Using Rapid Cycle Improvement to Design a Scalable Appointment Scheduling System for Complex Oncology Clinical Trials at an Academic Cancer Center

Avantika Dang, MHA, CSSGB, PMP; Lauren N. Gjolaj, MBA, BSN, RN
Sylvester Comprehensive Cancer Center (Sylvester) at the University of Miami Miller School of Medicine

Background

• Timely appointment scheduling for clinical trial patients is critical for ensuring:
  • Proper care coordination
  • Timeliness of care
  • Protocol adherence
  • Sufficient time to obtain insurance prior authorizations
• Scheduling appointments for clinical trial patients is complex, involves multiple processes, functional units, and inputs.
• Leadership noted an increase in appointments scheduled < 2 weeks before the appointment date (reduction in lead time), which often causes increased protocol deviations and appointment cancellations due to insufficient time to obtain insurance authorizations.
• Scope of project
  • From the time an appointment is requested for a research patient to the time billing is routed to insurance or the sponsor for the study.

Goals

1. Optimize the efficiency of research schedulers’ workflows.
2. Design a scalable research scheduling team to meet the growing demands of an Academic Cancer Center with increasing clinical trial accruals in a proactive way.

Methods

Plan Do Study Act (PDSA) rapid cycle improvement methodology was deployed:

• Conduct Voice of the Customer (VOC) interviews to understand processes and potential process failures or inefficiencies
• Implement interventions to increase efficiency
• Develop process map of baseline workflow
• Develop process map of post-intervention workflow
• Track and calculate baseline metrics
• Use a fishbone diagram to identify process failures
• Develop interventions to address inefficiencies

Methods (Cont.)

A fishbone diagram was used to identify the root causes of inefficiencies:

Solutions Implemented

Interventions were implemented in three areas to improve efficiency:

• Halted non-value added (NVA) billing activities.
• Deployed EMR work queues to ease the tracking and prioritization of billing requests (vs. e-mail).
• Created a framework for conducting capacity analyses
• Deployed interdepartmental EMR work queues to reduce phone and e-mail communication required to discuss requests.

Outcome

• 33% reduction in the process steps in the schedulers’ workflow.
• 11% reduction in the cycle time for scheduling an appointment.
• Reduction of non-value added activities (NVA) activities.
• Increased scheduling lead time to 1 month in advance of appointment date.

Lessons Learned & Future Directions

Lessons learned:

• Quantifying workload and capacity creates a shared understanding of the problem and to create scalable staffing frameworks.
• A multidisciplinary process improvement team helps bridge gaps between functional units.
• Creating process maps ensures a shared understanding of complex processes.
• Evaluating existing processes critically and assessing whether existing activities add value is vital to identify non-value added (NVA) activities.
• Discussing end-user requirements and how eliminating NVA activities is beneficial in resource-constrained environments helps facilitate change from the status quo.
• Using data to quantify staff workload and capacity (including takt and cycle time) helps determine capacity, increased efficiency required to meet existing demand, and to develop proactive staffing models.

Project methodology and tools are transferrable and can be used to assess efficiency and create scalable staffing models for other areas in Cancer Centers (pharmacy, nursing, etc.). Future directions include building scheduling requests within the EMR chemotherapy protocols.