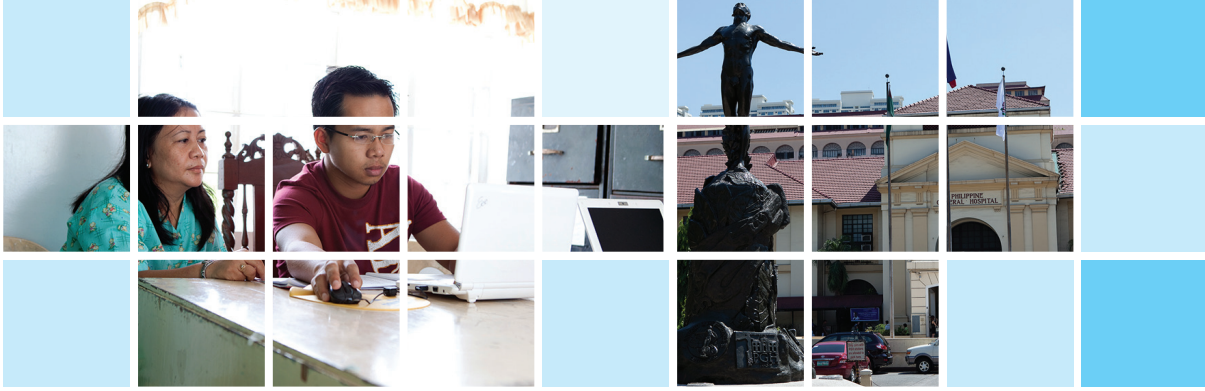
Wireless Reach™ from Qualcomm



Health Care | Education | Entrepreneurship | Public Safety | Environment

Partners

- National Telehealth Center
- Philippines Department of Health, through the National Epidemiology Center, the Information Management Service and the Center for Health Development (Region 3)
- RTI International
- Smart Communications, Inc.
- Tarlac Local Government Units: Provincial Government, League of Municipalities, and City of Tarlac
- Tarlac Provincial Health Office
- Tarlac State University
- United States Agency for International Development
- University of the Philippines Manila

2011 Statistics

- Life expectancy: 71.94 years
- Population: 103,775,002 (2012 est.)
- GDP per capita: US$4,100 (2011 est.)
- Internet penetration: 29.2%
- Mobile penetration: 96.12%

Sources: CIA World Factbook (https://www.cia.gov/library/publications/the-world-factbook); Mobile penetration data provided by Informa UK Limited and based on market intelligence. Internet penetration data provided by www.internetworldstats.com and based on data published by Nielsen Online, the International Telecommunication Union, GfK, and local regulators.

Case Study

Wireless Access for Health: Using 3G Technology to Improve Health Care in the Philippines and Create Healthier, Happier Communities

The Philippine Field Health Service Information System (FHSIS) is the government's major resource for managing public health data. FHSIS data is used for policy analysis and planning at all levels of the public health system. Most FHSIS data originate during patient care at barangay health stations (BHS), city health units (CHU) and rural health units (RHU) and hospitals. It is up to the doctors, nurses and other health care providers at these facilities to treat patients, record patient information while caring for patients and assemble clinic-wide reports. An electronic medical record system has the potential to improve access to quality patient records for clinicians and quality data to the FHSIS.

Challenge

- RHUs provide critical health care services to families and communities throughout the Philippines. Effective delivery of patient care requires good information at all levels of the health care system.
- Patient-level information enables health care workers to provide individual patients with more effective, efficient and comprehensive care.
- Clinic-level information is critical for maintaining the appropriate amount of life-saving drug supplies and identifying human resource needs. Municipal-, provincial- and regional-level information can help identify disease outbreaks and inform decision makers on the most efficient allocation of resources.
- RHU-level information is critical for public health-related decision and policy making.
- Traditionally this information has been manually recorded on paper—a process that is not only time consuming, but also error prone. Accessing and managing information in this manner is labor intensive and the data can often be outdated or incorrect.
- The inability to easily access and trust the accuracy of the patient information also made it difficult for RHUs to feel a sense of ownership of the data and the FHSIS system.

