

Transforming lives Technology

Helping the medicine go down

Simple technologies are being harnessed to ensure that patients in India are taking their tuberculosis treatments correctly and young men in Nigeria can access sexual health advice. **Caspar van Vark** looks at how it is being done

Hundreds of years ago, people afflicted with tuberculosis (TB) would queue to receive the “royal touch” from a monarch, believing it would cure them. Today, one pioneering NGO in India still relies on touch to fight TB, but in a rather more technologically advanced way, using electronic fingerprint readers and text messages.

“TB causes people to lose their livelihoods, and so is a major cause of poverty,” says Shelly Batra, founder and president of Operation Asha. “The problem in India is that we are facing a drug-resistant form, because over the years people have taken incomplete treatments. With a treatment period of six months, requiring 60 visits to a centre, compliance is a problem, especially if people are forced to choose between working or coming for treatment.”

In 2010, Operation Asha launched a pilot programme with Microsoft Research to enable it to monitor and follow up on individual treatments more effectively. The eCompliance system consists of a netbook, a fingerprint reader and a low-cost short message service (SMS) modem, used for text messaging. When a patient visits a treatment centre, the fingerprint scan registers their attendance and is used as proof that they took a scheduled dose in the presence of a provider or counsellor.

Text messages

Daily reports are generated automatically, so if someone fails to show up the system automatically sends a text message to their counsellor, who can then follow up with that patient to ensure they receive their dose. The system is portable, so counsellors can visit patients’ homes to administer and record the treatment.

The system is now operating out of 26 centres in South Delhi and Jaipur, and has reduced non-compliance to just 1.5%. It has also made Operation Asha more efficient and accountable, says Batra.

“Previously, counsellors and programme managers would spend a third of their time doing paper reports,” she says. “They now have more time to actually do the practical work. We’re using off-the-shelf technologies, and the cost is easily offset by the increase in productivity. It also reduces human error and gives us a clearly measurable impact. A fingerprint can’t be fudged.”

The key to the success of Operation Asha’s eCompliance system has been its simplicity, making innovative and effective use of straightforward technology. The same principle has also worked well for the Nigeria-based NGO, Education as a Vaccine (Eva), which uses a text-message-based system to deliver sexual health advice to young people, many of whom live in rural areas with little or no internet access.

“Mobile phone access has really increased in Nigeria over the past five years,” says Eva’s director Fadekemi Akinfaderin-Agarau. “We initially offered a voice-based counselling service, but lots of young people feel more confident using SMS, especially for sensitive subjects like sexual health.”

It is free for users to send a question to Eva by SMS, and they can expect an answer within 24 hours. For young people



A tuberculosis patient takes her medication at an Operation Asha treatment centre in New Delhi Andrew Aitchison

in rural areas, this can be a lifeline because landlines and internet connections are still relatively rare. In 2011, Eva delivered almost 110,000 messages this way.

“SMS really allows us to punch above our weight here,” says Akinfaderin-Agarau. “Nigeria hasn’t moved that fast in terms of internet access, but phones are cheap. Also, people can save a text message and refer to it later, which is a benefit over voice calls.”

This doesn’t mean that Eva and other development organisations will stick with straightforward SMS messages for ever. Eva is already moving to develop web-based services using social networks, for instance, as smartphone penetration starts to increase and replace more basic mobiles. “For our audience, using a phone to access the internet is always going to be more convenient than going to a cyber-café,” says Akinfaderin-Agarau.

SMS messages and fingerprint readers aren’t cutting-edge technology in their own right, but that’s not the point. Even these simple technologies can dramatically improve an organisation’s effectiveness if used thoughtfully as part of a well-designed project.

Batra echoes this sentiment. “Our eCompliance system works on different levels for us in India,” she says. “It’s effective, gives us multilevel accountability as an organisation, and also improves the motivation of our counsellors and adds to their skillset. For our patients, using fingerprints works partly because it’s seen as something official. You always have to keep the whole social and cultural milieu in mind.”

