H1N1 – The Social Costs of Cultural Confusion

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In May 2011, the World Health Assembly received the report of its International Health Regulations Review Committee examining responses to the outbreak of the 2009 H1N1 pandemic influenza and identifying lessons to be learnt. This will emphasized the need for better risk communication in the future. But risk and communication are not objective facts; they are socially mediated cultural products. Responses to crises are not simply determined by the situation at hand, but also mental models developed over protracted periods. Accordingly, those forces responsible for promoting the precautionary approach and encouraging the securitization of health, that both helped encourage a catastrophist outlook in this instance, are unlikely to be held to scrutiny. These cultural confusions have come at an enormous cost to society.

INTRODUCTION

The final report of the World Health Organization (WHO) International Health Regulations (IHR) Review Committee charged with assessing the global and WHO response to the 2009 H1N1 influenza pandemic was presented to the the World Health Assembly – the decision-making body of the WHO composed of delegations from all its Member States – in May of this year.[1]

This was announced just over a year ago,[2] "after accusations by some that [the WHO] exaggerated the dangers of the virus under pressure from drug companies,"[3] and this process merged with the five-year review of the IHR, which officially defines the "obligations of countries to report public health events,"[4] as well as terms such as "pandemic."

Senior members of the WHO have been keen to quash all suggestions of commercial impropriety relating to the possible influence of pharmaceutical interests – both through individual advisory roles and national contractual obligations – such as those that committed countries as early as 2007 to purchasing vast stocks of vaccine once a pandemic was deemed to have reached Phase 6 of the WHO's new six-point alert system.[5]

In her opening remarks to the IHR Review Committee last September, Margaret Chan, the WHO Director-General (DG) asserted:

> I can assure you: never for one moment did I see a single shred of evidence that pharmaceutical interests, as opposed to public health concerns, influenced my decisions or advice provided to WHO by its scientific advisers. Never did I see a shred of evidence that financial profits for industry, as opposed to epidemiological and virological data, influenced WHO decisions.[6]

In a similar vein, Keiji Fukuda, the WHO Assistant Director-General for Health Security and Environment, who largely took control of the early stages of this affair in the absence of Margaret Chan who was on home leave at the time,[7] is also recorded as explicitly stating that "[t]he pharmaceutical industry did not influence any of our decisions."[8]

This particular line of criticism of the WHO's actions has become most associated with Paul Flynn, a British Labour Parliamentarian, who has also questioned how the H1N1 incidence rate came to be assessed.[9] Flynn sits as an Assembly Member on the Council of Europe, through which, as Rapporteur to the Social, Health and Family Affairs Committee, he has successfully promoted and led a review of these matters.[10]

His inquiry was highlighted in another critical report published last year in the prestigious British Medical Journal (BMJ) that was co-authored by a journalist from the Bureau of Investigative Journalism.[11] This piece was endorsed by the BMJ's editor, Fiona Godlee, who noted that, through this episode, the WHO's "*credibility has been badly damaged*."[12] She raised concerns about a lack of transparency at the WHO in identifying its advisors and their external interests. Godlee's editorial was met with a robust rebuttal by DG Margaret Chan.[13]

Both Flynn and Godlee were interviewed by the IHR Review Committee during its Second Meeting in early July of 2010.[14] At that time, the Review Committee also heard from a third dissenting voice – that of Tom Jefferson – an epidemiologist and member of the Cochrane Collaboration, the prestigious, voluntary international network of healthcare professionals who review medical evidence and methodologies.[15]

Jefferson's challenge, as later noted by the Chair of the IHR Review Committee, Harvey Fineberg,[16] was more related to questioning the efficacy of antivirals and vaccines *per se*,[17] than of questioning the interests and actions of the WHO and its advisors. Jefferson, Flynn and Godlee appear to have been the only truly adversarial voices heard by the IHR Review Committee in person, despite requests for more.[18]

No doubt there are debates worth exploring that pertain to the benefits of vaccination programs. It is also the case that regulatory capture – whereby those charged with promoting the public good, wittingly or unwittingly, advance some sectional goal instead – does occur and can have an influence, but probably not as much as is supposed by those who effectively see individuals and institutions as being consistently unable to "separate or distinguish subjective interests from objective judgments."[19]

The purpose of this article, however, is to explore a third line of reasoning in response to the DG's call to hear "questions or concerns" about "what can be done better" as her organization is "seeking lessons, about how the IHR has functioned, about how WHO and the international community responded to the pandemic, that can aid the management of future public health emergencies of international concern."[20]

COMMUNICATING RISK

It was evident early on that one dominant strand that was to emerge from the IHR Review Committee report would relate to communication in general, and, in particular, the perceived difficulty of conveying risk in a "rapidly evolving situation" marked by "considerable scientific uncertainty."[21]

