Health – Our approach

Communications technology can help to transform how healthcare is delivered in both developed and emerging markets. Our partnerships with enterprise customers, NGOs and governments are improving access to healthcare services and quality of care for patients, by making it easier for them to get treatment, or by increasing the amount of time health workers can spend with patients.

Our mobile health solutions help governments and healthcare providers respond to global health challenges in four key areas:

• **Access to healthcare**: helping patients in emerging markets access treatment, medicines and vaccines, by facilitating travel to hospitals, supporting the management of drug stock levels and improving the effectiveness of vaccination programmes

• **Remote care**: enabling doctors to treat patients remotely and improving quality of life for people with chronic diseases, by enabling them to monitor and manage their conditions at home

• **Assisted living**: using mobile technology to support assisted living, helping elderly people to live independently, in their own homes, for longer

• **Smart working**: enabling healthcare workers to access patient records and hospital systems remotely to improve quality of care, reduce administration time and increase the time they can spend with patients, as well as helping to keep lone healthcare workers safer.

**Meeting the global health challenge**

The burden on healthcare systems is increasing as the world’s population grows and ages and long-term medical conditions become more prevalent.

In emerging markets, where the worldwide shortfall of 4.3 million health workers is felt most acutely⁵, millions of people do not have access to even basic healthcare services. In developed markets, the cost of caring for an ageing population and the rise of chronic diseases such as diabetes, is adding to the strain on healthcare budgets. Over the last 50 years, healthcare spend has outpaced GDP growth by around 2% a year in several OECD countries and could reach 15% of GDP in these countries by 2030⁶.

Communications technology can help healthcare providers respond to these challenges. With the mobile health industry (mHealth) predicted to be worth US$50 billion by 2020⁷, this offers a significant business opportunity for Vodafone.

We are working with pharmaceutical companies, medical technology companies, health insurers, NGOs and government agencies in both emerging and developed markets to create successful partnerships and, ultimately, commercially viable products and services that meet the needs of those who need treatment.

**Partnering to improve healthcare in emerging markets**

In 2013/14, we continued to use mobile technology to improve healthcare in emerging markets. As a founding partner of the mHealth Alliance, the Vodafone Foundation is working with the United States Agency for International Development (USAID) on an innovative public-private partnership to improve child health by accelerating the use of mobile technology by millions of health workers globally. The initiative, known as mPowering Frontline Health Workers, aims to improve health workers’ opportunities to share information, knowledge and experience through technology.

**Increasing vaccination rates**

Worldwide, around 20% of children do not receive vital vaccinations. We are exploring how health ministries in sub-Saharan Africa can use mobile technology solutions to improve access to vaccines and rates of immunisation as part of our three year partnership with the GAVI Alliance. Vodafone is providing an in-kind contribution of US$1.5 million to this partnership. Additionally, we formed a partnership with global healthcare provider GSK and, in 2014, we launched a pilot with the Mozambique Ministry of Health that aims to boost vaccination rates (see case study below).

In India, we launched a new free SMS-based service, in collaboration with the Indian Academy of Paediatrics, to remind parents that they need to get their children vaccinated. According to a study by Cochrane, vaccination reminders are effective in improving vaccination rates by up to 20%, reminders by phone being the most effective⁸. Parents across the country can opt into the service by sending a message from any mobile
Health – Our approach

network in India. They receive immediate confirmation followed by reminders about their child's immunisation schedule for a period of 12 years. We aim to help prevent 500,000 child deaths and disabilities by the end of 2018 and two months after launch, 20,000 children were already enrolled, exceeding the targets set.

Supporting health workers

Frontline health workers, such as community healthcare workers, nurses and midwives, are often the first and often only link to healthcare for millions of people across the developing world.

In South Africa, we continue to use our mobile health enablement platform to support healthcare workers (see video), as well as the largest national HIV prevention initiative, loveLife. The platform is now available in Kenya and will be used to provide maternal and newborn child health information and services (see below: Improving maternal health).

In focus: Partnership for vital vaccines in Mozambique

In March 2014, we launched mVacciNation, a pilot project in the Nampula province of Mozambique that aims to boost child vaccination rates by approximately 5%. With approximately 80% of the province's population covered by mobile networks, Vodafone's solutions can effectively support data capture, patient compliance and supply chain failures, using mobile phones as a readily available technology.

