

Pandemic Flu Controversies: What have we learned?

Reflections from a workshop to discuss lessons, policy implications and future challenges¹

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Introductory thoughts – why controversies?

There is something odd about the way pandemic flu preparations have unfolded in recent years. On the face of it, there's a compelling case for undertaking pandemic preparedness efforts. We know that pandemics are recurring events, with three pandemics registering in the past century alone. We also know that the influenza viruses that cause pandemics continuously mutate in ways that challenge both human immune systems and medical technology. And we know that many socio-economic dynamics – including changing farming systems and increasing international travel – are creating new opportunities for zoonotic infections to occur and spread. And even if we did not already know it, there are prominent Hollywood feature films like *Outbreak* and *Contagion* to remind us graphically of how a pandemic might play out.

With most influenza experts agreeing that it is not so much a question of *if*, but rather *when*, a new pandemic will arrive, it is strange, then, that pandemic preparedness policy over the past decade has proven to be anything but straightforward. It is strange, then, that pandemic preparedness policy over the past decade has proven to be anything but straightforward. Rather than calmly putting the necessary plans into place, governments have – in many cases – had to be brought to the planning table kicking and screaming, with only the threat of an imminent H5N1 pandemic in 2005/06 kick-starting efforts in earnest. But even then, and at pretty much every step of the way since, efforts to improve pandemic preparedness have been steeped in controversy. There have been controversies about the models we have developed for predicting how severe a future pandemic is likely to be (will it be on the scale of the Spanish Flu of 1918?). There have been intense disputes – often carried out behind closed doors – around the naming of pandemics (should we call it 'swine' flu?) and indeed how to classify them (Phase 5, Phase 6, etc.). Even the task of shoring up our medical defences has not escaped controversy – whether in the form of the continuing open data access saga

¹ Elbe, S., Leach, M., and Scoones, I. (2013). Pandemic Flu Controversies: What have we learned? Reflections from a workshop to discuss lessons, policy implications and future challenges. STEPS Centre and Centre for Global Health Policy, University of Sussex, Brighton.

surrounding Tamiflu, or the more recent concerns about rare, but significantly elevated, risk of side-effects of some pandemic vaccines. On the international stage, moreover, we have witnessed long and taxing diplomatic disputes about the sharing of H5N1 virus samples, prompted by concerns about inequitable access to medicines and other intellectual property issues. Even the carrying out of basic virology research on H5N1 viruses by highly trained scientists has provoked an international furore. Despite the prudent case for pandemic preparedness, our efforts to prepare have proved to be deeply controversial.

Stepping back for a moment, and looking collectively at all of these different controversies surrounding pandemic flu, two things become immediately clear. First, these controversies are themselves an integral part of how pandemic preparedness policies have unfolded over the past decade. We cannot tell the story of 21st century pandemic preparedness without taking this long string of controversies into account. Controversy has simply become part of the core business of pandemic preparedness. But more than that, many of these controversies also have the potential to affect adversely future planning – most notably where they are perceived to undermine trust in decision-making and makers, where they lead to disruptions in international co-operation, or indeed culminate in the cessation of fundamental scientific research. Indeed, is the impasse we now face not itself simply the outcome of the biggest controversy of them all: namely that the most recent H1N1 pandemic did not turn out nearly as severe as many had warned, even though experts mostly think we have simply been very lucky in that regard? For global responses to influenza to continue to be effective in the long run, they must also learn to acknowledge and manage such controversies.

If that is true, then surely the one thing we cannot now afford to do is simply ignore these controversies. As tempting as it is to run for cover when controversies break out, and to hope that time will make them disappear, we know that this is unlikely to be the case. A rather more promising approach would be to develop a better understanding of why all these controversies have emerged around pandemic flu, learning lessons for the next time. And it is precisely in this spirit that the [STEPS Centre](#) and the [Centre for Global Health Policy \(CGHP\)](#) at the University of Sussex recently hosted a workshop in order to explore these controversies in much more depth, building on [the work the Centres' researchers have carried out over recent years](#). Over the course of two days, and in a relaxed but focused atmosphere (and with the occasional dose of good humour), more than [fifty international experts](#) drawn from the worlds of science, policy, the media and academic publishing – with both social and natural science expertise – explored the multiple facets of these pandemic flu controversies through a healthy mix of [stimulating presentations](#) and rich discussion.

