

## Pandemic influenza preparedness: Africa at the crossroads

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### Abstract

At least two distinct approaches to pandemic preparedness have arisen in response to the threats posed by pandemic influenza: a traditional public health approach and an increasingly securitised one. Traditional public health focuses on the population and their living conditions. In contrast, public health strategies informed by concerns with security focus on the resilience of critical infrastructure, such as electricity and communication, and on the ensuring good connections between different layers of government and any private bodies likely to be central to the response. Pandemic plans can be informed by one or a mix of both approaches. The securitised approach is more prevalent in the World Health Organization (WHO)'s plans and Western countries' plans. In contrast, the WHO-AFRO Regional Pandemic Influenza Preparedness Plan 2009 utilises the existing Integrated Diseases Surveillance and Response framework as its starting point. It is informed by both rationales. Will African preparedness efforts develop in the direction of those already more informed by concerns about security? This paper examines how a securitised approach glosses over the differences between existing and threatened diseases. This is a particular problem in the African context with a high burden of infectious disease and underfunded health systems. Rather than a diversion of resources into a securitised approach, we suggest that the preparedness needs of the African continent are best served by focussing political will, international aid, financial and technical resources on the development of the health sector, including the integrated diseases surveillance and response framework. By tracing the distinct rationales at work in preparedness plans, it becomes apparent that an emphasis on the population will better position the continent for the future pandemics.

### Introduction

The global response to the threat of pandemic influenza has taken at least two distinct forms worldwide. Firstly, World Health Organization (WHO)-AFRO has attempted to harness the existing Integrated Diseases Surveillance and Response (IDSR) framework,<sup>1,2</sup> and use it as a basis for African pandemic preparedness efforts. This approach to infectious disease prevention and control is broadly familiar, in the sense that it seeks to develop surveillance and response capacity, particularly for epidemic and pandemic-prone diseases. Secondly, there has been the adoption of a securitized response to pandemic preparedness by Western states. This marks a departure from the traditional public health approach that places pandemic management exclusively in the public health domain, to a more multilateral approach. There are some important convergences in the practical tasks involved in pandemic preparedness as it is informed by these two distinct approaches – *e.g.* developing and extending disease surveillance systems. However, in this paper we identify the potentially diverging implications for public health efforts of these two approaches.

The familiar public health approach involves disease prevention and control strategies at the population level such as disease surveillance and early warning, vaccination, quarantine, and therapeutic interventions. The focus is, in the first instance, on the population – as in people, their welfare and living conditions as members of a society.<sup>3,4</sup> Arguably, it is because the familiar public health rationale takes the population as its starting point, that there has been a strong alignment between public health and humanitarian agendas.<sup>5</sup>

In contrast, the initial focus of securitised approach to infectious disease is on maintaining vital systems such as infrastructure, communication, political and economic order.<sup>4,6</sup> This shift from populations to vital systems is underpinned by a transition from a rationality of *insurance* to one of *preparedness*.<sup>3</sup> The rationality of insurance aims to transform identified dangers into manageable risks by spreading the risk over the population or *collectivising* risk using public health infrastructure. The logic of preparedness informing Western pandemic preparedness, as we describe below, takes dystopian visions of unpredictable and mass-scale catastrophic disease outbreaks as its point of departure. It focuses on bolstering the infrastructure of governance and society, as well as fine-tuning coordination and efficiency in managing catastrophic emergencies, so as to ensure its best possible performance under such conditions.

This paper examines some of the actual and

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potential impacts of these two approaches to pandemic influenza, and considers the implications for Africa's current approach. The paper's objective is not to prescribe policy changes, but to better illuminate the underlying rationales that can work together and at times, against each other, in the way that they inform policy developments. In so articulating these rationales the paper aims to contribute to the extensive body of research and debate on the current health sector challenges of the African continent.

### The emergence of pandemic influenza, and of a securitized response

In 1997, H5N1, which had been previously confined to birds, was discovered in humans in Hong Kong.<sup>7</sup> The pandemic potential implicit in this event raised concerns world-

wide. By February 2006, cases of infection in poultry had been documented in Russia, Eastern Europe, India and Africa,<sup>8</sup> leading to bird culling (more than 120 million).<sup>9</sup> As of January 2012, the WHO estimates 578 H5N1 human infections and associated 340 mortalities.<sup>11</sup>

In 2009 a H1N1 pandemic was declared. Unlike H5N1, H1N1 (2009) is easily transmissible between humans, and similar in lineage to the virus which had caused the catastrophic Spanish flu of 1918.<sup>10</sup> Within two months of identification, H1N1 had spread to 46 countries, causing 12,954 documented cases and 90 deaths, and on June 11, it was declared a pandemic by WHO.<sup>12</sup>

