Increasing Communication During Cardiothoracic Surgery Through mHealth; Keeping Families at EASE
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Background
The perioperative period can be a stressful and anxiety-provoking time. Mobile device applications can enhance communication with families during lengthy surgeries both in frequency of updates as well as the ability to transmit surgical images and videos. Easy Access for Surgical Events (EASE) is an application available that allows HIPPA compliant and secure transmission of patient surgical updates to families. The primary aims of this project were to increase effective communication during cardiothoracic surgery by providing the patient's family with a comprehensive progress update every two hours, increase family satisfaction during surgery, and reduce anxiety levels of patient families during surgery. Our current protocol is to communicate every 90-120 minutes by telephone or in person; baseline data showed compliance in 40% of surgical cases. Primary reasons for noncompliance were families not being present in waiting area and surgical staff not available to meet with families. A survey administered to our families showed that 91% would like communication every hour and 75% said they would like to see images and/or videos of the surgery as it is occurring.

Methods
After identifying an area for improvement with family satisfaction a collaborative effort with applications was initiated to standardize the perioperative updating process. This application allows direct OR Nurse to Family updates via text, videos, and pictures, which can be transmitted securely to families throughout the surgery. A prospective survey was used to assess family satisfaction prior to implementation of the EASE surgical application. Communication times were also recorded to assess compliance with communication from the operating room to the family within two hour intervals during surgery prior to and after implementation of EASE.

Results
After implementation of the EASE application for cardiothoracic surgeries, the compliance with communication updates every two hours improved from 40% at baseline to 100% after EASE implementation. Families that rated their overall experience during surgery as “Very Satisfied” improved from 80% at baseline to 96% after implementation of EASE. In addition, employees agreed that utilizing EASE was more organized and consistent for updating families throughout the perioperative period.

Discussion
After evaluating the results of the family surveys during the pilot period, it was demonstrated that there was an increase in overall family satisfaction. The results also supported utilization of EASE greatly decreases the anxiety levels of families during the perioperative period. This pilot study illustrates the application of mobile technology to improve and enhance communication with families during the perioperative period. Since this has been successful and has anecdotally improved efficiency of staff who communicate with families, our plan is to implement this across the entire range of our perioperative services.

What are Families Saying?
“We enjoyed the updates since our baby is so young and had such a serious surgery. It made us feel like we were a part of it and involved in the process.”
“Really appreciated having this program!”
“It helped ease our anxiety throughout the process. We would recommend it to any parent or loved one with someone in surgery.”
“It is an amazing app and should be used everywhere. Thank you for giving us the chance to experience this app and I would recommend it to anyone.”

How did the EASE experience affect you? 99%
Made them more at EASE
Would the availability of EASE influence your choice of hospital should you, or a loved one, require surgery? 76% Yes