SIMPill Solution for TB

Last month the preliminary results of a pilot to test the efficacy of using SIMPill - an SA-developed product that uses GSM technology to ensure patients with chronic diseases take their medication regularly - were presented to the Western Cape provincial department of health.

The pilot ran across three clinics in Khayelitsha and is SIMPill's largest one to date.

The company hopes that the positive results coming from the six-month pilot will lead to an opportunity to tender to provide this kind of intervention on a larger scale.

"TB treatment requires patients to take daily medication for months on end, even when they're feeling well," says Lloyd Marshall, MD of SIMPill, Tellumat-owned company.
"Many people don't follow their treatment, and resistant strains of TB are emerging as a result. TB cases in the Western Cape are rising and there has been an increase in the number of multidrug-resistant TB cases. We are losing the battle."

The SIMPill, invented by Dr David Green, is an ordinary pill bottle with an attached device that includes a Sim card and transmitter. Every time the bottle is opened, it sends an SMS to a central server. If the bottle isn't opened on time, the SIMPill server sends a reminder message to the patient, a family member or caregiver.

If patients don't take their medication, health workers are alerted and can call the patient or visit at home.

According to Marshall, of the 130 TB patients on the Khayelitsha pilot, 90% are complying with their medicine regime. "Typical compliance rates vary from as low as 22% to 60% depending on the clinic, so 90% is unprecedented." Of these, early indication cure rates are as high as 99%. There is a very strong correlation between adherence and cure.

"Sometimes all it takes is one phone call from a patient care giver," says Marshall.

The current practice is Directly Observed Treatment or DOTS, which means patients must visit a clinic daily to take their medication under the eye of a health-care worker.

"But for patients, factors like weather and distance to the clinic act a disincentives to go," says Marshall.

Using SIMPill, one health-care worker can manage up to 100 patients who are self medicating. "Instead of contacting all 100, we contact just the five or six patients who haven't taken their medication."

A year after running a similar pilot in the Northern Cape, SIMPill is presenting to run a much larger trial in this area.

It is also working with software company SAP to run a pilot in Tshwane and has an opportunity to run a large pilot at the Princess Marina hospital in Gaborone, Botswana. The hospital dispenses ARVs to about

1500 children at any one time. But there is a failure rate of 20% on first-line treatment, compared with 3% in adults. "Most of these children are orphans who move from home to home, so their adherence needs to be managed better," says Marshall.

Though results have proved SIMPill is a success, Marshall accepts that costs can be an issue." The device costs R120/patient per month, but if we can prevent one patient in 100 from contracting multidrug-resistant TB, the system will pay for itself.