The worldwide publicity afforded H5N1 and H1N1 (2009) has fuelled calls to approach pandemic preparedness as matters of national and global security. According to Buzan, securitization means *presenting an issue as a threat to human existence, necessitating emergency measures, and justifying actions outside the bounds of normal political procedure*.<sup>13</sup> The recent intensification of efforts to securitize disease, including pandemic influenza (PI), can be traced to a 1989 National Institutes of Health conference in the US on emerging viruses, through to a subsequent report by the US Institute of Medicine (IOM),<sup>14</sup> and into global health, to later become the focus of the 2007 World Health Report.<sup>15</sup> Efforts to tackle the challenge of unpredictable emerging infectious diseases (EID) have concretized into a set of wide-ranging recommendations for, in some cases, national, and global health. The recommendations do include the imperative to strengthen public health systems. For instance, the IOM recommended strengthening of public health infrastructure. This was echoed by the US National Intelligence Council, Centre for Disease Control, and Cabinet-level National Science and Technology Council.<sup>14,16</sup> However, early US efforts to draw attention to EID foregrounded how they could threaten American economic and security interests.<sup>14</sup> This view gradually gained foothold, beyond public health, in security quarters where the idea of EID as a *non-traditional* threat to American security and economic interests began to take hold in the mid 90s. Subsequently, the 2001 Anthrax attacks, as well as the 9/11 bombings, served to markedly raise political awareness and acceptance of infectious diseases as a US national security issue.<sup>17</sup>

WHO, NATO and the UN Security Council further played significant roles in the engagement with disease securitisation in global realms.<sup>18-22</sup> The WHO's role in the securitisation of disease and PI in particular has also been examined by Davies.<sup>17</sup> WHO's rationale was to raise the profile of infectious diseases

in general by presenting them as security threats. This series of events also created a rallying point for international partnerships like the G7 who, in November 2001 meeting, affirmed their commitment *for any eventuality and how we respond[ing] more effectively to public health security crises ... in collaboration with other countries as well as international organizations ... such as the WHO*.<sup>23</sup> EID, at this point, were no longer considered issues confined to the public health domain in many Western nations, but as issues relating to security.

### **Pandemic influenza preparedness: how securitized approaches break with familiar public health approaches**

The securitisation of disease arguably changes, rather than extends, public health, as we have known it. Its aim is to mitigate threats to security in the form of political, social or economic instability (sometimes incorrectly)<sup>24</sup> thought to be associated with pandemics.

The Western securitised approach to PI preparedness has promised to mobilise resources for research, surveillance, preparedness and response.<sup>25-29</sup> In some cases, this promise has concretised. For instance, between 2006 and 2007, the EU, in conjunction with the United States, Canada, Australia and the United Kingdom provided the bulk of funding for WHO's global outbreak alert and response network, a major instrument in influenza surveillance.<sup>27-29</sup>

In addition, after the 2003 SARS and later H5N1 outbreaks, the international health regulations revision process, which had been stalling, reached agreement. Reservations about infringements on state sovereignty were overlooked in the face of awareness of the ramifications of any single nation failing to report an outbreak. Thus the WHO was granted even greater powers to govern global disease detection and response.<sup>30,31</sup>

However, the securitisation of public health has also had its negative consequences. Fidler<sup>5</sup> notes that it threatens to sideline or compete with humanitarian approaches. This is supported by analysis of bilateral, multilateral and WHO-organised assistance for dealing with H1N1 (2009). Nine months after the declaration of a pandemic, only 2 of the 95 countries WHO had noted as needing assistance for procuring vaccines had received any.<sup>32</sup>

Also, WHO's role in constructing infectious diseases as a security threat has cast doubts over its neutrality as a global health governing

body. Allegations of lack of transparency in its handling of the 2009 pandemic have arisen.<sup>33</sup> Some authors, and the Council of Europe, have argued that the WHO may have been influenced by pharmaceutical companies seeking profit in declaring the onset of a pandemic which *never really was*.<sup>34,35</sup> The stockpiling advocated in WHO guidelines is considered, by some, a wastage of public expenditure. The securitisation of PI in Western nations has therefore had both intended and unintended consequences.

