

Evaluating User Satisfaction and Usability of Secure Messaging For Pediatric Providers

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Objectives

Purpose: The purpose of this project is to examine usability patterns of this patient engagement technology and compare experiences between users who work in the pediatric clinic environment.

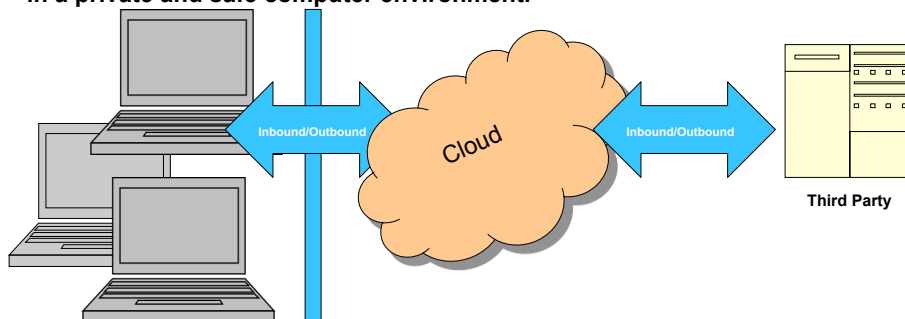
End State: To create an interim bridge strategy to increase usability of secure messaging and integrate processes into the new electronic health record (EHR)

- Define pediatric usability standards for electronic health records
- Discuss the importance of conceptual modeling
- Review mixed method study process, benefits, and challenges

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Definition of technology

Secure messaging (SM) is a web-based message system utilized within a personal health record system (PHR) that allows patients and their health care teams to communicate asynchronous non-urgent, health-related information in a private and safe computer environment.



Why adopt this technology?

- 1) efficient and convenient patient-provider communication
- 2) increased confidentiality due to security controls
- 3) easier set up by vendors which drives the cost down
- 4) mandated by law
 - Health Information Technology for Economic and Clinical Health (HITECH) Act
 - Meaningful Use (Stage 2)
 - Health Insurance Portability and Accountability Act (HIPAA)
- 5) moving to a system of health

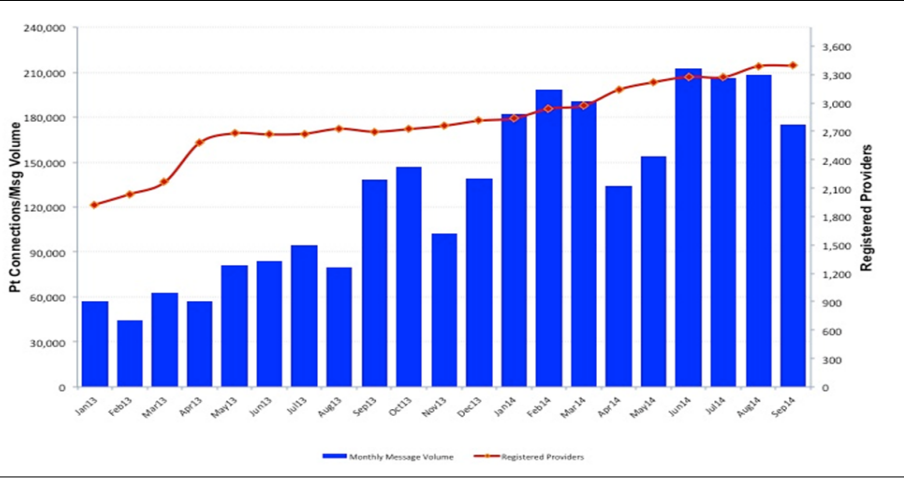


Good News Story

In 2012, Katelyn was diagnosed at three months with four congenital heart defects (Coarctation of the aorta, 2 VSDs, and a bicuspid valve). Following an urgent coarctation repair, six weeks of cardiac rehab, and semi annual follow-ups in which secure messaging was used to communicate with network and off network providers, she is now a blossoming and energetic three year old. This patient engagement tool is key to her health.