Harvey Fineberg also noted that "[t]he communications issues permeate the entire process," and indeed that an analysis of these would form one of the "five major lines of organization and development" for the Review Committee.[22] And, like the DG, he pointed to "the challenge of decisions and actions under uncertainty," as well as the resultant "complexity" produced – presumably – by the actions, reactions and interactions of countless individual, institutional, national and international actors.[23]

In a similar vein, while speaking in Singapore in early 2011, Ailan Li, an IHR Medical Officer for Health Security and Emergencies based at the WHO Regional Office for the Western Pacific in Manila, also noted that the final report was likely to dwell on the difficulties of communicating risk.[24] It is indeed how risk and communication were understood by all parties that may have been one of the main drivers of the H1N1 episode in the first place. But there is little evidence that the IHR Review Committee solicited the views of any who understood the way that these elements are, and have been, shaped by contemporary culture.

The discussion about the need for better risk analysis and communication makes risk appear as an objective fact, particularly so in relation to such a scientific matter. Viruses kill and their Case Fatality Rate (CFR) can be estimated or projected by epidemiological and serological means. However – aside from any difficulties associated with this – that we perceive something to be a risk, and how we respond to it, are socially mediated.

This understanding may well be informed by scientific evidence, but broader cultural trends and outlooks can often dominate. Fineberg effectively noted as much when stating that "public health is embedded in attitudes of public [sic] toward authorities, toward government, toward experts," prior to lamenting a decline in "general public trust" towards "virtually every profession."[25]

So, whether we presume ourselves to be living in a particularly dangerous world or surrounded by risky strangers, and whether we trust these individuals or the authorities charged with ensuring our well-being to act as we expect them to in particular situations – as well as our own actions and assumptions – are a function of the times. This is impacted by a vast number of social, cultural and political variables, such as the cumulative impact upon our imagination of books, television programs and films that project dystopian – or positive – visions of the present and the future, as well as our interpretation and understanding – or not – of issues as apparently tangential as the consequences of climate change, or the role played by supposedly greedy bankers in the 2008 economic crash, and whether we believe – rightly or wrongly – that the authorities have ever exaggerated, or even underestimated, a crisis before.

An emergency, whether relating to health or otherwise, does not simply concern the events, actions and communications of that moment. Rather it draws together, in concentrated form, the legacies of past events, actions and communications as well. And while it may not have been the IHR Review Committee's task to analyze and – still less – to act upon all of these, there is precious little evidence that those interviewed by the IHR Review Committee considered such dynamics at all.

It has been noted elsewhere that "Western radicals and Western elites now view the world in near-permanent catastrophist terms."[26] It is clear that this essential understanding of the context was not included in the IHR Review Committee report. Yet, it would help to explain why, whatever the actions taken by the WHO – such as reiterating that "the number of deaths worldwide was small" or that "the overwhelming

majority of patients recovered fully without any medical care" – would never suffice as "most health officials decided to err on the side of caution."[27] Perhaps these officials did so in response to prior pronouncements about uncertainty combined with a sense of living in a particularly insecure age? And, of course, it did not help that the words of moderation from the WHO emanated from the same source that had previously advised the world's media that "it really is all of humanity that is under threat."[28]

Harvey Fineberg's description of communication as "achieving the desired understanding and beliefs and behaviour on the part of the audiences that are the targets of the communication"[29] could also be perceived as somewhat one-sided, although maybe, in such instances, press statements ought not to be confused with more considered opinions – a lesson that all may care to draw from.

In her recent talk in Singapore, Ailan Li stated that "risk communication about uncertainty is very challenging."[30] That is hardly surprising as risk and uncertainty are quite different concepts – the former pertaining to calculations where data is available and assessments are made on the basis of probability, while the latter refers to situations characterized by an absence of evidence, where the focus changes to considering possibility. Nevertheless, the two are often confused and this has led to a tendency towards "identifying everything as a risk."[31]

This trend, reflected in a shift over the recent period, from probabilistic assessment to possibilistic speculation, along with its sociological and political drivers, as well as its cultural manifestations and consequences, including a demand to imagine worst-case scenarios and apply the so-called precautionary principle in all situations, has been explored in the general sociological literature,[32] as well as that pertaining more specifically to health.[33]

There is little sign that the WHO was aware of this, and the IHR Review Committee did not draw it to their attention. Rather, a more rigid view of risk communication is now likely to emerge: one that both presumes an objective form of risk, leading to a demand for more rigorous risk assessment by experts, and that then seeks to transmit their conclusions more effectively to the public through the use of a "better quality information product."[34]

It is the equivalent of believing that if people do not understand what you are trying to say, then all you have to do is to repeat yourself more slowly, simplistically and loudly.

In her opening statement at the Third Meeting of the IHR Review Committee, DG Margaret Chan implicitly identified what she saw as the key forces to shape the episode when asserting that even before the H1N1 virus had emerged "[p]andemic became a hugely frightening word in the minds of the public and the media".[35]

For Fineberg too, in addition to the public – within whom, as noted earlier, he presumed that "the desired understanding and beliefs and behaviour," should be elicited through effective communication – it was the media who would also have to appreciate that "turnabout is fairplay" and that accordingly they should "expect ... to be the subject of accusation,"[36] just as some in such organizations were held to have been accusatory of the WHO.

