April 27, 2009

Dear Friends and Colleagues;

As you are undoubtedly aware, we are now in a state of public health emergency, in seven countries (including the United States), and globally, as declared by WHO on Saturday, April 25th. Tomorrow (Tuesday), the WHO will decide whether to raise the Pandemic Threat Level from 3, where it has been for years, to 4 or 5. We assume that if/when the Threat Level officially is boosted, nerves all over the world will get rattled.

We have rapidly prepared this update from the Council on Foreign Relations Global Health Program. Events are moving quickly, and it is possible some of our points will no longer be accurate by the time you read this, in light of new data and occurrences. Nevertheless, we hope this proves useful.

In this update please find:

- News from the Global Health Program
- The Unfolding “Swine Flu” Situation: It is Now a Pandemic
- Goosby Named Head of PEPFAR

News from the Global Health Program

A new Working Paper by Kammerle Schneider and Laurie Garrett looking at the evolution and future of donor assistance for HIV/AIDS is now available on the CFR website. The CFR Global Health program was asked to contribute to the “aids2031” project, focusing on the future of donor financing for HIV prevention and treatment program. This Working Paper is the product of that contribution.

In The Evolution and Future of Donor Assistance for HIV/AIDS, Schneider and Garrett explain that in the past twelve years there has been an enormous increase in the amount spent on HIV/AIDS efforts. “However, the current economic crisis threatens to erase many of the gains made in global health and development, as wealthy nations turn inwards in hopes of rescuing their own economies. …In such a scenario a profound political mobilization would be required to garner continued and adequate support of all types of foreign assistance, including HIV/AIDS treatment programs. Even in the less grim scenario, philanthropic
giving from governments, foundations, and corporations is expected to sharply decline as the world tightens its belt in a global recession.”

The rise of new economic and political powers and the growing influence of non-state actors will, over the next twenty years, transform the world’s power structures and global institutions, write Schneider and Garrett. “The effects of climate change, resource scarcities, population growth, youth bulges in developing countries, aging wealthy world populations, and urbanization will pose profound challenges. The future configuration of the donor community may look vastly different than that of today. China, India, Russia, and Brazil will play a powerful role in the global economic and political agenda.”

This paper examines the evolution and impact of donor resource mobilization for HIV/AIDS; the potential effect of the current economic crisis on HIV/AIDS funding; immediate and long-term challenges and opportunities for donor assistance; and policy recommendations to the donor community and national governments to ensure steady, long-term funding for HIV/AIDS and alleviate the impact of future challenges. Schneider and Garrett lay out steps to secure long-term funding and transform emergency responses into sustainable engagements through the fiftieth anniversary of the HIV/AIDS pandemic in 2031 and beyond. For full text of the report, please visit: http://www.cfr.org/publication/19161/evolution_and_future_of_donor_assistance_for_hiv_aids.html


In October 2008, Laurie Garrett presented at PopTech!, discussing way to maximize the effectiveness of aid to Africa, narrow the life expectancy gap between the developed and developing worlds, and prevent the spread of future pandemics. A video of Garrett’s presentation is available at: http://www.poptech.org/popcasts/?viewcastid=227
(If the link does not work on your computer, please copy and paste the link)

The Unfolding “Swine Flu” Situation: It is Now a Pandemic

As is usually the case with frightening outbreaks, there is a fair amount of confusion regarding just about every aspect of this so-called swine flu situation, which now spans at least eight nations. The Global Health Program will endeavor to bring some clarity, but the situation is fast evolving and as new data pours in we will adjust our assessments.
The first case of H1N1 influenza known to jump from pigs to human since 1988 occurred this fall in the United States. The Texas Department of State Health Services reported an incident to the CDC in mid-October, involving a woman who was exposed to ailing pigs.  
(See: [http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/news/nov2408swine-br.html](http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/news/nov2408swine-br.html))

The incident did not spread any further, and there was no evidence of person-to-person transmission. Samples of the patient’s blood and nasal swabs were sent to the CDC, which found, “a swine influenza A (H1N1) triple reassortants virus, A/Wisconsin/87/2005 H1N1.”

