



Chemotherapy Turnaround Time Improvement

Authors: Abby Dalton BSN, RN, OCN and Megan Hoesly, PharmD, BCPS



Background

- Increase in chemotherapy orders since 2015
 - 41% increase for pharmacy
 - 73% increase for oncology unit
- Chemotherapy is a high-risk medication that involves many steps in the order processing and administration to ensure safety and service quality
- With increased volumes, it was apparent that review of our chemotherapy process was needed
- Lean methodology emphasizes improving workflow by increasing efficiency and decreasing waste

Aims/Goals/Objectives

Use Lean methodology to:

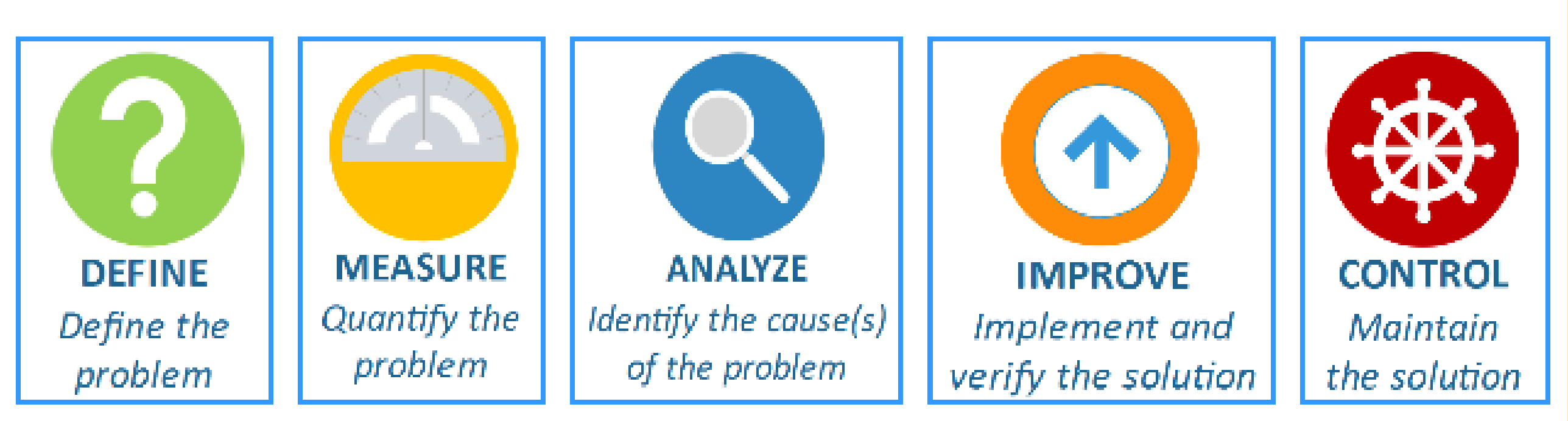
- Evaluate SVBGH’s chemotherapy order to administration process
- Identify contributors to delays in chemotherapy order entry
- Improve chemotherapy turn-around-times