Combining these two elements, DG Chan also suggested that the "WHO and many countries were unprepared for a new form of scrutiny: electronic scrutiny by the public" that allowed people to "draw their own instant information from a wide range of sources."[37] Her Assistant DG, Keiji Fukuda, has raised similar concerns, complaining of

the disruptive impact of the Internet on the handling of the pandemic through the production of "rumours, a great deal of speculation and criticism in multiple outlets,"[38] including blogs and social media. Such suggestions are quite remarkable considering that the WHO itself makes use of new media so central to its operations and communications.

Nevertheless, it was to be expected that criticism of some media for projecting "anti-science,"[39] and "[a]nti-vaccine,"[40] views into the public domain would form part of the final report of the IHR Review Committee – or at the very least references to how complex global public health management becomes when operating in such a milieu. This would be combined with concern for how to communicate accurate information more effectively to the public in the future, in light of the latter's presumed predilections for suspect sources.

But, according to research conducted over the first week of the crisis, "[n]ational and international public health authorities were by far the leading source of information on the new virus. They were identified as the main source of information in 75% of the articles analyzed. 94% of the articles were either neutral, relaying factual information (70%), or expressing support for the authorities handling of the situation (24%)."[41]

So – far from being unable to convey their messages through a cacophony of competing voices – the authorities concerned totally dominated the information space about the pandemic in its early stages to an extent that would make military propagandists – who think in such terms – proud. The problem is to presume that it was merely accurate information and the effective communication of it that was lacking and so essential in the first place.

In fact – as identified earlier – in an emergency, information only forms one element of the public's considerations. Concerns over the need to provide the latest, accurate details, through the most effective channels, miss the wider context entirely. There is, as the authorities have rightly noted, a surfeit of information available at such times. Accordingly, it is the interpretation of its meaning, according to previously determined frameworks, that have evolved across protracted periods that come to matter most. Indeed, it may have been almost impossible by the time of the outbreak for WHO officials to have much impact on how their communications would come to be received.

When push comes to shove in a crisis, individuals and institutions often act primarily on the basis of their interpretative frameworks of reality, not solely the information available to them at the time. So, for example, presented with information that there was no evidence for weapons of mass destruction in Iraq, it is clear that rather than taking this at face-value, the response of the US authorities was to assume that any such weapons were simply well hidden. Of course, it is too late then to hope to shape those mental models as to who people trust – or not – and what people have come to worry about through their contemporary cultural prism, and why. It is time for those charged with running the global public health system to take cognizance of these basic sociological lessons and not presume that they can project their advice about risk into some kind of cultural vacuum.

EXPECTING PANDEMIC

The confusion of messages and actions emanating from the unexpected outbreak of pandemic H1N1 influenza that gripped the world in 2009 is best understood as the culmination and latest expression of a deeper cultural malaise that has been shaping the world since the demise of the Cold War period, which last provided social leaders with a cohering ideology and concomitant strategic purpose and direction.[42]

That the handling of this episode will prove highly problematic for managing future health emergencies is likely to be denied by those who were the most directly involved. Rather, as noted above, they look to the public and the media, or vague allusions relating to uncertainty and complexity, as mechanisms to deflect responsibility for any role that they, their predecessors, or the broader culture itself had in shaping the context of the crisis. In the UK, for example, displaying a significant disconnect from the views and actions of ordinary people – let-alone those of prominent critics – the official line has been to declare that the "response was highly satisfactory."[43] This, as at least one commentator has noted, can only be achieved by largely being aloof from the debate.[44] For instance, the views of Paul Flynn – one of the dissenting voices known to the WHO – despite being cited as having contributed to the UK review,[45] appear to have made no impact on it at all.

There is no mention either of important voices within the UK medical profession, such as Michelle Drage, joint Chief Executive of the Londonwide Local Medical Committees, who argued that "[j]ust because the World Health Organization has put a label on [H1N1] and called it a pandemic we are treating it differently," or Sam Everington, a former Deputy Chair of the British Medical Association and advisor to the Parliamentary Under-Secretary for Health on primary care, who stated that "[a]ll this is being ratcheted up by the Chief Medical Officer and the Government. They are actively scaremongering everybody."[46] Neither are the views of any other high-profile public commentators, such as Simon Jenkins, the former editor of The Times,[47] Nigel Hawkes, its former Health Editor,[48] or Phil Whitaker, a former General Practitioner (GP) and journalist,[49] afforded any attention. This avoidance, or ignorance, of alternative opinions simply reflects the fact that there is nowadays, on a wide range of matters, a growing gap between élite preoccupations with, and representations of, particular problems, as compared to the public's lived experience of them. Bridging this divide is likely to become the single most pressing social policy issue of the next decade.

