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# Newborns in developing countries need better protection from common bacteria

*Almost half of all deaths in children under five-years-of-age happen in the first month of life. One of the leading causes of these deaths is from a bacterial organism called Streptococcus agalactiae, also known as Group B strep. Sub-Saharan Africa has the highest rates of this infection in the world - and one in five babies will not survive the illness. Ziyaad Dangor and Sanjay Lala, explain how this infection is managed and what could be done to save more lives.*

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## What is Group B strep and how big a threat is it?

*Streptococcus agalactiae*, also known as Group B streptococcus, is the most common bacterial cause of illness in newborn babies around the world. It causes more deaths in the first month of life than HIV, tetanus or pertussis. A third of the survivors will develop a physical or mental disability.

Babies acquire the infection from their mothers. A quarter of all women carry the bacterium in their vagina or rectum. It usually does not cause any symptoms in healthy adults. But women can pass it on to their babies in pregnancy. These babies are subsequently born with pneumonia or meningitis. Some babies are unable to fight the infection and are stillborn. Others are born prematurely or require resuscitation at birth. Infection can also be passed on from the mother in the weeks following delivery. The infection is often severe in these cases because most babies develop meningitis. Babies born to pregnant women with HIV are at additional risk of infection.

## How is Group B strep managed?

In developed countries like the US, Canada, Australia, and in most of Europe, all women between 35 and 37 weeks of pregnancy are tested to determine whether they carry the bacterium. If the bacterium is found, the women are then given intravenous antibiotics in labour to prevent the baby from developing infection. This universal screening strategy significantly decreases the risk of Group B strep in newborns.

But in the developing world, most countries don't have a strategy for prevention. In India and Kenya, antibiotics are only given to some women who present a high risk of transmitting the bacterium to their babies. These risks include premature labour, fever, and prolonged periods in labour after the water has broken. But this strategy is not ideal, because half of the women who have babies with Group B strep infection don't present with any risk factors.

In South Africa, there is a huge disparity in medical care between the private and public medical sectors. In the private sector, the universal screening strategy should be practised but is often not because of a lack of awareness. In the public health care sector, universal screening is not possible because of a lack of infrastructure, the high cost of screening pregnant women, and the inability to provide antibiotics in busy obstetric units. An alternative strategy is therefore urgently required.

There is still no licensed vaccine, but the World Health Organisation and other global partners have realised the urgent need for vaccine development. Major international research agencies are working to produce a vaccine which they hope will prove to be a sustainable, long-term preventative strategy. In developing countries, an important concern would be to make this vaccine cost effective. Political will is crucial to vaccine implementation. In addition, public awareness about the benefits of maternal vaccination should be promoted.

## What's the solution in the interim?

Until a vaccine is available, urgent action needs to be taken – doctors, midwives and pregnant women need to prioritise efforts against infection to prevent illness and death in vulnerable babies.

In the interim, current preventative strategies need to be executed efficiently. For example, medical staff will need to be re-skilled to adequately recognise risk factors and administer antibiotics. In addition, governments need to invest in human and infrastructural resources. And finally, all obstetricians and midwives in private health sectors should adopt universal screening.

Research is also needed to develop a simple, cheap test. The current test requires a full laboratory set-up with specimen processing, and timeous communication of results with clinical staff so that intravenous antibiotics can be administered. There's also a need for oral or intramuscular antibiotics that can be used in countries where home births are common.

Group B strep is a common infection. Mothers are often unaware that they pass this bacterium to their vulnerable newborn babies. Until a vaccine is available, effective prevention strategies with antibiotics are crucial to reduce the burden and complications of this dreaded infection.