

Mobiles help put a stop to drug stock-outs

Ken Banks, IDG News

What I find particularly interesting about the mobile-for-development field is how a disproportionate amount of innovation occurs in the very places where resources and funding are often in shortest supply. Just as mobile payments started off an indigenous phenomenon long before Vodafone, the British government and Safaricom brought the world M-Pesa, numerous mobile health initiatives start off as innovative, small-scale projects before the bigger players spot their opportunity and attempt to take them to scale. One can only imagine the number that fail and fall by the wayside before they get this far - Darwin's "survival of the fittest" can be equally applied to the mobile applications world as our own.

That said, projects can reduce their chance of failure by following a few key steps. One of the prerequisites to designing a successful mobile solution is that the problem solver have a firm understanding of the problem. Equally, engaging local partners and organisations at the earliest possible opportunity is key – assuming the problem solver isn't local him- or herself - which not only aids implementation but also ensures relevance and the best possible chance of long-term sustainability and success. Not only do projects which follow these rules just 'look right' in ethical and implementation terms, but they also end up being the ones which generate the most excitement, and hence the greatest opportunity for replication.

Projects which capture the imagination also generally happen to be the simplest and the ones which tackle the least obvious elements of a problem. With so many health challenges facing much of the developing world, you'd be forgiven for trying to come up with an all-encompassing, high-tech, national or continent-wide, big budget plan. Some organisations do, and many fail for reasons too many and too complex to mention. But one smaller-scale project did catch my attention recently – precisely because of its sheer simplicity, its potential impact, and the textbook way in which it was implemented.

The "Stop Stock-Outs" campaign is based around a little-known, but crucial, problem. Medicine stock-outs – where local clinics and pharmacies run out of high-demand, crucial medicines - are a potentially lethal problem in a number of African countries, yet governments insist they don't occur. The team behind the project asked themselves one simple question before setting out to find a solution.

"What could be more powerful than a map which contradicts these government claims?"

Late last month activists in Kenya, Uganda, Malawi and Zambia started surveying clinics in their respective countries, checking stock levels of essential medicines. These included first-line anti-malarials, zinc tablets, penicillin, first-line anti-retrovirals (ARVs) for the treatment of HIV/AIDS, and

diarrhoea medication. Each of these medicines are seen as essential in varying degrees to fighting disease and illness, and are widely used in each of the four countries.

After visiting clinics and pharmacies, activists reported their results using their mobile phones through structured, coded text messages (SMS) - "x,y,z" - where the first number represented their country code (Kenya, Malawi, Uganda or Zambia), the second their district or city, and the third the medicine which they found to be out of stock. The messages were received by [FrontlineSMS](#), a free piece of open source software which turns a laptop computer and a mobile phone into a two-way group text messaging centre. When a stock-out SMS report was received, FrontlineSMS was configured to run an automatic script which validated the data before being sent over the internet to a [Ushahidi](#)-powered website. Ushahidi – another piece of free and open source software – allows crowd-sourced information to be visually displayed on an online map, showing specific reports by location and building up "hot spots" of activity. In the case of the "Stop Stock-Outs" campaign, the bigger the hotspot the greater number of stock-outs, and the greater the problem in that area.

Within the first week alone, the team collected reports of an incredible 250 stock-outs of essential medicines in areas of their four target countries.

Because incoming data automatically populates the map, it represents an almost real-time picture of stock-outs. After a successful launch and a week piloting the service, the "stock-out SMS number" is being distributed to medicine users throughout each country so that anyone with a mobile phone can send in a stock-out report. However, unlike reports from official, known data collectors, these messages will firstly be checked by staff at Health Action International ([HAI Africa](#)) before being posted up on the map.

The technological portion of the campaign was implemented by Michael Ballard and Claudio Midolo, both [Open Society Fellows](#) from the Department of Design + Technology at [Parsons the New School for Design](#) in New York. Ndesanjo Macha also helped in getting FrontlineSMS up and running in Uganda and Malawi.

Further information, an up-to-date map, latest news and details of the problems caused by stock-outs are all available on the "[Stop Stock-Outs](#)" website.

Ken Banks, founder of [kiwanja.net](#), devotes himself to the application of mobile technology for positive social and environmental change in the developing world, and has spent the last 15 years working on projects in Africa. Recently, his research resulted in the development of FrontlineSMS, a field communication system designed to empower grassroots non-profit organisations. Ken graduated from Sussex University with honours in Social Anthropology with Development Studies and is currently working on a number of mobile projects funded by the Hewlett Foundation. Ken was awarded a Reuters Digital Vision Fellowship in 2006, and named a Pop!Tech Social Innovation Fellow in 2008. Further details of Ken's wider work are available on his website at www.kiwanja.net