In the case of H1N1, one single indicator suffices to demonstrate the existence and consequence of such misapprehensions – the take-up of the vaccine when it became widely available in the third quarter of 2009. Contrary to the presumptions of Assistant DG Fukuda, the failure to get inoculated did not emerge from ignorance, superstition, speculation, or the propagation of rumors. It was quite clearly led by many health workers themselves, despite the exhortations of various officials.[50] And whilst these may have been influenced by a multitude of factors – including the various anti-vaccine campaigns of recent times, as well as the experience of the post-9/11 demand that they be inoculated against smallpox on a precautionary basis – their decisions were also informed by their experience of the relatively mild effects of the outbreak, in the full knowledge of the "reasonable worst case scenario" predictions of the WHO and others, such as the UK Chief Medical Officer.[51]

It would also have been shaped, consciously or not, through the sheer frustration of having been the front-line troops of what they by then understood as a phantom

emergency, being dictated to by distant officials, and working twenty-four hours-a-day, seven days-a-week.

Regardless, and as the GP and medical writer, Michael Fitzpatrick, argues in an important contribution on the matter, "[t]he apparent lack of confidence in the pandemic flu vaccine among professionals was inevitably transmitted to the wider public."[52] Accordingly, a poll conducted for ABC and the Washington Post in the United States found that almost 40 percent of parents had determined not to allow their children to be vaccinated.[53] The stated uptake rates may have been higher than for a normal seasonal influenza, but, given the circumstances and the level of alarm raised, uptake remained relatively poor, especially because actual uptake was considerably lower than stated intentions.

This informed dissent, or deliberate denial of the official line, may then have further encouraged the detractors of vaccination in general in society. These detractors have grown in confidence since the measles-mumps-rubella (MMR) vaccine debacle over a decade ago.[54] It may indeed have been rationalized as a continuation of such campaigns by some professionals, although again, the voice of WHO officials, such as Assistant DG Fukuda who warned without any evidence or suggestion to the contrary that "[o]ne of the things which cannot be compromised is the safety of vaccines,"[55] can only have helped to shape and encourage such concerns.

Rather than being a corruption of interests by powerful commercial forces, as proposed by Flynn and Godlee, and as reflected in Der Spiegel that went as far as to note that this "could explain why Professor Roy Anderson, one key scientific advisor to the British government, declared the swine flu a pandemic on May 1. What he neglected to say was that [GlaxoSmithKline] was paying him an annual salary of more than €130.000,"[56] what is proposed here is a far more subtle, yet deeper, cultural confusion that has emerged across all layers of society over a protracted period. This confusion manifests itself as a proclivity to identify problems as being extreme. It was expressed in varying ways, including through the words of German virologist, Markus Eickmann, when he extolled that, "[a] pandemic – for virologists like us, it's like a solar eclipse in one's own country for astronomers."[57]

Others have also alluded to H1N1 as an "opportunity" – either for "global solidarity," in the words of Margaret Chan in her April 29, 2009 statement,[58] or for personal and professional reasons, as suggested by Ailan Li, when enthusiastically relating to her audience in Singapore how she had never imagined that within her lifetime "we would ever have the opportunity to witness the declaration of a public health emergency of international concern."[59] In other words, it is not only economic gain that officials benefit from at such times, but rather the possibility of enhancing their moral authority by projecting their interpretation of events and necessary courses of action into the situation. And, in doing so, it is not a personal project that they pursue so much as reflecting a wider cultural proclivity to view events through the prism of the worst possible outcome.

When the Cochrane Collaboration epidemiologist, Tom Jefferson, suggested that "[s]ometimes you get the feeling that there is a whole industry almost waiting for a pandemic to occur,"[60] he could simply have replaced the words "whole industry," with "whole society." It certainly seems clear that in the years and incidents prior to the outbreak of H1N1 in 2009, "epidemiologists, the media, doctors and the pharmaceutical

lobby have systematically attuned the world to grim catastrophic scenarios and the dangers of new, menacing infectious diseases."[61]

PRIORITIZING PRECAUTION

Accordingly, if we hope to understand when the episode started, there is really no point in looking to Mexico in April 2009. In any case, aside from the longer term cultural context that helped to shape the views identified above, the public health specialist, Richard Fielding, has noted that the outbreak had "probably been on-going for months."[62]

Yet, despite knowing that the data emanating from Mexico, relating to the possible CFR was poor, and, worse, knowing that many – including the 5-year old, Edgar Hernandez, who at the time was held to have been the "patient zero" of this outbreak – had made a full recovery after suffering a mild illness for just a few days,[63] still the tendency and maybe even desire among many leading public health professionals, who were witnessing the equivalent of their first solar eclipse, was to assume the worst. This suggests a tendency to want to assert a claim to authority – and accordingly shape a professional identity – through the declaration of emergencies. This behavior is increasingly shared by many other groups in society today, and the actions of the public health authorities were entirely consistent with the current demand to apply the so-called precautionary principle to most policy matters, particularly those pertaining to environmental concerns, consumer safety or public health.[64]

