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Crowd-sourcing development innovation

USAid's grand challenges for development initiative brings together minds from a range of disciplines to solve world problems, such as mother-to-baby HIV transmission

Caspar van Vark
Guardian Professional



A baby in Guayaquil, Ecuador became the first person to benefit from an innovative way of preventing maternal HIV transmission. Photograph: Alamy

In June this year, a newborn baby in Guayaquil, Ecuador became the first person to benefit from an innovative way of preventing maternal HIV transmission: the Pratt Pouch. It looks like it might hold ketchup, but this pouch actually contains a single, long-life dose of anti-retroviral medication.

The baby's mother was given a supply of pouches to take home, and by tearing them open and squeezing the contents into her baby's mouth at set intervals over the following weeks, she was able to reduce the chance of passing on her HIV infection from above 45% to less than 5%.

The Pratt Pouch, developed by a team at Duke University, is one of the outcomes of USAID's Grand Challenges for Development, which is calling on innovators all over the world to help solve specific development problems. Part of USAID's Science, Technology and Innovation programme, it casts a wide net, inviting individuals, groups, NGOs, startups or anyone else to participate in coming up with new, scaleable solutions.

The first Grand Challenge - Saving Lives at Birth - launched in 2011, aiming to find prevention and treatment approaches for pregnant women and newborns in poor, hard-to-reach communities around the time of delivery.

"We believe part of our energy should go into fostering new solutions to difficult, but

what we believe are solvable, problems," says Dave Ferguson, deputy director of USAID's Science and Technology office.

"We take the tack of being very articulate about what the problem is, so we talk about saving lives during the 48 hours around the time of birth in rural low-resource settings. That's a much narrower problem than maternal and child health overall. And having defined what we believe is a solvable problem, we work to engage the world in dealing with that."

Four other Grand Challenges have followed the first: Making All Voices Count, Powering Agriculture, All Children Reading, and most recently, Securing Water for Food. The challenges have attracted around 500 to 600 applications each, and more than 100 have already been selected as 'solvers' and received financial and practical support to further develop their ideas.

Up to half of applications come from innovators within developing countries, and many have not engaged with development work before.

"People in the low-resource settings who are familiar with the problem are often going to be the ones with the best solutions, so we are particularly interested in encouraging that audience to participate," says Ferguson.

"We are providing an opportunity for people who haven't focused on development issues to bring their creativity to bear on them."

But attracting those people, and supporting them up to the point of delivering to scale, is no small task.

The application process has been deliberately simplified in form and content to encourage those who are new to development, and once selected, they may be offered mentoring, business development services and networking support as well as financing.

Each of the Grand Challenges has also involved partnerships with a range of other actors, including the Bill and Melinda Gates Foundation, DfID, the Swedish International Development Cooperation Agency, World Vision and the Omidyar Network.

But according to Seema Patel, innovation and partnership advisor at DAI, which has been helping with the implementation of the programme, it's worth the effort because the development sector simply doesn't have all the answers in-house.

"Many development problems, especially the kind that can be solved by science and technology, really require a range of expertise," she says.

"A lot of development professionals don't necessarily have that expertise, so it's about trying to find people who might have a real technical understanding of what's required, but may not have the social or economic understanding, and pairing our development community with those actors. It's a really important combination."

Some of the other winning innovations so far have included the 'Solar Suitcase' for emergency lighting and electricity when the power goes out at a hospital, and Planet Read, an organisation which provides same-language subtitling in Bollywood films to help audiences in India, particularly women and children, learn to read.

Opening up development practice to new thinkers doesn't suggest those within the sector have run out of steam; rather, it's a way of enabling experts from other sectors to think about where there might be an overlap. The Pratt Pouch, for instance, takes a standard product but uses it in a new way.

"There are thousands of companies that can make these pouches to your specification,"

says Robert Malkin, professor of the practice of biomedical engineering at Duke University.

"The pouches are then filled and sealed by pharmacists in the countries themselves. We're looking at rolling this out to 60 to 70% of HIV positive women giving birth at home who are at high risk of transmitting the virus."

Ideas like this have a clear impact on development because they're relatively easy to roll out, and meet a real need: in this case the need to provide safe, easy and accurate drug doses outside of hospital settings.

"I think some of the most interesting ideas are ones that bring low-cost, easy-to-use things to the table," says Ferguson.

"We're encouraged by what we're seeing in terms of the level of energy and excitement in civil society, university students and local players to engage collaboratively. The ideas that excite me the most are those that engender that cross collaboration, because with many eyes and perspectives we come up with stronger solutions."

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