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Enhancing Sexually Transmitted Infection Notification: A Quality Improvement Collaborative Case Report

Abstract

This case study illustrates how a quality improvement (QI) Collaborative supports an implementation study of using mobile phone texting technology for notification of sexually transmitted infections (STI) test results. The County Health Departments making up the QI Collaborative meet monthly to discuss their progress in using QI to advance the use of texting for STI test results. The main purpose of QI Collaboratives is to maximize implementation outcomes through sharing of successes and challenges. The case study report describes how implementation research can adapt to the context of each unique CHD and the users of new knowledge rather than emphasizing the creation of new knowledge.

Keywords

Implementation Research, STI, Texting, Sexually Transmitted Disease, Quality Improvement, QI Collaborative

Cover Page Footnote

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INTRODUCTION

Although quality improvement (QI) is viewed as an essential component of public health services and has become a critical part of public health accreditation, the value of QI collaboratives (QIC) for public health is relatively unreported, with few exceptions, such as the Practice-Based Research Networks (PBRN) studies of Districts in Georgia.¹ “QICs are a rapid-cycle QI approach for improving performance on quality metrics across multiple organizations.”¹ QICs possess many of the advantages of Learning Communities and Communities of Practice,² but with a particular commitment to the use of QI principles and processes. The following case study report illustrates the notable advantages of using a QIC to support an implementation study of using mobile phone texting technology for notification of sexually transmitted infections (STI) test results.

The use of texting for reporting gonorrhea and chlamydia results to public health agency clients was selected as the focus of changing public health practice in Florida by the local county health departments. STI texting provides a number of advantages including the potential to:

1. reduce costs and increase the efficiency of delivering services;
2. improve quality of services (improve the timeliness and effectiveness of the notification process); and
3. adapt public health services to the emerging technologies and the changes in organizational culture associated with the wide-scale adoption of these technologies, especially in reaching high-risk groups (youth and young adults).

Studying the processes for implementing procedures for texting STI results across Florida’s County Health Departments (CHDs), the main purpose of this case study, is consistent with the *intent* of implementation research, which is “to understand and work within real-world conditions, rather than trying to control for these conditions or to remove their influence as causal effects.”³

METHODS

This is a descriptive case study report of the preliminary experience with a QIC to support implementation of texting STI results in multiple CHDs in Florida. The case study method utilizes qualitative data collection and analysis based on direct observation and notes taken during QIC meetings. Four participant/observers took notes on the calls. One observer summarized the results from the notes and the other observers reviewed their notes for consistencies and inconsistencies with the summaries as they relate to implementing the STI texting process across Florida CHDs.

The QI approach used for this implementation study was the Plan-Do-Study-Act process of the Model for Improvement,⁴ with a particular focus on using key elements of QI culture,⁵ including the use of QI teams representing all staff involved with the STI testing and notification processes at the county level; the monitoring of key measures of progress, data-informed decision making, and problem solving; and the use of QI techniques such as root-cause analysis. The QI team leader for each county and key leadership for the Florida Department of Health (DOH) program office serve on the statewide QIC for the STI texting-implementation project, with meetings scheduled monthly. The Florida DOH provides centralized information technology (IT) and human resource infrastructure to the CHDs, which leads to the Florida CHDs frequently being

considered a state-centralized system of CHDs. However, each county has great latitude in the type and amount of financial support provided to each CHD, with considerable variation in staffing and fiscal support for specific programs. This variation extends to staffing within and between CHDs with some CHDs providing STI services across multi-county regions.

RESULTS

During the first QIC meeting, each CHD reported on the formation of their QI team, the targets for STI testing, targets for enrollment in the texting option for receiving results, status with implementing their texting process, and the challenges they were encountering. Review of notes from the first meeting of the QIC yielded critical findings for improving the texting-implementation process.