The origins and limitations of this approach have been widely examined and criticized elsewhere,[65] and those arguments will not be explored or revised further here. Yet, it was effectively such an outlook that Assistant DG Fukuda reflected when he asserted that, "[w]e wanted to overestimate rather than underestimate the situation."[66] John Mackenzie, the Australian virologist appointed by the WHO at the time of the outbreak to chair the Emergency Committee and advise on courses of action, has acknowledged that, "[i]n that early phase, we still had too little information."[67] But then, one possible lesson that the IHR Review Committee should have reported back to the WHO is that, in the absence of information or evidence, it may be preferable not to speculate about what you do not know, or worse, to start acting as if what you did not know was true.

This is not to argue against planning but to propose that plans be conducted discretely rather than projected into the public domain and that officials distinguish between preparation and action – the latter being likely to transform a situation in an unwarranted or unexpected way. For instance, all parties knew that the CFR data emerging from Mexico was dubious. This is because, if people are unable to report themselves sick until it is too late – as often happens in isolated places with poor access to health services – then the CFR is likely to appear disproportionately high, as many cases are reported only after it is possible to help them. In a similar way, over-reporting of supposed H1N1 cases, as may be encouraged by a worldwide pandemic alert, can create the semblance of a low CFR as everyday instances of temperatures and sore throats become confused through the call to record all possible occurrences of H1N1.

Accordingly, as Dame Deirdre Hine noted in her inquiry for the British government, "modeling the pandemic was seen as a priority." Such computer-based techniques had first been employed in the UK "in order to influence policy" during the

2001 outbreak of foot-and-mouth disease amongst bovines, and had helped facilitate the policy of "contagious culling" then.[68] The response to that earlier episode – which led to the slaughter of more than ten times as many animals than during a similar scale outbreak in 1967 and an effective shutdown of large parts of the British countryside – was criticized by one of the Ministers responsible as an example where "the precautionary principle perhaps got out of hand."[69] But such worst-case scenario, precautionary approaches were now *de rigueur*, having only just been officially endorsed and advocated through the then recently released Bovine Spongiform Encephalopathy (BSE) Inquiry Report, written under the auspices of Lord Justice Phillips.[70]

In relation to H1N1, despite UK ministers and officials having been advised at an early stage "that modeling capability would be low due to the lack of available data," regardless a team "was asked to produce forecasts" on a frequent basis.[71] The pressure to predict, emanating from politicians and officials was evidently not repelled. Dame Hine concedes that, "ministers and officials set a great deal of store by modeling," as it "provides easily understandable figures" that "because of its mathematical and academic nature may seem scientifically very robust."[72] In other words – at least in the early stages of the emergency – computer models simply provided an aura of knowing what was happening and what might ensue.

And while actual decisions were shaped by a variety of factors, it is clear that such projections provided all parties with a semblance of understanding and things to say to establish their authority over the situation. As is often the case in such situations, those responsible and accountable to the public were "keen to be seen" to be taking action.[73] But whether the measures they took, or communications they issued, really had the effects they presume is a moot point. The maxim, often attributed to computer specialists, of "rubbish in, rubbish out," does not appear to have been given much consideration in this instance.

CONTAINING CONFUSION

Even as all of the counter-evidence to the nightmare scenarios then being projected into the public domain by the various global public health authorities came to hand, still there was a continued reluctance to scale-down the alerts.[74] This was particularly understandable among certain countries in the East and Southeast Asian regions that had been the most lambasted by Western officials and commentators for having allegedly failed to help contain the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 and were incessantly scrutinized over their handling of H5N1 (Avian) influenza thereafter. Even Margaret Chan had been criticized during the SARS outbreak in her previous role as Director of Health for Hong Kong, and so – presumably – it featured prominently in her memory too.

In response to H1N1, Hong Kong, China, Japan and others entered into a full-scale alert mode by implementing containment strategies for dealing with the outbreak. These efforts involved active case detection, extensive contact tracing and strict quarantine procedures consistent with the approach advocated by the WHO in the early phases of such an outbreak. However, as on April 27, 2009 the authorities had already announced pandemic Phase 4, all countries had effectively been advised to switch to a

mitigation strategy that prioritizes treatment provision, social distancing and capacity building, instead – an approach that was soon made official.

