TEXAS MEDICAL ASSOCIATION

Physicians Caring for Texans

TexMed 2017 Quality Research Abstract

Please complete all of the following sections and include supporting charts and graphs in this document. Submit a total of two documents - this document and the Biographical Data and Disclosure Form to posters@texmed.org by midnight March 31, 2017.

Description and Selection Criteria

- Applicants should demonstrate an understanding of systematic investigation through research development, testing and evaluation designed to develop or contribute to generalizable knowledge. Judges will use the scoring described in this matrix to identify projects to be presented at the conference, as well as, projects to be considered for the awards.
- The focus for Quality Research abstracts is any project that is conducted with an intent to answer a research question or test a hypothesis related to quality improvement (QI). It is also intended to develop or contribute to generalizable knowledge. Projects in Quality Research need to have approval from an Institutional Review Board or have a formal letter of exemption. Traditional QI activities, on the other hand, cover the gamut of projects that are:
  - aimed at improving local systems of care, or improving the performance of institutional practice;
  - designed to bring about immediate improvements in health care delivery; or
  - intended to compare a program/process/system to an established set of standards such as standard of care, recommended practice guidelines, or other benchmarks.

  If you have a question about whether your project is Quality Research or a QI project, please contact us.
- These submissions should provide general information related to the one of the following categories: patient safety, patient centered care, equity, timeliness, efficiency, or effectiveness.
- Maximum points delineated with a brief explanation of the content that should be included under each section. Applicants may describe the problem and results in narrative or graphic format.

PROJECT NAME: Automating Post-Operative Care through Short Message Service (SMS): A Pilot Study

Institution or Practice Name: Baylor College of Medicine

Setting of Care: Publicly-funded surgery clinic

Primary Author: Sarah McGriff

Secondary Author: Priyanka Moolchandani, Disha Kumar

Other Members of Project Team: Andrew Davis, MD, Marcus Hoffman, MD, James W. Suliburk, MD, FACS

Is the Primary Author, Secondary Author or Member of Project Team a TMA member (required)?

☒ Yes ☐ No

Please provide name(s): Sarah McGriff, Priyanka Moolchandani, Disha Kumar

Project Category: *(Choose all categories)*

☒ Patient Safety	☒ Patient Centered Care	☒ Timeliness	☐ Enhanced Perioperative Recovery
☒ Efficiency	☒ Effectiveness	☒ Equity	☐ Disaster Medicine & Emergency Preparedness

For this poster session, TMA is looking for research projects that demonstrate the six aspects of Quality Care as defined by the Institute of Medicine.

- Safe - avoids injuries to patients from care that is intended to help them
- Timely - reduces waits and delays for both those who receive care and those who give care
- Effective - based on scientific knowledge, extended to all likely to benefit, while avoiding underuse and overuse
- Equitable - provides consistent quality, without regard to personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status
- Efficient - avoids waste, including waste of equipment, supplies, ideas, and energy
- Patient centered - respects and responds to individual patient preferences, needs, and values, ensuring that patient values guide all clinical decisions

Introduction (15 points max): *Describe 1) where the work was completed; 2) what faculty/staff/patient groups were involved, and 3) sufficient background information provided to establish the significance of the problem.*

Studies have found that in-person postoperative care for most patients undergoing low risk operations is both costly for patients and not always necessary. Using text messages could be an inexpensive, timely, patient-centered, and safe method to screen patients for complications following low risk operations. Baylor College of Medicine healthcare providers and trainees in the general surgery clinic of Ben Taub Hospital completed a pilot study to determine the feasibility and safety of conducting postoperative care through an automated text message system.

Hypothesis (15 points max): *State the pertinent research or change hypothesis. Using if/then format, describe the 1) assumption; 2) condition; and 3) prediction(s).*

Assuming patients have a cellular phone, if automated text messages are routinely sent to discharged patients following low risk surgery, then they will receive more efficient, timely, and safe postoperative care.

Methods (25 points max): *Describe the specific methods, resources, procedures, models and/or programs used to study and test the subject of the investigation. Note charts, graphs and tables here and send as addendum with abstract form.*

Patients who underwent a routine, uncomplicated appendectomy or cholecystectomy operation were recruited and consented. These participants were enrolled into an automated text message platform, which was programmed to send text messages to patients every other day for ten days following discharge from the hospital. These text messages screened participants for symptoms relevant to postoperative complications, such as nausea, pain, fever, lack of bowel movement, and dehydration. The participant's physician was notified if the participant response indicated a postoperative complication. Participants were also asked patient satisfaction questions. Participants were contacted three times by text and then by phone if they did not respond.

Results (25 points max): *Specifically explain what was discovered, accomplished, collected and/or produced; supports hypothesis and conclusions with adequate evidence and includes quantitative data. Note charts, graphs and tables here and send as addendum with abstract form.*

Ten patients were recruited and enrolled in the study, including five patients who had cholecystectomy operations and five patients who had appendectomy operations. One participant was re-admitted to the hospital and this patient's development of symptoms for the complication was successfully detected by the text message relay. Two participants stopped responding to text messages after day 4.

Conclusions (20 points max): *Provide a succinct interpretation of the results and evaluate what the results mean to the investigation, OR evaluate the relevance or uniqueness of what was accomplished in the immediate context of the project's purpose and describe how the investigation fits within a larger field.*

Our pilot study has shown that an automated text message system is safe and patient-centered, and can thus be used as an adjunct to facilitate follow-up after routine appendectomy and cholecystectomy operations. Our automated text message system was able to capture progression of relevant symptoms of participants and notify participant physicians when complications were suspected. Notably, participants were satisfied with the text messages and would use the text message system again. Limitations to this pilot study include small sample size, selection bias, and inconsistent participant responses. However, our findings highlight improvements that could make the text message system more patient-centered. This could include decreasing the number of text messages sent, altering the schedule of text messages, and optimizing text message content. Ultimately, this unique text message system could replace or complement in-person follow-up visits in order to improve efficiency and timeliness of care.