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Strengthening Pandemic Disease Preparedness in Developing Nations

By: Amelia Pieti
Old Dominion University Model United Nations Society

I. Introduction

The extreme urgency and terrifying nature of epidemic disease raises difficult issues from the ECSOC and the NGO community. Because disease does not respect borders, it is a shared issue for the international community. But sovereign states often find the level of cooperation required to suppress epidemic difficult to justify politically. Also difficult for them is acknowledging their lack of expertise. Even the greatest states have limited expertise and resources, and must rely on independent health experts and NGOs to address these issues rapidly and effectively. While NGOs usually are willing to cooperate with governments—and often rely on states for funding—they also bridle at state control and direction. Managing these tensions to insure proper planning and emergency response is a difficult challenge for the ECOSOC and NGO community.

The rise of communications and transportation technology—accelerating the spread of people and innumerable other vectors (carriers) of disease—worsens the problem. It also makes epidemics easier to detect and respond to. International organizations (IOs), governments and non-governmental organizations (NGOs) find themselves in the midst of a rapidly changing sea of forces, with enormous responsibilities and no sure recipe for success.

When an epidemic occurs, the danger it could go global is overwhelming. The UN works through the ECOSOC to authorize UN agencies, especially the World Health Organization (WHO) (in Geneva) to set standards and coordinate emergency preparedness. Emergency preparedness and rapid responses are essential. But many governments resist global action, preferring the keep control under sovereign national policy. NGOs, vital sources of ideas, expertise and resources, often seek global support but may resist international direction. Pandemic disease preparedness, in other words, is much like any other international issue, except the overwhelming pressure of time.

II. Background

Epidemics—the catastrophic spread of infectious disease usually are restricted to a single location—but can become *pandemics*, affecting whole continents and regions or even become a global menace. The impact of a pandemic will always be devastating. Pandemics have the potential to devastate whole regions and halt the progress of a nation. The outbreak of a pandemic in the developing world would result in an issue worldwide. The nature of a pandemic is to affect a large region of peoples; this widespread sickness would not only negatively affect human safety and welfare, but also will vastly affect the region's growth. Pandemics result in a decrease of the working population, which will damage GDP of the entire region.

Figure 1. Major global pandemics since AD 1000

Malaria	continuous
Bubonic Plague	1348-1600s
Smallpox	1600-1900
Tuberculosis	1600-1944
Yellow Fever	1780-1900
Cholera	1800-present
Influenza	1918-1919
AIDS	1981-

Classic examples of pandemics include the bubonic plague, which killed approximately one-third of all infected people, with the great outbreak in Europe beginning in 1348, and others for the next three hundred-fifty years. Less deadly proportionally was the great influenza epidemic or Spanish flu (named for the country where it was first identified) of 1918-19. The 1918-1920, the first involving H1N1 influenza virus, infected 500 million people world-wide and killed 50 to 100 million, equal to roughly 4 percent of the world's population.[1]

In the early 1980's HIV/AIDS (*Human immunodeficiency virus infection / acquired immunodeficiency syndrome*) quickly emerged as a pandemic. Massive efforts to deal with global sources of the disease, some related to the HIV/AIDS virus, other to behaviors that increased risks of contracting the disease, helped control its spread. Governments often were resistant to applying public health science to deal with the problem, which worsened the situation. International coordination by the World Health Organization (part of the UN system), including support for poor countries and massive assistance by private foundations and NGOs, have stopped the spread of the disease, but not reverse its course. Currently the incidence of HIV is declining in most regions. Worldwide, the number of people newly infected with HIV dropped 33 per cent from 2001 to 2012. Still, 2.3 million people are newly infected by HIV each year, with 1.6 million of them in sub-Saharan Africa.