### **Africa's approach to pandemic influenza**

IDSIR was approved by the WHO-AFRO region in 1998 as the regional strategy for strengthening infectious disease surveillance and response capacity, especially for epidemic-prone diseases such as cholera, meningococcal meningitis, measles, etc.<sup>36,37</sup> Essentially, it provides guidelines such as case definitions and diagnostic algorithms for each of these diseases; a minimum set of data that must be collected at each level; the recommended reporting channels; the frequency and timing of reports; the type of analyses to be carried out; the format for presenting reports; the routine dissemination and feedback channels; and the process for taking action in an emergency. The 2006 WHO-AFRO Regional Preparedness and Response PI plan was developed as a follow up to the 55<sup>th</sup> Regional Committee Experts Panel Meeting, and the 56<sup>th</sup> World Health Assembly, at which countries had been urged to strengthen their capacity to prevent, detect and diagnose an influenza virus infection; and to prepare for a possible pandemic.<sup>1</sup> The 2006 plan highlighted the key issues to be addressed in Africa's preparation for a possible pandemic. These include insensitive surveillance systems, inadequate human resources, infrastructure and institutional capacities, among other things. Importantly, it noted that the existing regional strategy of IDSIR could be adapted and improved to support capacity building for influenza preparedness.

Although the original intention behind the 2006 plan was to focus political attention on influenza, three years later WHO-AFRO noted that influenza surveillance was inadequate and still not a high regional priority. Therefore, the 2009 PI plan aimed to further strengthen surveillance and response capacity, whilst utilising the opportunity to improve IDSIR as a whole.<sup>2</sup> For example, it sought to facilitate procurement and prepositioning of medical supplies and vaccines, encourage the development of influenza laboratory networks, expand sentinel virological surveillance, update national

preparedness plans, and perform simulation exercises to test these plans. It was hoped that states would devote more resources to PI preparedness. To date, analyses of several national plans show that many have been difficult to implement due to limited health resources, among other factors.<sup>38-44</sup> As Davies notes, developing countries have been noticeable in the disease securitisation debate only by their absence.<sup>17</sup> Faced with competing priorities for health service provision, and with a high burden of mortality from infectious diseases, government priorities largely address the most immediate needs of curative health service provision rather than channel resources into *potential* pandemics. Secondly, despite the recent global health emphasis on PI, public concern about PI is low in many African countries. There is little demand for concrete government action, and government shortcomings regarding PI are unlikely to threaten political legitimacy.<sup>45</sup> Political and social engagement with the threat of PI could thus be said to be relatively lower in Africa, compared with Western states.

Consequently, it could be argued that, as WHO-AFRO struggled to keep up with the requirements of preparedness-based WHO strategy, it faced the other challenge of presenting WHO's global plan in a way that African governments could engage with. This may explain the integration of PI preparedness into the IDSR framework, a framework for disease surveillance and response to which governments had already committed. At the same time, the regional PI plan still attempts to turn states' interest to, and gain investment for broader preparedness. How did this translate into practice leading up to and during the H1N1 (2009) outbreak?

A brief look at investment in, and access to pharmaceuticals in many African countries around the 2009 H1N1 outbreak provides some insight into how the continent fared in the face of a pandemic threat. Prior to the declaration of H1N1 as a pandemic in June 2009, South Africa,<sup>46</sup> Kenya<sup>47</sup> and Uganda<sup>48</sup> had antiviral stockpiles of 100,000, 50,000 and 10,000 doses respectively. Compared to antiviral stockpiles in developed countries such as Australia (which had 8.75 million courses of antivirals available - one of the highest stockpiles per capita in the world)<sup>4,49</sup> the African stockpiles would have necessitated serious rationing. Antivirals were priced by Roche at € 2-6 per 10-capsule pack for developing countries<sup>50</sup> and at higher prices for more developed countries such as South Africa.<sup>51</sup> Other countries such as Nigeria, Ghana and Egypt<sup>52,48</sup> also assured the public of the availability of national viral stockpiles at the onset of the outbreak. In addition, the WHO stockpiles were deployed to Nigeria and several other developing coun-

tries considered vulnerable to the H1N1 outbreak. The donation to Nigeria, which would cover only 184,800 people, was valued at \$US 2.8 million.<sup>53</sup>

In 2009 South Africa and Egypt,<sup>54</sup> the richest countries in southern and northern Africa, were also able to order 1.3 million and 5 million doses of the vaccine respectively at the onset of the outbreak. However, other nations including Nigeria and Kenya (the richest countries in western and eastern Africa respectively) were unable to procure these independently, and had to depend on the WHO vaccine donation. This eventually arrived about a year after the outbreak was declared.<sup>55,56</sup> Considering the final epidemiological picture of infection and mortality rates of H1N1 in Africa, the antivirals and vaccines procured were eventually found to be in excess. South Africa, for example was estimated to have had about 12,642 reported cases as at the end of March 2010,<sup>57,58</sup> while Egypt had about 15,739 cases.<sup>58</sup> Despite the eventual wastage, however, vaccines were unavailable to prevent potential mortality in developing countries at the critical time they were needed, due to the initial global shortage of vaccines.