Information technology Connecting the developing world

When Helen Clark, the administrator of the UN Development Programme, stepped up to the podium at the London Conference on Cyberspace last year, her message was clear. Information technology has the capacity to transform the way governments and the development sector respond to the needs of the poor and marginalised, and expand south-south co-operation (the exchange of resources, technology and knowledge between developing countries).

The potential of technology to push through positive change is specifically included in the millennium development goals. MDG8, on developing a global partnership for development, includes a target to make the benefits of new technologies, especially ICT, readily available to people around the world, in co-operation with the private sector.

The use of mobile phones, and SMS technology in particular, has proved transformational, enabling healthcare workers to stay in touch with hospitals in rural communities, and farmers to access data and advice from remote areas.

So what’s next? The application of mobile technology to development work has almost endless potential. Earlier this year, researchers from the University of Oxford developed data transmitters



Mobile phones are widespread in many developing countries panos

that fit inside water pumps and send text messages if one of the devices breaks down. The “smart” handpumps are being trialled in 70 villages in Kenya.

But the real change, according to Ken Banks, founder of kiwanja.net, an organisation that supports technological innovation in the developing world, will be the rise of locally developed solutions to local challenges. Banks is the developer behind FrontlineSMS, a free, open-source SMS platform that anyone can download and use as a communications platform. By December 2011, it had been downloaded 20,000 times and used for everything from monitoring elections in Nigeria

to training rural medics in Ecuador. As open-source technology for mobile platforms, innovations like FrontlineSMS are essentially a blank canvas for grassroots organisations to apply to any local context.

“The rise of homegrown solutions to development problems will be most crucial in future,” says Banks. “That means African software developers increasingly designing and developing solutions to African problems, many of which have previously been tackled by outsiders. This, I think, will be the biggest change in how development is ‘done’.” **CVV**

Education as a Vaccine Breaking sexual health taboos in Nigeria

“There’s this terrible thing we have in Nigeria where people don’t want to admit we have sex,” explains Fadekemi Akinfaderin-Agarau, the director of Education as a Vaccine (Eva). In Africa’s most populous country, where vast swaths of society are highly religious and conservative, there is often a culture of silence when it comes to talking about sex – and sexual health.

Health officials say 80% of people don’t know their HIV status in a country where an estimated 3 million people are HIV positive. The taboo around talking about sex means many feel too ashamed to find out. And age is yet another problem, says Akinfaderin-Agarau, who founded the organisation 12 years ago, as a first-year university student.

“There’s a perception [young] people shouldn’t be having sex at all, so what sexual health issues could they be having? But the reality is that the age of sexual initiation is getting younger.”

Eva offers a lifeline to thousands of

youths who, up until now, have faced a wall of silence. The NGO has pioneered the use of technology to reach teenagers. A 24-hour staffed phone and email hotline, both run entirely by young people, means Nigerians can text, email or ring with their questions and receive immediate replies.

Phones reach millions in a way traditional marketing cannot: there are about 100 million phone subscribers in Nigeria alone. Technology also eliminates transport fees, an important barrier in a nation where the majority live on fewer than \$2 (£1.24) a day.

“We get 12,000 to 15,000 texts on a monthly basis and an average of 300 phone calls. Obviously people prefer to use SMS because they feel it’s more confidential,” Akinfaderin-Agarau says. An understanding ear is new to most callers. Because of a reluctance to talk about sex, “many parents don’t feel qualified even if their children approach them”, she says.

Others are latching on to the organisation’s success. A similar hotline



Young people in Nigeria can access sex education using their mobile phones

is set to roll out in Senegal, and the government of Mali has announced successful trials of its own hotline.

But talking about sexual health is just one aspect of Eva’s work. It also tries to increase access to basic items such as condoms, which is still very limited.

“Even if you walk into a pharmacy [to buy condoms] people will still look at you, whether it’s the pharmacist or other people buying medicines,” Akinfaderin-Agarau says. “Their body language and facial expressions can turn young people away.”