Session overview: emerging perspectives

Narratives

Our first session focused on the concept of '**narratives**'. Narratives are stories about the world, with clear beginnings, middles and ends, which help frame both policy and action. As we heard, they are not just stories, however; they have material consequences. There are winners and losers.

We heard in particular about the power of the 'outbreak narrative', and particularly the narrative about 'the big one' – the pandemic on the scale of 1918 which might sweep the globe with devastating consequences. Narratives often contain at least some truth. As participants confirmed, there is certainly a possibility of such a devastating flu pandemic, and preparations for such an event are clearly essential.

However, in the context of today's 24/7 media always on the look-out for a good story, and also the rise of new forms of social media, hedged speculation may end up taking on the status of truth. In 2005, a UN statement about the range of possible deaths from an H5N1 outbreak ended up with only the top end estimate of 150 million being quoted. This fed into a policy response dominated more by fear and panic, than any full scientific assessment of risk or uncertainty. Such outbreak narratives are of course fed by other concerns within the political and policy realm. The workshop heard about how issues raised by 9/11 in the US, and the failure of response to Hurricane Katrina, affected decision-making, giving impetus to a particular policy narrative around avian influenza.

Different narratives of course compete for airtime and policy attention, and those that win out tend to offer simple storylines, aligned to particular interests and backed by powerful actors, sometimes independent of the evidence underpinning them. As policy communities have reflected on the failings of earlier responses, a new – or revived – One Health narrative has been suggested, arguing for closer integration of human, animal and ecosystem health concerns. This has gained purchase in some quarters, but, as we discussed in the H1N1 case, the wider ecological, social and economic issues were downplayed in favour of a drug and vaccine response. We heard how alternative narratives based on local understandings, rooted in particular contexts, get short shrift, often seen as too specific and particular to be relevant to a global response. The international policy machinery is poorly geared to context-specific responses, seeing this as the responsibility of local health authorities. Yet, as we heard, in resource poor and low capacity settings, global framings and interventions dominate, often to the detriment of effective and efficient responses.

Narratives thus reveal the fault lines of controversies. They are not necessarily the truth, but they sometimes acquire the status of fact through repetition, and so have enormous influence on policy processes. Through strategic simplifications they act to stabilise assumptions for decision-making, concealing alternative interpretations, and thus acquire political importance. Their systematic unpacking, rigorous tracing and analysis of interests and power relations is thus an important task, it was argued. This in turn can help make policy more transparent and accountable, and help deal with controversy in a more open way.

Modelling

The second session picked up on these themes, but delved more deeply into the science-policy processes that underpin policy narratives, and the contested nature of 'evidence' particularly around the practice of **modelling** under conditions of extreme uncertainty. We heard about the use of different models in assessing influenza pandemic potential and response. These range from mathematical simulation models, such as the ones developed by the Imperial College group, to statistical spatial models, to participatory modelling approaches deriving information and understanding from local people. All models have their role, and have made important contributions. In discussion some important wider questions were raised. There was a clear view that models – and the way they are graphically represented - necessarily carry with them particular assumptions, and so political implications. Modellers should be recognised as political actors, especially as certain models gain traction in policy debates – although the scientists involved rarely have full control over how their models are deployed and communicated. The way a particular approach to antiviral drug stockpiling, vaccine development and containment measures has gained policy attention partly reflects the successful arguments made by certain groups of modellers, but also the neat fit with a policy world needing to 'do something' in a context of heightened public fear. Awareness of how policy processes tend to write out uncertainty, whereby highly qualified scenarios are interpreted as predications or forecasts, is essential, it was argued. In discussion, this raised questions of research ethics around how modellers should present their findings given the high policy profile that some models have.

