

# Advancing hope against newborn respiratory illness

## The promise of respiratory syncytial virus interventions on the horizon

The first 28 days of life (the newborn period) are a child's most vulnerable. Newborns account for about 45% of all deaths before five years of age worldwide, meaning that 2.9 million babies die in their first month. Infections (sepsis, meningitis, pneumonia, and diarrhea) are among the top causes of these deaths, along with complications associated with preterm birth, and labor and delivery. Disease prevention methods that work for older children, like direct vaccination, are often not effective options for newborns. Newborns are especially vulnerable to infections because their immune systems are immature and not yet able to respond appropriately to either germs encountered shortly after birth or vaccines routinely given to older children.

Many newborn deaths could be prevented if we come together to prioritize the diseases that hit these children hardest and advance prevention solutions tailored to their needs. One such priority is an important, but not well known virus called respiratory syncytial virus (RSV).

### RSV'S IMPACT ON THE WORLD'S YOUNGEST CHILDREN

RSV is the most common cause of lower respiratory infections in newborns and infants worldwide, and is a World Health Organization high-priority disease. It is a leading cause of newborn and infant hospitalizations and a significant (and underreported) cause of death among these children, mostly between birth and five months of age. Worldwide, RSV causes millions of cases of respiratory disease every year and up to 199,000 deaths under five years old, 99% of which occur in low-resource countries.

The virus can cause symptoms similar to the common cold, but also more serious complications like pneumonia, bronchiolitis (inflammation of small airways in the lung), and middle ear infection. RSV illness can also make an infant more vulnerable to pneumonia caused by other organisms (e.g., the pneumococcus bacterium). Also, RSV infection early in life may increase the chances of developing asthma and other long-term effects. Economic

hardship is another consequence, especially in low-income settings where hard-to-reach health care, hospital costs, and lost livelihoods make caregiving burdensome for already-stretched families and health systems.

### INCOMING RSV PREVENTION TOOLS

RSV's impact is so pervasive in large part because the toolkit to prevent it is incomplete. A critical gap is that no RSV vaccine yet exists. Fortunately, RSV vaccine development has accelerated recently and groundbreaking vaccines could be ready in a few years, including several designed to protect newborns and mothers through maternal immunization—an approach of vaccinating during pregnancy to boost a mother's immunity and promote the transfer of antibodies to her developing baby for protection in early life. This approach has been used successfully against diseases like tetanus, influenza, and pertussis (whooping cough). In addition to maternal vaccines, antibodies that can be given affordably to newborns at birth are another incoming tool that could protect in early life.

### THE OPPORTUNITY IS NOW TO PREPARE FOR USE

With an outlook never before so optimistic, we have a unique opportunity for making headway against RSV. As RSV interventions move through development with unprecedented momentum, let's work now to ensure that all pieces of the vaccine development and introduction puzzle are in place so that when the RSV tools are ready, the global health community is poised to use them. We need all hands on deck—experts working across vaccine and prenatal care arenas—to overcome scientific, policy, regulatory, and implementation challenges. We need to begin by raising awareness about RSV and the value of maternal immunization and other RSV interventions as part of the maternal and newborn health toolkit. By preparing now, we can help save thousands of newborn lives and keep millions more out of the hospital.