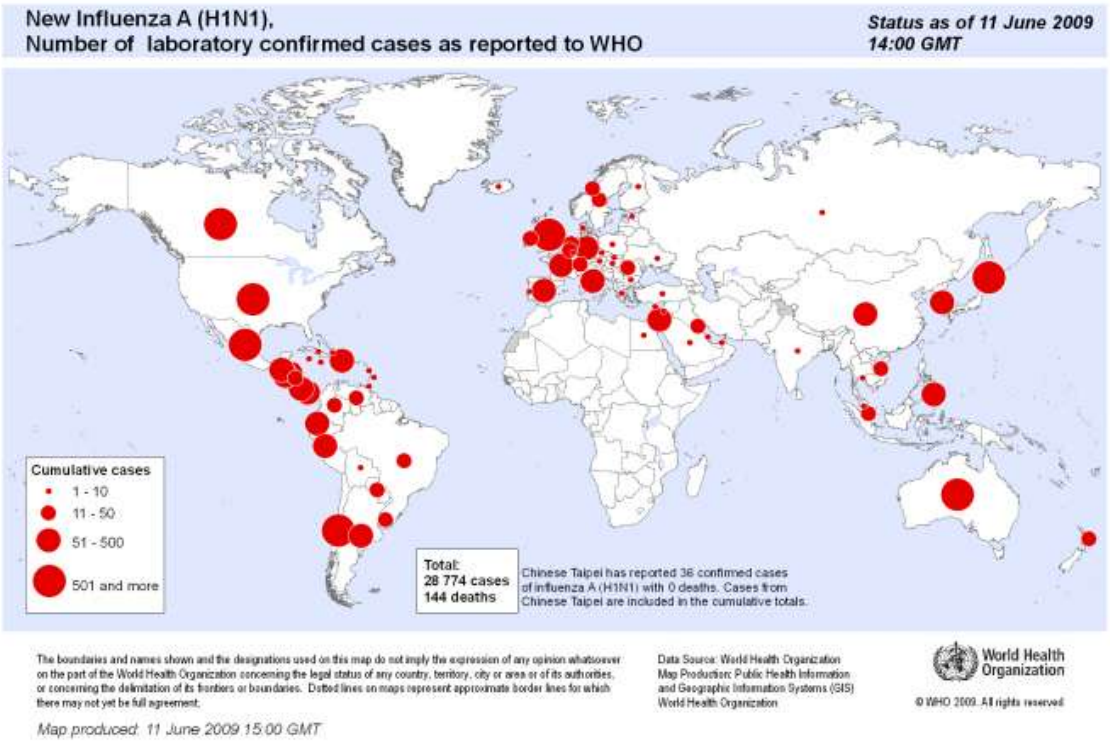
Among experts, there is agreement that the world narrowly avoided a massive pandemic in 2002-03, with *Severe Acute Respiratory Syndrome* (SARS or bird flu), a form of influenza leading to multiple organ failure and rapid death. Massive inoculations restrained the spread of the disease, which still spread by the end of 2003 to 29 regions, infected 8,096 persons and caused 774 deaths. Other equally serious dangers are continuous, especially malaria, which still affects much of the world.

[1] Taubenberger, Jeffery K. , and David M. Morens, "1918 influenza: the mother of all pandemics", *Emerging Infectious Diseases*, Volume 12, Number 1—January 2006

http://wwwnc.cdc.gov/eid/article/12/1/05-0979_article.htm

Pandemic preparedness in developing countries poses a challenge because of an increased likelihood of outbreak, and the lack of medical infrastructure. The lack of medical infrastructure leads to a rapid spreading rate of the illness. Because of this if a pandemic were to occur in a developing nation the price would be far higher than if it took place in a more developed nation that had access to the necessary resources.

