What, Ebola Here?

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This edition of Pediatric Annals, guest edited by Michael Free- mark, MD, examines the problem of childhood obesity and its complications. The articles discuss such topics as how to identify endogenous obesity disorders and detect comorbidities of obesity, what role health care providers can play in community advocacy for healthy environments, and which children are candidates for bariatric surgery.

By all accounts, the current outbreak of the deadly Ebola virus in West Africa is very likely to persist and to worsen for many months before it can be controlled. As of August 26 (the date I am writing this column), there were 2615 confirmed and suspected cases with 1427 deaths. When you read this, the situation is likely to have become much worse.

Patient Zero in this epidemic was likely a 2-year-old boy who died December 6, 2013 in a village in Gueckedou, Guinea, near the border with Liberia and Sierra Leone. One week later his mother died, then a 3-year-old sister, and then the grandmother. Mourners at the grandmother’s funeral brought Ebola to a neighboring village, and a health care worker brought it to another village, where he subsequently died. Then, the health care worker’s doctor died, leading to the spread of Ebola to relatives from other towns.1,2

By the time this illness was recognized in March 2014 as being Ebola (which had never previously been seen in West Africa), dozens were dead in eight communities in Guinea, and cases were also occurring across the borders in Sierra Leone and Liberia. A fourth country, Nigeria, later began to experience cases after a sick Liberian-American man flew from Lagos, Nigeria, vomiting in flight. That man died on July 25. By August 25, 2014, according to US Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO), there were 16 confirmed Ebola cases in Nigeria (including 12 with direct contact with the man from Liberia and 2 of their spouses), and 5 (2 doctors, 2 nurses, and the driver) had died. Additional contacts had been released from quarantine of 21 days after contact with blood or body fluids from an Ebola-infected individual. Fortunately Ebola virus is not spread through the air. Mortality is about 60% in this outbreak. Much larger numbers of cases had occurred (numbers as of August 22) in Guinea (607 with 406 deaths), Sierra Leone (910 with 392 deaths), and Liberia (1082 with 624 deaths), with health care providers particularly hard hit, with numerous nurses and doctors infected and many dying.

Does this directly impact us in the United States? On August 1, an 11-year-old boy presented to the emergency department (ED) at Lurie Children’s in Chicago (my hospital), having just returned from 6 weeks in Nigeria. He had flown from the Lagos, Nigeria airport the day after the Liberian-American man had arrived, and this boy was ill with fever and vomiting, and then he rapidly became hypotensive in the ED. This, of course, drew the immediate attention/near panic of our Infection Prevention and Control, ED, and Infectious Disease teams, with institution of very strict isolation protocols. Within a couple of hours it was clear that he did not have Ebola. Instead, he had severe falciparum malaria with 7% of his red blood cells parasitized. He was treated promptly and was discharged home within 5 days.

On August 12, another child presented to our ED with fever and bloody diarrhea. The first report was that the patient had arrived from Nigeria 2 days earlier, but more careful history indicated that he actually had arrived from Eritrea in the horn of Africa, a very long way from West Africa. Whew! With modern international travel, we can be sure that these will not be the only scares of this kind.

The previous two dozen Ebola outbreaks since 1976 all occurred in remote areas of Central and East Africa, affecting fewer individuals; the current outbreak is...
likely to affect more people than all previous outbreaks combined. Should Ebola gain a real foothold in Lagos, Nigeria, a city of 20 million people, the results could be catastrophic. Media reports have emphasized the disproportionate impact on doctors and other providers, with more than 170 health care worker cases and more than 80 deaths, including some of the most important medical leaders in the affected countries.\textsuperscript{1,3} In addition, the medical infrastructure in Sierra Leone (health budget of approximately \$190/person/year), Liberia (which has fewer than 250 physicians for a population of 4 million), and Guinea (health budget of approximately \$65/person/year) is terribly inadequate, even in normal circumstances, with many hospitals lacking running water, consistent electricity, and basic medical and isolation supplies.\textsuperscript{3} Many foreign aid workers have been withdrawn because of safety concerns, further handicapping efforts to control the epidemic.

Here are some additional facts about the current outbreak: this outbreak is caused by Ebola Zaire, the deadliest of the five known Ebola species;\textsuperscript{4} about 55\% to 75\% of fatalities in this outbreak have been in women (who are disproportionately represented as they are the majority of nurses and other caregivers), cross-border traders, and those who prepare bodies for burial in the African cultures; the leading suspects for a vector that could spread Ebola from Central Africa to West Africa are fruit bats, but as of yet there are no proven cases of bat-to-human transmission of Ebola (when infected, bats do not become sick from Ebola).

The CDC, WHO, Doctors without Borders, and other organizations and agencies have an enormous job ahead of them to control and conquer this unprecedented Ebola outbreak. Extraordinary measures may be needed, but a vaccine and/or plentiful and affordable therapy seems many years away.

\textbf{THIS MONTH’S STAMPS}

To accompany this discussion about Ebola, I have chosen a stamp from each of the four countries involved in this outbreak as of this writing. The 2002 stamp from Guinea portrays Sir Alexander Fleming (1881-1955), who discovered penicillin;\textsuperscript{a} a 1992 stamp from Nigeria shows a heart and great vessels;\textsuperscript{b} a Sierra Leone stamp honors Wilhelm Röntgen (1845-1923), who discovered X-rays in 1895; and a stamp from Liberia emphasizes the importance of combating HIV/AIDS, malaria, and other diseases.

\textbf{REFERENCES}