

Butler, D. (2005) Refusal to share leaves agency struggling to monitor bird flu. *Nature* 435(May): 131.

Butler, D. (2006) Pandemic ‘dry run’ is cause for concern. *Nature* 441(May): 554–555.

Calain, P. (2007) Exploring the international arena of global health surveillance. *Health Policy and Planning* 22(1): 2–12.

Chanlett-Avery, E. et al (2006) *International Efforts to Control the Spread of the Avian Influenza (H5N1) Virus: Affected Countries' Responses.* Washington DC: Congressional Research Service, Library of Congress.

Coker, R.J., Hunter, B.M., Rudge, J.W., Liverani, M. and Hanvoravongchai, P. (2011) Emerging infectious diseases in Southeast Asia: Regional challenges to control. *The Lancet* 377(Febuary): 599–609.

Conway, M., Kawazoe, A., Chanlekha, H. and Collier, N. (2010) Developing a disease outbreak event corpus. *Journal of Medical Internet Research* 12(3): e43.

Cortell, A.P. and Peterson, S. (2006) Dutiful agents, rogue actors, or both? Staffing, voting rules, and slack in the WHO and WTO. In: D.G. Hawkins, D.A. Lake, D.L. Nielson, and M.J. Tierney (eds.) *Delegation and Agency in International Organizations.* Cambridge, UK: Cambridge University Press, pp. 255–280.

Davies, S.E. (2011) The duty to report disease outbreaks: Of interest or value? Lessons from H5N1. *Contemporary Politics* 17(4): 429–446.

Davies, S.E. (2012) Nowhere to hide: Informal disease surveillance networks tracing state behaviour. *Global Change, Peace and Security* 24(1): 95–107.
de Sa, J. et al (2010) Responding to pandemic influenza in Cambodia and Lao PDR: Challenges in moving from strategy to operation. *Southeast Asian Journal of Tropical Medicine and Public Health* 41(5): 1104–1115.

Ear, S. (2010) Cambodia’s patient zero: Global and national responses to highly pathogenic avian influenza. In: I. Scoones (ed.) *Avian Influenza: Science, Policy and Politics*. London: Earthscan.

Elbe, S. (2010) Haggling over viruses: The downside risks of securitizing infectious disease. *Health Policy and Planning* 25(6): 476–485.

Enemark, C. (2007) *Disease and Security: Natural Plagues and Biological Weapons in East Asia*. London: Routledge.

Fidler, D.P. (2004) *SARS, Governance and the Globalization of Disease*. Hampshire, UK: Palgrave Macmillan.

Fidler, D.P. (2010a) *The Challenges of Global Health Governance*. New York: Council on Foreign Relations.

Fidler, D.P. (2010b) Negotiating equitable access to influenza vaccines: global health diplomacy and the controversies surrounding avian influenza H5N1 and pandemic influenza H1N1. *Public Library of Sciences Medicine, Policy Forum* 7(5): 1–4.

Fidler, D.P. and Gostin, L.O. (2008) *Biosecurity in the Global Age: Biological Weapons, Public Health and the Rule of Law*. Stanford, CA: Stanford University Press.

Finnemore, M. and Sikkink, K. (1998) International norm dynamics and political change, *International Organization* 52(4): 887–917.

Forster, P. (2010) On a wing and a prayer: Avian influenza in Indonesia. In: I. Scoones (ed.) *Avian Influenza: Science, Policy and Politics*. London: Earthscan.

Freifeld, C.C., Mandl, K.D., Reis, B.Y. and Brownstein, J.S. (2008) HealthMap: Global infectious disease monitoring through automated classification and visualization of internet media reports. *Journal of American Medical Informatics Association* 15(2): 150–175.

Herington, J. (2010) Securitization of infectious diseases in Vietnam: The cases of HIV and avian influenza. *Health Policy and Planning* 25(6): 467–475.

