ABSTRACT: 2018 ELAM Institutional Action Project

Project Title: Promoting Healthcare Delivery Science to Foster Scientific Investigations in Hospital Operations and Electronic Initiatives to Improve Outcomes and Care Delivery at Montefiore Healthcare Center

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Topic Category: Research

Background, Significance of project: At most academic hospitals, there is little synergy and occasional tension between the clinical mission to deliver high quality patient care and the academic mission to generate rigorous, innovative research. Healthcare delivery science operates within the overlap between the day-to day care delivery and the academic research by applying systematic, scientific approach to real-world clinical problems. By promoting research in the area of healthcare delivery science at Montefiore, we can better promote the joint mission to conduct innovative research to improve outcomes locally while promoting science globally.

Purpose/Objectives:
1. To determine the current landscape in healthcare delivery science at Montefiore
2. To develop pilot demonstration projects that bridges the hospital's clinical and operational priorities to demonstrate the potential benefit of healthcare delivery science
3. To use the findings from Objective #1 and the approach developed for Objective #2 to plan for a hospital program in healthcare delivery science.

Methods/Approach/Evaluation strategy: I conducted interviews with hospital administration, quality and safety officers, clinical investigators, data scientists, hospital informatics, implementation scientists, and clinical trials networks. I submitted two grants (AHRQ R18 and an NHLBI UO1) that will leverage the strengths and address the gaps identified from the stakeholder interviews. Working with stakeholders, I have identified current projects within and external to Montefiore that could demonstrate potential benefit of healthcare delivery science.

Outcomes/Results:
Stakeholder Interviews: A SWOT analysis identified a gap in 1) Use of electronic health record data to drive clinical trials, research, and quality improvement and 2) Systematic testing and development of effective clinical decision support in research and clinical care.
Grants: Both grants are potentially fundable. The R18 AHRQ grant on clinical decision support in ARDS scoring outstanding to excellent (impact score 2.8, 5%).
Pilot Projects: Several projects within and external to Montefiore were identified: 1) Funded pragmatic trial to identify deteriorating patients using artificial intelligence to trigger an electronic alert and clinical decision support for best care; 2) CMS required sepsis detection and treatment 3) Identification and prevention of adverse events within 24 hours of transfer from emergency room; 4) Training grant for learning healthcare environment; 5) NHLBI-funded multicenter, EHR-driven pragmatic clinical trials and implementation research.
Program Planning: Given the gaps and interest identified in the stakeholder interviews, I have commitment from Data Scientist and Hospital IT to form a working group to formulize collaboration with clinical investigators to develop and test projects in clinical decision support.

Discussion/Conclusion with Statement of Impact/Potential Impact: This project have enhanced my visibility with hospital administration and demonstrated how research can directly impact the current hospital operation. In this period of tight funding and changing healthcare reimbursements, this project capitalizes on the power of Montefiore's integrated EHR system to both generate funding and research and promote the hospital's goal to deliver high quality, safe, efficient health care to our patient population during.