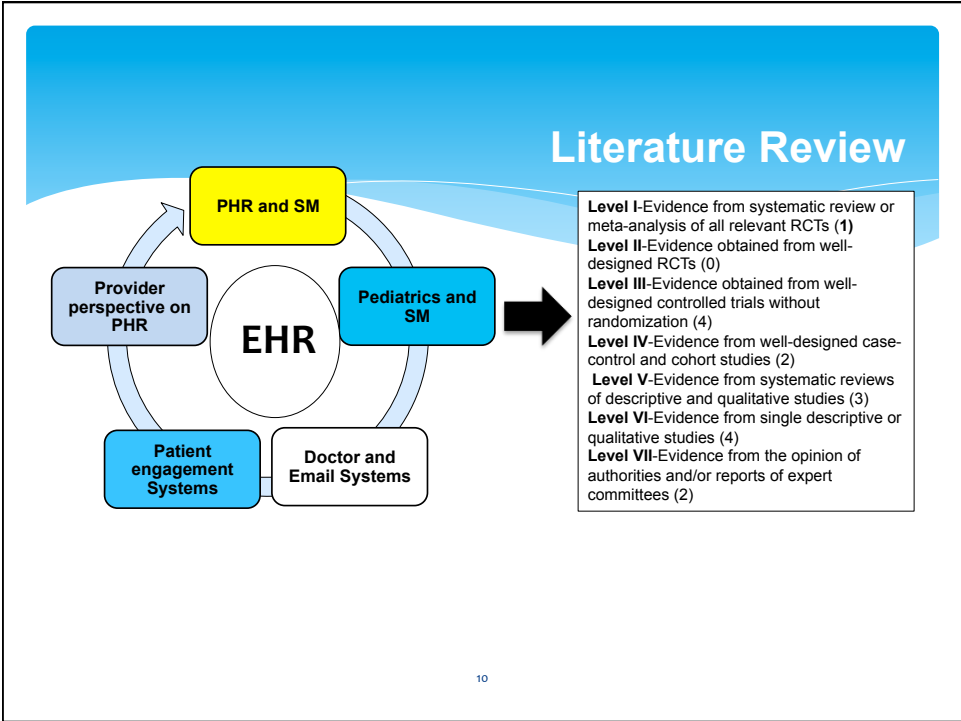


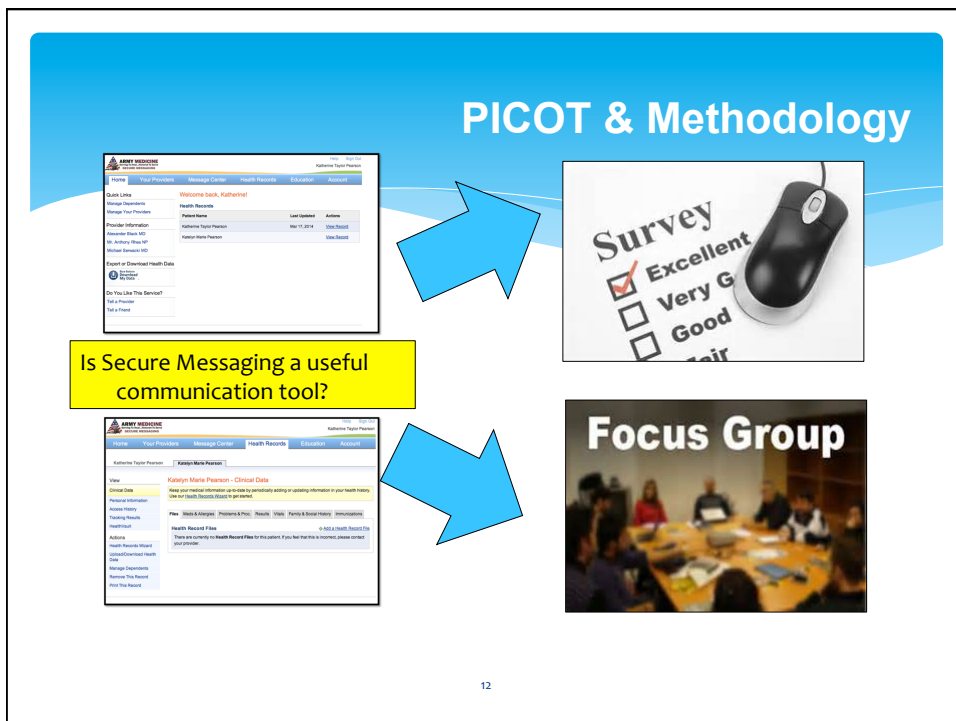
