Continuous Quality Improvement in Peritoneal Dialysis

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Conflicts

• None declared
Objectives

1. Review and understand the differences between traditional research and QI-related research.

2. Learn to detect common pitfalls in QI projects.

3. Learn strategies to help identify areas for potential improvement within your local PD setting.
Is QI important?

“Everyone in healthcare really has two jobs when they come to work every day: to do their work and to improve it.”

Dr. Paul Batalden, co-founder of the Institute for Healthcare Improvement
1. Improving the individual experience of care.

2. Improving the health of populations.

3. Reducing the per capita cost of care for population.
Six Dimensions of Quality

1. **Safety** – freedom from harm due to medical care
2. **Effectiveness** - avoid underuse of effective therapies and overuse of ineffective ones
3. **Patient centeredness** -
4. **Timeliness** - reduce waiting times and delays
5. **Efficiency** - avoid wasteful care
6. **Equitability** - care that does not vary in quality because of gender, ethnicity, geographical location, or socioeconomic status
Philosophy of CQI

An ongoing process
- Continuous efforts to find areas for improvement
- Numerous iterations of PDSA cycles
- No fixed end point
Traditional Approach vs. QI

Major Steps in Traditional Experimental Approach

1. Planning and generating your hypothesis
2. Data gathering to test your hypothesis
3. Studying and analyzing the results from your data
4. Acting upon your results to further inform and generate another hypothesis for future study
Traditional Approach vs. QI

<table>
<thead>
<tr>
<th>Major Steps in the PDSA Cycle</th>
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<td>P</td>
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<td>A</td>
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## Traditional Approach vs. QI

<table>
<thead>
<tr>
<th>Experimental Design</th>
<th>Randomized Trials</th>
<th>PDSA</th>
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<tbody>
<tr>
<td>Scale of intervention</td>
<td>Large</td>
<td>Small</td>
</tr>
<tr>
<td>Risk Level*</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Assessing impact</td>
<td>Slow</td>
<td>Fast</td>
</tr>
<tr>
<td>Confounding variables</td>
<td>Low</td>
<td>High</td>
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*Risk level = Return on failure*
Return on failure

Highlighted by Julian Birkinshaw in a 2016 Harvard Review article:

- return on failure = lessons learned/resource investment

- PDSA cycles are constructed to provide high return on failure ratios

- Investment is small but lessons learned are significant
Benefits of CQI

• CQI processes in PD:
  – Improve quality of therapy given to patients
  – Improve clinical outcomes
    • Reduced infection rates
    • Reduced technique failure rates
  – Lead to cost savings directly and indirectly in the healthcare system
Benefits of CQI

Retrospective study
• 619 patients
  – 370 patients in CQI group
  – 249 in control group
• Improvement in peritonitis rates

Yu et al. PDI 2014; 34- s43-s48
Benefits of CQI

Retrospective study
- 619 patients
  - 370 patients in CQI group
  - 249 in control group
- Improvement in technique survival

Yu et al. PDI 2014; 34- s43-s48
Benefits of CQI

ISPD Peritonitis Recommendations: 2016 Update on Prevention and Treatment

• CQI
  – Recommend that each PD center have a CQI program in place to reduce peritonitis rates
  – Multidisciplinary teams running CQI should meet regularly to review performance metrics.
Benefits of CQI

• Sunnybrook Hospital

  – CQI in Action
    • Multidisciplinary
    • Monthly meetings
    • Audit of gains and losses
    • Review infections in detail
    • Lessons learned
Benefits of CQI

Local Peritonitis Rate

Episodes per year

Quarters from 2016 – 2019
Benefits of CQI

Local Peritonitis Rate

Gains and losses multidisciplinary
CHALLENGES
CQI IMPLEMENTATION
Challenges in CQI

Organizational constraints:

1. “Tough crowds” or lack of interest
2. Challenges with implementation
3. Challenges with monitoring
4. Creating a culture for change
Challenges in CQI

QI related initiatives led by an individual may due to constraints from:

1. Lack of understanding
2. Measurement errors
3. Fallacy of expertise
Challenges in CQI – PDSA Misconception

• PDSA is a very catchy quality improvement phrase

• People often say they are doing a PDSA without:
  – Applying a scientific method behind it
  – Understanding the problem they are trying to remedy
Conceptual PDSA cycles

PDSA cycles in reality

Challenges in CQI

This is the way we have managed our PD patients for years!

