HealthManagement
Promoting Management and Leadership

4 Diseases That Will be Eradicated in the Current Century

Poliomyelitis

The lowest annual polio prevalence seen to date was in 2016, with 37 reported cases, so this disease may well be next to be eradicated.

The following world regions have been declared polio-free: The Americas (1994); Indo-West Pacific region (1997); Europe (1998); Western Pacific region, including China (2000); and Southeast Asia region (2014), including India.

Only three countries remain in which poliovirus transmission has not been interrupted, and these are Nigeria, Pakistan, and Afghanistan.

The Global Polio Eradication Initiative is a broad public health effort that was established in 1988 by the World Health Organization (WHO), Rotary International, the United Nations Children's Fund (UNICEF), and the United States Centers for Disease Control and Prevention (CDC).

Since then, the number of annual diagnosed cases of polio has been reduced from hundreds of thousands to fewer than 100 in 2015. Of the three strains of the polio virus, two—wild poliovirus type 2 and wild poliovirus type 3—have already been eradicated. All reported cases since 11 November 2012 have been of wild poliovirus type 1.

Strategies adopted to interrupt poliovirus transmission have included routine immunisation, supplementary immunisation operations, and worldwide surveillance of possible outbreaks.

Malaria

According to the World Malaria Report 2016 , 17 countries eliminated malaria between 2000 and 2015 (i.e. there were no indigenous cases for a minimum of three years); and six of these have been certified by the WHO as malaria free.

The Global Technical Strategy for Malaria 2016–2030 is dedicated to reaching defined targets by 2030. These include: to reduce global malaria incidence and mortality rates by at least 90%; to eliminate the disease from at least 35 countries in which it was transmitted in 2015; and to prevent re-establishment of the disease in all countries that are malaria free.

One approach to dealing with malaria is to control the mosquitoes that spread it, either by killing them with insecticides or by draining the bodies of stagnant water that their larvae live in.

Another approach, which won a Nobel Prize, is the use of a drug—a combination of artemisinin and piperaquine —to attack not the mosquito, but the disease-causing parasite itself. If applied to the human host, it could make them hostile territory for the pathogen.

Unfortunately, the efficacy of the drug decreased, according to Malaria World. The WHO believes that these treatment failures are most probably due to piperaquine resistance.

According to the WHO, the prerequisites for appropriate further interventions are: (i) a process of inclusive discourse to agree on global vision, goals and strategy; and (ii) a global plan for all endemic areas describing how, where and when we move from control towards elimination.

What must distinguish the new era, especially in Africa, is a real rather than rhetorical emphasis on health systems.

Ebola

In January 2016, WHO declared the end of the most recent ebola virusdisease epidemic in Liberia , and says all known chains of transmission have been stopped in west Africa. The outbreak killed around 11,000 people across Guinea, Liberia, Sierra Leone and Nigeria.

Although Liberia was the last country to get the all clear, which brings us to an important milestone, the WHO chief of emergency risk management and humanitarian response has pointed out that there are still incidences of small flare-ups of the disease because of persistence of the disease in survivors.

A future toward complete eradication of the disease looks promising, given recent vaccine developments. In December 2016, results of a major trial in Guinea were published in The Lancet , showing positive outcomes from an experimental ebola vaccine. The trial was led by the WHO, Guinea's Ministry of Health, Médecins Sans Frontières and the Norwegian Institute of Public Health, with collaboration from other international partners.

The vaccine studied is called rVSV-ZEBOV, and the trial involved 11,841 people in Guinea during 2015. Among the 5,837 people who received the vaccine, no cases of ebola disease were recorded 10 days or more after vaccination.

Dracunculiasis

Also known as Guinea worm disease, dracunculiasis is spread through consumption of drinking water that is infested with copepods which host *Dracunculus* larvae. Although rarely fatal, it is a painful and disabling parasitic disease in which a worm, *Dracunculus medinensis*, burrows through the flesh of the host.

The Carter Center has led efforts to eradicate the disease, in collaboration with the CDC, the WHO, UNICEF, and the Bill and Melinda Gates Foundation.

Unlike diseases such as poliomyelitis and smallpox, no vaccine or drug therapy is available for guinea worm disease. Efforts to eradicate the disease have been focused on making drinking water supplies safer, on educating about safe drinking water practices, and on containment of infection.

Incidences of guinea worm disease have been reduced from 3.5 million in 1986 to 25 cases in 2016. The WHO has certified 180 countries dracunculiasis free, and only three countries—South Sudan, Ethiopia, and Chad—reported cases of the disease in 2016.

Cases in 2016 were less than 1% of the number in 2009, indicating the disease is very close to eradication; however, the final step may be the most challenging.

Image credit*:* Pixabay

Published on : Mon, 27 Feb 2017