So the organisation recommends clinics and centres that welcome youths, offering services, from provision of condoms to testing. Akinfaderin-Agarau says Eva runs a centre in the northern state of Benue, which has the country’s highest HIV infection rate. “We get hundreds of people coming in daily – it’s really busy, so it just shows people do need a place to go.” **Monica Mark**

Transforming lives Impact of aid

Mapping the direction of progress

Providing evidence for funders might seem unimportant when you're saving lives, but it is vital to improving development work

Louise Tickle

Monitoring and evaluation. It doesn't sound like a whole heap of fun, or even particularly relevant when you're busy trying to turn lives around. And individuals working in development on the ground are by definition often "doers" rather than people who get a kick out of systems and processes. But accounting for how you deliver your development project in a rigorous and open manner is not only required by donors, it can also improve what you do.

"Monitoring and evaluation helps us identify and respond to bottlenecks or problems in implementation," says Katie Huston, development manager at the South African Education and Environment Project (SAEP), which works in the impoverished black township of Philippi, Cape Town, to improve young people's education, as well as the social and physical environments in which they grow up.

"It [also] helps us figure out how we might need to tweak our models to respond best to the problems we're trying to solve," she says. "And it gives participants a say in the work we're doing, as active stakeholders and not just recipients of development."

Nuanced and sophisticated

Huston says that SAEP's processes have become far more nuanced and sophisticated over the past four years. She cites an example. "We've always monitored students' marks [each term], but initially focused mainly on their year marks when we evaluated the programme," Huston says. This method - liked by funders because it gives a snapshot of results - didn't, however, pick up on variations in children's achievements throughout the year, or the reasons they might be falling behind. "We realised that when students' marks vary significantly from term to term, we've got to catch that right away, so we can respond," she explains. Now, the team reviews marks much more closely to identify trends.

Up-to-date technology is also being



It is important for NGOs to record how a project is developing, such as mapping where infrastructure is built, above panos

used by NGOs to provide instant analysis of progress and accurately pinpoint emerging problems that need more input.

At the Shine Centre, an organisation dedicated to improving literacy rates in South Africa, communications manager Kerry White says that using project-management software has enabled them to capture, track and update information on the children in their programme, as well as information on all their volunteers.

Shine is heavily dependent on volunteer expertise. The profile page created for each volunteer on the software is therefore crucial to help the organisation track individual attendance and ensure they complete every aspect of orientation and training.

Such detailed scrutiny of impact, as well as awareness of the need to use data to

identify problems and then adjust action to address them, is in line with the UK's Department for International Development's (DfID) value for money approach.

DfID is clear that to justify funding for development projects, it has to get better at measuring what is happening on the ground and be more innovative in how it assesses value for money. It is not about doing things the cheapest way, but getting the best outcome for the money spent.

Maximising results can often involve drawing on other people's experience, knowledge, networks and expertise. Working with external bodies which bring in a fresh perspective and independent expertise is an invaluable tool in improving outcomes, says Huston. "They can ask questions we may not have thought of and we can incorporate their methods

of assessment into our monitoring and evaluation systems," she explains.

Some organisations, such as STARS Foundation, "front-load" their monitoring and evaluation by looking at the effectiveness of programme delivery and also the management practices that the local agencies have in place, which allows for a more flexible approach to a funding relationship.

It is undoubtedly hard to demonstrate effectiveness in the challenging environments in which many NGOs work. Children who drop out of school because they are scared of becoming the next victim of violent gangs will affect your data, but is difficult to explain to donors on a spreadsheet that is showing a marked decline in attendance and achievement, observes Huston.

A less dramatic but nonetheless unhelpful problem, she says, is the issue of nailing down reliable data when trying to make credible funding bids. "Most demographic information about the community where we work is 11 years old," Huston says. "When you're trying to make a case for support and you're using data that's 11 years out of date, it doesn't look great."

Because funders want to invest in projects that make real and lasting change, however, she says that there is no question that NGOs must have their house in order to remain sustainable. "We have to be able to account not just for every pound we've spent," says Huston, "but also to be able to show our stakeholders what that funding has actually accomplished."

