



Operation Eradication: The Global Health Community Comes Together to Defeat Meningitis by 2030

Tuesday, November 15, 2022



Bacterial meningitis strikes fast. Within hours, a fever, headache, nausea, and stiff neck can lead to brain damage, hearing loss, and other permanent disabilities, and potentially even death.^{1,2}

Meningitis stems from infection in the fluid around the brain and spinal cord, causing inflammation to the membranes surrounding them, called meninges.^{1,3} Bacterial meningitis is the most common form of the illness. As its name suggests, bacteria like *Haemophilus influenzae* (type B), *Streptococcus pneumoniae* (Pneumococcus), and *Neisseria meningitidis* (Meningococcus) cause bacterial meningitis.³ Different types of bacterial meningitis are more likely to affect different age groups, but newborns, babies and young children have the highest risk.^{2,3}

Globally, meningitis remains a major public health challenge. Approximately 2.5 million people are diagnosed with it every year and the disease is linked to 250,000 deaths.⁴

“The word meningitis strikes fear into the heart of every parent around the world,” says Diane Thomson, Senior Director of Global Vaccines Public Affairs for Pfizer. “The impact cannot be underestimated. Invasive meningococcal disease presents a significant health, economic, and social burden around the world.”

A new global roadmap, created by the World Health Organization (WHO), lays out an ambitious plan to Move Toward a world free of meningitis" by 2030.⁵

The Importance of Defeating Meningitis

Meningitis affects people of all ages, in all parts of the world. In areas like the “meningitis belt” in sub-Saharan Africa, major epidemics of bacterial meningitis occur every five to 12 years. These epidemics are responsible for up to 1,000 cases per 100,000 residents.⁶

“People don’t realize that it’s a serious infection with potential long-term complications,” says Paul Balmer, Vice President of Vaccines, Medical, Scientific and Clinical Affairs at Pfizer. “Many survivors—around 25%—have long term disabilities and death can result in as little as 24 hours of infection being diagnosed.”

Globally, the spread of some virulent strains of bacterial meningitis has sparked the need to take a global approach to disease surveillance and prevention.

The global roadmap identified three "visionary goals" for defeating the disease by 2030: Eliminate bacterial meningitis epidemics; reduce cases of vaccine preventable meningitis by 50% and deaths by 70%; and reduce disability and improving quality of life after a

diagnosis. Additionally, the roadmap established 5 pillars and within them 18 strategic goals that need to be achieved to successfully defeat the disease.⁵

Pillar 1: Prevention and epidemic control. The goals include the development and improved access to effective vaccines to provide optimal protection.

Pillar 2: Diagnosis and treatment: Improving diagnoses and developing and facilitating access to diagnostic assays are among the strategic goals essential to defeating the disease.

Pillar 3: Disease surveillance: Ensuring that effective systems for detection are in place and conducting surveys to establish the burden will provide a better understanding of the disease burden.

Pillar 4: Support and care for those affected by meningitis: Strategic goals that include early recognition and management in community and healthcare settings and increased access to appropriate care will help ease the burden on those affected by the disease, their families, and their caregivers.

Pillar 5: Advocacy and engagement: Ensuring that funders and policy makers recognize the need to defeat the disease and integrate it into all levels of planning; raising awareness in communities about the impact of the disease and knowledge of how to access vaccines; and maintaining high vaccine confidence are an essential for defeating it.

WHO member states and partner organizations committed to implementing the ambitious goals. And pharmaceutical companies like Pfizer are also instrumental for their roles. Among the strategic goals in the roadmap are maintaining high coverage of prequalified vaccines and introducing new, effective, and affordable vaccines to prevent illness.

The Role of Increasing Access to Vaccines in Preventing Meningitis

Vaccines are the most effective means of preventing infections.⁷

Despite the important role immunization plays in defeating meningitis, Thomson notes that there isn't a consistent approach to meningococcal vaccination schedules and recommendations throughout the world.

The latest data from the Centers for Disease Control and Prevention (CDC) showed that meningitis vaccination rates were increasing. More than 86% of adolescents ages 13 to 17 received at least one dose of meningococcal conjugate (MenACWY) vaccine and 50%

received two doses of the vaccine; 17.2% of adolescents had received at least one dose of serogroup B meningococcal (MenB) vaccine.⁸ To achieve the goal of defeating meningitis by 2030, a greater emphasis on vaccination as a meningococcal prevention strategy is needed worldwide. It is also an opportunity for governments to consider the development of national vaccine strategies.

“We need as a public health community to work together to ensure that there are appropriate education awareness campaigns that build confidence in vaccine strategies,” Thomson says.