Solution

- Supported by Qualcomm's Wireless Reach™ initiative, in collaboration with various stakeholders through a multi-sector partnership, Wireless Access for Health (WAH) is designed to improve health care in the Philippines by reducing the time required for monthly reporting and by improving access to accurate and relevant patient information for clinicians and decision makers.
- WAH leverages new and innovative technologies to improve the quality and timeliness of data at 21 health clinics in the Philippines. Specific technologies include:
  - **3G wireless technology**. A high-speed 3G wireless data network brings fast and reliable Internet services to health clinics. Reports that used to be delivered by people using motorcycles or jeepneys (a local mode of transportation) can now be sent instantly via 3G directly to the people who need them most.
  - **Low-cost hardware**. Computer hardware, such as netbooks, is now affordable enough to become a standard tool for health care providers, even in regions where health care budgets are limited.
  - **Open source software**. Community Health Information Tracking System (CHITS) is an open and freely available electronic medical record system developed in the Philippines. CHITS was significantly expanded and enhanced to be compatible with FHSIS, and can be used in conjunction with other open source software, like Ubuntu Linux and MySQL, to develop a completely free and community supported system.
- In addition to the technology, WAH unites a diverse group of stakeholders with a common vision. Their combined expertise, influence and resources have been critical to the project's achievements.

Results

- WAH has established CHITS as its own electronic medical record (EMR) platform to support data collection and reporting for all 27 of the regularly used FHSIS reports.

- As of April 2012, WAH has been successfully adopted in 21 CHUs and RHUs in the Tarlac Province which combined serves more than 1,500 patients a day.
- All WAH end-users confirm improved and better encoding, retrieval, storage and generation of patient and health information reports.
- As of April 2012, over 109,000 patient consultations have been captured by the WAH platform.
- Patient care has improved and patient visits have increased as they are handled more efficiently, having reduced the four to five minutes needed to search paper records to just seconds.
- The ability to easily view, record and share patient information across multiple computers within a health clinic means that clinicians are able to complete patient consultations earlier in the day in order to provide more support to community health workers.
- Local governments are committed to sustaining the operations, improvement and expansion of the WAH platform in their areas having incorporated in their annual budget allocations for new equipment like mobile devices, system maintenance and even hiring of new personnel.
- Partners are collaborating to make the WAH system a standard in health clinics across the Philippines.

Future

- WAH is aiming for Tarlac to be the first and only province in the Philippines that has all 38 of its health clinics interconnected by and running on a modern health information system like the WAH platform.
- Project partners are seeking opportunities to further expand WAH across the Philippines by inviting all EMR users to build a national network that can use and benefit from WAH's capabilities and experience.
- Partners are collaborating to make the WAH platform a stand-alone, open-source, communal health information system that complies with the standards of and inter-operates with the health information platform of the Department of Health (DOH) and the Philippine Health Insurance Corporation (PhilHealth).

Project Partners

- **Department of Health, Center for Health Development (Region 3)** provides support and leadership at local stakeholders' meetings, in addition to providing guidance on project design and ensuring compatibility with FHSIS and DOH standards and integration with FHSIS.
- **Qualcomm's Wireless Reach initiative** is the primary funder and oversees project management.
- **RTI International** leads project strategy, planning and implementation and oversees software development, testing and training programs.
- **Smart Communications, Inc.** provides 3G connectivity, hardware and other technical support services.
- **Tarlac local government units**, including municipal health offices, participate in project meetings, trainings and launch activities.
- **Tarlac Provincial Health Office** leads the project, in cooperation with local government units, the Municipal Health Office, the DOH Representative Office and Center for Health Development Office for Region 3; assists in developing software requirements and testing software; and is among the initiators of WAH along with RTI and USAID HealthGov.
- **Tarlac State University** provides technical support and other facilities for software development, system enhancement, module testing and conducts trainings for RHU personnel.
- **The Philippines Department of Health**, through the National Epidemiology Center and the Information Management Service provides guidance on project design, ensures compatibility with FHSIS and DOH standards and integration with FHSIS.
- **University of the Philippines Manila - National Telehealth Center** provides information, guidance and training with other stakeholders based on previous CHITS implementations, and coordinates software enhancement with other stakeholders and the larger open source community.
- **United States Agency for International Development (USAID)** provides technical assistance on data quality assurance, advises on project strategy development and implementation, and liaises with the DOH.

Health care workers learn to use the CHITS software.

Qualcomm's Wireless Reach™ Initiative

Qualcomm believes access to 3G and next-generation mobile technologies can improve people's lives. Qualcomm's Wireless Reach initiative is a strategic program that brings wireless technology to underserved communities globally. By working with partners, Wireless Reach invests in projects that foster entrepreneurship, aid in public safety, enhance the delivery of health care, enrich teaching and learning and improve environmental sustainability. For more information please visit www.qualcomm.com/wirelessreach.