

## USAID hails 'eureka moments' in infant, maternal health

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US National Security Advisor Susan Rice called for more "eureka moments" and "unorthodox partnerships" on Wednesday, as she addressed scientists working on decreasing infant and maternal mortality in poor countries.

Researchers, many of whom were finalists for a competitive USAID grant, came up with varied schemes, including using a football to stop women from bleeding to death after birth, using contaminated hospital waste to keep hands cleaner and engineering bacteria to fortify yogurt with vitamin A.

A previous grant project—which created a low-cost device to help in obstructed labor—was initially created by an Argentine car mechanic inspired by a YouTube video on how to pull a cork out of a wine bottle with a plastic bag.

Rice, in her first public remarks since taking on the job, said these researchers had "done a remarkable job advancing the president's vision to elevate development alongside diplomacy and defense as an equal pillar of our national security."

But, citing statistics that a woman in labor in sub-Saharan Africa was 136 times more likely to die than her counterpart in a [developed country](#), Rice said "we need more eureka moments and more unorthodox partnerships to beat persistent [world challenges](#)."

USAID director Rajiv Shah, who launched the "Saving Lives at Birth" development challenge three years ago, said "there's been extraordinary progress over the last couple of decades. But there are some areas that have" resisted the trend—and maternal and infant mortality was one of them.

"In 1990, 20 million kids a year died under the age of five. Today that number is just under seven million," Shah told AFP.

"But if you break down the problem, in the first 48 hours of life, [infant mortality](#) in that very narrow window has stayed persistently high and has not fallen at that rate. And [maternal mortality](#), while it is down, it hasn't fallen anywhere near that rate as well."

So Shah said the grant program aimed to "invite the whole world in to coming up with appropriate solutions that would accelerate progress in that specific area."

'Well beyond the standard crowd'

He said each year hundreds of teams apply for the grants, far more than the 15 or fewer applications for a conventional grant.

"This definitely reaches well beyond the standard crowd to bring in a whole host of new innovators."

In partnership with the Bill and Melinda Gates Foundation, the Norwegian Ministry of Foreign Affairs, Grand Challenges Canada, and Britain's Department for International Development, the program gives seed grants of \$250,000 and transition grants of up to \$2 million.

Winners this year included Christopher Johnson, a master's student at the University of Wisconsin, who aims to alleviate vitamin A deficiencies by

helping dairy producers fortify their products.

He plans to engineer a bacteria to ferment yogurt and other foods that will produce vitamin A—and he plans to start in India, whose population are the greatest dairy consumers in the world, and have the highest deficiencies of the mineral.

Another project, which did not win, aimed to reduce maternal and infant infections by helping dispose properly of contaminated waste.

The team from Jhpiego, affiliated with Johns Hopkins University, are working on a high-powered, low-cost incinerator that would burn up the waste until it was no longer dangerous—unlike many current models in developing countries that leave unburned residue that must be buried and can still spread infection.

But the incinerator also does quadruple duty: the heat generated by the burning waste boils water that can be used for hand washing and bathing; the pipes bringing the hot water can heat the health center to keep temperatures warm for premature babies, and the unit itself can act as a stove and oven for cooking.

And the football—inflated inside a tightly fitting pneumatic anti-shock garment—helped put pressure on a hemorrhaging uterus, to stop the bleeding, developed by a team in New Mexico. It did not earn a grant this year.

In total, 18 groups were named finalists for seed grants and four for transition grants, for projects that included low-cost, fast ways to diagnose infection and pre-eclampsia, to deliver anti-retroviral drugs to babies of HIV positive mothers, and to deliver contraception to limit unplanned pregnancies.

USAID said some 150,000 mothers and 1.6 million newborns die during childbirth and 1.2 million infants are stillborn each year.

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