Heymann, D.L. (2006) SARS and emerging infectious diseases: A challenge to place global solidarity above national sovereignty. *Annals Academy of Medicine Singapore* 35(5): 350–353.

Heymann, D.L. and Rodier, G. (2004) SARS: A global response to an international threat. *Brown Journal of World Affairs* 10(2): 185–197.

Hitchcock, P., Chamberlain, A., Wagoner, M.V., Inglesby, T.V. and O’Toole, T. (2007) Challenges to global surveillance and response to infectious disease outbreaks of international importance. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 5(3): 206–227.

Hoffman, S.J. (2010) The evolution, etiology and eventualities of the global health security regime. *Health Policy and Planning* 25(6): 510–522.

Holbrooke, R. and Garrett, L. (2008). Sovereignty’ that risks global health. *The Jakarta Post* 21 August, http://www.thejakartapost.com/news/2008/08/21/039sovereignty039-risks-global-health.html, accessed 1 November 2011.

Interview. (2008) Geneva, 22 November.

Interview. (2010) Brisbane, 22 May.

Interview. (2011a) Brisbane, 21 July.

Interview. (2011b) Hanoi, 4 October.

Interview. (2011c) Jakarta, 14 November.

Interview. (2011d) Jakarta, 14 November.

Interview. (2011e) Manila, 16 November.

Irwin, R. (2010) Indonesia, H5N1, and global health diplomacy. *Global Health Governance* 3(2): 1–21.
Kamradt-Scott, A. (2010) The WHO secretariat, norm entrepreneurship and global disease outbreak. *Journal of International Organization Studies* 1(1): 72–89.

Katz, R. and Fischer, J. (2010) The revised international health regulations: A framework for global pandemic response. *Global Health Governance* 3(2): 1–18.

Lee, K., Buse, K. and Fustukian, S. (eds.) (2002) *Health Policy in a Globalising World*. Cambridge, UK: Cambridge University Press.

Lee, K. and Fidler, D. (2007) Avian and pandemic influenza: Progress and problems with global health governance. *Global Public Health* 2(3): 215–234.

Li, A. and Kasai, T. (2011) The Asia Pacific strategy for emerging diseases – A strategy for regional health security. *Western Pacific Surveillance and Response* 2(1): 1–4.

Mack, E. (2006) The World Health Organization’s new international health regulations: Incursion on state sovereignty and ill-fated response to global health issues. *Chicago Journal of International Law* 7(1): 365–377.

Madoff, L.C. and Woodall, J.P. (2005) The internet and the global monitoring of emerging diseases: Lessons from the first 10 years of ProMED-mail. *Archives of Medical Research* 36(6): 724–730.

O’Malley, P., Rainford, J. and Thompson, A. (2009) Transparency during public health emergencies: From rhetoric to reality. *Bulletin of the World Health Organization* 87(8): 614–618.

Price-Smith, A. (2009) *Contagion and Chaos: Disease, Ecology, and National Security in the Era of Globalization*. Cambridge, MA: The MIT Press.

Reuters. (2008) Two die as Indonesia resumes bird flu reporting. *Reuters* 19 June, http://www.reuters.com/article/2008/06/19/idUSL19830123, accessed 7 December 2011.

Ricci, J. (2009) Global health governance and the state: Premature claims of a post-international framework. *Global Health Governance* 3(1): 1–18.

Roos, R. (2008) Indonesia details reasons for withholding H5N1 viruses. Centre for Infectious Disease Research and Policy (CIDRAP). 15 July, http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/news/jul1508supari.html.

Ruggie, J.G. (1998) What makes the world hang together? Neo-utilitarianism and the social constructivist challenge. *International Organization* 52(4): 855–885.

Safman, R.A. (2010) Avian influenza control in Thailand: Balancing the interests of different poultry producers. In: I. Scoones (ed.) *Avian Influenza: Science, Policy and Politics*. London: Earthscan.

Schnur, A. (2006) The role of the World Health Organization in combating SARS, focusing on the efforts in China. In: A. Kleinman and J.L. Watson (eds.) *SARS in China*. Stanford, CA: Stanford University Press.

