



Center for Health Equity and Quality Research (CHEQR)
Coordinating Center for the Florida Public Health PBRN

Study of public health agencies' quality improvement interventions to deliver cost effective services to prevent and control sexually transmitted infections

William Livingood, PhD, Lori Bilello, PhD, Katryne Lukens Bull, MPH Ulyee Choe, DO

Executive Summary

The University of Florida (UF) partnered with the Florida Public Health Practice Based Research Network (PBRN), Florida Department of Health (FDOH) and its County Health Departments (CHDs) to improve the efficiency of STI services using texting to inform STI clients of test results. Technical assistance was provided through monthly collaborative webinars on Quality Improvement (QI) to enhance the implementation of this new intervention. This project examines how QI supported texting of STI results can increase the effectiveness of service delivery to reduce delayed or no treatment often resulting in increased disease transmission. Results will highlight the changes in CHD staff time spent on STI notification, the role of QI in overcoming implementation barriers through both local QI teams and QI collaboratives, and the effect the texting intervention had on overall time to treatment.

Background

Sexually transmitted infections (STI) continue to be a major health problem and source of health disparities in the United States. With limited and diminishing resources, public health agencies are challenged to limit inefficient and redundant STI practices but still maintain effective population health practices. The University of Florida (UF), Florida Public Health PBRN, and the Florida Department of Health (FDOH), Division of Disease Control and Health Protection, Bureau of Communicable Diseases, Sexually Transmitted Disease & Viral Hepatitis Section partnered to initiate a community based participatory research (CBPR) process with the County Health Departments (CHDs) in Florida. As a result of the CBPR process, CHDs determined that the most acceptable approach to reduce costs while improving STI services was to expand texting technology to inform STD clients of test results. In Florida, texting had only been utilized by three counties in the state but had been shown to be a promising practice.

Methods

The UF study team offered training on baseline data collection and quality improvement. Baseline data collection was completed by April 2016 in which CHDs were asked to document their current staff time spent on notification of STI test results. After baseline data collection and completion of required FDOH training, each CHD developed local texting protocols based on their clinic operations and were approved by the FDOH leadership. Subsequently, appropriate CHD staff were provided access to PRISM, the statewide STI reporting system that provided an automated texting option for positive test results.

Each CHD created a local QI team, participated in monthly collaborative QI webinars, and submitted monthly QI and program implementation data. During the monthly QI collaborative webinars, reported data from each county was discussed along with barriers to implementation and how to use QI to overcome these barriers. CHDs shared best practices in approaching clients, solving technical and staffing issues, and using texting in their IT system. At the end of 12 months, FDOH and UF analyzed time to treatment data for each participating CHD.

More Information

William Livingood, PhD
Principle Investigator
William.Livingood@jax.ufl.edu

Lori Bilello, PhD
Lori.Bilello@jax.ufl.edu
904-244-9620

Ulyee Choe, Director
Florida Department of Health Pinellas
County
Ulyee.Choeflhealth.gov
727-824-6921

Participants

Six CHDs fully adopted texting, effectively tripling the number of CHDs using texting to inform clients of their results. Additional CHDs partially participated and/or will begin texting in 2017. Half of the CHDs (3/6) implemented texting in all of their clinics. In addition to texting results for Gonorrhea and Chlamydia, two CHDs added HIV and four added Syphilis. Half of the CHDs (3/6) chose to only text positive results. All counties provided same day presumptive treatment.

The number of QI meetings per CHD ranged from 5-12 with some engaging in a very formal process and others not.

County	Not Treated/ Treated \geq 8 days	Texted Result	Non-texted Result	Overall	P-Value
1	Yes	12 (33.3)	146 (32.4)	158 (32.5)	0.912 ^a
	No	24 (66.7)	304 (67.6)	328 (67.5)	
2	Yes	1 (10.0)	35 (18.9)	36 (18.5)	0.692 ^b
	No	9 (90.0)	150 (81.1)	159 (81.5)	
3	Yes	11 (17.2)	237 (29.5)	248 (28.6)	0.036 ^a
	No	53 (82.8)	567 (70.5)	620 (71.4)	
4	Yes	46 (19.4)	120 (29.8)	166 (25.9)	0.004 ^a
	No	191 (80.6)	283 (70.2)	474 (74.1)	
5	Yes	9 (24.3)	92 (29.3)	101 (28.8)	0.527 ^a
	No	28 (75.7)	222 (70.7)	250 (71.2)	
6	Yes	32 (37.6)	621 (50.5)	653 (49.7)	0.022 ^a
	No	53 (62.4)	608 (49.5)	661 (50.3)	
ALL CHDs	Yes	189 (26.1)	1942 (35.2)	2131 (34.1)	<.0001^a
	No	535 (73.9)	3578 (64.8)	4113 (65.9)	

^aPearson's Chi-square; ^bFisher's Exact test

Results

Prior to the implementation of texting STI results, CHD staff reported needing between 1.4 -15.1 minutes (avg. 6.7 minutes) to provide test results. Our results showed that to implement the texting program, more time was spent approaching clients in the clinic to participate and less time was spent trying to call and/or visit clients to report test results. Reflecting increase work of some of participating CHD staff, 28% did not think the texting program was a more cost effective way to report test results.

The main intervention outcome was the time to treatment at the point where the CHD received a positive test from the lab. Our results showed a statistically significant increase in text (vs. non-text) clients treated between 1-4 days ($P<.0001$). There was also a statistically significant decrease in text vs non-text clients treated 8+ days or no treatment ($P<.0001$). Impactful differences were seen in pre-post QI process parameters in terms of more CHD staff reporting:

- Engagement in improving how STI services are delivered
- Being motivated to implement changes
- Tracking progress towards STI goals
- Exchanging information, ideas and suggestions

Barriers Overcome with Quality Improvement

- Legal review of the project by FDOH
- IRB approvals
- Turnover in FDOH & CHDs
- CHD staff access to PRISM
- Some wireless carriers were not compatible with PRISM texting system
- Wireless coverage in rural areas
- Shifting of work to some staff from other staff
- Integrating concepts of shared decision making/QI
- Maintaining QI Teams
- Consistent collection and reporting data for QI
- Clients suspicion of having results texted
- Manual entry of negative results from labs
- Inclusion of multiple results (Chlamydia, Gonorrhea, HIV, Syphilis) in texting program
- Choice to text only negatives, only positives or both
- Clinics closed due to Hurricane, flooding, etc.
- Presumptive treatment reducing the need to text clients
- Approaching clients to sign up (where, when, by who)

Key Findings

- CHDs in Florida are part of an integrated statewide system, although they vary their approach, management, and staffing based on the local agency culture.
- STI services can become more efficient and effective through QI and innovative projects.
- Collaborative learning during QI and novel project implementation results in engagement of staff in solving problems and addressing barriers.
- QI can be an effective implementation strategy for increasing efficiency and effectiveness of service delivery.