

“How Will It Help Veronica?...”



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Profiles in ingenuity

During my trip to Uganda, one individual stayed with me throughout my travels, so much so, that “How will it help Veronica?” became a mantra for the trip.

Thursday, 9 June 2005
Rakai, Uganda

“How will it help Veronica?”

Veronica Ndagire Herman lives in the Rakai District of southern Uganda. In her early thirties, she works as a midwife. Her smile brightens the room — her spirit enlarges it. The “Level 2” health clinic in which she works is set in one of the most rural districts in this region of 1.5 million people. As the senior medical officer, Veronica supervises five other people, but her clinic has no electricity, no running water, and, until recently, no communication with the outside world. She receives no newspapers. In fact, only 20 copies of the government-controlled popular daily tabloid, *New Vision*, are delivered to a few of Rakai’s local leaders each week. GSM (Global System for Mobile Communications) telephony is now possible, thanks to the Uganda Communications Commission’s universal access fund, the Rural Communications Development Fund, but hardly anyone in Veronica’s community owns a cell phone.

Veronica has a new means of communication, however. She is one of 206 health care workers in Rakai District to receive a personal digital assistant (PDA) under a pilot project conceived by the NGOs SATELLIFE and Uganda Chartered HealthNet (UCH). Her PDA is a colour model and fits in her hand like a soft, leather glove. The International Development Research Centre (IDRC) supported the pilot project in 2003 and a subsequent phase that provides Ugandan doctors and health care workers access to medical and health information through wireless technology. When we arrive for a visit, Veronica sits us down at the rough-hewn, wooden clinic reception table, looks us straight in the eye, and testifies to the changes her PDA has wrought in this remote corner of Uganda.

Veronica uses her PDA for three main purposes. She can access the district health surveillance report from data stored in a wireless router located more than seven kilometres away, a bit further than where she travels twice a week, on foot or bicycle, to charge the battery of her PDA. That way, if there is an outbreak of measles somewhere else in the district, she'll learn of it before it touches her community. She can then advise people on preventative measures. A certified midwife, Veronica is expected to know how to treat all sorts of illness, not just help families deliver their babies. From the medical downloads to her PDA, Veronica has learned how to diagnose and treat many common illnesses.

Equally important, if her own observations reveal a local rise in cholera, the district will review her data and send medications and specialist assistance. Before Veronica began using her PDA, it could take six months for district authorities to respond to such notices. Only 20% of her previous paper reports made it to the district office — they would get lost or damaged by weather en route. Now, more than 90% of her reports reach their intended destinations.

Veronica also downloads news from Kampala and the world beyond to her PDA. People flock to the clinic to read the news on her Palm Pilot. She has to be careful about how she manages this demand — if too many people use it, the PDA's battery will drain even faster, requiring more of those seven kilometre trips to recharge it. Yet, a simple \$40 solar charger would solve that problem. Veronica is adamant: "I need a solar charger!" she says.

Earlier. . . .

Wednesday, 8 June 2005

"They've even factored new computers into the District budgets!..."



Dr Robert Mayanja is proud and ambitious. The District Medical Director for Rakai, he is responsible for 600 health care workers, located in 60 clinics. Uganda is in its eighth year of decentralized local service delivery, including health care. Initially, only the problems were decentralized. Now funds are also being transferred to the rural districts and managed by locally elected officials.

Dr Mayanja briefs us on health care in the district and on how the PDAs have made an important difference. He's proud that "every clinic in Rakai has a computer." He tells us how, in just their second year of experimenting with this new system, they've already prevented an epidemic of malaria. Their timely disease-surveillance reporting helped identify an increase in malaria in a district close to one of the many lakes in the region. They telephoned Kampala and five drums of chemical spray were delivered to repel the malaria-

bearing mosquitoes. He also claims proudly that the rate of infection of HIV/AIDS in the district has fallen from 44 to 14%.

We tour the district offices. Boxes of pharmaceuticals line the corridors and the offices. And yet, “we’ll run out of medication by September,” he states. The local technical support worker stops me in front of the communications router used by the project. It can “read” WiFi, GSM, and infrared. He encourages me to receive a “beam” on my three-year-old PDA. Today’s content includes several articles from the *New Vision* newspaper. There’s Web content as well. I beam it all across, including material from the www.idrc.ca/wsis Web site. He smiles when I note that it’s there. It’s not information particularly useful for Veronica or Dr Mayanja, but he’s demonstrated to me his technical virtuosity and marketing savvy.

Dr Mayanja wants a supervisor to help with the new system. And the supervisor will need a motorcycle. He’s not demanding in stating his needs, just persistent.

Computers: The key to re-election?

Today is Budget Day in Uganda. By law, all 128 District Councils must submit their budgets to the Ministry of Finance today. While they receive an indication of the numbers in advance, elected officials all over Uganda must sit in caucus all day to finalize budget details. Dr Mayanja has accompanied us to the budget deliberations of more than 25 elected and appointed officials sitting around an ebony conference table. One has a laptop opened in front of him. The Rakai District Council chairman greets us warmly.

The chairman was first elected three years ago and plans to run for another term next year. He has been interviewed by *New Vision*. Other districts want to know how Rakai managed to get computers for its health clinics. He thinks the computers will help him get elected for another term, which will be his last. Dr Mayanja assures us the chairman will win another term of office because health care is the principal service the local districts provide.

Even earlier. . .
Wednesday, June 8
Kampala

“We’re already on it!...”

It’s now 5 a.m. We’ve just flown overnight from Addis Ababa, Ethiopia to Entebbe, Uganda and then driven another hour by taxi to Kampala. We’ll be going to Rakai later today.

