How to Identify and Implement Quality Improvement Projects in Cancer Programs

DISCUSSION CASE

• You are approached by a new member of your cancer program who is very enthusiastic about the idea of launching a QI project, but is uncertain about where and how to start.

• What guidance will you provide?

Standard 4.8 requires programs to implement 2 patient care improvements each year
USING NCDB FOR QI OPTIONS

- Benchmark reports
- Rapid Quality Reporting System
- Monitoring Compliance (4.6)

QUALITY IMPROVEMENT MODELS

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<th>FADE</th>
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<th>DMAIC</th>
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<td>Focus</td>
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<td>Define</td>
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<td>Execute</td>
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CASE STUDY

At ABC Cancer Center the documentation of moderate to severe pain (≥ 4 out of 10) during oncology outpatient office visits was 69%, compared to a national benchmark of 79%. The center resolved to initiate a QI project to improve their rates. Despite the introduction of a pain assessment card in clinic, the documentation rate failed to improve.
CASE DISCUSSION ITEMS

• Determine the team/resources
• Define and communicate the goal
• Select the appropriate intervention(s)
• Monitor performance/metrics
• Strategy to sustain the improvement

MODEL FOR IMPROVEMENT

1. What are we trying to accomplish?  Identify Gap and set Aim
2. How will we recognize improvement?  Measurement
3. What improvements can we make?  Implement strategy

Act  Plan  Study  Do
FOCUS

- Getting started

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<table>
<thead>
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<tbody>
<tr>
<td>F</td>
<td>Find an opportunity to improve</td>
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<tr>
<td>O</td>
<td>Organize a team</td>
</tr>
<tr>
<td>C</td>
<td>Clarify the current process</td>
</tr>
<tr>
<td>U</td>
<td>Understand the cause(s) of deficiency</td>
</tr>
<tr>
<td>S</td>
<td>Select an improvement intervention(s)</td>
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CASE STUDY

- Pain Management at ABC Cancer Center
  - NQF metric: pain assessment and documented plan
  - Inadequate cancer pain control is prevalent
  - Documentation of moderate-severe pain was only 69%
  - Prior failure with introduction of pain assessment card

Ranpura et al. J Oncol Pract., 2015
**PROBLEM STATEMENT**

- Should meet the following criteria:
  - Focused on a single issue
  - Only 1 or 2 two sentences
  - Unambiguous
  - Should not suggest a solution
  - Devoid of assumptions of cause

**CASE EXAMPLE**

- *Problem statement*

  - 30% of hematology-oncology clinic outpatients with a pain score of >4 in the second quarter of 2013 did not have a documented plan of care for pain, potentially resulting in inadequate pain control

  Ranpura et al. J Oncol Pract., 2015
AIM STATEMENT

• Specific declaration of:
  • The system to be improved
  • The target population
  • A numerical goal
  • A timeframe

CREATING AN AIM STATEMENT

<table>
<thead>
<tr>
<th>S</th>
<th>Specific</th>
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<tbody>
<tr>
<td>M</td>
<td>Measurable</td>
</tr>
<tr>
<td>A</td>
<td>Attainable/aligned</td>
</tr>
<tr>
<td>R</td>
<td>Relevant/realistic</td>
</tr>
<tr>
<td>T</td>
<td>Time-based</td>
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Reduce patient falls on the inpatient cancer ward – ‘weak’

Working with the falls reduction team on the in-patient cancer unit, we will reduce the rate of patient falls 25% over the next six months – ‘strong’
CASE STUDY

• Aim Statement:

• Achieve ≥ 90% documentation of plan of care for pain control for patients with pain ≥ 4 in hematology oncology clinic by the conclusion of the first quarter in 2014

CASE STUDY

• Quality Improvement Team

• 1 oncology attending
• 2 oncology fellows
• 2 resident physicians
• 2 oncology certified nurses
• 1 medical office assistant
• 1 office manager
• 1 quality coordinator

*Project sponsored by Cancer Care Director

Ranpura et al. J Oncol Pract., 2015
CASE STUDY

• Process Map

Ranpura et al. J Oncol Pract., 2015

CASE STUDY

• Cause-and-Effect Diagram

Ranpura et al. J Oncol Pract., 2015
CASE STUDY

• Pareto Chart

Ranpura et al. J Oncol Pract., 2015

CASE STUDY

• Priority Matrix

Ranpura et al. J Oncol Pract., 2015
CASE STUDY

• Intervention
  • EHR trigger for pain ≥ 4
  • MOAs hand pain assessment cards to fellows and NP/PAs
  • Education of Fellows and NP/PA
  • Consensus re: documenting pain plan, even when unrelated

Ranpura et al. J Oncol Pract., 2015

CASE STUDY

• Operational Definitions

  ▪ Number of patients arriving for a provider-level visit in the outpatient hematology-oncology clinic with a documented plan of care (numerator), from the total number of eligible patients with a pain score ≥ 4 (denominator).