Problem

- Delay in care for patient
- Frustration from staff
- Provider dissatisfaction

Methods

- Study site:
 - SVBGH 2 South Oncology Unit
- Using Lean Methodology: DMAIC

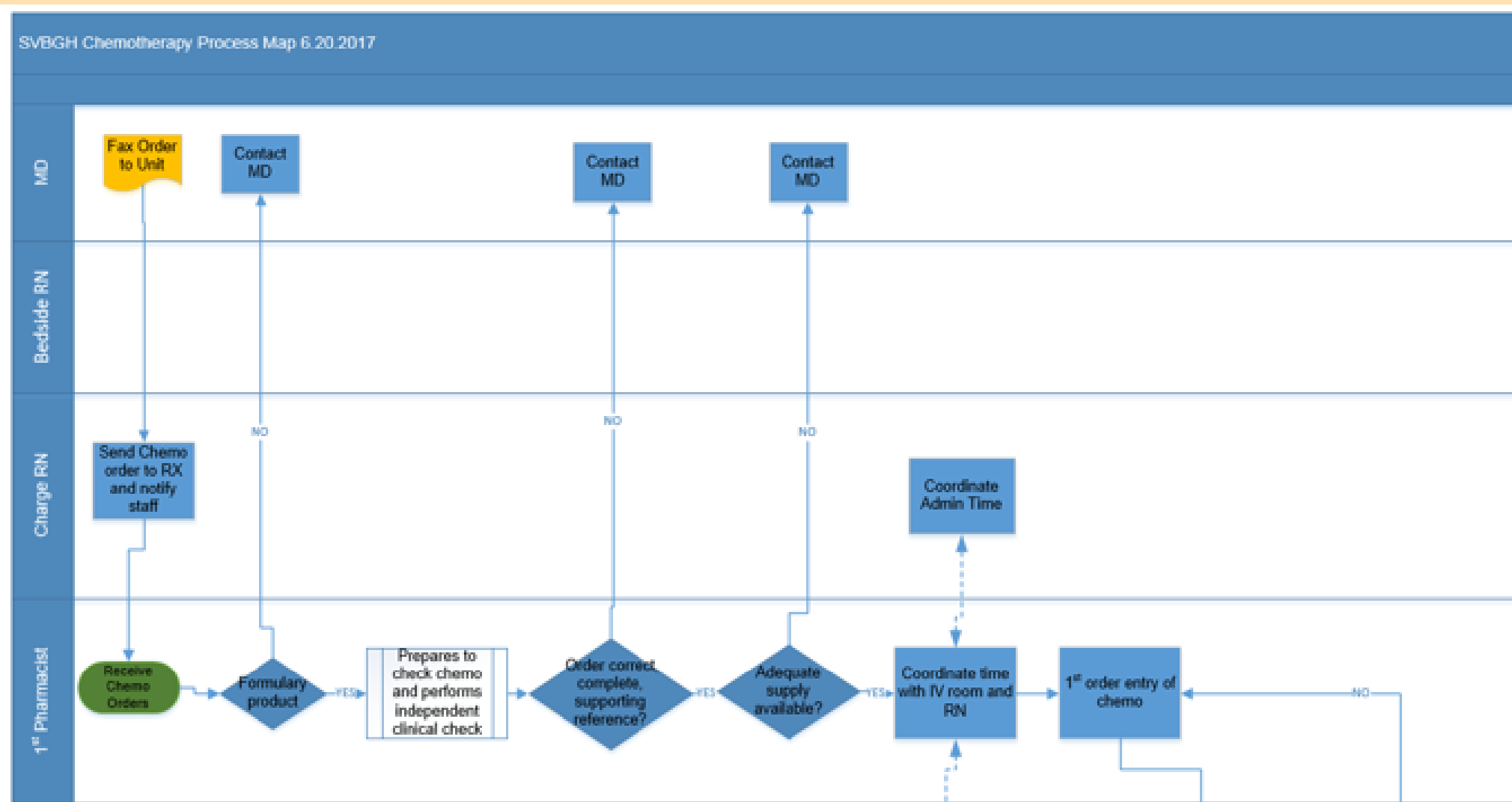


References

Sullivan P, et. al. Using lean methodology to improve productivity in a hospital oncology pharmacy. Am J Health-Syst Pharm. 2014;71:1491-8.

DMAIC Timeline:

- Define and Measure: May-June 2017
 - Process mapping
 - Baseline data collection



- Aalyze: June-July 2017:
 - Brainstorming
 - Pareto of top delays

- Improve: Sept 2018-Jan 2018

1. Focus on Top Delays:
 - Line Access: Cathflo® administration, new starts/lines
 - Waiting on labs: updated policy
 - Clarifying dose: Real-time escalation/documentation
2. Nursing Process
 - Improve receipt to fax time
 - Improve first check time to no greater than one hour after receipt of orders
 - Prioritize chemo to be given on time, each time
 - Discuss with dedicated pharmacist for any concerns
3. Pharmacy Process
 - Dedicated shift with goal of 85% order entry
 - Change expectation for chemo to be delivered 1- hour prior to due time to allow for sufficient time for RN safety checks
 - Create documentation to capture clarifications

- Control: Feb-April 2018
 - New Pharmacy Chemo Navigator in Epic to capture discrete data
 - Improved clarity reports for data collection
 - Established a reporting structure

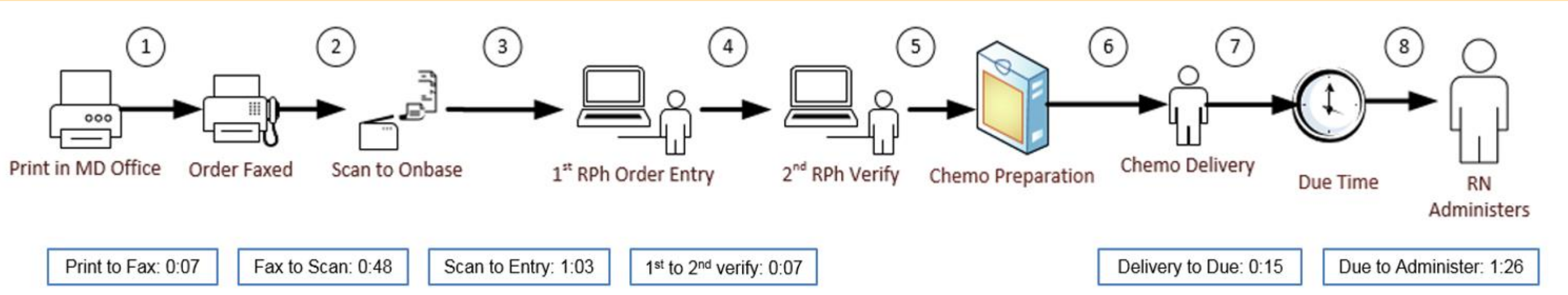
Results

- Primary Metric: % of chemotherapy orders with a documented delay

| Baseline (n=25 encounters) | Post-implementation (n=23 encounters) |
|-------------------------------|--|
| 44% | 35% |

- Documented Reasons for Delay:
 - **Baseline:**
 - Line access (26%)
 - Waiting on labs (20%)
 - Not admitted in EMR (17%)
 - Chemotherapy order clarification (14%)
 - **Change in top delays from baseline to post**
 - Only 1 line access delay and no waiting on labs
 - Post: most common was clarifying pre-meds/dose (40%)

- Baseline Chemotherapy Process Timestamps
 - Median Time (h:mm)



| Other measures | Baseline | Post |
|---|---------------------|---------------------|
| % chemo delivered prior to due time; median time | 67% 15 min prior | 75% 53 min prior |
| % chemo administered within 1 hour of due time | 15% | 45% |
| % of chemo orders processed during pharmacy 1 st shift | 70% | 88% |

Conclusions

- The use of lean methodology helped improve the chemotherapy process
- Interdisciplinary approach was key to determine areas of greatest impact
- Key stakeholders invested; thus enabling success