Rwanda: an injection of hope

It still bears the scars of its recent past, but Rwanda's long-term vision and openess to innovation is helping it make great strides towards a brighter future. David Holmes reports.

Just 16 years after the fastest genocide in history brought Rwanda to its knees, the country is being lauded as a model for development in Africa. The streets of the capital Kigali are clean, the roads are tarmacked, and government institutions are rated as some of the least corrupt in Africa, according to Transparency International. And in contrast to many African countries, Rwanda is on track to meet its health Millennium Development Goals (MDGs). How has a country barely a tenth of the size of the UK, and still traumatised by the horrors of its recent past, managed to succeed where so many others are showing worrying signs of failure?

One of the key features that sets Rwanda—along with the continent's other success stories like Malawi—apart from its struggling neighbours is its attitude towards foreign aid, with none of the profligacy that afflicts other countries in the region. Rather, aid is fully integrated into the health system, and is only used if it addresses a need already identified by the Ministry of Health. As Agnes Binagwaho, Permanent Secretary at the Ministry of Health explains, "what is important is that support from Global Fund, or GAVI [the Global Alliance for Vaccines and Immunisation], this support has to be integrated in the general support that others are giving, plus what we are doing with our own resources. This is the only way to make it successful."

Binagwaho stresses the importance of having a coherent strategy, within which different aid streams can be made to work in synergy with each other and with systems already in place. "This plan is a reflection of our vision," says Binagwaho. "We know where we want to be. We don't have all the capacity to be there now. But when we have an opportunity like GAVI, we really know where to put it immediately to make the difference, because we have that plan." This balance between ambition and pragmatism means that every aid dollar is made to work effectively. In turn, this makes the country more attractive to donors because they can see concrete results, which attracts more aid. It is a virtuous circle.

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Maternal and child survival are certainly top of the list of Rwanda's health priorities, having been identified as absolutely crucial for the long-term health of the country on its road to development. Healthier mothers mean healthier children, and healthier children mean a healthier, more productive society in the future.

Central to improving maternal and child health has been the way the Ministry of Health has decentralised the health system and reached out into rural communities. 85% of Rwandans live in rural agricultural communities, often more than an hour's walk from the nearest health centre. This lack of easy access to care meant that decisions to seek medical help were often delayed, worsening the prognosis. But this problem is being tackled through the training of 60 000 village-based community health workers. Each village has at least one worker trained in maternal health, one in child health, and one in community health, each of whom has been elected by the local community.

Joseph Ngabo is the community health worker in charge of child health in the village of Kayenzi, situated in the rolling countryside south of the capital Kigali. A builder by trade, he is now the first point of contact in Rwanda's health system for any Kayenzi resident with a sick child. It is a big responsibility, he says, but one that he bears with great pride.

Most of the cases Ngabo sees now are respiratory infections, usually pneumonia. The disease is the leading killer of children under 5 years worldwide, and replaced malaria as the leading cause of childhood deaths in Rwanda after a nationwide campaign to distribute bednets and educate people on how to avoid insect bites resulted in a sharp fall in the number of children with malarial infections. Ngabo has the antibiotics to treat cases of pneumonia as soon as they are diagnosed, and he always has the local health centre on call if he is unsure of any of the symptoms. Any cases that do not improve after 2 days are then referred to the local health centre or district hospital, with the most severe cases sent on to Kigali.

Shannon Jensen

Children play on the floor while mothers wait at the Musha Health Centre

Shannon Jensen

Laifa Umulisaisimbi is vaccinated at the Nyamata Health Centre

But rapid access to treatment is only part of the solution. Rwanda has adopted the WHO and UNICEF Global Action Plan on Pneumonia, which has prevention at its heart. And by far the most effective preventive measure for many communicable diseases is vaccination. Rwanda, with support from GAVI, has managed to achieve over 92% vaccination coverage in children under 5 years for all major vaccine-preventable diseases since 2000—including diphtheria, *Haemophilus influenzae* type B, hepatitis B, pertussis, measles, polio, tetanus, and tuberculosis. The programme has been an unqualified success, and was expanded in April 2009 to include the pneumococcal vaccine (PCV7). Although it is too early to assess the effect of PCV7 on the prevalence of pneumonia, there are already promising signs of a drop in the number of cases.

Buoyed by the success of the immunisation programme, the government and GAVI plan to introduce a rotavirus vaccine next year, followed by the human papillomavirus vaccination—part of the fourth generation of vaccines to be approved for funding by GAVI. But the immunisation programme is not just about vaccination, it also acts as a gateway to other health services. This is readily apparent at the Musha Health Centre in Rwamagana district, on a hill overlooking Lake Muhazi, east of the capital. By 10 in the morning the bright and airy meeting room is already packed with rows of women cradling infants. Facing the women, a nurse sits at a desk and prepares the vaccinations. Another nurse paces the room, espousing the benefits of giving birth at the health centre instead of at home, answering questions about the vaccination session due to take place, and preparing the women for an education session on family planning. At each vaccination visit women are educated on a different subject, from nutrition and hygiene to contraception.

After the children receive their vaccinations, which are recorded on their record card, they each receive vitamin A supplements and are weighed to assess their development. Linking the immunisation programme with a battery of additional interventions multiplies the benefits of each at the least possible cost. It is a system that could work throughout the region, but it is contingent on commitment and coordination from governments and, crucially, funding. To introduce the pneumococcal and rotavirus vaccines in the countries that want them before 2015, GAVI would need an additional US$4·3 billion in funding. With the world economy still facing strong headwinds, securing this funding will be crucial to ensuring progress on child mortality is made in the region.

Meanwhile, Rwanda continues to innovate. The next step in the evolution of its health system will see the widespread introduction of a UNICEF-developed rapid SMS system of communication between community health workers, health centres, and hospitals. The system is primarily designed to improve maternal health, with every woman who becomes pregnant required to report to the local community health worker. These workers are given mobile phones, which they use to record and send details about the woman's village, language, and weight. 3 months before the woman is due to give birth she is asked to attend prenatal classes, and asked to alert the community health worker as soon as she starts her contractions or experiences any complications. The health worker then messages a central ministry of health server, which dispatches an ambulance from the nearest health centre. In serious cases, the server bypasses the health centre and alerts the nearest regional hospital to intervene.

John Kalach is the director of the Ruhengeri Hospital in Musanze district, in the mountainous north of the country. His district has been the first to use the SMS system, and Kalach is convinced it is the future of health care in Rwanda. He explains how it breaks down the barrier of distance that so often leads to delays in receiving treatment when it is most needed. Women in remote areas used to have no means of contacting a health centre other than by foot, so they delay seeking treatment, all too often until it is too late. In the 9 months since the SMS system was introduced only two women have died of causes related to childbirth, both of whom had not registered their pregnancies with the local health worker. There were ten deaths the previous year.

Another advantage of the SMS system is that the mandatory registering of new births and deaths gives live and accurate population data. Previously, demographic surveys were costly, and provided only a snapshot of a population constantly in flux. The data generated by the SMS system will be crucial in enabling the Ministry of Health to target interventions to where they are needed most and plan more effectively for the future. It is a future that is looking increasingly bright.

David Holmes