This case was little more than an oddity at the time. But in December researchers in Europe, Japan, South Korea, and all over the United States reported that rapid changes were underway in H1N1 type influenzas found primarily in human beings. The viruses were, among other things, becoming increasingly resistant to the primary flu treatment drug, Tamiflu (oseltamivir). On December 20, 2008, the U.S. CDC issued an official warning, advising physicians across America that Tamiflu might not work, and that the more difficult to administer alternative drug, Relenza, should be administered to ailing patients.  
([http://topnews.us/content/21026-cdc-warns-tamiflu-resistant-flu-bug](http://topnews.us/content/21026-cdc-warns-tamiflu-resistant-flu-bug))

On March 30, 2009, a 10-year-old boy was admitted to a hospital in an agricultural town outside San Diego, California. The boy’s family had traveled to Texas, though we are unaware of any epidemiological efforts that may have been made to look for links to the October Texas case. The boy recovered, but a second pediatric case in the same area prompted an investigation. The CDC published a report on April 17 stating that,

“Preliminary genetic characterization of the influenza viruses has identified them as swine influenza A (H1N1) viruses. The viruses are similar to each other, and the majority of their genes, including the hemagglutinin (HA) gene, are similar to those of swine influenza viruses that have circulated among US pigs since approximately 1999; however, 2 genes coding for the neuraminidase (NA) and matrix (M) proteins are similar to corresponding genes of swine influenza viruses of the Eurasian lineage. This particular genetic combination of swine influenza virus segments has not been recognized previously among swine or human isolates in the United States, or elsewhere based on analyses of influenza genomic sequences available on GenBank. Viruses with this combination of genes are not known to be circulating among swine in the United States; however, no formal national surveillance system exists to determine what viruses are prevalent in the US swine population.”

Fortunately, the previously noted H1N1 mutation that conferred resistance to Tamiflu was NOT present in this apparently new virus.

By April 20th the CDC had received reports of five more H1N1 swine flu cases in children and teenagers in California and Texas. A bulletin was released by the agency on April 23rd.

Meanwhile, over roughly that same March/April time frame an outbreak of the same virus unfolded in Mexico, commencing in rural areas, but exploding last week in Mexico City, a densely populated metropolis of some 20 million people. By Thursday Mexican authorities were closing schools, churches, movie theaters, sporting events and all other venues that involved large concentrations of human beings.

Over the weekend, cases were reported in locations all over North America, and among travelers from Mexico to New Zealand, the UK, Spain and perhaps Japan. As of this writing the North American distribution is as displayed in this graphic:
As stock markets opened in SARS-jittery Asia and Latin America, it appeared the unfolding epidemic was having a deleterious impact. Mexico requested and received guarantees of millions of dollars from the IMF to offset its costs of controlling the epidemic; Tamiflu purchases skyrocketed; U.S. and Mexican manufacturers went on notice that CDC is preparing seed stock for a new flu vaccine, and the WHO declared a global state of emergency. Tomorrow [Tuesday] WHO is scheduled to announce whether or not it will raise the official Pandemic Threat Level to 4 or 5 (from its current 3 level, where it has been for more than two years due to H5N1 bird flu).

A large number of difficult questions have not yet been resolved, making it impossible to gauge the genuine severity of this situation. WHO will have a tough time working out an appropriate Threat Level choice. An incorrect underestimate, leaving the Threat at 3, could lead to charges of complacency and incompetence if this spirals into a dangerous pandemic. Conversely, jumping to Threat 4 or 5 will have economic consequences all over the world, as governments spend heavily to ramp up public health programs, and stock markets recoil in an already devastated investment climate.

Some key questions the Global Health Program would like answered (though scientifically, this will be tough):

1. What is the denominator in this Mexican outbreak? At this writing some 103 Mexicans are thought to have died from the new H1N1 strain, though only 20 have been laboratory confirmed. If we assume the 103 number is real it would be a frightening figure IF the denominator (total number of individuals infected with H1N1) was in the neighborhood of
less than 10,000. Epidemiologists compute an R0 Factor\(^1\) to determine the odds that a given infection will result in illness or death. An R0 requires at least a ball park denominator, which we do not now have.

