



## An integrated approach to health information systems in Guatemala

### Preparation for the future

While Guatemala has high reported administrative immunization coverage rates, evaluation results indicate that coverage data lack accuracy. The country is also planning to introduce new and expensive vaccines in the coming years and will need to strengthen the information systems and cold chain infrastructure in preparation for this change.

### Optimize in Guatemala

The World Health Organization (WHO), PATH, the Pan American Health Organization, and the Guatemala Ministry of Public Health and Social Services are working together to address the challenges related to new vaccine introduction. Over three years, the team's goal is to develop an information system which will enable the digital recording and transmission of immunization data and support the management of vaccine supplies. Specific interventions in Guatemala are outlined below.

#### *An integrated health information platform*

The pilot project will be implemented in the health area of Ixil which has a population of approximately 143,000 with 3,500 births per year. The computerization of integrated health information will build on an initiative already underway by the Guatemala health information management system (SIGSA) to connect three districts and the area of Ixil to new software, the SIGSA Web. Through this system, forms used to record diagnoses and individual child information will be routed to districts each month by health center staff. The data will then be entered electronically into the SIGSA Web software to produce an immunization registry for each child as well as a database of diagnoses which will be useful for epidemiological analysis, outbreak monitoring, and coverage data.



Optimize—a collaboration between the World Health Organization (WHO) and PATH with financial support from the Bill & Melinda Gates Foundation—has been given a unique mandate to think far into the future. The project aims to employ technological and scientific advances by defining ideal specifications for health products and creating a flexible and robust vaccine supply chain that can handle an increasingly large and costly portfolio of vaccines.

#### Timeline

- 2010 to 2012

#### Partners

- Guatemala Ministry of Public Health and Social Services
- Pan American Health Organization
- PATH
- World Health Organization

#### Key outputs

- An integrated health information platform.

#### Pilot project locations

- Ixil

The Optimize project's goal is to digitize data as early in the process as possible, ideally at the point of contact with the patient. Digitizing this data right away will minimize staff time, errors, and delays, while maximizing accuracy and scalability. The design of this system is based on user requirements that were discovered and documented through the collaborative requirements development methodology, developed by the Public Health Informatics Institute and PATH. Optimize aims to demonstrate the feasibility and benefits of implementing a full digital system by using mobile phones at those lower levels of the system that do not have reliable Internet connectivity.



## Benefits to the country and region

Anticipated benefits to Guatemala and the surrounding region include:

- Digitization of immunization records allowing for more accurate immunization coverage estimates and better access to children's immunization status.
- Daily record keeping that will facilitate a more sensitive surveillance system and improved ability to detect outbreaks through a rapid-alert system.
- Reduced administrative burden for health staff, allowing for provision of additional services to the community.
- An innovative integrated health information system that can serve as an example for other countries in the Americas and to the world.
- Documentation of lessons learned that can be helpful to other countries in the Americas and the world.

Another important project output will be to establish policies to promote the adoption and scale-up of successful interventions in Guatemala and the region and contribute to the development of a long-term vision for immunization supply systems. Since many countries in the region are moving toward an individualized computer information system, the Guatemala experience will be extremely useful for all.

*November 2010 | Header photo: PATH/Dan Chang*