Participants also recognised the importance of getting local insights into dynamic and uncertain process through participatory approaches, including 'participatory epidemiology' and sociological/anthropological research. But some argued that this was not just about getting better data and more effective parameterisation, but also about ensuring perspectives were heard that were often obscured in policy debates. This relates to a wider concern for justice, equity and a 'pro-poor' stance in pandemic policy responses. As a number of participants commented, the standardised approaches developed in the US or Europe often fail to work in resource poor settings, where capacities are weak and perceptions different. While WHO and other international agencies cannot develop fine-tuned responses for every circumstance, they need to avoid the danger of imposing solutions appropriate to one place in others where they will not work, it was argued.

Overall, participants concurred that an approach drawing on multiple sources of data and diverse perspectives, rooted in different modelling approaches was the way forward. Humility and reflection had to be combined with triangulation and deliberation between different approaches to ensure a more robust approach to science advice. Relying on singular models, based on particular assumptions, is always dangerous, and a more open approach is required. This means opening up the process, encouraging more debate, and inviting a rather more diverse set of sources of expertise to the table. Social science expertise was seen to be especially lacking, and needs to be appreciated as being more than 'anecdote', even if presented in different forms to data from natural scientists.

Political economy

On the following day we opened with a session on **'the political economy of virus control'**. The presentations reflected on the wider political and economic issues that inevitably impinge on both influenza research and pandemic response. Such factors influence what is researched and what is not, what is allocated funds and what is not, and what is regarded as important and urgent, and what is not. No matter how high quality the science, such issues inevitably influence policy, sometimes in ways that set off a train of action which is difficult to get out of.

For example, someone during the plenary discussion asked pertinently, given the H1N1 pandemic, why is no-one seriously looking at biosecurity in North American pig farming? As public health authorities focused on human-to-human spread of the virus, the underlying causes of the original emergence were somehow put aside. The question was also raised as to whether there were industrial interests at play in both the naming of the virus (and the official if not popular abandonment of the term 'swine flu'), and the failure to investigate the spread and outbreak pattern in the context of industrial pig farming in Mexico, as well as the US? Feeding into this debate, detailed ethnographic work on the way disease 'contacts' can be affected by production and marketing 'contracts' was highlighted through case studies in the UK. Understanding how working conditions and new practices of animal husbandry influence viral exposure and spread is something we still know very little about, yet may prove highly significant – especially in the fast-changing, highly market driven farming industries spread across the world. In Europe regulations specify high levels of biosecurity, yet risks are still apparent. In other parts of the world, such regulations may not exist or not be enforced, and new disease risks emerge. A wider view of disease control that goes beyond the virus to assess the wider risk environment, based on an understanding of changing financial flows, investment patterns and farming practices was urged.

Response strategies must also of course take account of economic interests and trade-offs are clearly evident. Very often it is not the health impacts of a disease outbreak, but the consequences of the intervention that have the greatest economic cost: closing businesses, disrupting transport networks, and creating uncertainties about financial flows. "It's not health, stupid; it's the intervention", was the take-home message. We heard, for example, how disease outbreaks have had massive impacts on national economies, across diverse sectors. But we also learned that recovery can be swift, suggesting high levels of resilience in highly networked economies. Depending on the economic impacts, responses will be different between governments, multinational companies and individuals, making a variegated response important.

Virus control given pandemic potentials is often seen as a global public good, requiring international intervention. While the arguments for this are clear, the politics of such interventions are more murky. This was highlighted by discussion of the US military's NAMRU labs in Asia, and the comparison with nationally run WHO labs. While viruses cross borders, can research and intervention always do so without running into problems? The International Health Regulations provide a framework, but there is always a politics of such intervention, especially if there are fears that

research is being done not for local benefit but for external national, even military, interests.