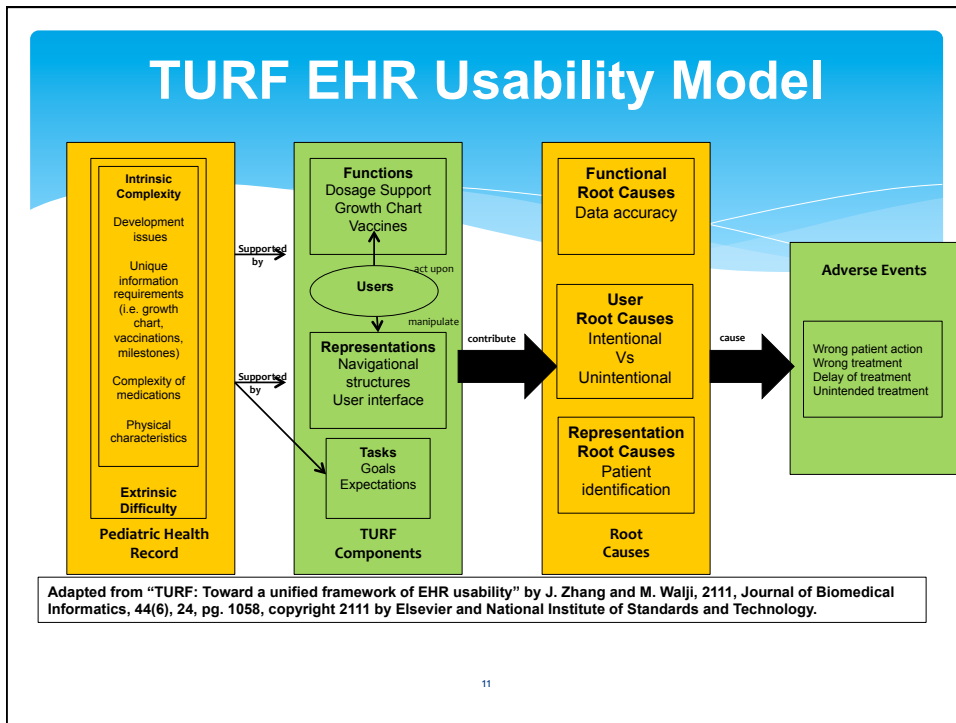
FY 13-FY 14 SM Utilization