Working in partnership with GSK, the Mozambique Ministry of Health and USAID, mobile technology will be used to raise awareness of the importance of vaccinations among caregivers – focusing particularly on children under one year old – and send them reminders about scheduled appointments.

Our mobile health solutions will also enable healthcare workers to keep accurate records more efficiently and will support health facilities by providing more accurate real-time data of vaccine stock levels which can inform management decisions to address supply challenges. We are conducting an external evaluation of this programme and aim to use the lessons learnt to create a model that can be scaled up and rolled out across the country and beyond – enabling thousands more children to receive life-saving vaccinations. Watch the video at www.youtube.com/watch?v=ASnKKvAP98 to hear feedback from those involved in the pilot.

Mobile health platform helps improve patient care in South Africa

Field-based community healthcare workers in South Africa are using Vodafone's end-to-end mobile health monitoring and evaluation platform to reduce administration time and improve patient outcomes. This platform helps healthcare workers to reduce the time spent on administration thereby enabling them to see more people. It also helps them to identify and address issues more quickly, leading to better health outcomes for their communities.

Initially a pilot (and previously known as Nompilo), the project's success has grown substantially over the last five years and has been extended to over 500 field-based healthcare workers. Following a renewed contract with the Ministry of Health, in excess of 1,200 healthcare workers will be able to access the system by July 2014, increasing to 3000 over the coming three years. Find out more at www.youtube.com/watch?v=M12MqRaOzAQ

“ No matter where I am working, I have all the patient information I need to act faster and more efficiently.”

Community healthcare giver using Nompilo, Limpopo, South Africa

Smart solutions

loveLife is South Africa's largest national HIV prevention initiative for young people. Vodacom helped loveLife put in place a modern and reliable monitoring system that tracks all the activities of the programme's 1,250 young community leaders, who work in over 880 communities nationwide. Being able to capture data in real time and report back on work done has really helped to drive the programme's success. Vodacom also provided mobile phones to all the community leaders and 3G-enabled laptops to loveLife's 154 regional programme leaders. This resulted in data being available almost instantaneously, rather than taking around two months, helping to ensure that the programme's time and resources are spent on turning the tide on HIV/AIDS.

Enhancing access to diabetes treatment

The increasing incidence of chronic diseases such as diabetes and heart disease is becoming a major health challenge in emerging markets – in Africa alone it is estimated the incidence of diabetes will nearly double by 2030. Working in collaboration with the pharmaceuticals company Sanofi Aventis, we have launched a Patient Support Platform which helps patients with diabetes access treatment. In 2013/14, this platform was used to support the rollout of MyStarCare™ in South Africa, an interactive mobile patient programme that will provide real-time monitoring of diabetic patients.
Health – Our approach

Improving maternal health

Our mobile health services are also being used to improve maternal health – a key focus of our contribution to the UN Millennium Development Goals.

In 2013/14, the Vodafone Foundation extended its maternal health programme to rural regions in Tanzania. Working with Swiss Re Foundation and Pathfinder International (an NGO), the Foundation is providing training to community healthcare workers in maternal, neonatal and child health to better connect pregnant women to healthcare facilities and prevent maternal deaths.

Since 2010, the Vodafone Foundation has been working with the Comprehensive Community Based Rehabilitation in Tanzania (CCBRT), an NGO, to treat women with obstetric fistula, a maternal health condition that leaves women incontinent following childbirth and consequently outcast from their communities (see video below). The CCBRT hospital uses the M-Pesa mobile transfer system, to send travel funds to ambassadors around the country, who use the money to pay for some of the poorest and most marginalised women to get to hospital for life-changing surgery (see feature below).

This programme, known as Text to Treatment, helped 713 women receive treatment in 2013 compared with just 168 in 2009, before we introduced this initiative. More than 70% of the women receiving surgery used the M-Pesa Text to Treatment programme to get to the hospital. The Vodafone Foundation and USAID have also committed $5 million to develop the Text to Treatment programme to help rural health workers identify women at risk of complicated births and transport them to hospital where they can give birth safely.

Tackling obstetric fistula in Tanzania

Vodafone Foundation is working with Comprehensive Community Based Rehabilitation in Tanzania (CCBRT) to support women with obstetric fistula. The programme is delivered by the Vodafone Foundation as part of its Mobile for Good programme.