2. It is difficult to resolve mysteries regarding the apparent high death toll in Mexico, versus zero deaths anywhere else in North America, without appreciating the R0 of this virus. So far, the CDC and the Mexican government agree that the viruses in the two countries are identical. It is possible the high death toll in Mexico is simply the outcome of a far more widespread infection than we see in the United States. Or there may be other factors at play in Mexico, including health care responses.

3. It is worth noting that the United States probably does not have a real R0 Factor for this country either. That is because more than 47 million Americans have no health insurance, and another 56 million (estimated) are underinsured. These people are less likely to seek medical care for what they believe is routine flu.

4. Why is this striking teenagers, under-35-year-old adults and over-5-year-old children? There are three possibilities, which require urgent attention. First, in 1918 the flu pandemic struck the same age groups hardest, and they suffered the highest death tolls, because the virus was so foreign to human immune systems that robustly healthy young people had over-responsive reactions, sparking a so-called “cytokine storm” of released chemicals that flooded the lungs with fluids. This also occurred with SARS. If this is the answer, it is very bad news. But it is secondly possible that the high rate of infection in these age groups reflects their tendency to congregate closely in schools, day care, sporting events, and entertainment events, coupled with what might politely be termed lower standards of youthful hygiene regarding sniffles and coughs. This third, best-case, possibility is that the routine flu vaccination delivered last fall to older adults across the United States, which contained a H1N1 component, offered some partial protection against this new virus. Since young adults and teens are unlikely to get routinely vaccinated for flu, they got no such protection.

5. What does this mean for people who are HIV+, undergoing cancer chemotherapy or are otherwise immune-compromised? We do not know the answer to this. In part, this depends on the above question #4. If deaths are being caused by overly-robust immune responses, HIV+ individuals would, ironically, be less likely to suffer disease. But routine flu can be dangerous for people who are immunocompromised, either due to age, cancer, or disease, and HIV+ individuals who are on certain types of anti-viral drugs can suffer cardiovascular complications when exposed to flu.

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\(^1\) Ro is the average number of individuals directly infected by an infectious case during his or her entire infectious period, when he or she enters a totally susceptible population. Key points here are ‘directly infected’ and how susceptible the population is. The necessary condition for an epidemic is that Ro is greater than 1. This means that every infected person on average infects more than one new person.
6. We are worried about the Obama administration’s ability to handle all of the dimensions of this outbreak should WHO raise the Threat Level. We have no Secretary of Health and Human Services, no permanent CDC Director, no chief to the Office of the Global Health Administrator, no Surgeon General, no heads for any of the State Department posts relevant to global health and no confirmations at FDA, despite nominations. While the Obama Administration is not unusually slow to gain nominations and Senate confirmations, these events beg for urgent action. In the absence of leadership at HHS, Obama put the Department of Homeland Security in charge of the flu outbreak. We have no formal systems/appointments in place to handle global cooperation.

7. The utility of face masks is at issue. The Mexican government has mass distributed tie-back masks, akin to those one can purchase at local drug stores. It is not clear that these will offer significant protection. On the other hand, our Institutes of Medicine and CFR Member, Stephen Morse, (Columbia University) have tried to understand whether or not the expensive, unavailable N95 masks are necessary. This requires resolution.

8. The SARS epidemic was brought under control in part through fever checks, including temperature-measuring portals set up at airports, train stations, and public venues all across Asia. It worked. But SARS was, by luck, only contagious to any significant degree when individuals were running fevers. Flu, in contrast, can be deeply contagious even when individuals have no symptoms and are unaware that they are sick. We are worried that Asian countries will over-rely on the temperature systems they used in the SARS epidemic.

9. Finally, we urge public health officials to read Dr. Harvey Fineberg’s essay in the Journal of Infectious Diseases last year (JID 2008:197 Suppl 1, S15-18). Fineberg, who now runs the Institute of Medicine, was commissioned to analyze the 1976 Swine Flu Fiasco. He offers vital and cogent warnings regarding mistakes that ought not to be repeated.

