

Post-9/11 Global Health¹

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Shortly after the September 11, 2001, attacks on the Twin Towers, letters containing anthrax spores were sent through the U.S. Postal Service. The FBI's Amerithrax Investigative Summary published on February 19, 2010—yes, almost nine years later—² found that at least five contaminated envelopes were mailed to different recipients: Senators Thomas Daschle and Patrick Leahy, the *New York Post*, and NBC journalist Tom Brokaw. Twenty-two people were infected after handling these envelopes, 11 with cutaneous cases and 11 with inhalation cases. Five of the 11 people who inhaled the anthrax spores died as a result of the infection.

Investigations pointed to the guilt of Dr. Bruce E. Ivins, a military researcher and microbiology expert at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) in Fort Detrick, Maryland. Unfortunately, Dr. Ivins died before the trial. Some reports suggest that his workload and the pressure of the FBI investigations drove him to commit suicide,³ while others (such as the online edition of the Moscow daily *Pravda*) attribute his death to the Israeli intelligence agency, Mossad.⁴

One of the immediate consequences both of the September 2001 attacks and the anthrax mailings was the 2002 Bioterrorism Act, which places strict controls on U.S. imports of agricultural products and supplies in order to prevent infected foodstuffs from entering the country. Yet despite these efforts, *E. coli* outbreaks have occurred on several occasions. In 2006, for example, an outbreak was detected in spinach produced in California, causing Canada to issue a health advisory on U.S.-grown spinach. Another outbreak of the same type, this time caused by infected onions, was recorded that same year in Taco Bell fast-food restaurants in the northeastern United States. A few days later another fast-food chain, Taco John's, was also affected by the same problem. The onions were traced to a farm in Southern California. Lettuces presumably infected by the same bacteria were

also withdrawn from the market, but in October 2006 it was discovered that 250 cases of these lettuces had gone missing.

In 2011, Germany reported an outbreak of the same bacteria; initially it was announced that cucumbers from Spain were to blame, although this theory was later discounted. In early July, almost 4 000 people were reportedly infected, with over 50 deaths across 14 European countries, in addition to one case in Canada and six in the U.S., with one fatality in the latter. The European Food Safety Authority (EFSA) issued a report this July, indicating that the contamination was found in vegetable sprouts (including mustard and fenugreek) from seeds acquired in Egypt between 2009 and 2010. And de-

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spite the 2002 Bioterrorism Act, the European *E. coli* bacteria did enter the United States, which suffered the most of all the countries affected.

In 2003 a relatively new, headline-grabbing disease was detected, and within months it had sparked a global alert: the so-called bird flu or influenza A(H5N1), yet to be eradicated. Although only identified in 15 countries, with today's global mobility the disease has required close epidemiological supervision. The initial outbreak was in Vietnam. The virus then spread to Thailand and cases of infections were later found throughout most of Asia. From the time of its appearance to June 22, 2011, 562 cases of infections have been reported; however, most alarming is the number of fatalities (329), a mortality rate of 58.5 percent. Cases and deaths have been reported in 2011 in Bangladesh (2/0), Cambodia (6/6), Indonesia (7/5), and Egypt (31/12).⁵ Symptomatology asso-

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ciated with the onset of this disease is almost indistinguishable from that associated with human influenza and essentially consists of a cough, sore throat, muscular pains, and the development of eye infections, pneumonia, respiratory failure, and eventually death. The main cause of infection among humans is through contact with infected birds, especially poultry. It is easy to understand how this led to global trade restrictions on this type of meat coming from the countries involved.

A global alert was raised in 2003 on account of another respiratory disease originating in Asia: the Severe Acute Respiratory Syndrome (SARS). From China, it spread to several countries, infecting a total of 8 422 people globally, with 916 deaths, a rate of 10.9 per cent. Interestingly, the mortality rate was much lower despite the higher number of cases. These two diseases gripped the world's attention for some time. The World Health Organization (WHO) established that the SARS outbreak lasted from November 2002 through November 2003 and was mainly located in China, Canada, Mongolia, the Philippines, Singapore, and Vietnam, although cases were also reported elsewhere such as Australia, Belgium, France, Germany, Italy, Ireland, Romania, Switzerland, Thailand, United States, and the United Kingdom.