But as elsewhere, officials and politicians in Asia also presumably wanted to be perceived as taking active steps to combat the threat. Unlike the United States, which had effectively been implicated in the outbreak right from the start, there was a belief across Asia that it might still be possible to at least delay the impact – a step that might fit in between containment and mitigation. In effect, and aside from the fact that there is little evidence as to the effectiveness of containment strategies, "many countries either failed to understand, ignored, or even contradicted in their actions, the advice of the WHO."[75]

The former Director of the National Resilience Division at the Ministry of Information, Communication and the Arts (MICA) in Singapore, KU Menon, proposed – in the wake of SARS – that "there were also high expectations from the populace" for governments to implement "visible containment measures" including "quarantine, border controls and screening," as well as the deployment of thermal infrared scanners, "even when the evidence shows that it may well be a drain on resources for limited ends."[76]

Fineberg too, in his September 29, 2009 press briefing, notes that certain national officials had pointed to:

> [A] political need to demonstrate to your public that you are doing something about this threat and so it may be that the thermometers measuring temperature at a distance at an airport have no value from the point of view of the literal control of the epidemic but they may have a lot of value of reassurance to the public that is comforted to see, well, at least the authorities are doing something.[77]

These interpretations of what the public wanted were mere speculation. Menon effectively admits as much, stating that these views are simply "reasonable to assume."[78] It seems just as plausible that the public's perceived preferences emerged from the insecurities of those in authority themselves, and certainly, the notion that propagating what was effectively a "good lie" may serve to assuage concerns in such situations, is a dubious one which also points to a very low view of the public held by those charged to serve and represent them, as well as possible problems for the authorities in handling such matters again in the future.

Singapore – to its credit – was more flexible than many countries in the region, issuing regular advisories and having the courage to step-down the alert well ahead of others. This may be due to the advantages of controlling a small, highly centralised and integrated governmental system, although much confusion about the outbreak and the measures that supposedly thwarted it – such as the ritual of daily temperature checks – still persist there too. Elsewhere in Asia, the quarantining of all passengers on an aircraft if one was found to have an elevated temperature continued well beyond when it was reasonable to do so, assuming such measures work at all.[79]

In Europe, Johannes Löwer, then-President of the Paul Ehrlich Institute – the German Federal Agency for Vaccines and Biomedicines –noted, "[w]e expected a real

pandemic, and we thought it had to happen. There was no-one who suggested re-thinking our approach."[80]

In fact, as it transpired, the term "pandemic" itself generated considerable confusion in these early stages. Previously associated with measures of morbidity and mortality, only a few months previously, the WHO had redefined the term to refer merely to the geographical extent of an outbreak. However, reference to severity, rather than mere geographical spread of H1N1 persisted – even on the WHO's website – some considerable time after the onset of the emergency. The references on the WHO website were swiftly removed soon after inquiries started into the matter.[81]

But, the key question to be addressed is why everyone was expecting a pandemic in the first place? As Philip Alcabes notes in his recent book on epidemics, the 1918 "Spanish Flu" outbreak, whilst truly devastating, "registered hardly at all in the Western imagination," either at the time, or for decades after.[82] Possibly, he suggests, it was "just too catastrophic to dwell on," or maybe societies wanted to move on after World War I. Irrespective, it was not until the 1970s that epidemics became such a central element of our social imagination, driven by the work of some "who were interested in promoting their theory that devastating flu outbreaks occur every decade or so."[83] Even then, this cyclical theory made little headway; although, in the period after the SARS outbreak in 2003, it became mainstream. It was then that, promoted by the WHO, public health authorities and other agencies the world over were encouraged to develop "pandemic preparedness plans" for responding to such eventualities.

SARS had an early onset and elevated temperature, as well as a relatively high fatality rate – H1N1 featured neither of these. Indeed, depending on circumstances, pathogens that are highly virulent often have a limited capacity to spread as they do not allow sufficient time for a carrier to infect many others. Sadly, the initial response to the 2009 H1N1 influenza outbreak was tailored to the plan – not the virus. Like old military generals – always preparing to fight the last war – so the global public health authorities sprang into action with mental models, systems and responses designed for another time.

SECURITIZING HEALTH

One truly striking aspect that emerges from an examination of these responses is the extent to which the language and – now it would seem – practice of healthcare have steadily become infused, and infected, by a growing discourse of securitization. For example, in addressing such emergencies, the WHO now has a Strategic Health Operations Center (SHOC) where staff can view an array of monitors, broadcasting images and information from across the globe, streaming on a twenty-four hours-a-day, seven days-a-week basis.[84] Even the British security service, MI5, operated no such facility until the latter half of the 1980s.[85]

Health professionals now casually refer to 'sitreps,"[86] (situation reports), develop "colour coded alert levels"[87] in a manner akin to the now defunct system developed by the U.S. Department of Homeland Security in the aftermath of the September 11, 2001 terrorist attacks, and prepare to "fight" prolonged "battles" and even "wars" with unknown and supposedly "ingenious" viruses. As noted by the Australian academics, Caroline Wraith and Niamh Stephenson in their excellent analysis of these developments, "influenza has been constructed as a matter of national security."[88] It

accordingly lends itself to a "rationality of preparedness," or eternal "vigilance," the development of systems "capabilities" and the conducting of regular "exercises" across society as a whole.