To hear more about swine flu, listen to Laurie Garrett’s recent interview on NPR’s “All things Considered”:

Goosby Named Head of PEPFAR

Sources in Washington claim that Eric Goosby has been selected as head of the Office of the Global AIDS Coordinator, meaning head of PEPFAR. This has NOT been confirmed by any sources inside the White House or State Department. Nevertheless, below is Goosby’s official biography.

Eric Goosby, MD has been CEO and Chief Medical Officer of Pangaea Global AIDS Foundation since 2001. He is also Professor of Clinical Medicine at the University of California, San Francisco. Dr. Goosby has played a key role in the development and/or implementation of HIV/AIDS national treatment scale-up plans in Rwanda, South Africa, China, and Ukraine. He has extensive international experience in the development of treatment guidelines for use of antiretroviral therapies, clinical mentoring and training of health professionals, and the design and implementation of local
models of care for HIV/AIDS. Dr. Goosby focuses his expertise on the scale-up of sustainable HIV/AIDS treatment capacity, including the delivery of HIV antiretroviral drugs, within existing healthcare systems.

Dr. Goosby has over 25 years of experience with HIV/AIDS. His experience ranges from his early years treating patients at San Francisco General Hospital when AIDS first emerged to engagement at the highest level of policy leadership. During his tenure under the Clinton Administration as deputy director of the White House National AIDS Policy Office and director of the Office of HIV/AIDS Policy of the Department of Health and Human Services, Dr. Goosby managed a $2.5 billion HIV/AIDS care and prevention budget.

A native son of San Francisco, Dr. Goosby was treating patients at San Francisco General Hospital when AIDS first began to take its devastating toll on the city. In 1986, he became AIDS activity division attending physician, and the following year was appointed associate medical director of SF General's AIDS Clinic. During his tenure, he conceived of new strategies for the entry and retention of HIV-infected intravenous drug users into HIV clinical care, establishing three medical facilities located in methadone treatment centers. He was also the principal investigator for numerous AIDS Clinical Trial Group Studies.

In 1991, Dr. Goosby moved to a position in the federal government as director of HIV Services at the U.S. Public Health Service/Health Resources and Services Administration. In this position, he administered the Ryan White CARE Act, overseeing the distribution of federal funds and the planning of services in 25 AIDS epicenters and all States in the United States and its territories.

In 1994, Dr. Goosby became director of the Office of HIV/AIDS Policy in the Department of Health and Human Services. In this position, he was a strong advocate for responsible government policy in the areas of HIV/AIDS prevention, treatment and research, advised on the federal HIV/AIDS budget, and worked with Congress on all AIDS-related issues.

In 1995, Dr. Goosby saw the need for explicitly defining how to use a new class of drugs, protease inhibitors, to allow for rapid incorporation of these drugs into treatment plans for both infectious disease specialists and more importantly, general practitioners caring for HIV patients. He created and convened the DHHS Panel on Clinical Practices for the Treatment of HIV Infections. This committee defined how to use protease inhibitors in conjunction with already existing antiretrovirals. The committee later expanded its works to address standards of care for antiretroviral use for pediatric patients and pregnant women. Dr. Goosby has remained actively involved in this Panel, now known the DHHS Panel on Antiretroviral Guidelines for Adults and Adolescents, which is widely recognized as defining the standard of care for HIV/AIDS treatment in the United States.

In 1997, while still in his position at HHS, Dr. Goosby also acted as interim director of the National AIDS Policy Office at the White House, reporting directly to the President as his senior advisor on HIV-related issues. In 1998 he helped to foster and orchestrate the dialogue on racial disparities in HIV/AIDS that led to the Minority AIDS Initiative. Dr. Goosby’s office was responsible for guiding
the implementation of the Initiative at HHS over the next three years. Dr. Goosby’s office also coordinated scientific reviews of needle exchange as a public health intervention.

In 2000, while working as the director of HIV/AIDS policy at the Department of Health and Human Services, he served as acting deputy director of the National AIDS Policy Office in the White House. In these roles, Dr. Goosby had continuing involvement in the Ryan White CARE Act and its reauthorization, and participated in the definition and creation of a coordinated response to HIV/AIDS in the global setting, which became the LIFE initiative during the Clinton Administration.

As always, the Global Health Program will keep you informed.

Sincerely,

Laurie Garrett