Our first meeting is at 8 a.m. at Makerere University, once considered one of Africa’s finest universities. A quarter-century of political strife, followed by the ravages of HIV/AIDS on the professional classes of Uganda, has eroded its reputation.

But Makerere is pushing to regain its former status. Dr Nelson Sewankambo is one of the reasons why Makerere is reclaiming its former renown. As Dean of the Medical School and Chairman of Uganda Chartered HealthNet, he is indefatigable.

Our hour-long meeting with Sewankambo and his HealthNet colleagues revives our fatigued spirits. He uses our time together to question, add value to conversation, and draw everyone in the room into the discussion.

As we close, I remark that the University of Florida Medical School has started giving PDAs to all its medical students and wonder if he has considered doing that at Makerere. “We’re already on it,”

he answers. “We’ve given PDAs to 200 medical students already. And we’ll continue to do it for as long as we can get them donated.”

Before leaving, we stop by the HealthNet office in the medical school building. It’s right behind what can only be called a medical telecentre consisting of 18 desktop computers connected to the university’s 1 GHZ LAN. Most medical students and faculty can’t afford their own computers so they convene at the HealthNet telecentre to carry out research, pick up their e-mail, or search the Web. The demand is so high, the telecentre imposes a time limit on users.

The 12% setback

I’ve known Patrick Masambu since 1997 when he was the Managing Director of the state-owned Uganda Post and Telecoms Ltd (UPTL). Around that time, Patrick assumed a new post as Executive Director of the Uganda Communications Commission (UCC), the country’s first independent telecom regulator.

Eight years later, UCC owns a 12-storey building smack in the middle of Kampala. Through the tremendously successful universal access fund — the Rural Communications Development Fund — mobile telecom operators must invest 1% of their gross revenues to support pre-market rural GSM access. IDRC helped UCC finance the research to develop the fund’s policies and the World Bank invested an additional US\$11 million to broaden its impact.

Because of this foresight, Uganda has the highest penetration of mobile telephony in all of Africa. The work of Dr Mayanja and his rural health information innovators in Rakai wouldn’t be possible without the pervasive access to GSM that UCC’s policies and Patrick’s leadership have enabled.

The next step in the universal service roll-out is to establish 32 new Internet access points in rural areas, including wireless data access within a 10-mile radius. Additionally, UCC will issue a call for proposals for multipurpose community telecentres in 20 of these locations. Even the post office is getting into the act with 20 new “postal telecentres.” Additionally, UCC is to commission a feasibility study for a fibre-optic link around the country. All of this in less than a decade. But today’s news isn’t good. Yesterday the government announced a 12% surtax on mobile telephone access. The president was quoted as saying “if you can afford a cell phone, you can afford to pay the tax!” Tell that to Dr Mayanja and Veronica in Rakai!

Meeting with the DG

There had been considerable uncertainty about whether or not we would meet with the Director General (DG) of the Ministry of Health, an important element of our visit. On the last day of our visit, a call to our host, Dr Patrick Okello of the Uganda Health Information Network confirmed a meeting for 2:30 that afternoon.

Our meeting lasts 30 minutes longer than planned but I’m not convinced it’s a sign of progress. The DG’s advisors have indicated that part of the HealthNet technology is obsolete and, besides, why does the project need someone in the region to “supervise” it? “How can that possibly be sustainable?” the DG asks in a rhetorical manner. The chair of the Government Telemedicine Policy Committee is also in attendance.



Both she and the DG remind us of the government-wide health sector ICT policy and that HealthNet's activities should fall within that context. When we ask for a copy, she informs us that it's still in draft form, hasn't been approved by the government, and doesn't know when it will be available. The DG encourages her to give us the draft.

The DG indicates what elements of health reform our HealthNet friends should pursue. He agrees that a memorandum of understanding (MOU) should be signed between his ministry and the NGO. Several times he mentions how dealing with donors is like assembling a jigsaw puzzle. He wants to know how much IDRC is prepared to spend on "scaling up" the project to other regions. We agree, at his suggestion, that IDRC might help finance the cost profile of the new health sector ICT policy once it is made public.

Bursting at the seams

Our HealthNet friends in Uganda have transformed an idea into a successful, innovative rural health information technology network in less than three years. Despite the Health Ministry's recalcitrance, there's growing interest throughout Africa in what is being accomplished. The World Health Organization has a \$100 million fund to roll-out anti-retroviral services and it needs a monitoring system. The HealthNet system is ideally suited for this.

The Rwandan government has already contracted HealthNet to test their system for real-time monitoring of the national elections. Caesar, a HealthNet staff member, has just returned from Ethiopia where the system was piloted in the health sector. IDRC supported a South African group to pilot the same technology in the treatment of HIV/AIDS.

In Uganda the HealthNet team is a bit "Kampala heavy" and there aren't nearly enough women on the team. They also very much need a strategic focus and a plan. Their Managing Director, Dr Okello, is young, highly motivated, and sufficiently impatient with big systems to lead me to think that Africa, and not just Uganda, should be their focus.

But they've had setbacks. The technology needed considerable tweaking to get to where they are now. The manufacturer of the "switch and router" for the project has decided to change directions and now wants to target Europeans uploading digital photos rather than Africans delivering health care services. Such setbacks could discourage a weaker, unmotivated team. But Patrick Okello and Nelson Sewankambo aren't going to let that happen.

We depart thinking that we've experienced something very special: a snapshot of African innovation in the face of all the reasons why it shouldn't work.

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