  ▪ Data: EHR and manual chart review

  ▪ 20% increase in compliance (70% → 90%)
DISCUSSION CASE (B)

- A gap in care was identified regarding patient education at the breast center. Newly diagnosed breast cancer patients were not fully aware of their preliminary treatment plan, leading to delays, omissions and frustration. The objective was to improve patients’ understanding of their treatment plan.

- How will you address this issue?

II. Measuring for Quality

Analyzing Data for Quality Improvement
DATA COLLECTION PLAN

- What do you want to improve?
- What measures will be most helpful for this purpose?
- What is the operational definition for each measure?
- What’s your goal?
- What’s your baseline?

TRIAD OF QUALITY

Structures of Care
  - setting

Processes of Care
  - care delivery and care coordination

Health Outcomes

Do we have what we need?  Are we doing the right thing?  Where we are trying to go

also ‘Balancing’ measures

Avedis Donabedian, 1966
QUALITY MEASURES

<table>
<thead>
<tr>
<th>Structure</th>
<th>Process</th>
<th>Outcomes</th>
</tr>
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<tbody>
<tr>
<td>• Very accessible data</td>
<td>• Reflects actual care</td>
<td>• Face validity/benchmarking</td>
</tr>
<tr>
<td>• Aggregate marker of quality</td>
<td>• Not subject to time lags</td>
<td>• Not easily manipulated/potential risk avoidance</td>
</tr>
<tr>
<td>• Not always actionable</td>
<td>• Risk adjustment not required</td>
<td>• Affected by factors unrelated to quality</td>
</tr>
<tr>
<td>• Helpful for accreditation</td>
<td>• Useful for PI/guidelines</td>
<td>• Time lag</td>
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COMMISSION ON CANCER

• Measures are divided into three categories:
  
  • *Accountability Measure*—Is the standard of care based on level 1 clinical trial evidence?
  
  • *Quality Improvement Measure*—Demonstrates good practice based on consensus but is not based on level 1 clinical trial evidence.
  
  • *Surveillance Measure*—Used at the community, regional, and/or national level to monitor patterns and trends of care in order to guide policymaking and resource allocation.
DYNAMIC DISPLAYS OF DATA

• Summary statistics
  • e.g. mean, median, mode, standard deviation
  • Provide limited understanding of data

• Dynamic Display
  • e.g. run charts, control charts
  • Critical to analyzing results of an improvement project

SUMMARY STATISTICS
### PATIENT WAIT TIME

<table>
<thead>
<tr>
<th>Measure</th>
<th>Minutes</th>
</tr>
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<tbody>
<tr>
<td>Number of patients seen</td>
<td>150</td>
</tr>
<tr>
<td>Average wait time</td>
<td>45.1</td>
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<tr>
<td>Median wait time</td>
<td>32.6</td>
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<tr>
<td>Maximum wait time</td>
<td>94.5</td>
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<tr>
<td>Range</td>
<td>87.2</td>
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<tr>
<td>Standard deviation</td>
<td>16.2</td>
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#### Average Wait Time (Min.)

![Chart showing average wait time over July](chart.png)

- July 1: 20
- July 3: 40
- July 6: 60
- July 8: 80
- July 10: 100
- July 13: 80
- July 14: 60
- July 17: 40
- July 19: 20
- July 21: 60
- July 22: 80
- July 24: 100
- July 27: 80
- July 29: 60
- July 30: 40
UNDERSTANDING VARIATION

• Common Cause

• All processes have random variation - known as ‘common cause variation’. A process is said to be ‘in control’ if it exhibits only common cause variation i.e. the process is completely stable and predictable.
UNDERSTANDING VARIATION

• **Special Cause**

  • Unexpected events/unplanned situations can result in ‘special cause variation’. A process is said to be ‘out of control’ if it exhibits special cause variation i.e. the process is unstable.

CASE EXAMPLE: CHEMO DURATION

A. System is out of control
B. System is meeting patient expectations
C. System dominated by random/common cause variation
D. System is optimized
CASE EXAMPLE: DELAYS TO BIOPSY

What should the team’s strategy be to improve the process?

MEASURING FOR QUALITY

Collect baseline data and create chart

Is the process predictable i.e. in control?

No
Perform Root Cause Analysis & remove Special Causes

Yes
Implement Intervention and add data to chart

Did the process change?

No
Special causes: intervention had a change

Yes
No special causes: intervention had no change
MEANINGFUL MEASURES

• Relevant
• Actionable
• Valid
• Patient-focused

CASE STUDY

• Pain Documentation

Ranpura et al. J Oncol Pract., 2015
CASE STUDY

• Sustainability Pain Documentation
  • Continued to measure documentation rate quarterly
  • Reported the results and impact to staff
  • Displayed quarterly results in oncology clinic bulletin
  • Included process in orientation of new staff

Documentation rate 2nd quarter: 93%

Ranpura et al. J Oncol Pract., 2015

THANK YOU