Funders have to look beyond the numbers



Juliet Phommahaxay Comment

Every day I am in contact with charities working on complex and challenging social issues in their local communities. The problems they are attempting to address are as diverse and unique as the environments in which they operate - everything from malnutrition, to teenage substance abuse, to low educational attainment among girls, to domestic violence in families. There are literally thousands of "good causes" out there. Selecting which charities to support can be overwhelming. So where do you start?

As the Ashmore Foundation is funding across such a broad range of issues, we cannot apply a simple measurement framework that compares each charity's success in just one area.

We have to think more broadly and start working out what commonalities these charities might share. How does the charity talk about the needs they are addressing? Are the issues clear and evidenced by robust research?

Next, we have to look at what positive change the charity is seeking to achieve. This is not just about

numbers of teachers trained (though this is important), but the aspirations to change behaviours or the intention to help shift how the charity's beneficiaries are perceived by their local community.

Then we begin to drill down into the foundations of the work these groups are doing. The management team should have a clear sense of what they need in order to reach their goals, and also to be realistic and frank about the barriers and challenges they face.

Many organisations we encounter are relatively small and work very closely with a particular community, employing local people who really understand the problems. They often don't have the marketing mindsets or budgets of bigger international organisations, which is why it is vital that we as funders learn to look beyond the glossy brochures and work hard to pinpoint the groups making the most impact on the ground.

Yet in this age of greater scrutiny and accountability, grassroots organisations also need to be incentivised to be transparent and communicate clearly about what they do.

In this pressurised economic environment, we need to demystify the whole funding and selection process to ensure more philanthropic pounds go to the causes that need them and to charities that have the most potential to use them wisely and effectively.

Juliet Phommahaxay is director of the Ashmore Foundation, which aims to make a positive and sustainable difference in the communities in which the emerging markets investment manager, Ashmore Group plc, operates and invests. Visit ashmoregroup.com/corporate-investor-relations/the-ashmore-foundation

Naba'a Refugees in Lebanon

When Mohamed was born in 2000, he was already a refugee. His family fled Palestine for Lebanon more than 60 years ago and they still live in the sprawling Ein el-Helweh refugee camp they lived in when they first arrived. Like most of the 280,000 Palestinian refugees living in Lebanon today, they live in abject poverty.

But life for Mohamed became even more difficult when his parents divorced. His father insists that Mohamed cannot live with his mother, and his stepmother has refused to let him live with his father.

"Every time my father sees me, he pushes me, beats me and hits me with his belt," Mohamed says.

So he lives with his grandmother, who is crippled by diabetes and struggling with Alzheimer's disease. He also requires ongoing, specialised medical treatment for a disease affecting his heart. They struggle to afford their medication, so Mohamed works at the Ein el-Helweh bakery to keep the household afloat. At least one-third of Palestinian refugees in Lebanon suffer chronic health problems, according to the UN Relief and Works Agency, but very few have health insurance.

By the time Mohamed came into contact with Naba'a: Developmental Action Without Borders, a non-profit organisation working in seven Palestinian refugee camps and several remote villages across Lebanon to protect children most at risk from violence and neglect, he had been expelled from school. His teachers said he was a stubborn student, a troublemaker and a bully. He had glued together the eyelids of a boy he had accused of giving him a "bad look".

In a community in which half of children drop out of school by the age of 16 without basic qualifications, Mohamed was another lost cause. To the staff of Naba'a, Mohamed's aggressive behaviour was an all-too-familiar indication that he



Naba'a works to promote children's rights in Palestinian refugee camps in Lebanon

was overwhelmed by formidable social and emotional problems.

Naba'a's programme starts slowly with activities centred on the community, drawing children in with hobbies that interest them - computer games, football - and building their confidence from there. After only five months of Naba'a workshops, Mohamed became demonstrably less violent and opened up about the problems he had been tackling alone. He is no longer a menace but a child with potential.

Naba'a works with the families of 8,000

troubled children a year to keep them in school, many of whom have been the victims of physical, mental and sexual abuse, says Yasser Daoud, Naba'a's executive director.

"The Lebanese government has no authority in the camps and there is simply no structure in place to protect these children," he explains. "That is our priority now, to put a system in place to protect children in the camps from abuse."

Phoebe Greenwood