Reflecting this new mindset, and possibly getting a little too carried away in the rhetoric, one former senior official goes so far as to note how the Executive Group charged with directing a "civil crisis or emergency" in his country "maintains a low profile during peacetime."[89] Countless others, such as the authors of a brochure for the new "Global Health Security" program at Chatham House, the international relations think-tank in London, assert similar linkages and, through the use of a security discourse, may help to normalize this presumed association.[90]

The fear of bioterrorism, and the development of biosecurity more broadly, have effectively encouraged a militaristic demand for perpetual preparedness among domestic populations and serve to justify national readiness and response plans, the strengthening of border controls and expectations of international cooperation by developing countries – all in the name of enhancing health security. This, as Wraith and Stephenson note, aside from representing a basic shift in how health is conceptualized and acted upon, has also come at the cost of other – more serious and more pressing – issues that affect most health services.[91]

SARS was not the real trigger behind this episode but rather an opportunity to push the agenda.[92] Before SARS, it was the anthrax attacks that had rocked and haunted the United States in the immediate aftermath of September 11, 2001 that played a far more significant role. These incidents amplified the disorientation of Western societies at the time, encouraging them to become fixated on external threats rather than examining their own internal confusions.[93]

Military planners and some civilian agencies were charged with looking into the possible impact of being subjected to a bioterrorist attack,[94] despite the limitations and caveats associated with this pointed to by some.[95] As this proved a largely futile exercise – emanating largely from the realms of hypothesis and hyper-active imaginations – so the locus of interest shifted to health officials and the possible social disorder that might be generated by so-called emerging and re-emerging infectious diseases (EIDs).

It is worth noting that Wraith and Stephenson, in their contribution on these matters, identify a shift in thinking about infectious disease "from conquerable to emergent" over the last thirty years.[96] Citing the work of Peter Conrad,[97] and Paul Farmer,[98] they note that, this approach, whilst prompting interest in surveillance and prevention, "has not contributed to bolstering arguments for work on examining and addressing the socio-economic conditions that contribute to disease and its patterning across populations."[99] This transformation in outlook also coincided with the post-Cold War loss of certainty.

At the time of the anthrax attacks in the United States, many voices in the world of medicine lamented that public health had become a neglected field. Who then, was going to say "no" to the injection of vast sums of money amounting to hundreds of billions of dollars in the United States alone,[100] from military and domestic security sources, even if the stated aims were not seen by the professionals themselves as being the best use of such funds? For some, it would have made more sense to develop generic, primary healthcare capabilities that could be adapted to particular problems than to build capacity for specific situations in the hope that this would somehow benefit the system as a whole.[101]

The long-term result was also to prepare the ground for what was to become the most extensive and most expensive public health response of all time. Pandemics are now assessed and addressed as being national security – not just medical – concerns, as evidenced to some extent for instance, by the former DG of the British Security Service, Baroness Eliza Manningham-Buller, now sitting on the Board of Governors of the Wellcome Trust, Britain's largest medical charity, and the Council of Imperial College, its most prestigious science-based university.

Pandemics demand public compliance to emergency measures for defeating a foreign invasion. This encourages a shift away from treating illness based on actual evidence to speculative imperatives to be prepared focusing on the possibility of worst-case scenarios. But such plans have now come to be acted upon as if the problems they were designed to confront were true. As Huang notes, officials became, "so overwhelmed by the consequence of being wrong that they were unable to tell the difference between consequence and likelihood."[102]

CONCLUDING CONSEQUENCES

In fact, society has been wrong in relation to H1N1 before. In 1976, there was an outbreak in the United States, also referred to as "swine flu," that led to a mass vaccination programme by the authorities.[103] This in turn prompted suggestions of adverse effects from certain quarters that persist to this day.

At the time the authorities concluded that future responses should not be premised on the worst-case scenario – the most likely might be more useful for planning purposes – and also that there should be "provision for the monitoring of the situation and continual reconsideration of policy directions based on new evidence."[104] Neither of these aspects appear to have featured much in the WHO's calls for pandemic preparedness plans from all its Member States subsequent to 2003.

So instead, by 2009, "drugs formerly largely used in the treatment of severe cases of very ill patients in hospitals were suddenly made available for the treatment of large numbers of generally healthy adults and children with relatively minor illnesses in the community."[105] Tamiflu (Oseltamivir) and Relenza (Zanamivir) were prescribed through telephone and internet systems supposedly designed to relieve some of the pressure from medical staff. However, these systems achieved no such thing. The simplistic, algorithm-generated questions asked by telephone operators and websites to confirm a patient's self-assessment of their symptoms had an accuracy rate of less than 10 percent.[106] And then, as Fitzpatrick notes, instead of taking the prescribed substances at the earliest opportunity, many waited to obtain a second opinion from their doctors anyway, thereby missing the window within which the drugs were held to be useful and effective.[107]

Unsurprisingly – given the generally nervous social climate that has already been described – accusations that the known side-effects of these treatments would outweigh their prophylactic benefits also began to mount. No wonder then, that when the vaccine itself finally emerged, those who had borne the brunt of this episode – healthcare professionals themselves – came to form the vanguard of those rejecting it.