A challenge that emerged with the first meeting was a reported problem by some counties related to texting negative STI test results. Some CHDs notified clients only of positive test results, whereas some CHDs notified clients of both negative and positive results. A positive result could be acted on very quickly, with a coded text message that in effect tells the client to contact the CHD. Because tests were performed for gonorrhea and chlamydia, a negative result would have to reflect both negative results, whereas a positive result could be sent for each positive test. The positive results are automated, generated by the relatively advanced STI case management software (Performance of Routine Information System Management; PRISM; <http://www.prism-software.com/>) already being used by the Florida CHDs. Negative results were not automated through the state software program. Sending a message for a negative result required a manual assessment that both tests were negative, before the notification could go out.

Several options were suggested and discussed to resolve the problem. One option was to require all CHDs to follow up with both positive and negative results. This process poses a burden for staff in counties that, previously, were only notifying clients of positive results, and requiring all participating CHDs to report negative results to each client undermines some of the texting advantages of saving critical resources/costs. However, modifying the software to accomplish the process of consolidating the negatives and sending a notification only for negative results when all tests results were registered in the software would eliminate the additional human resource burdens for those CHDs that did not normally follow up with negative results. Unfortunately the time and technical challenges of modifying the software did not allow for this to be accomplished during the early stages of the QI texting-implementation project.

Although the texting protocol was developed using the texting protocols that had already been used by a select group of Florida CHDs (pilot counties) and in consultation with state and CHD STI officials, variations in STI test result notification practices were not readily evident. An expedient resolution emerged for each participating CHD to notify clients of both positive and negative tests results until statewide policy could be adopted. The revelation of differences in CHD practice concerning notification for negative results also provided insight and opportunity for the state DOH and CHDs to consider modifying the notification processes to increase their efficiency in utilizing CHD resources. In addition, only gonorrhea and chlamydia testing results are set up for texting notification in the PRISM software system but often times, clients also test for syphilis and HIV. This complicated the test results notification process and inclusion of these additional tests is now being considered for the texting protocol. Refinement of the texting process that provides greatest efficiency but still meets minimum reporting requirements is a major asset of the QIC process.

Another challenge that emerged during the QIC meeting was a problem concerning the formation of new spin-offs/subsidiaries of the major mobile carriers. Since the STI software needs to be able to recognize the mobile carrier, the software needs to be modified to recognize the new spin-offs. State officials were on the QIC conference call, resulting in this problem receiving immediate attention by the Florida DOH STI program staff.

IMPLICATIONS

This case report illustrates how the use of a QIC for increasing the use of texting of STI test results across Florida CHDs can be a valuable tool for Implementation Research. Of particular importance for increasing the use of STI result texting was the sharing of progress in getting clients to enroll in the texting program. Participating CHDs reported extensive variations in the success of getting clients to enroll in texting. Extensive variations have also been reported in the literature.⁶ Circumstances leading to low enrollment for texting results by some CHDs did not appear to be different for the high enrolling CHDs. Consequently, low enrolling counties were challenged to examine their internal procedures to see if they can improve enrollments in texting notification. The value of this type of discussion and reflection of targets and achieving targets offers exceptional potential for maximizing implementation of QI. Consequently, QICs provide an opportunity for the lower performing agencies to gain insights from the higher performing agencies through sharing experiences and lessons learned.

Beyond this project, QICs may be an important tool for PHSSR implementation and dissemination research in general. Since implementation research by its basic nature is concerned with context and is focused on the users of new knowledge rather than creating new knowledge,⁵ its utility in identifying and clarifying variations in context and practice, adapting intervention protocols to the unique circumstances of individual agencies when practical, and optimizing implementation, is particularly illustrated by these early results of using a QIC, which is also highly compatible with PBRN principles and practices.

SUMMARY BOX

What is already known about this topic? There is a paucity of reports on the application of implementation research to public health systems and services, particularly how evidence-based programs can be more effectively disseminated across diverse local public health structures.

What is added by this report? This report illustrates how quality improvement collaboratives can be a useful tool for overcoming the challenges and barriers to disseminating best practices across diverse local public health structures.

What are the implications for public health practice, policy, and research? The use of quality improvement collaborative can be a very useful and effective tool for aiding implementation research that is intended to increase the adoption of evidence based services across diverse local agencies.

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