

Summer 6-2012

# Using mobile technology to promote access, effective patient–provider communication, and adherence in underserved populations

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## Opus Citation

Tammy R. Toscos and Brad Doebbeling (2012). *Using mobile technology to promote access, effective patient–provider communication, and adherence in underserved populations*. Presented at The 18th Annual National Research Services Award (NRSA) Conference, Orlando, FL.  
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## **Using mobile technology to promote access, effective patient–provider communication, and adherence in underserved populations**

Federally Qualified Health Centers (FQHCs) are community based centers created to provide comprehensive primary and preventive care to individuals unable to access care in the commercial medical system (e.g. related to poverty, and/or race-ethnicity). The Affordable Care Act (ACA) proposes offering Medicaid coverage to many such individuals, thus, FQHCs should receive many new Medicaid enrollees. The ACA has triggered a number of new ideas to improve affordability, health status and patient experience, commonly known as the “triple aim.” These initiatives include quality incentive programs, payment reform, and the promotion of medical homes and accountable care organizations (ACOs). These are in addition to earlier efforts to facilitate market reform, such as incentives to develop information and communication tools, such as interoperable electronic health records (EHRs) (Doebbeling, Chou & Tierney, 2006). The goals of the “triple aim” cannot be met unless there is greater access to primary and preventive care. Since limited access to poor and minority populations exists today, the FQHC system could easily become overwhelmed with demand.

Innovative models are essential to ensure access to needed care.

If health care coverage expands beginning in 2014 as expected, FQHCs will be in a position to transition their uninsured patient population to Medicaid and state insurance exchanges. Provider networks, such as FQHCs, will be held accountable for reaching the triple aim, as measured by cost, quality, and patient experience. Recent federal and state cutbacks in the funding of Medicaid and FQHCs has led to problems with access to care and little improvement in quality of care, efficiency or satisfaction in many states.

Recent “secret shopper” calls of FQHCs demonstrated access to care problems for a variety of common significant health problems at most clinics in Indiana. To investigate this problem, we have recently conducted a series of key informant interviews of clinicians, staff and leaders at three FQHCs in Indiana, regarding operational challenges and access to care. Due to current fiscal shortfalls, current patients often have difficulty in being seen and “no show” cases are common. We found the leadership and clinicians at each of our participating FQHCs interested in opportunities to improve access to care and reduce no-shows, as well as strategies to improve provider-patient communication.

Our findings suggest an opportunity to design and implement novel models of patient-centered care and redesign current policies and workflow to ensure that primary care is available, timely, coordinated, and cost effective. In order to address these issues, we are partnering with FQHCs and a not for profit health maintenance organization (MDwise, Inc) in Indiana to test new information and access strategies.

In the proposed project, we will explore the feasibility of using mobile technology to increase access to information that will improve patient access to care and satisfaction. Short message service (SMS), or text messaging, is one way in which mobile technology has been used in healthcare. In a review of 61 studies, 50 presented findings showing a positive effect on the desired outcome from the intervention (Yeager & Menachemi, 2011). Most of these studies looked at the influence of text messaging on health behaviors, however, 10 examined the impact of text messaging on administrative processes in healthcare. Nine of the ten studies found text message reminders systems reduced the no-show rates in clinics; several found text messaging was more cost effective than phone call reminders (Yeager & Menachemi, 2011). The authors noted that only two of these 10 studies were conducted in primary care and none were conducted in the United States. In addition, few studies have explored the benefits of using this type of technology in vulnerable populations which are cared for by FQHCs. Thus, the present project will help to address this knowledge gap. In our project, we intend to extend beyond text messaging, into the use of social media such as Facebook and Twitter, to provide patient easy access to clinic information and ease scheduling.

Other opportunities to leverage mobile technologies in community health centers that will be considered include: 1) immunization reminders; 2) management of chronic disease; 3) reduction in emergency room visits for urgent care; 4) facilitation of Medicaid reenrollment; 5) education to advance health literacy; and 6) enhance communication to improve member retention.

Table 1 outlines our proposed phased approach to developing and deploying the mobile technology solution. First, we will conduct a survey to assess the feasibility of using these mobile technologies in the target population. In a recent study examined the interest in using mobile technology for appointment reminders at a safety-net clinic serving an indigent urban population (Denizard-Thompson et al, 2011). Over three

hundred surveys were collected in ten days from patients who were “predominantly African-American (68 vs. 27% white, 3% Latino), and female (65% female vs. 35% male),” with a payer distribution of 24% Medicaid, 27% self-pay, 30% Medicare, and 9% privately insured (Denizard-Thompson et al, p. 458). Over half of the patients surveyed were interested in managing clinic appointments by text message (57%) and emphasized the value of surveying the clinic population to better understand its unique needs. In the proposed research, we plan to adapt the methodology and survey instrument used by Denizard-Thompson et al.

Next, we propose conducting focus groups with staff, clinicians and patients in order to assess the needs from the technology and gather design ideas, selected across 5-6 FQHCs. After a prototype is developed, we will conduct a pilot test involving at least one patient from each center. Feedback from interviews conducted during this stage will be used to modify the technology as needed. Rollout to all participating centers will follow a formal training period at each clinic.

Table 1 – Mobile Technology Development Plan

Month Complete	Study Duration/ Center	Study Description
6	1 week of data collection with patients as they come to clinic for care	<i>Survey</i> Assess patient’s current use of mobile technology and willingness to use for healthcare appointment management and alerts.
	1-2 hours	<i>Needs Assessment/Formative Evaluation</i> Focus Group/ Design Workshop with Center Staff and Care Providers
	1-2 hours	<i>Needs Assessment/Formative Evaluation</i> Focus Group/ Design Workshop with Center Patients and Caregivers
12	n/a	<i>Professional prototype development</i>
18		<i>Pilot Test</i> Test technology with at least one patient, selected based on criteria deemed important by center staff and care providers. Weeks 4, 8, & 12: Contextual interview with patient/caregiver and center staff/ care providers
24	n/a	<i>Professional technology development</i> Changes based on pilot testing
36	1-2 hours	<i>System Training</i>

		Roll out to all participating centers
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In conclusion, we have found that there is a need to improve scheduling, access to care and patient-provider communication in community health centers, such as FQHCs. The proposed application of inexpensive mobile technology available on most cell phones holds promise for both improving access and ensuring higher utilization, as well as in improving patient-provider communication and adherence to current medical care guidelines.

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