The pharmaceutical response

The following session focused in on one of the hot controversies of recent years, **the pharmaceutical response to influenza**. The context for our discussion was the decision to stockpile antiviral drugs, and to activate 'sleeping contracts' when pandemic conditions are declared, as well as the on-going debates about the pandemic efficacy of anti-viral drugs. During the H1N1 pandemic this led to accusations of collusion between WHO and drug companies, as many profited massively from the response. No-one at the workshop believed the extreme conspiracy theories: no 'smoking gun' was found to exist, but this did not mean that there were no lessons to be learned. This was, many thought, an 'avoidable controversy'. In an era of intense media scrutiny and public distrust, secret committees and lack of disclosure of information does not wash. Rather, it creates fertile ground for controversies to be blown out of proportion, fanned by speculation, gossip and rumour through the Internet and social networking media. 'Cold war' institutions like WHO need to be brought into the modern age, it was argued, with a clearer, more transparent and accountable system of decision-making. This would help allay fears and avoid controversies in future.

Transparency and openness is one thing; increasing the scope of expertise involved is another. While there is no evidence of corrupt collusion, the discussion suggested that there is a danger of creeping complacency if very tight, narrow networks are involved in decisions, without wider participation and the inclusion of different perspectives and sources of expertise. Politics and influence can be exerted in more subtle, discreet ways, without anything particularly overt, inappropriate or illegal. Some players will always stand to gain from any response: certain pharmaceutical companies, certain scientific research groups, certain international organisations, for example. Suspicion and fears need to be offset, it was argued, by much more active attempts to include, deliberate and debate alternatives. Yet it was also pointed out that decisions must be made rapidly and with the best advice available. This means relying not only on published science and randomised control trials, but also judgments and advice from experts. Sometimes, it was noted, "if you wait for the evidence, people will be dead". A real-time response is needed, drawing on different data, evidence and opinion. But, everyone concurred, the process needs to be opened up, involving more sources of advice, and to be much more transparent and accountable. This will be especially crucial as governments and pharmaceutical companies work to develop new medicines for pandemic preparedness in the years ahead, as [a new ERC-funded study](#) explores.

Viruses and IP

The next session turned to another intense controversy of recent years, that of **virus sharing and intellectual property**. This was provoked by Indonesia's refusal to share virus samples as part of the international effort to develop vaccines, which led to outcry and – several years later – a diplomatic compromise. This hard-fought and highly controversial policy process was discussed by a number of those closely engaged at the time. There was wide recognition that Indonesia's health minister, Siti Supari, had a legitimate point in pointing towards the difficulties of low income countries in securing access to vaccines, despite their participation in an international system of sharing viruses. There had been an assumption that all virus material would automatically be available for international use without ensuring benefit sharing. Yet this allowed those with the capacity and finance to use such samples for commercial gain. Equally, participants recognised that early detection and response required knowledge about what viruses were circulating and international cooperation on vaccine manufacture.

Much of our discussion centred on the often painful process of negotiation at the WHO and elsewhere. It took four years to come to an agreement, and clearly the processes for resolution were inadequate. Some felt like it was like being 'stuck in treacle' for much of this period. Health diplomacy is a new field, with neither diplomats nor health professionals particularly well equipped. The WHO system was also found to be wanting, as officials often had outdated assumptions, embedded in what some deemed 'colonial' perceptions of international relations. The US in particular was reluctant to abandon the principle of free virus sharing and rejected the model of the FAO plant genetic resources treaty as proposed by Indonesia and others. A much higher-level international diplomacy was also at play, with new 'emerging' powers, including Indonesia, but also India, Brazil and others, wishing to exert their influence at the international negotiating table. Domestic political interests were also important, whether in Indonesia or the US. Everyone it seems "had their own confusions". As one participant pointed out, from an Indonesian vantage point, the international policy concern around H5N1 was seen as a 'spectacle', not really pertinent to day-to-day priorities in a country beset by many more pressing risks. By contrast in the US, 'homeland security' and the quest for 'health security' dominated the policy discourse in the post 9/11 era. For Indonesia, given the high political profile of the response, this was seen as a bargaining chip to raise other issues, as well as to feed into domestic political manoeuvres.