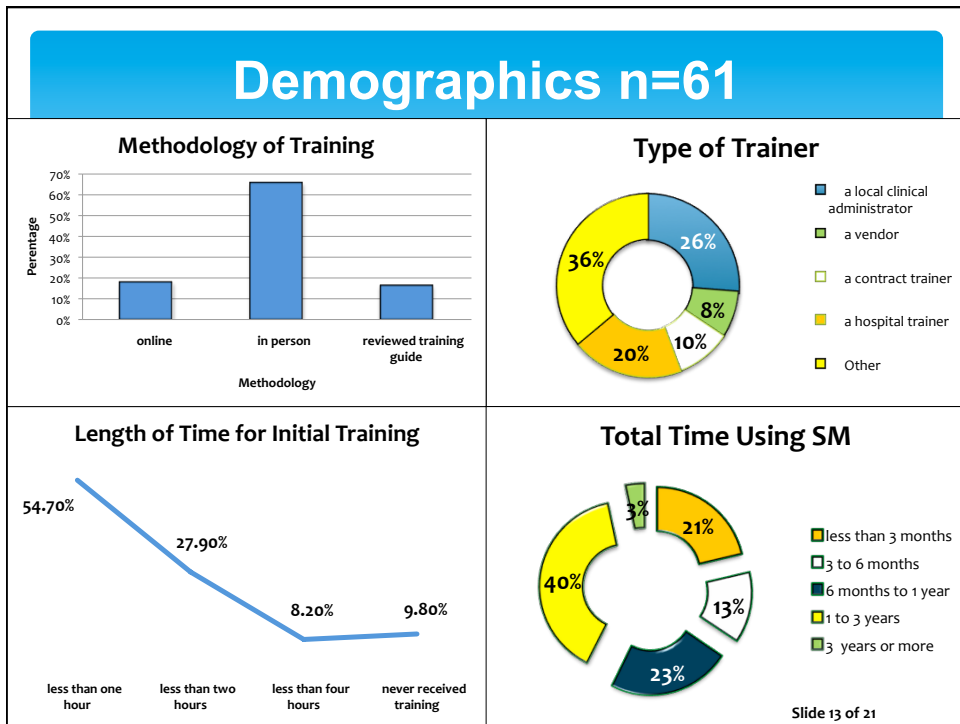
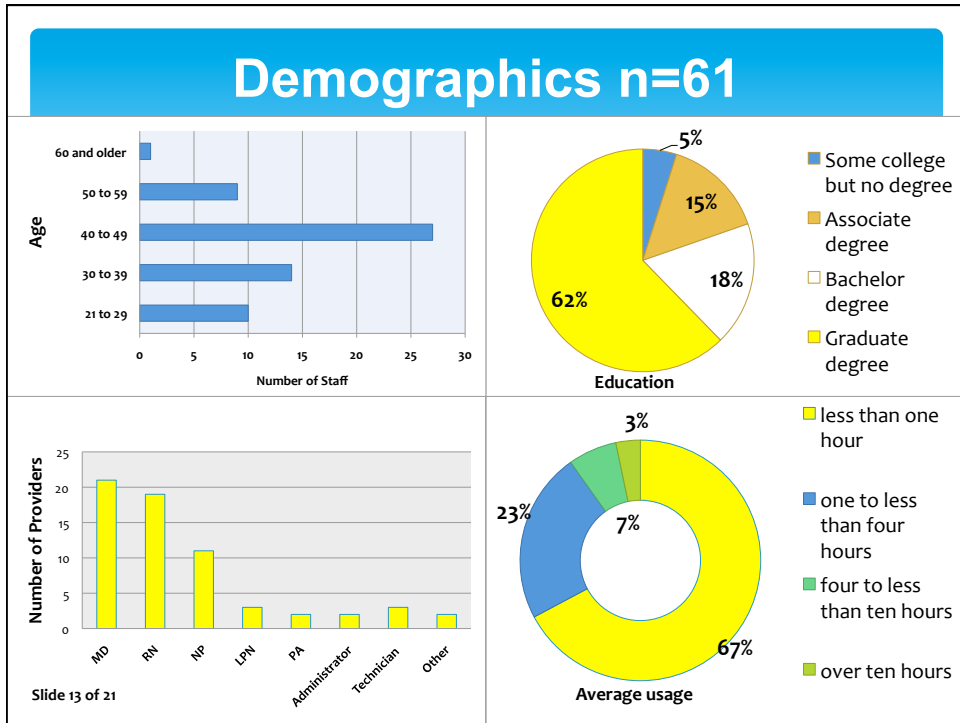


