

# Lessons Learned: Building research capacity to study and improve patient outcomes in ambulatory rehabilitation within a learning health system.

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## OBJECTIVES

To describe the development of a research infrastructure to support quality and outcomes initiatives in an ambulatory rehabilitation setting embedded within a large academic medical center.

## METHODS

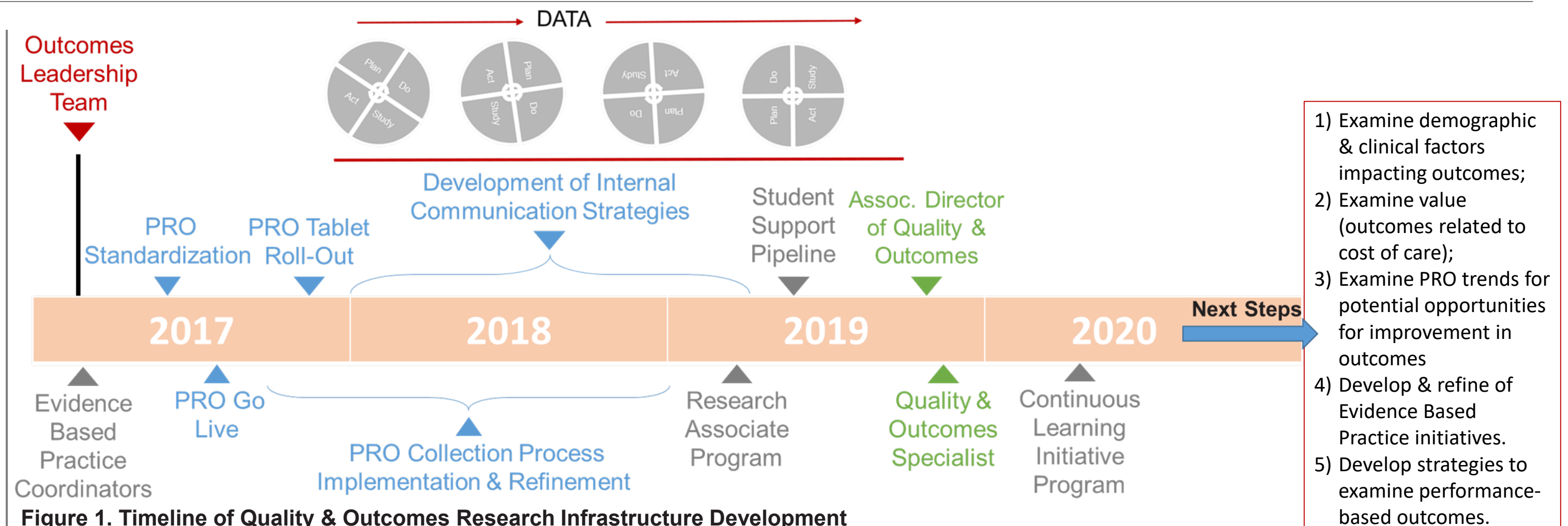
Over the past 3 years, the Ambulatory Rehabilitation Department within a large academic institution utilized strategies from the model for improvement to develop an infrastructure to support quality and patient outcomes initiatives. These strategies included the utilization of plan-do-study-act cycles, pilot studies, as well as leveraging of technology. A leadership committee was developed and research, quality improvement, evidence-based practice, and information technology positions were created. These positions supported the development, analysis, interpretation, implementation, and assessment of quality and outcomes initiatives. Further, partnerships within the health system and academic leaders were developed to ensure on-going support and collaborative development of the research capacity and infrastructure. Educational seminars and workshops were developed to facilitate universal language and learning of implementation and dissemination science concepts.

## RESULTS

Over the last 3 years the Ambulatory Rehabilitation Department has realized the development of a robust, grass roots patient reported outcomes infrastructure and the development of several pilot implementation projects. Eleven scientific manuscripts, at least 8 national presentations, and 12 IRB approved clinical research projects have resulted from these efforts. Further, partnerships with the health system; information technology; and university colleges, schools, and departments have offered new and unique research opportunities.

