Health

We are helping to meet global health challenges by using communications technology to improve access to life-saving treatments and enhance the quality of care that patients receive.

Healthcare systems around the world are under increasing pressure. There is a global shortage of healthcare workers and incidences of chronic diseases such as diabetes are on the rise. Millions of people in emerging markets are without access to basic health services and ageing populations are adding to the strain in developing markets.

Through our partnerships with enterprise customers, NGOs and governments, we are supporting efforts to overcome these challenges. Using mobile technology, we can help improve access to healthcare and improve outcomes for patients, for example by increasing the amount of time health workers spend with patients. Our Machine-to-Machine (M2M) solutions provide remote healthcare that improves the quality of life for the elderly and people with chronic diseases.

Read on to find out more about our mobile health solutions and our performance in 2014/15.

Our mobile health solutions

We are partnering with pharmaceutical companies, medical technology companies, health insurers, NGOs and government agencies to create commercially viable products and services to help meet health needs. We focus on:

- **access to healthcare**: helping patients in emerging markets access treatment, medicines and vaccines; supporting the management of drug stock levels; and improving the effectiveness of vaccination programmes
- **support for healthcare workers**: providing training to healthcare workers through our mobile platforms and enabling healthcare workers to access patient records remotely to improve the quality of care and reduce administration time
- **remote care**: improving the quality of life for people with chronic diseases by allowing them to monitor and manage their conditions at home
- **assisted living**: helping elderly people live independently in their own homes for longer by connecting medical devices remotely
- **clinical research**: enabling the efficient collection of data to help enhance the quality of information used to bring new and effective treatments to market.

Enabling better access to healthcare

Improving vaccination rates

Worldwide, around 20% of children do not receive vital vaccinations. Mobile technology can help raise awareness about the importance of immunisations and send reminders to parents and caregivers to ensure they get their children vaccinated. By helping healthcare workers keep accurate records and providing real-time data on stock levels, it also helps governments ensure vaccines are available when and where they are needed.

In sub-Saharan Africa, we are working with GSK, the Mozambique Ministry of Health, USAID and others on the mVacciNation pilot programme, which aims to boost child vaccination rates by around 5% in Mozambique. Over 25,500 children have been registered with the programme since its launch in March 2014 and 40,000 vaccinations have been recorded. Using our mobile health solutions, the programme has also provided over 4,000 real-time reports on the number of doses of vaccines available. In 2014/15, we began evaluating this pilot and will use what we have learned to make improvements as we roll it out to a further 90 health centres across the country. Watch the video to hear feedback from those involved in the pilot https://youtu.be/ASnKKviAP98.

In India, our free SMS-based service reminded parents across the country to get their children vaccinated. Parents can opt in by sending a message from any mobile network in India. They receive immediate confirmation followed by reminders about their child’s immunisation schedule for a period of 12 years. By the end of 2014/15, 300,000 children had been enrolled in this collaborative programme with the Indian Academy of Paediatrics.
Improving maternal health

Using our mobile health solutions, we are helping to improve women’s maternal health and access to life-saving treatments. Since the launch of the programme in 2009, more than 3,000 women have received treatment for obstetric fistula, a maternal health condition that leaves women incontinent following childbirth. Through the M-Pesa Text to Treatment programme, the Comprehensive Community Based Rehabilitation in Tanzania (CCBRT) hospital was able to transfer money to pay for some of the poorest and most marginalised women to get to hospital for life-changing surgery. As we have treated more women it has become increasingly challenging to find the women with obstetric fistula in rural areas. We are discussing with CCBRT how they can partner with other health NGO partners to help reach women with obstetric fistula and provide free transport to surgery via M-Pesa.

The Vodafone Foundation has partnered with USAID to expand this programme to help rural health workers identify women at risk of complicated births and transport them to health facilities where they can give birth safely.

In partnership with the Swiss Re Foundation, Pathfinder International and Touch Foundation, the Vodafone Foundation is working to improve access to better healthcare facilities for pregnant women to prevent maternal morbidity and mortality. Together, we have supported training in maternal, neonatal and child health to 125 community health workers and 53 health facility workers, as well as improving maternal healthcare facilities at the regional hospital.