"Mobile technology changes lives," says Erwin Telemans, CEO of CCBRT. “Many women simply cannot afford transport to hospital. Vodafone M-Pesa allows CCBRT to cover these costs in advance. In 2013, over 70% of our fistula patients would still be living in shame and isolation if it weren’t for Text to Treatment.” Watch the video at http://mobileforgoodvideoplayer.vodafonefoundation.org/videos/watch/ccbxt-m-pesa-maternal-health-programme

In Kenya, our mobile health enablement platform has been used as part of KimMNCHip, a programme that aims to reduce infant and maternal mortality, as part of a partnership between our associate Safaricom, and NGOs AMREF, NetHope, CARE Kenya and World Vision. KimMNCHip is helping to improve mother and child health records in clinics and to strengthen community outreach services, such as health referral services, and tracking of nutrition and HIV information.

mHealth in developed markets

Global ageing demographics and a worldwide chronic disease epidemic are driving a vast economic cost burden to healthcare. This means healthcare providers are having to find new ways to maintain the current quality of patient care. Moving costs and care away from the hospital and primary care environment, we are providing a modern approach to healthcare.

Through our remote care services solutions in condition management, hospital to home, and assisted living, we are not only addressing productivity and cost challenges, but also enabling improvements in both patient care and quality of life for patients. M2M monitoring and tracking solutions also help to maintain medical and lab equipment more effectively through real-time notification of potential issues.

In the area of clinical research, Vodafone M2M health solutions offer a more effective way of collecting data to speed up testing and compliance, reduce development time and enhance the quality of information used in bringing a new and effective treatment to market.

Our solutions combine mobile health (mHealth) services and machine-to-machine (M2M) technology to improve healthcare provision and patients’ lives by enabling our enterprise customers to operate more efficiently. These include:

• Remote monitoring devices allowing patients to report on their condition, and their doctors or carers to then access this information in real time
• Remote care services enable more effective treatment and better use of health resources by, for example, allowing doctors to conduct examinations remotely on a computer or smartphone
• Patient adherence services help patients with complex drug treatment programmes get the right amounts of medication at the right time
• Hospital to home solutions provide care for patients receiving long-term treatment in their own homes
• Stock management services enable hospitals to track medicine stock levels

Find out more about our mHealth solutions on our website.
Health – Our approach

Improving patient care

Together, Vodafone and TRxCARE are delivering an innovative treatment and adherence support service, customised specifically for patients with HIV, a condition that requires strict adherence to medication regimes. Achieving the necessary minimum rate of adherence is very challenging to many patients, prompting clinicians to report growing concerns about increasing numbers of patients failing to stick to their programmes.

The TRxE™ programme enables patients to maintain and better manage their treatment via a smart phone application. By providing medication prompts, personalised contact and regular broadcasts of information, advice and guidance, patients can receive comprehensive, ongoing treatment support.

In 2013/14, we announced a global partnership with the pharmaceutical company, AstraZeneca, to develop new mobile and internet-based services to support patients with cardiovascular conditions during treatment. We will provide the technology and our expertise on mobile health services to develop solutions that will, for example, help patients adhere to their medication schedule.

We continued to work with Baxter Healthcare to provide a mobile system for patients with immune deficiencies in three cities in the UK. The system enables patients to receive long-term treatment at home rather than travelling to hospital and clinicians to monitor patients’ treatment process remotely – improving their quality of life and freeing up hospital resources. We also continued to partner with medical device company Boston Scientific Corporation to develop technology to remotely monitor patients’ heart conditions.

In the UK, our smart working solutions enabled healthcare workers to spend less time on paperwork and more time with patients. In Cumbria, the National Health Service used our mobile solutions to help staff access clinical information and update patient records on the move. Services such as an app to update patient records remotely via smartphone and a digital pen to collect data have helped nurses cut administration time by around 15%, allowing more time for community visits in rural areas.

Notes:
2. mHealth: A new vision for healthcare (2010), GSMA and McKinsey
3. Future Agenda: The role of mobile (2011), Vodafone
5. Vodafone Foundation registered charity number 1089625. For more information, please go to the Vodafone Foundation