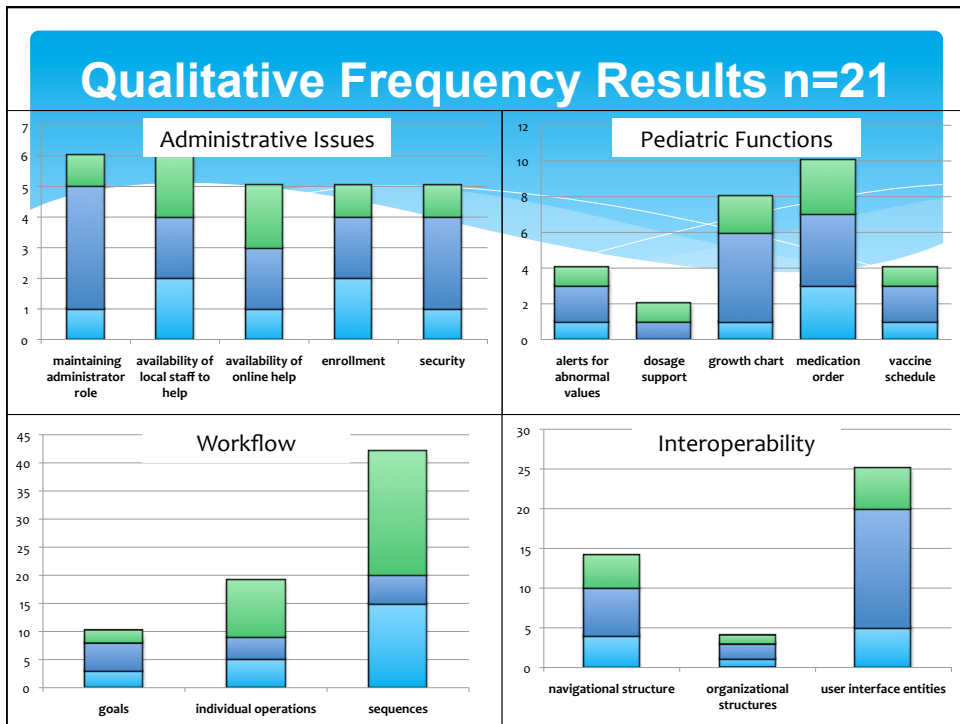
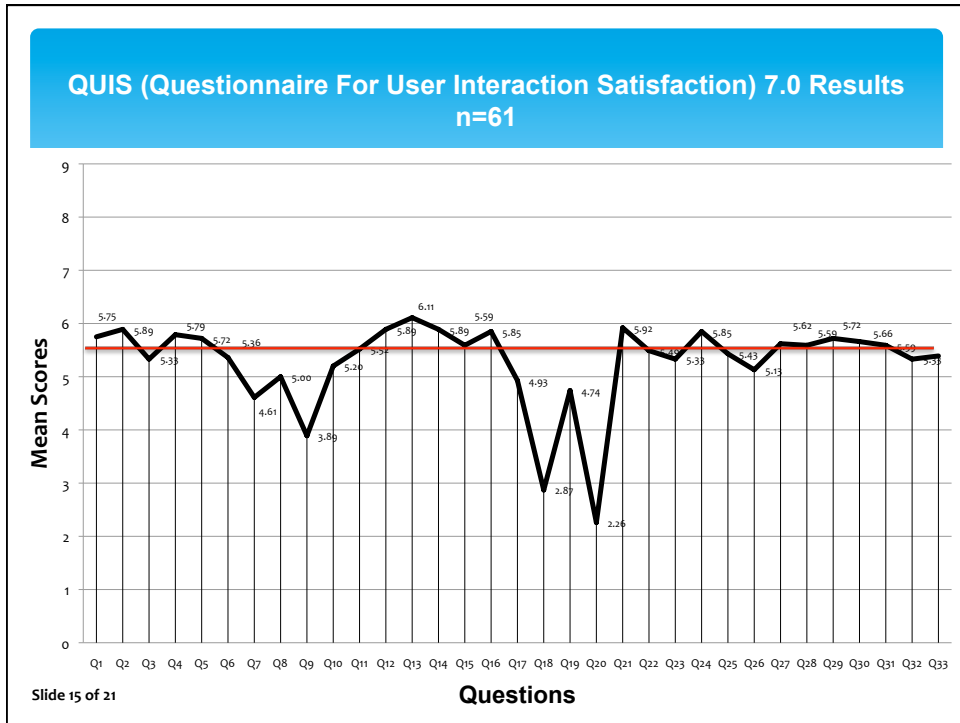
Nov 2113-April 2114 Utilization

	November	December	January	February	March	April	Target
Providers Enrolled	1,766	2,812	2,837	2,939	2,972	3,139	3,749
Patients Enrolled	210,632	210,946	222,174	234,205	247,473	261,267	640,000
Active Providers	1,237	1,406	1,478	1,487	1,557	1,582	3,749
Patient Initiated Messages	28,442	28,788	35,017	33,643	37,371	39,714	
Total Message Volume	208,033	175,395	182,087	198,396	198,344	134,217	
Percent AMSMS Messages Responded to within 24 hours	78.75%	78.16%		76%	78%	79%	90%
Percent of patients accepting invitations to join SM	25.1%	26.2%	26.4%	24.8%	25.3%	26.1%	40.00%
Percent of patients invited to join SM	7.46%	6.98%	9.03%	9.16%	8.71%	9.57%	40.00%









Research Results

Majority of providers were physicians (34.4%), between 40 and 49 (44.3%), had graduate degrees (62.3%), had used SM for 1 to 3 years (39.3%), and since initial training was received spent an average of less than one hour (67.2%) per week using the application.