The WHO Roadmap outlines several strategic goals (distributed amongst the five pillars) to defeat the disease. One strategic goal entails achieving and maintaining high coverage of prequalified vaccines to implement tailored immunization strategies by supporting the development and licensure of safe and effective new vaccines. Another is developing evidence-based vaccination strategies that would protect individuals who are vaccinated and work toward potential herd immunity (also called herd protection), which occurs when a high percentage of the community is vaccinated, decreasing the spread of a disease like meningitis from person to person.^{5,9}

Need Drives Innovation

In the U.S., there are two types of meningococcal vaccinations. Meningococcal conjugate (MenACWY) vaccines protect against four kinds of meningococcal bacteria, also known as serogroups A, C, W, and Y. Serogroup B meningococcal (MenB) vaccines protect against meningococcal serogroup B, a different kind of meningococcal bacteria. You need both vaccines to provide protection against the different types of meningitis.¹⁰

As of October 2022, there is no approved vaccine to protect against Group B streptococcus (GBS), a leading cause of sepsis and meningitis in newborns.¹¹

“We have the tools to achieve the goals that are set out in the roadmap,” says Balmer. “We're working across many different countries and across many of the different bacterial causes of meningitis, not just meningococcal disease. And we've already demonstrated that a successful vaccination program can actually change the course of the epidemiology and burden in a country.”

video-js.video-js.vjs-fluid:not(.vjs-audio-only-mode) {padding-top: 56.25%;}

“I turned on the light. I saw purple spots all over my arms. That’s when I knew something else was seriously wrong with me.” —Allison, Meningitis Survivor

“As parents we want to make sure our kids have all the tools to be healthy, to be happy. I just had this horrible guilt after she was sick that I should have known that there was a vaccination.” —Bliss, Allison’s mother

video-js.video-js.vjs-fluid:not(.vjs-audio-only-mode) {padding-top: 56.25%;}

“It’s not only about science, about immunology, about microbiology. It is about public health. It’s about anthropology. It’s about economics.” —Dr. Luis Jodar, Chief Medical Officer, Vaccines at Pfizer

video-js.video-js.vjs-fluid:not(.vjs-audio-only-mode) {padding-top: 56.25%;}

“The most important thing for health practitioners to know is that meningitis hasn’t gone away.” —Simon Nadel, Consultant in Pediatric Intensive Care at St. Mary’s Hospital in London

video-js.video-js.vjs-fluid:not(.vjs-audio-only-mode) {padding-top: 56.25%;}

“There’s no more powerful advocates than patients and the families themselves.” —Vinny Smith, Chief Executive of the Meningitis Research Foundation

References

Meningitis. U.S. Centers for Disease Control and Prevention.

<https://www.cdc.gov/meningitis/index.html>. Updated March 30, 2022. Accessed August 10, 2022.

Bacterial Meningitis. U.S. Centers for Disease Control and Prevention.

<https://www.cdc.gov/meningitis/bacterial.html>. Updated July 15, 2021. Accessed August 10, 2022.

Meningitis, Bacterial. National Organization for Rare Disorders.

<https://rarediseases.org/rare-diseases/meningitis-bacterial/>. Accessed August 10, 2022.

World Health Assembly endorses the 1st ever resolution on meningitis prevention and control. World Health Organization. <https://www.who.int/news/item/13-01-2021-world-health-assembly-endorses-the-1st-ever-resolution-on-meningitis-prevention-and-control>. Published January 13, 2021. Accessed August 12, 2022.

Defeating meningitis by 2030. World Health Organization.

<https://www.who.int/initiatives/defeating-meningitis-by-2030>. Published June 24, 2021. Accessed August 12, 2022.

Mazamay, S., Guegan, J.F., Diallo, N., et al. An overview of bacterial meningitis epidemics in Africa from 1928 to 2018 with a focus on epidemics “outside the belt.” <https://bmcinfectdis.biomedcentral.com/articles/10.1186/s12879-021-06724-1>. Published September 30, 2021. Accessed August 12, 2022.

Meningitis. World Health Organization. <https://www.who.int/news-room/fact-sheets/detail/meningitis>. Published September 28, 2021. Accessed August 12, 2022.

Walker, T.Y., Elam-Evans, L.D., Yankey, D., et al. National, Regional, State, and Selected Local Area Coverage Among Adolescents Aged 13-17 Years--United States, 2018. U.S. Centers for Disease Control and Prevention. https://www.cdc.gov/mmwr/volumes/68/wr/mm6833a2.htm?s_cid=mm6833a2_w. Published August 23, 2019. Accessed November 14, 2022.

Herd Immunity. Association for Professional in Infection Control and Epidemiology. https://apic.org/monthly_alerts/herd-immunity/. Updated April 6, 2021. Accessed September 6, 2022. Meningococcal ACWY. Immunize.org.

https://www.immunize.org/askexperts/experts_meningococcal_acwy.asp. Updated April 15, 2021. Accessed August 10, 2022. Group B Strep: A Dangerous Infection in Infants and Adults. Pfizer.

https://www.pfizer.com/news/articles/group_b_strep_a_dangerous_infection_in_infants_and_adul Accessed August 12, 2022.

, A new global roadmap to defeat meningitis aims to reduce cases of vaccine-preventable meningitis by 50% and decrease the number of deaths by 70% by 2030.

Originally published, Tuesday, November 15, 2022