Figure 2. SARS monitoring in 2009

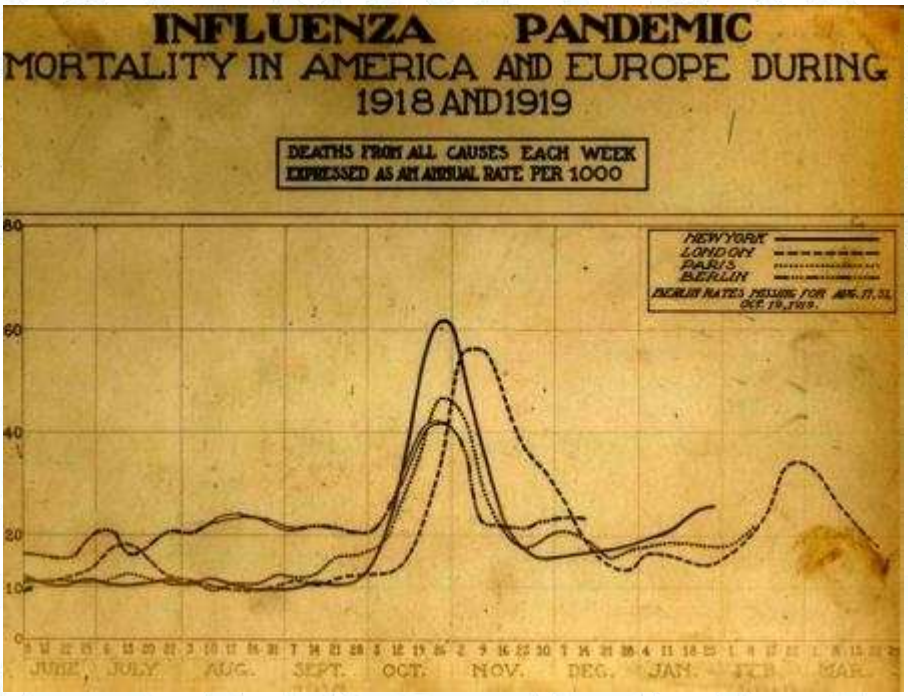


Source: World Health Organization, 2009

In order to fully assess the issue of strengthening preparedness for pandemics we must look at the history of pandemics and the effect on the world. A pandemic is defined as a disease that is prevalent throughout an entire country, continent, or the whole world. This differs from an epidemic because a pandemic spans over a larger area. The World Health Organization (WHO) separates a pandemic into six stages of progression.

Looking at the history of pandemic preparation worldwide the methods tend to branch into either pharmaceutical or non-pharmaceutical. Pharmaceutical interventions include vaccines and antiviral agents. The best prevention from influenza is vaccines (UN influenza.org). Non-pharmaceutical interventions can include quarantine, isolation, social distancing, and education on personal hygiene.

Figure 3. Influenza death per thousand people, 1918-19



Source: National Museum of Health and Medicine, via "The 1918 Flu Pandemic or Spanish Flu", *Squiddo*, 2013

III. Current Situation

Despite many nations worldwide having very strong preparedness of pandemic situations there are many issues that still need to be resolved if the Global Community intends to strengthen preparedness further. These issues lie for the most part in developing nations.

The issue of how lesser developed countries (LDCs) strengthen preparedness for spread and emergence of pandemics is a complex task. Strengthening preparedness in LDCs creates a difficult challenge because of the lack of existing medical infrastructure, lack of vaccine manufacturing capabilities, and the lack of funding. People in the developing world, particularly the rural poor, are highly vulnerable to disasters. Poor communities and households have fewer means to protect themselves from, and to cope with, the consequences of natural disasters. Due to their poverty they also are often forced to live in areas that are prone to natural disasters such as landslides or floods. Access to basic health services is often minimal or non-existent.

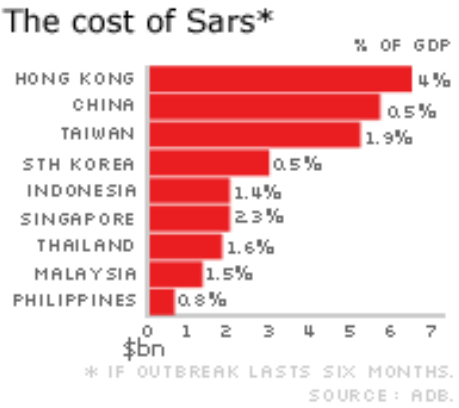
One of the major issues with preparedness is LDCs cannot access methods of preparation due to the poor quality or absence of Medial infrastructure. In the event of a pandemic emergence, healthcare facilities would be quickly overwhelmed with increased numbers of patients. The rise of pandemic threats means disease which starts in one part of the world quickly move everywhere. Since no country is isolated, the UN tries to address threats close to the point of origin. But this often is not enough.

As discussed the method of providing vaccinations is a predominant way to strengthen preparedness but this is confined to industrialized countries. Industrialized countries are where most seasonal influenza vaccines are produced and because of this they are more prepared in the event of a pandemic. A recent WHO report estimated that the worldwide vaccine production capacity for current influenza vaccines is 350 million doses per year. That level of production is clearly insufficient to supply vaccines to all countries. Because of this issue a method to increase the availability of pharmaceutical prevention needs to be created.