Visit the Vodafone Foundation’s website for more on Text to Treatment, http://www.vodafone.com/content/index/about/foundation.html.

Improving access to treatment for rural communities

In Lesotho, the Vodafone Foundation M-Pesa ‘Text to Treatment’ model used in Tanzania is being replicated to ensure that children living with HIV can travel from rural communities to health facilities for treatment. First these children have to be found, so through the programme we are training health workers armed with mobile phones and 4x4s to provide mother and baby clinics to affected communities across the mountain kingdom. Expectant mothers are referred to clinics for highly effective preventive treatment, with ‘mother and baby pairs’ transported for treatment when either tests positive for HIV. As well as transferring funds for transport for these mothers and babies, mobile technology will also help speed test results, cutting result turnaround from many weeks to just a few days.

Sending results via mobile rather than paper will help ensure that those who test positive are referred for more immediate treatment, ultimately saving lives and preventing ‘loss to follow up’. Of the estimated 25,000 young people living with HIV, no more than 6,000 are currently receiving antiretroviral treatment. The 25,000 HIV+ children are hidden among some 500,000 children and young people in Lesotho and it is mobile technology providing the communication and coordination tools to help us find them and refer them for treatment.

Supporting healthcare workers

Mobile technology is helping front-line workers, such as nurses and midwives, work more efficiently so they can spend less time on administration and more time looking after their patients.

In the UK, for example, we have supported the National Health Service to help keep staff connected; reducing the time it takes to match donors of organs, blood and tissue to patients nationwide. The Department of Health reports that equipping health workers with new mobile technology significantly increases productivity and the duplication of data can be greatly reduced, freeing up clinical time. Services such as an app to update patient records remotely via a smartphone, and a digital pen to collect data, have helped cut the time nurses spend on administration by around 15%, allowing more time for community visits in rural areas.

More than 3,000 field-based community healthcare workers in South Africa are now using Vodafone’s end-to-end mobile health monitoring and evaluation platform to reduce administration time, enabling them to see more people and improve patient outcomes. Watch the video to find out more about how our mobile health platform is improving patient care in South Africa, https://www.youtube.com/watch?v=M12MgRaOjAQ&feature=youtu.be.

In 2014/15, we launched the Health Enablement & Learning Platform (HELP), which allows healthcare workers in Kenya to access audio training using a basic mobile phone. HELP was developed in partnership with Accenture, Safaricom, Amref and the M-Pesa Foundation. It has already provided training to more than 300 people and we aim to reach over 3,000 more healthcare workers as the programme is rolled out over the next two years.

We are also using our technology to help loveLife, a national HIV prevention initiative in South Africa, reach more young people living with HIV/AIDS, http://www.lovelife.org.za/corporate/about-lovelife/. loveLife’s 1,250 young community leaders work with NGOs, schools and clinics to meet face-to-face with young people across South Africa and promote healthy, HIV-free living. Using our monitoring system to track their activities, we enabled loveLife to capture data and report back in real time.
Helping treat patients remotely

By connecting medical devices remotely, our M2M solutions allow patients with chronic diseases to better manage their conditions and receive long-term treatment at home – making healthcare delivery more efficient and improving patients’ quality of life.

In 2014/15, we began piloting a tool in partnership with the pharmaceutical company AstraZeneca to support people with cardiovascular conditions. Patients can use the tool via their mobile phones or a web-based system to get information and reminders about taking medication. It aims to improve adherence to complex medication programmes and promote healthy lifestyles that enhance rehabilitation. The tool is designed to encourage patients to be proactive in their self-care, with personalised coaching and the ability to visualise their progress. Patients will be recruited for the pilot from leading cardiac hospitals in Germany.

The incidence of diabetes is increasing rapidly around the world. To manage the disease, patients need to stick to a strict regime of medication and monitoring to control their blood glucose levels. In 2014/15, we worked with Diabetacare to launch an innovative remote diabetes treatment solution in Bangalore, India, http://www.diabetacare.com/about.html. Using our M2M technology, the Diabetacare solution monitored the blood glucose and blood pressure of 800 patients and provided real-time data on their condition to a central database, where it could be assessed by clinicians. The service will be rolled out across India in 2015/16 and we plan to launch a pilot in Dubai to test its applicability for diabetes patients living there.