The aim of public health responses to disease that focus on the population is broader than improving access to pharmaceuticals. As indicated above, WHO-AFRO's approach foregrounds the need to develop broad health infrastructure across the continent. A 2011 global comparative analysis of national pandemic influenza preparedness plans done by WHO has noted that most national PI plans (2/3) were prepared in 2005 - 2006 and updated versions are either non-existent or yet to be publicly available.<sup>59</sup> However, taking just one aspect of preparedness as an example, a similar 2008 analysis performed on African national preparedness plans<sup>60</sup> estimates an average regional completeness score of 26% for stockpiling drugs. It is also noteworthy that the average completeness score for stockpiling *medical supplies* across the African region was 8% (with only 2% actually giving detailed strategies to achieve this). This is important because an adequate pandemic response depends, not only on medications, but on basic health infrastructure. In many African countries, medical disposables such as gloves, masks and syringes are inadequate, even in non-emergency situations. Other components such as hospital beds, infrastructures for infection control and health personnel are also inadequate.<sup>61</sup> From the evaluation of African national preparedness plans by Ortu *et al.*,<sup>60</sup> it could be surmised that less attention is being given to these basic necessities than to vaccines and antivirals. This indicates a pressing need for greater focus on and support for the development of health infrastructure in Africa.

## Africa at the crossroads

As indicated earlier, compared to the security rationale-based preparedness approach, the African IDSR is informed by a rationality of insurance, which collectivises risks to populations and tries to address them via public health infrastructure. In contrast, the WHO global influenza preparedness plan, and the WHO PI preparedness and response guidelines,<sup>62,63</sup> which form the templates for the respective 2006 and 2009 WHO-AFRO plans, advocate a whole-of-society approach. The guidelines enlist strategies such as simulations, early warning systems, and plans for mobilizing partners from other relevant sectors outside healthcare, such as agriculture, national disaster coordination entities, law enforcement, military, civil aviation, transportation, financial institutions and education for preparedness activities. This more extensive approach can be contrasted with the IDSR, which relies almost exclusively on public health infrastructure to maintain surveillance and response to infectious diseases.

The securitised whole-of-society approach to preparedness *might* seem compelling. It could be a vehicle for injecting public health concerns into a wide range of decision-making forums. Yet, the difference between existing and threatened disease outbreaks is glossed; the disease burden in many African countries demands that greater priority be given to existing diseases such as HIV/AIDS, malaria and tuberculosis.

Secondly, securitised preparedness approaches do not synergise the protective strategies for different types of catastrophes.<sup>5</sup> The potential for preparedness efforts, which are characterised by *discontinuous, temporal and localised response by experts to events*,<sup>4</sup> to benefit public health efforts to tackle ongoing health challenges, is questionable. Thirdly, preparedness is an expensive process. Funding estimates for implementation of the 2009 WHO-AFRO plan were put at US\$ 308,640,002. Given limited resources, recent wastages of stockpiles, and allegations of unethical practices, is WHO's approach prudent one for resource-constrained countries? While the benefits of improved communication channels, and developing inter-sectoral/regional collaboration cannot be ignored, Africa's present needs as a continent will be better served by focusing on improving its health infrastructure, rather than a diversion of these funds into preparedness activities such as acquiring vaccine stockpiles. Guided by the WHO guidelines, nations such as the United States, Japan, and Korea have pursued PI preparedness in ways that improve their existing technology, capabilities and networks.<sup>64</sup> In the African context, a neglected

health system is the fundamental problem, which underscores the continent's lack of capacity to manage potential pandemics. Adding to this is the high burden of infectious diseases. The implication of this is that, notwithstanding the international pressure to adopt a preparedness approach to PI, the strategy adopted in Africa must first address its pressing needs as a continent, and in addition, enable it to manage pandemics.

## Conclusions

Identifying the differences between Western and African regional preparedness efforts is valuable, we argue, partly because articulating the unique, fundamental deficits in Africa's PI preparedness is necessary if international partners are to be asked to support African priorities. Typically, international aid by donor countries is provided to African countries in the form of vertically funded programs, with specific disease targets, which have measurable output in terms of the number of people reached.<sup>37,65</sup> However, as many have argued, cross-cutting strategies such as improving fragile developing country health infrastructure is the critical factor in shoring up Africa's capacity to cater to the health needs of its people<sup>61,65-70</sup> in the face of PI and more generally.

As African countries pursue pandemic preparedness, it may seem logical to donors to support a securitised approach familiar to the West. However, in Africa, a regional approach to PI which focuses on improving public health infrastructure is more appropriate than a diversion of funds into preparedness-based activities that extend into broader realms of governance. In other words, greater emphasis and support needs to be given in the first instance to improving the basic infrastructure of public health, and by extension, IDSR. This should constitute the focus of all stakeholders in preparing the continent for a possible influenza pandemic, or any other pandemic for that matter.

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