Finally the roadblock that is at the root of strengthening preparedness in developing countries is the funding for the preparation. Poverty increases susceptibility to disease and makes it harder to detect and treat. People are less likely to seek medical attention, allowing inflections to go undetected until they become catastrophic. Medical and public health professionals are few and isolated. They lack resources, including access to drugs and facilities.

For poor countries, assistance from donor governments, international organizations and NGOs is vital. Coordinating aid to get it where it is needed most is a major job of the UN"s World Health Organization (WHO), and other aid and development agencies.

Figure 4. Economic cost of SARS to Asian economies, 2003



Source: "Sars 'could cost Asia $28bn"", *BBC News*, 9 May 2003

IV. Role of the United Nations

The UN concerns itself with pandemic preparedness for reasons such as its responsibility to protect. Responsibility to Protect (R2P) is the idea that as a powerful international body it is the UN's responsibility to help when it can. It is also the role of the UN to aid in pandemic preparedness as it is closely tied to the UN Millennium Goal of combating HIV/AIDS, malaria and other diseases.

UN Secretary General Ban Ki-Moon stresses the importance of preventing pandemics worldwide, locating the issue in the UN's broader Millennium Goals for universal human development and prosperity.

Within the UN organizations, committees and specialized agencies work together to prevent and mitigate the devastation of a pandemic. The UN involves itself through the work of the

World Health Organization (WHO). WHO is a specialized agency of the UN whose objective is international public health. The World Health Assembly is within the WHO and is the decision-making body of the agency. WHO has provided guidance on pandemic preparedness since 1999 and has most recently revised this document in 2009. The document defines the phases and guidance during each phase. The WHO also provides surveillance of epidemics and risk-assessments in order to provide an early response system.

The UN system is especially well suited to:

- Raise awareness through recommending national and NGO contributions to global awareness-raising campaigns about disease risks and related behavior
- Support for improved monitoring, early warning, and professional response to epidemics and pandemics by public health and medical professionals
- Programs to support training for more public health and medical professions where they are most needed
- Addressing poverty, depravation and other social ills mostly like to breed vulnerability to epidemic and pandemic disease
- Enhance cooperation between international organizations (IOs), governments and non-governmental organizations (NGOs) to insure efficient and effective response and elimination of problems that worsen disease risks

V. Landmark UN resolutions

Major General Assembly and EOCOSC resolutions tend to focus on specific epidemic and pandemic threat. The most innovative and influential of these resolutions galvanize international agreements to coordinate work on specific dangers. Sometimes these are rapidly-breaking emergencies. They also can involve controversial, slower moving afflictions and pandemic preparedness.

The most controversial resolutions connect disease to underlying problems of economic development and social depravation. Others involve voluntary behaviors including sexual behavior and consumption of illegal drugs or tobacco. Recent precedents are:

- GA resolution GA/60/262. *Political declaration on HIV/AIDS*. This reaffirms that "access to medication in the context of pandemics, such as HIV/AIDS, is one of the fundamental elements to achieve progressively the full realization of the right of everyone to the enjoyment of the highest attainable standard of physical and mental health" as well as recognizes "that in many parts of the world, the spread of HIV/AIDS is a cause and consequence of poverty, and that effectively combating HIV/AIDS is essential to the achievement of internationally agreed development goals and objectives, including the Millennium Development Goals". http://data.unaids.org/pub/report/2006/20060615_hlm_politicaldeclaration_ares60262_en.pdf

- ECOSOC resolution E/1994/24. *Joint and co-sponsored United Nations programme on human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS).* https://www.unaids.org/en/media/unaids/contentassets/dataimport/pub/externaldocument/1994/ecosoc_resolutions_establishing_unaids_en.pdf

- ECOSOC resolution E/2005/1. *Population, development and HIV/AIDS, with particular emphasis on poverty*.