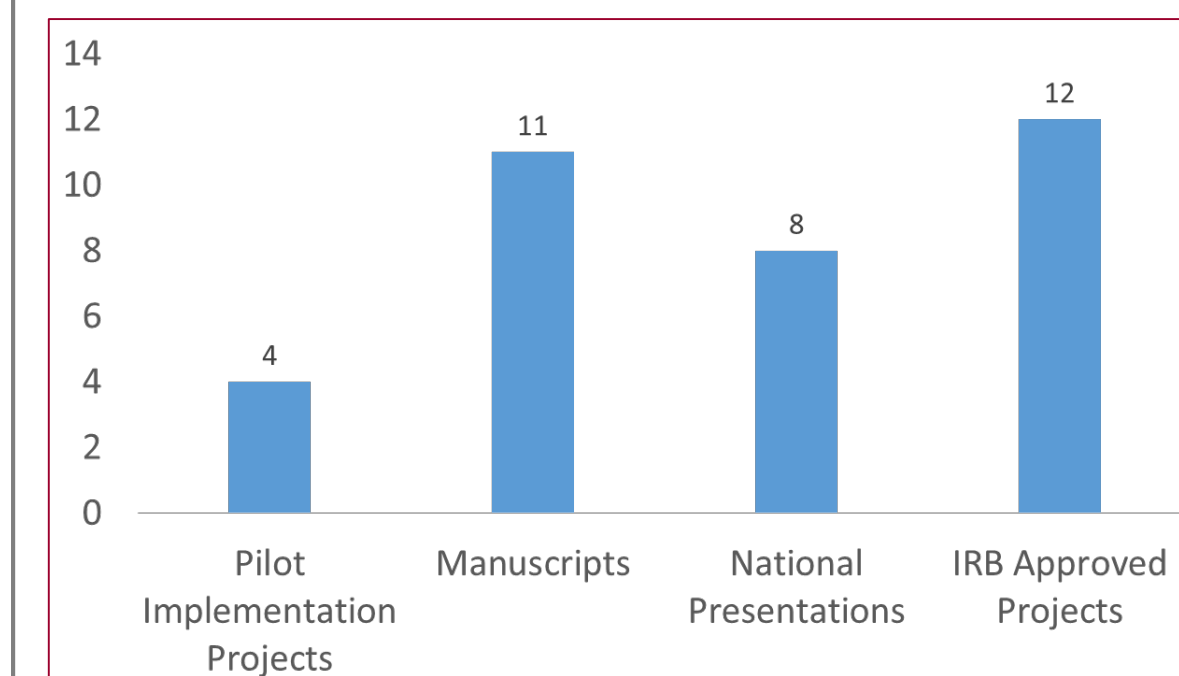
## CONCLUSIONS

Substantial growth and progress in research capacity and infrastructure has been demonstrated over the last 3 years. However, this has not been without hurdles or struggles. Continued evolution and support of the research infrastructure is ongoing with goals of developing new, collaborative interventional and implementation research projects focused on optimizing patient outcomes.



**Figure 1. Timeline of Quality & Outcomes Research Infrastructure Development**

The timeline illustrates the continued infrastructure development beginning with the formation of the Outcomes Leadership Team & standardization of a core set of patient reported outcome (PRO) measures. Plan-Do-Study-Act (PDSA) cycles have been used to inform numerous pilot projects, PRO adjustments, & implementations & dissemination strategies. The development of academic & clinical partnerships have been critical to the success of these projects specifically integrating faculty with methodological expertise in QI, implementation, & statistics. In addition, the creation of different roles and personnel including Evidence Based Practice Coordinators to help translate new knowledge to clinical care, the Research Associate Program to help support research initiatives, and the development of a student support pipeline have helped to advance quality, outcomes, and research initiatives.



**Figure 2. Outcomes & Results**

In addition to numerous projects, national presentations, & manuscripts over the past 3 years, we have developed a reliable & robust process to collect patient reported outcome measures having improved capture rates from 32% to >80%.

## Lessons Learned:

- Information technology support imperative for robust data extraction, accuracy, reliability, & interpretation.
- It will always take longer than expected.
- Partnerships among academic & clinical entities key for resources & expertise.
- A common language amongst stakeholders is imperative for communication, understanding, & buy-in.
- Creativity is important to continue to build infrastructure & foster an "army" to facilitate the "work."
- Enthusiasm & passion are important to support the process.



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