TIME TO ACT

How vaccines for Group B Streptococcus could transform maternal and newborn health

New comprehensive research on Group B Streptococcus (GBS) reveals a much greater burden of disease than previously understood and concludes that a vaccine given to women during pregnancy has **great potential to save lives** and improve the health of women and babies around the world.

The World Health Organization and the London School of Hygiene & Tropical Medicine have just published a report with newly generated evidence on the global burden of GBS and the value of a future vaccine. Their analysis highlights that a vaccine against GBS is likely to be both **cost-effective and feasible** to implement, including in low- and middle-income countries (LMICs) where the need is greatest.

GBS has a major impact on mothers, babies and families in every country

Group B Streptococcus (also known as Group B Strep, Strep B, Beta Strep, or GBS) is a common bacteria and a major cause of preventable newborn deaths, stillbirths and lifelong disability. Worldwide, nearly 20 million pregnant women carry GBS each year – most of them currently unidentified and untreated.[1]

GBS can live harmlessly in a woman but can be passed to her unborn baby or newborn around labor. While babies are in the womb, GBS infection can lead to preterm birth or stillbirth. During their first days and weeks of life, newborns remain vulnerable to infection. If untreated, GBS infection in babies can lead to meningitis and sepsis, risking death or long-term disability, including hearing and vision loss or cerebral palsy.[1,2]

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Each year

390,000 cases of GBS infection in newborns lead to:

- **91,000** NEWBORNS WHO DIE
- **40,000** who survive with long-term NEURODEVELOPMENTAL IMPAIRMENT
- **46,000+** STILLBIRTHS are attributable to GBS
- **518,000** PREMATURE BIRTHS are associated with GBS

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

World Health Organization

GBS vaccines could protect mothers and babies from illness, death and long-term disabilities

A vaccine against GBS given to women during pregnancy could protect her health and the health of her child by:

- Reducing her chances of maternal sepsis and death
- Reducing risk of preterm birth, stillbirth, newborn death, severe illness and disability

Currently, antibiotics are used to treat suspected and confirmed cases of GBS in pregnant women and babies and are given to women during labor to reduce infection in the baby (a process called intrapartum antibiotic prophylaxis, or IAP). IAP is an important tool and each year is estimated to prevent 29,000 cases of GBS in infants in their first 6 days of life.[1] However, it is only available and feasible to implement in high-income country settings.

A vaccine given to pregnant women could be the best tool to tackle GBS.

A maternal vaccine* could prevent the following GBS-related deaths and illnesses each year

214,100 cases of invasive disease in newborns (55%), averting:

- **31,100 DEATHS**
- **21,400** cases of **NEURODEVELOPMENTAL IMPAIRMENT** from sepsis, meningitis or pneumonia

- **23,100 STILLBIRTHS** (50%)
- **171,700 PRETERM BIRTHS**

*assumes 80% vaccine effectiveness

Vaccines have the potential to do even more: they could reduce the risk of stillbirths, preterm births and GBS infection in babies up to three months old – a population of nearly 1 million. The recent analysis by the WHO and LSHTM concludes that a vaccine used globally, across high-, middle- and low-income countries would be:

- Cost-effective, generating a net benefit of an estimated $1 billion to $17 billion worldwide
- Feasible to implement with health systems strengthening in low- and middle-income countries

Time to Act: What can we do now to protect mothers and babies from GBS infection?

- **IMPROVE CARE FOR FAMILIES.** GBS is a much more serious issue than previously understood, given new data on the risks of stillbirth, preterm birth, infant death and long-term disabilities. It is important to educate all stakeholders – public health officials, health care providers, vaccine manufacturers, communities and parents – about the risks of GBS.

  NEXT STEPS: Provide supportive, family-centered care and raise awareness of GBS. Expand access to IAP and other preventive measures until a vaccine becomes available.

- **ACCELERATE DEVELOPMENT OF GBS VACCINES.** The WHO's analysis has shown that a GBS vaccine has the potential to be a strong business investment for vaccine manufacturers, given the high global burden of GBS. Notably, three GBS vaccine candidates have already reached phase 2 clinical trials, with several more in preclinical development.

  NEXT STEPS: *(Aligned with the WHO's* Defeating Meningitis Roadmap*)*: Invest in GBS vaccine candidates to accelerate progress towards a vaccine that is designed for use across high-, middle- and low-income country settings. Help ensure that by 2026 at least one affordable vaccine against GBS is licensed and WHO-prequalified for use during pregnancy, and that by 2030 at least 10 countries will have introduced the vaccine.

- **PREPARE TO DELIVER MATERNAL GBS VACCINES.** The WHO's analysis demonstrates that maternal GBS vaccines are generally cost-effective and feasible to implement. However, the burden of GBS, case for investing in a vaccine, and health system readiness vary widely across countries and regions.[1]

  NEXT STEPS: Support countries around the world to assess the local burden of GBS and prepare to finance, introduce and monitor a maternal vaccine. Build the next generation of researchers, especially from high burden settings, to address remaining knowledge gaps about GBS.

A GBS vaccine has the potential to be a strong business investment for vaccine developers.

Learn more about GBS and the value of investing in a vaccine by reading the full report here: https://bit.ly/GBSvaccine

1. Clinical Infectious Diseases. "Every Country, Every Family: Group B Streptococcal Disease Worldwide." https://bit.ly/GBSseries.
2. Fiorella Bianchi-Jassir, Anna C Seale, Maya Kohli-Lynch, Joy E Lawn, Carol J Baker, Linda Bartlett, Clare Cutland, et al. "Preterm Birth Associated With Group B Streptococcus Maternal Colonization Worldwide: Systematic Review and Meta-Analyses." Clinical Infectious Diseases 65, no. suppl_2 (November 6, 2017): S133–42. https://doi.org/10.1093/cid/cix661.