- ECOSOC resolution E/2010/8. *Tobacco use and maternal and child health*. http://www.un.org/en/ecosoc/docs/2010/res%202010-8.pdf A related resolution stressing the importance of government support for efforts by the World health organization to restrain tobacco use is ECOSOC resolution E/2013/L.13 on the *Prevention and Control on Noncommunicable Diseases*, http://www.who.int/nmh/events/2013/E.2013.L.23_tobacco.pdf

VI. The NGO role

NGOs are an especially important force on health issues; they have the greatest expertise. States routinely accredit NGO officials on their national delegations, supplementing their diplomatic to insure greater effectiveness. Member states coordinate carefully with NGOs to maximize the impact of their programs. The international community relies on NGOs for implementation of all major international health programs. And NGOs accordingly expect to shape the resolutions and agreements they will carry out. In practice, the NGOs often are authors and implementers.

Although they are private organizations, NGOs like to work closely with governments. As sovereign legal authorities, governments have to be consulted; NGOs cannot operate without official tolerance. Governments, for their part, usually recognize NGO expertise and often rely on it. Governments often are their most important source of funding and legal support for NGOs. NGOs advise governments and often work with to implement government projects. NGOs have special strengths in two closely-related and highly relevant areas: *disaster response* and *public health*.

- *Disaster response* is a specialty of NGOs, reflecting their unique presence and sensitivity. As evaluators of emergency situations, with expert staffs located in remote and impoverished regions, they can be uniquely sensitive to emerging problems. They serve a vital function alerting the international community the emerging problems and critical situations. They also are often the best-equipped of all actors to provide emergency relief and medical responses. NGO's tend to be much less bureaucratic than state agencies and much more efficient than the profit-making sector providing emergency treatment and relief.

- *Public health programs* stress collective action beneficially to all people among a particular population, such all residents of a city, refugee camp, region or country. They typically include measures like sanitation, water purification and inoculations, actions that help everyone. Public health stresses preventive measures, which cost much less than

treating disease. A typically contemporary step is providing anti-malaria treated mosquito nets to families in affected areas. Relatively inexpensive, treated mosquito nets are far cheaper than treating the actual disease.

- One of the most visible NGOs for public health warning, prevention and treatment is *Médecins Sans Frontières* (MSF or Doctors Without Borders). MSF will treat injured and sick individuals in regions at war, but less visible public health work often has greater over-all affect reducing mortality and suffering. With a staff of over 25,000, mostly local medical and public health professionals (such as water and sanitation engineers) MSF provides medical aid in over 60 countries, using an annual budget of approximately USD 400 million.[2]

NGOs are vital contributors to the WHO's *Global Outbreak Alert & Response Network* , the basic resources for global warning and tracking of epidemic disease. Because of their presence of on the ground, NGO's often are better informed than governments and more responsive. But they require financial support to contribute reliably, which many governments hesitate to provide, preferring to concentrate funding in the programs they direct and manage themselves.

VII. The country role

Of the P-5 countries China is the most outspoken about the need for global pandemic preparations. Other East Asian governments also are very sensitive on this issue. Having dealt with the emergence of a pandemic first hand with the Avian Influenza (SARS or H5N1), they fully appreciate the risks are ready to work together. But they also insist that governments should control preparations and can be suspicious of the independence of NGOs.

European countries recognize the importance of these issues and much more willing to work through NGOs, which they often support through their governments and tend to listen to closely. The European Union has many bodies focusing on pandemic disease preparation in Europe and foreign aid programmes.

For *China, Russia,* to a lesser degree the *United States,* and other countries concerned with maximizing national authority, the basic problem of pandemic disease is rapid emergency response while preserving the authority of the sovereign state. While all three acknowledge the expertise and author of NGOs and international organizations like the WHO, they prefer to keep them "on tap" rather than "on top". They resist proposals that elevate the prominence and power of non-state actors and prefer to find ways to integrate NGOs into government programs and minimize their autonomy.

The problem can be even more acute among less developed countries. Having only recently established their national sovereignty, they often resist pressure from the international community. While they will use international institutions to press wealthier countries for aid and

[2] "Médecins Sans Frontières", Wikipedia, n.d.
http://en.wikipedia.org/wiki/M%C3%A9decins_Sans_Fronti%C3%A8res

assistance, they try to strengthen their own sovereignty and freedom of action. They also can be suspicious of NGOs working in their territory, especially when NGOs challenge government policy, or act in ways that challenge official policy toward minorities and regions.

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