Despite appearing on the market less than six months after the emergency began – itself a remarkable achievement of modern science, communication and technology – the impositions and demands generated by alien public health officials, feeding into the

generally fragile social climate, effectively encouraged a spontaneous protest movement that communicated far more efficiently to the general public than the assembled ranks of health security planners.

Social scientists point to a number of distinct side-effects of authorities being out of touch with their constituencies.[108] One of these side effects is to encourage acts of deliberate defiance, even if, these may not consciously be so. Another is to generate exaggerated concerns in populations – such as the understandably anxious parents who refused to allow their children to attend school lest they become infected – irrespective of assurances to the contrary, especially as these latter emanated from those that had promoted uncertainty and apocalyptic projections in the first place.

A variation on the latter – and an area that has received little consideration, let-alone having been assessed – is to determine the cumulative impact of continuously asking people, particularly children, to be eternally vigilant and monitoring their temperatures on a systematic basis – as occurred in many places – lest they be carrying a virus whose consequences were professed to be unknown. Encouraging the advent of such a generation of nervous hypochondriacs, perpetually and introspectively monitoring their every bodily function, may reward a febrile identity, but it is unlikely to regenerate public life in the manner assumed by Margaret Chan when announcing the crisis as an "opportunity for global solidarity."[109] It seems more likely to help undermine social resilience in the long run.

There is finally, also the distinct possibility of such episodes encouraging a greater degree of distance and disengagement in society as people learn to ignore the voices of those they perceive to be "crying wolf" just a little bit too frequently. After all, most people's lived experience of the virus – assuming they had one at all – was of a relatively mild episode that – rightly or wrongly, in their minds at least – may have helped fortify them against future outbreaks. That this episode appears to have disproportionately affected younger people, who would not have experienced such outbreaks previously, would appear to confirm this.

Worse, it is evident that, through the desire to identify H1N1 cases, there was a significant element of over-diagnosis that,[110] in its turn, became reflected in a degree of misdiagnosis. Cases of malaria, meningitis, bronchitis, appendicitis, diabetes and leukemia were all mistaken for influenza – with fatal consequences for some.[111] In China alone, Huang points to an outbreak of Hand, Foot and Mouth disease that went largely under the radar, yet resulted in 400,000 cases with 155 fatalities between March and May 2009 alone, at a time when H1N1 had yet to claim any victim there.[112]

For the United Kingdom, the official inquiry estimated the episode to have cost about £1.2billion (or just under $2billion), including expenditure on drugs, vaccines, helplines and other health-related costs.[113] But, as a study published in the BMJ has noted, this takes no account of any of the broader ramifications – including the opportunity costs of redirecting resources away from other health services, or factors such as absenteeism resulting from exaggerated fears or workplace closures.[114] Accounting for the reduction in gross domestic product (GDP) caused by these, the losses are estimated to be between six and sixty times as much as the official estimate.

That latter figure is a sum on a par with some estimates of the immediate damage inflicted to the British economy over the course of the global market crash of 2008. It is hardly money well-spent on an "exercise," as some have rather disingenuously suggested the episode could be viewed as having been in its aftermath. It amounted,

through the cost of vaccines alone for the French government, to "three times the amount allocated to cancer research in that country over a four-year period."[115] It is a price that most developing countries might like to think twice about prior to accepting as the cost of preparedness.

Above all, it is trust in the authorities that will have been lost through the course of this episode – a precious commodity that most recognize as hard to obtain. And while the degree of this loss may vary from country to country according to how the authorities there acted and fared, the impact of it – in encouraging a degree of cynicism in these – will be felt by all for some time to come.

It has been noted in relation to bioterrorism,

> It's bad enough when an important federal government programme designed to deal with a pressing national security threat turns out to be mostly a waste of money; it's worse when that programme also turns out to distract people and agencies from the more serious and fruitful approaches to the problem; it's worst of all if that programme actually contributes to making the problem even worse than it otherwise would be.[116]

The worldwide response to the 2009 outbreak of H1N1 influenza achieved all this and more.

Whilst the last draft report of the IHR Review Committee, prior to their final report submitted in May, noted that those who "assert that WHO vastly overstated the seriousness of the pandemic" should recognize that "reasonable criticism can be based only on what was known at the time and not what was later learnt,"[117] it is precisely the contention of this paper that the existence of this broader cultural confusion that encourages a proclivity to imagine the worst was known.

It is not the actions of the individuals concerned that need to be scrutinized, through presumptions of impropriety or personal gain, but rather the dominant social narrative to which officials respond, and thereby perpetuate, that remains to be explored and challenged if such extreme social costs and consequences are to be avoided in future.

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