As participants noted, this whole episode was in important ways a wake-up call for the WHO. The old practices, dominated by a particular set of interests and expertises, were no longer acceptable. Styles of negotiation had to change too. Some reflected that the more confrontational, northern, and male dominated approach had to give away to more inclusive deliberation, taking account of the diversity of capacities available in national delegations, and respecting diverse views and values. In the end a deal was struck, but those involved noted the key roles of particular individuals, often women, in brokering an agreement which took account importantly reconfigured power relations in the international health scene.

Researching deadly viruses

The final thematic session focused on '**researching deadly viruses**' and the controversy around 'dual use' research. No-one at the workshop challenged the idea that research on potentially pandemic viruses needs to be done, and under most circumstances published freely. In Europe or North America labs are tightly regulated, and the risks of release are small. Bioterrorism remains a threat, but material is unlikely to emerge from such research labs, it was thought. The particular controversy that blew up around the creation of a highly pathogenic H5N1 viral variant that could spread rapidly human-to human, involving a handful of labs in the US and Europe and focusing around the risks of dual use research and subsequent publication, was seen by some as a diversion. The real threats probably lay elsewhere. Meanwhile the rapid emergence of synthetic biological and biotechnology applications potentially pose far greater risks. This is such a fast developing area of science that regulations and policy frameworks will need to be very agile to keep up. Equally participants surmised that while bioterror threats are very real, perhaps the greatest risks lie in poorly regulated small-scale biotechnology labs, operated commercially in parts of the world where regulatory capacity is limited. As technology develops and spreads, different regulatory challenges will emerge which the recent controversy has not even begun to address.

Organising for global health

The workshop concluded with a session on **organising for global health**. In addition to the initiatives currently on-going which panelists outlined, all recognised the importance of learning lessons from pandemic flu controversies and all recognised the need for some policy change and institutional reform. However, the way forward remains challenging. In discussion, participants raised some wider more awkward questions. One participant asked whether the current global health system "was fit for purpose" and in all the talk of accountability, "who guards the guards?" These bigger questions around new organisational arrangements for responding to pandemic threats remained unanswered, and exist as a major agenda for the future.

Some concluding thoughts

So what did we learn overall? First of all, we learned from all of these controversies that preparing for flu is simply not just about flu; it is just as much – if not more so – about the interventions that we need to implement in order to manage a pandemic. Often, what provokes these controversies is not so much the flu itself; instead the controversies arise around questions of which public health measures to implement, what the effects of those interventions will be, and who they will affect. Here, political, moral, ethical and justice concerns come to the fore, as public health concerns are balanced against economic impacts in different parts of the world. A North-South politics is particularly evident, as health concerns in the North trump livelihood imperatives in the South. Equally, there is a global-local politics, as responses geared to international health and economic interests meet the often very different priorities of people in local settings.

Second, we learned that controversies are not only deeply infused with wider social, cultural and political dynamics, but are actually excellent entry points through which to understand these very same processes. Precisely because these controversies are sites where competing perspectives crystallize and clash in their starkest form, they are also wonderfully revealing lenses through which to elucidate pandemic flu politics, and its social and cultural dimensions. Controversies, in short, are great opportunities to unearth the contested, contingent, and fractious nature of knowledge that shapes our ongoing quest to protect human lives – irrespective of which side of the controversies we come down on. Social science perspectives are therefore a critical complement to natural science-based understandings.

Finally, we were able to draw lessons about how some of these controversies could also be diminished and perhaps even avoided in future. This, the participants found, could be achieved by striving to assemble the best possible evidence for policies, by being open about where the evidence was not yet clear, by insisting on transparency and avoiding secrecy, by including diverse sources and forms of cross-disciplinary and local knowledge and expertise, and by ensuring that risk communication remains measured and proportionate, so that warnings do not end up back-firing. As the world prepares for the inevitable next pandemic, these, surely, are good lessons to take forward, requiring new ways of working and new organizational mechanisms for assuring global health.

For more information about the event, see:

STEPS Centre website:

<http://steps-centre.org/event/workshop-pandemic-flu-what-have-we-learned/>

Centre for Global Health Policy website:

<http://www.sussex.ac.uk/globalhealthpolicy/events/pandemicflu>