Scoones, I. and Forster, P. (2010) Unpacking the international response to avian influenza: Actors, networks and narratives. In: I. Scoones (ed.) *Avian Influenza: Science, Policy and Politics*. London: Earthscan.

Sedyaningsih, E.R., Isfandari, S., Soendoro, T. and Supari, S.F. (2008) Towards mutual trust, transparency and equity in virus sharing mechanism: The avian influenza case of Indonesia. *Annals Academy of Medicine Singapore* 37(6): 482–488.

Sipress, A. (2009) *The Fatal Strain: On the Trail of Avian Flu and the Coming Pandemic*. New York: Viking.

Smith, F.L. (2010) Look but don’t touch: Overemphasis on surveillance in analysis of outbreak response. *Global Health Governance* 3(2): 1–15.

Smith, F.L. (2012) Insights into surveillance from the influenza virus and benefit sharing controversy. *Global Change, Peace and Security* 24(1): 71–81.

Stevenson, M.A. and Cooper, A.F. (2009) Overcoming constraints of state sovereignty: Global health governance in Asia. *Third World Quarterly* 30(7): 1379–1394.

Vu, T. (2010) Power, politics and accountability: Vietnam’s response to avian influenza. In: I. Scoones (ed.) *Avian Influenza: Science, Policy and Politics*. London: Earthscan.
Vu, T. (2011) Epidemics as politics with case studies from Malaysia, Thailand and Vietnam. *Global Health Governance* 4(2): 1–22.

World Health Assembly (WHA). (1995) Revision and Updating of the International Health Regulations. Forty-Eighth World Health Assembly, WHA48.7, 12 May.

World Health Assembly (WHA). (2001) Global Health Security: Epidemic Alert and Response. Fifty-Fourth World Health Assembly, WHA54.14, 21 May.

World Health Assembly (WHA). (2003) Revision of the International Health Regulations. Fifty-Sixth World Health Assembly, WHA56.28, 28 May.

World Health Assembly (WHA). (2005) Revision of the International Health Regulations. Fifty-Eighth World Health Assembly, WHA58.3, 23 May.

World Health Assembly (WHA). (2006) Application of the International Health Regulations. Fifty-Ninth World Health Assembly, WHA59.2, 26 May.

Whelan, M. (2008) Negotiating the International Health Regulations. Geneva: The Graduate Institute. Global Health Programme Working Paper no.1.

WHO. (1983) *International Health Regulations (1969), as amended in 1973 and 1981*, 3rd edn., Geneva: World Health Organization.

WHO. (2006) Epidemiology of WHO-confirmed human cases of avian A (H5N1) infection. *Weekly Epidemiological Record (WER)* 81(26): 249–260.

WHO. (2007) *WHO World Health Report 2007*. Geneva, Switzerland: World Health Organization.

WHO. (2008) *International Health Regulations (2005)*, 2nd edn., Geneva: World Health Organization. http://whqlibdoc.who.int/publications/2008/9789241580410_eng.pdf, accessed 10 October 2011.

WHO. (2011a) Avian influenza, fact sheet April update, http://www.who.int/mediacentre/factsheets/avian_influenza/en/index.html, accessed 7 December 2011.

WHO. (2011b) Cumulative number of confirmed human cases for avian influenza A (H5N1) reported to WHO, 2003–2011, 29 November, http://www.who.int/influenza/human_animal_interface/EN_GIP_20111129CumulativeNumberH5N1cases.pdf, accessed 7 December 2011.

WHO. (2011c) H5N1 avian influenza: Timeline of major events. 7 November, http://www.who.int/influenza/human_animal_interface/avian_influenza/H5N1_avian_influenza_update.pdf, accessed 7 December 2011.

Zacher, M.W. and Keefe, T.J. (2008) *The Politics of Global Health Governance: United by Contagion*. New York: Palgrave Macmillan.