



Use of mHealth for Quality Improvement in Guatemala

BACKGROUND

- In June 2010, the Guatemalan Ministry of Health (MOH), with technical support from the USAID Health Care Improvement Project, managed by URC, tested the use of text messages to health workers to promote quality improvement as part of a larger intervention to implement a quality management system in the health sector.
- Target populations were: administrative staff from MOH Guatemala City (n=371, approximately 43% of central level administrative staff) and administrative staff and health care providers (n=677, approximately 17% of total staff) in the San Marcos Health Area, one of 29 health areas in the country.
- This is the first experience in using cell phones to promote improved quality of public sector health services in Guatemala.

OBJECTIVES

The cell phone campaign addressed the following questions:

1. Are Short Messaging Services (SMS—or text messages) an acceptable communication medium to public health workers?
2. What are the options for establishing a SMS system for public health workers?

METHOD

- Five focus group discussions (FGDs) assessed the acceptability of mHealth, type of message desired, frequency, and time of day preferred to inform the campaign design. Findings:
 - Messages should be motivational and promote quality performance
 - Participants should be informed and educated on the SMS campaign in advance
 - SMS should be sent no more than 3 times a week in the morning before work or during lunch time
 - There should be no cost to receive SMS
 - The sender should be the MOH
 - Confidentiality of phone numbers should be ensured
- Messages for health workers were pre-tested in FGDs
- A promotional campaign during the four weeks prior to sending SMS informed health workers of the purpose of the campaign and encouraged staff to enroll by submitting a form to the MOH Health Promotion Coordinator
- SMS were sent to enrolled staff three times a week for approximately six weeks (July–September 2010). 19 messages were sent in all, grouped in five message themes (see Table 1); total SMS sent=18,864



Promotional posters were placed in health facilities to publicize the cell phone campaign. Photo by Elena Hurtado, URC. Poster design by Monica Gonzalez, URC.

- Mid-campaign FGDs assessed coverage, recall and acceptability of SMS; and reported changes in attitudes and practices
- An end-of-campaign random sample telephone survey assessed health workers' receipt of SMS and reactions to the messages.

NOVEMBER 2010

This work was supported by the American people through the United States Agency for International Development (USAID) and its Health Care Improvement (HCI) Project. The HCI Project is managed by University Research Co., LLC (URC) under the terms of Contract Number GHN-I-03-07-00003-00. For more information on the HCI's work, please visit www.hciproject.org. For more information on the use of mhealth for quality improvement in Guatemala, please contact Nancy Newton at nnewton@urc-chs.com.

RESULTS

Focus Group Discussions:

- SMS are an acceptable communication medium to public sector health workers, if measures are taken to gain their trust before and during the period of sending messages
- SMS helped to create a sense of connection between public-sector health workers and their institution (the MOH): health workers felt like the MOH remembered them
- Health workers want to continue receiving SMS regularly and to include topics such as information on events, more health topics, emergency alerts, and MOH norms

Random sample telephone survey (n=105):

- Of the 105 health workers telephoned, 5 (5%) had not received the SMS, and 40 (38%) did not respond to the survey. Of the 60 (57%) health workers who responded to the survey:
 - 78% remembered the MOH as the source

- 80% health workers reacted positively to the messages
- 82% found the messages helpful
- 39% shared them with co-workers, family members, friends and community residents
- Most often remembered messages were those related to quality or were motivational in nature (see Table 1)

- Continue sending SMS to health workers, by monthly theme, and expand to other Health Areas
- Test the feasibility of more tailored messaging managed by the MOH at the Health Area level
- Conduct further evaluation to measure the effects on health worker practices

LESSONS LEARNED AND RECOMMENDATIONS

- Public-private partnerships are necessary for large-scale SMS campaigns to secure a mutually beneficial agreement for free air time with a large national carrier.
- The MOH or other trusted sources must manage the cell phone number database and be the originator of SMS for health workers; MOH and USAID logos on promotional materials helped to create trust
- To sustain SMS campaigns, a mechanism to update the cell phone database regularly is needed, as turnover of cell phone numbers is high

Table 1: Message Content and Recall

Message theme	Number of messages (% of total)	Number (%) who recalled this type of message (n=60)	Sample message
Quality	7 (37%)	45 (39%)	The MOH informs: We are all the MOH. If we work with quality, the institution will get better every day.
Reproductive Health	4 (21%)	17 (15%)	The MOH requests: During Reproductive Health Month, help people to choose freely the family planning method that they want to use.
Breastfeeding	3 (16%)	18 (16%)	The MOH requests: Let's work to guarantee breastfeeding in the first half hour after childbirth. World Breastfeeding Week.
Informational	3 (16%)	11 (10%)	The MOH informs: Today is Monday. Develop a work plan for the week and you will obtain better results.
Motivational	2 (11%)	25 (22%)	The MOH wishes you a very happy Public Health Worker Day. We thank you for doing a job with quality and cordiality for the Guatemalan people every day.
TOTAL	19 (100%)		