China took a wide range of measures to identify and control the pathogenic organism, from setting up quarantine zones at train stations and airports to even isolating entire areas—such as Hebei from April 21 to May 13, 2003—⁶ by forbidding people to enter or exit without a government-issued safe conduct. The spread of the disease was finally checked, but it has not been eradicated and there is now another cause for concern: a team of scientists from Germany has identified a very similar virus which causes SARS in some bat colonies and in their feces, opening up a new route for this type of virus to spread.⁷

The global pandemic H1N1/09 influenza virus struck in 2009, with its origin traced to Mexico. First reported in March and April that year, in Mexico alone there were 72 000 recorded infection cases and 1 300 deaths caused by this dis-

ease; the states most affected (by number of infection cases) were Nuevo León (30 percent), San Luis Potosí (24 percent), State of Mexico (18 percent), and Mexico City's Federal District (12 percent). Over 18 000 people died in other countries, mostly in the United States and Europe (about 13 000).

Haiti suffered one of the most serious international epidemics during the period in question (2001-2011). A massive cholera epidemic broke out after the terrible earthquake that shook the country on January 12, 2010. In December 2010, 11 months after the earthquake, 93 000 cases had been documented, including 2 120 deaths, an average of over six deaths per day. A report by French epidemiologist Renaud Piarroux indicated that one of the possible causes for the spread of this disease was a group of UN Blue Berets from Nepal who had been assigned to the peacekeeping mission in Haiti. Some people accused of witchcraft related to the disease's spread were lynched, as were people actually infected; these attacks posed a high risk for the peacekeepers themselves. Mexico issued a health advisory for cholera in November 2010, and in April 2011 the disease was detected in a 10-year-old girl, the first case in several years. It is not known whether it was the Haitian or some other strain.

Various diseases that had been considered under control or effectively limited have spread around the world in the early twenty-first century: tuberculosis, whooping cough, measles, malaria, diphtheria, and viral hepatitis. In 2011, the measles outbreak in the United States and Europe put Mexican health authorities into a state of alert (as of June 2011, 127 cases were reported in the United States and 21 326 in 30 European countries).

Mexico's health minister, José Ángel Córdoba Montoya, indicated that a strategy was in place to respond to this alert, starting by training doctors how to diagnose and treat the disease, given that no cases had been reported in Mexico since 2007. In addition to training, this strategy also included vaccinations of Mexican customs personnel, flight crews, and health workers; modules in international airports were set up to detect infected passengers; information was given to passengers on immediate symptoms; and a vaccination campaign was launched for people aged between 12 and 39 who had not received their booster shots. This last measure posed a problem since official calculations suggested a population of around 1.8 million at risk of infection, and at the time (July 14) only one million vaccinations were available.

This disease can be prevented through vaccination, but the global vaccination situation has been complicated by some

recent and other not-so-recent events such as the research that alleged a link between some vaccines (the MMR shot against measles, mumps, and rubella) and autism in children. It later transpired that its lead researcher, Andrew Wakefield, was associated with a law firm that planned to litigate against vaccine manufacturers. Therefore, the *Lancet* magazine, where the original study was published, retracted, stating that it should never have published it in the first place;⁸ Wakefield lost his license as a physician in the United Kingdom, though he continued to practice in the United States.