- There was no statistical relationship between age, occupation, education, computer experience, length of initial training time, initial training modality, and system satisfaction.
- 54.7% of the providers who participated in the survey had less than one hour of initial training on SM.

Research Results

65% of the providers who participated in the survey received in person training.

- The mean score from the QUIS 7.0 was 5.28, (Rating Scale 1-9, 9 is highest).
- Only one moderate relationship was determined between ease of training and system satisfaction but it was not statistically significant.
- Providers yearned for an easier patient enrollment process and system interfaces with the current EHR, interactive growth tables and medication orders to communicate with parents or guardians, and were highly concerned enforcing security standards and avoiding hacking.

Conclusion

- The study demonstrated that untethered SM systems do not meet the needs for pediatric providers without significant workflow redesign and redistribution of administrative tasks.
- As PHRs and SM become more common, digitally captured data could be used to positively effect pediatric care and other quality improvement efforts for the well-being of children.

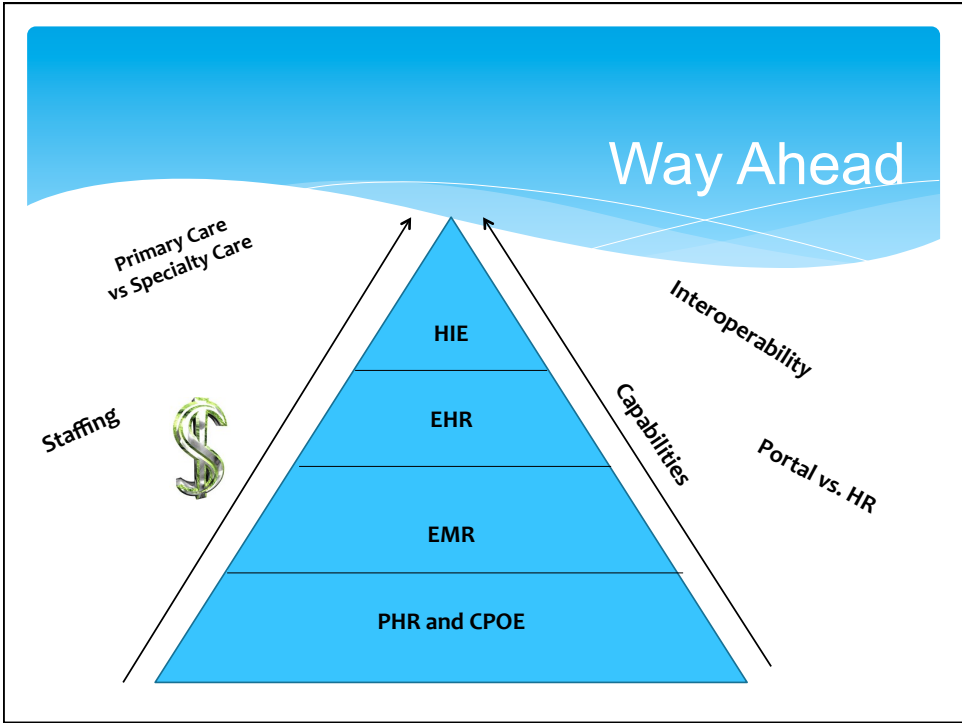
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Future Research

- * Evaluation of data mining using information from SM and PHR
- * Effectiveness of different SM and PHRs to monitor childhood immunizations
- * Establishing a medication management program for children with diagnoses like attention deficit disorder (ADD)



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Questions

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Lessons Learned

Usability assessments are a critical piece to understanding your users throughout any IT system's lifecycle.

- **Focus groups are an amazing tool to understand the cultural opportunities and challenges facing our healthcare providers.**
- **Providers' input into systems development and management is crucial.**
- **When planning and implementing a study, a successful researcher must integrate themselves into their subjects' environment**