Working with Baxter Healthcare, we have been enabling clinicians to monitor immunotherapy patients’ treatment remotely – improving their quality of life and freeing up hospital resources. In 2014/15, we extended this pilot to explore how renal patients receiving dialysis could use a remote monitoring solution to better manage their condition at home. Baxter surveyed all the patients from one of the UK clinics involved in the pilot and all of them agreed that the remote system was more convenient and improved the monitoring of their condition.

Our M2M technology is also helping to ensure people who suffer sudden heart attacks can get life-saving treatment, read on for more information in our case study.

In focus: M2M connectivity supports life-saving equipment

Each year in Europe around 700,000 people die from sudden cardiac arrest – the most common cause of out-of-hospital deaths in the developed world.

Automated external defibrillators (AED) – portable devices that check the heart rhythm and send a shock to restart the heart – can save lives by enabling first aiders to act fast when someone goes into cardiac arrest. But these battery-powered devices are easily damaged and need regular checks to make sure they are in full working order in case of emergency.

Working with Philips and medic assist, a healthcare service provider, we developed a way to check the status of AEDs remotely, using an M2M-enabled case called SmartConnect. Using Vodafone’s M2M connectivity, the sensor in the case monitors the AED device and sends an alert if it fails. This helps to make sure defibrillators are working when they are needed and reduces maintenance costs.

By June 2014, over 1,000 SmartConnect devices had been installed at our customers’ sites, including police stations and transport hubs.

Enabling elderly people to live independently

By 2050, an estimated one in five people around the world will be over 60 years old. This trend is already much higher in developed countries. As the global population ages, more elderly people will live alone and face social isolation. By using our M2M platform to connect assisted living solutions, we are helping elderly patients to live independently in their own homes for longer.

Notes:
1. Results of Dialysis Remote Monitor pilot, 2014
In 2014/15, we worked with Lively, a health start-up business in San Francisco, US, to develop a sensor solution that enables families to monitor their older relatives remotely and make sure they are safe. The system includes a central home-based hub, sensors and a wristwatch. By using Vodafone M2M SIMs to connect a hub to Lively’s web-based software via our network, the watch and sensors can detect if users are taking their medication or if they fall. The device then sends an SMS message and email to family members if it identifies anything unexpected in the user’s normal daily activities.

We also helped develop Sensormind, a solution that uses wireless, infra-red motion sensors and our data SIM cards to enable carers and relatives to monitor elderly relatives in their own home. This helps ensure they are safe and can receive help in times of need. Find out more about Sensormind, https://m2m.vodafone.com/cs/m2m/insight_news/case-study/sensormind-provides-peace-of-mind-for-relatives-and-hose-that-care-for-the-elderly.jsp.

Working with the Red Cross in Spain, we have launched a mobile telecare service that connects elderly people who have a disability or chronic illness with Red Cross staff when they have a healthcare or social emergency, all through their smartphone.

Clinical research

Data reported by both patients and medical devices during clinical trials is a vital part of gaining regulatory approval for new drugs and vaccines. Communications technology can support more effective collection of this data and our mobile solutions are helping to support studies into clinical trials. For example, patients can complete an electronic patient-reported outcome (PRO) diary using mobile devices. This supports better quality data and allows research teams to access information in real time. Using our M2M technology, we are enabling research organisations to deploy these services globally.

Vodafone’s Healthline 255 provides health advice in Ghana

By the end of 2014/15, Healthline 255, our mobile medical call centre, had provided expert health advice from qualified clinicians to over 80,000 people in Ghana. Funded by the Vodafone Ghana Foundation, Healthline 255 enables anyone with a mobile phone to access quality health advice on issues such as sexual health, abdominal pains and depression – no matter how much they earn or where they live. Vodafone customers can use the helpline by dialling 255 from their phones and users of other networks just need to dial 0505 050500.