However, the damage had already been done. After the publication in February 1998, an intensive campaign was launched against all kinds of vaccines, causing a severe loss of confidence. Controllable diseases such as hepatitis and polio have reappeared relatively recently. In 2003, 784 polio cases were reported around the world, but in 2004 there were 793 in Nigeria alone. The numbers rise and fall, but the disease remains. Religious considerations are often cited as reasons to refuse vaccinations: in 2003 a religious group in northern Nigeria began to preach against vaccinations, arguing that rather than protecting children, these shots formed part of an undercover campaign orchestrated by Western powers to sterilize and kill children. Therefore, 2004 saw a sharp increase in the number of polio cases in Nigeria. This led United States President Barack Obama, to address the Muslim world in 2009 in an attempt to persuade them of his good intentions. At one point in his speech, Obama mentioned that he would start a new initiative with the Organization of the Islamic Conference to eradicate polio and increase its sponsorship in Islamic communities in order to promote mother-infant health as part of a joint initiative between the Muslim world and the United States.

Nevertheless some events still stand out. News services recently reported that the CIA, in its eagerness to collect genetic material (DNA) from relatives of Osama Bin Laden, carried out a fake vaccination campaign against hepatitis in Pakistan,⁹ with the assistance of physician Shakil Afridi, who was later arrested. The most worrying aspect of this case was that it affected a very low-income sector. This leads to greater resistance to vaccination and the reappearance of diseases that should be controllable and on their way out.

Can we accept this double standard, the hypocrisy of the most powerful nation in its dealings with the rest of the world? Should it suit its interests, the U.S. would undoubtedly do the same again. So the question is: How many times have they done this before? This strikes us as an act with

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serious repercussions, although it is still too soon to be able to fully assess what these are, and that fills us with fear and indignation. The self-appointed human rights' crusader playing fast and loose with the universal right to health. What a fine example!

And as I mentioned initially, the U.S. anthrax attacks gave rise to a new bioterrorism act that has not prevented contamination originating within its own borders, yet which has obstructed its highly touted free movement of goods. This also clearly shows that, in health terms, we are no better off now than we were before September 11, 2001. The reappearance of diseases that were supposedly already controlled, the strong opposition (religious or otherwise) to vaccination campaigns that could help control this, added to the recently exposed lies, points to a complicated prospect in this area for at least the next few years. ■■■

NOTES

¹ My thanks to Jorge Benjamín Ruiz Gutiérrez for his help in writing this article.

² See <http://media.washingtonpost.com/wp-srv/politics/documents/amx-investigative-summary.pdf>.

³ See http://topics.nytimes.com/top/reference/timestopics/people/i/bruce_ivins/index.html.

⁴ See <http://engforum.pravda.ru/index.php?topic/146525-us-military-research-scientist-dr-bruce-e-ivins-murdered/>.

⁵ See http://www.who.int/csr/don/2011_06_22/en/index.html.

⁶ Mark A. Rothstein, M. Gabriela Alcalde, Nanette R. Elster, Mary Anderlik Majumder, Larry I. Palmer, T. Howard Stone, and Richard E. Hoffman, "Quarantine and Isolation: Lessons Learned from SARS. A Report to the Centers for Disease Control and Prevention," Institute for Bioethics, Health Policy and Law, School of Medicine, University of Louisville, November 2003, http://www2.cdc.gov/php/docs/SARS_REPORT.Rothstein.pdf.

⁷ Jan Felix Drexler, Victor Max Corman, Tom Wegner, Adriana Fumie Tateño, Rodrigo Melim Zerbinati, Florian Gloza-Rausch, Antje Seebens, Marcel A. Müller, and Christian Drosten, "Amplification of Emerging Viruses in a Bat Colony," *Emerging Infectious Diseases* vol. 17, no. 3, March 2011.

⁸ See several articles published on different dates in *The Lancet*, <http://www.thelancet.com/search/results?searchTerm=andrew+wakefield&fieldName=Authors&journalFromWhichSearchStarted=lancet>. [Editor's Note.]

⁹ See <http://www.guardian.co.uk/world/2011/jul/11/cia-fake-vaccinations-osama-bin-ladens-dna>, http://www.nytimes.com/2011/07/12/world/asia/12dna.html?_r=1.