Not interested in taking part in any more projects.
Challenges in CQI

This is the way we have managed our PD patients for years!

Not interested in taking part in any more projects!

Where is the evidence for you to lead this change?
SUCCESSFUL STRATEGIES
CQI IMPLEMENTATION
Cultivating a CQI Culture

In order to have effective CQI within your program, you must plan for sustainability very early on.
Cultivating a CQI Culture

1. Stakeholder analysis
2. Team building
3. Regular meetings
4. Visual motivation
Team building
Enlist a core change team

- Physicians
- Nurses
- Administrators
- Pharmacists
- Social workers
- Other allied health members
- Patients too!
Stakeholder analysis

Who or what is a stakeholder?

• Individuals or group

• Influence can lead to success or failure of your change idea

Stakeholder distribution

- Internal
- Connected
- External
Meeting regularly

- Allows for timely review of data
- Identifies potential “roadblocks”
- Fosters QI mindset within the work environment
Visual motivation

• Performance boards
  – Show commitment to CQI
  – Facilitates transparency
  – Demonstrates barriers
  – Demonstrates opportunities
  – Increases in engagement
  – Demonstrates failures too!
Are you asking the right questions in your quality improvement initiative?
Five Fundamentals Questions

Step 1
What did you change?

Step 2
Why did the change work?

Step 3
Was the change sustained?

Step 4
How long did it take for the change to take effect?

Step 5
Did anything bad happen with your change?
Five Fundamentals Questions

Step 1
What did you change?

Step 2
Why did the change work? (Theory)

Step 3
Was the change sustained? (Fidelity)

Step 4
How long did it take for the change to take effect? (Lag)

Step 5
Did anything bad happen with your change? (Balancing measures)
Five Fundamental Questions

• These questions will drive your measurement strategy

• It will also allow you to be very specific in your aim

• Allows you take a step back if you get “stuck” and revisit your overarching goals.
Stating your aim

• Use S.M.A.R.T goals

  – For example, “Increasing vaccination rate of PD patients” is not a good aim

  – “Increasing the Hepatitis B vaccination rate in PD patients by 50% in 1 year” is a better aim
Variation in results

a) Major improvement
b) Minimal Improvement
c) No improvement
FUTURE DIRECTIONS
CQI IMPLEMENTATION
CQI – Future Directions in PD

- Identify areas to promote PD growth
- Creating dedicated PD access teams
- Developing peer support groups
CQI – Future Directions in PD

The six steps to optimize incident PD

Step 1: Identify all potential PD candidates

Step 2: Assess for PD eligibility

Step 3: Offer PD if eligible

Step 4: Patient chooses PD

Step 5: Attempt/Insert a PD catheter

Step 6: Start PD therapy

CQI – Future Directions in PD

The six steps to optimize incident PD

1. Identify all potential PD candidates
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Early exposure to home dialysis expert

Longitudinal care
CQI – Future Directions in PD

High performing teams

• PD catheter access team
  – General surgeon
  – Interventional radiology
  – Nephrologist

• PD transitional care team
  – Multidisciplinary
  – Regular review of prospective patients
  – Identify challenges
  – Strategies to overcome if feasible
CQI – Future Directions in PD

• Peer support groups amongst patients
  – Patient champions
    • Coping with complications
    • Life with PD

  – Educational events
    • Transplant seminar
    • “What’s new in PD”
CQI Take Home Points

1. You cannot fix what you do not understand.
2. You cannot be a hero in CQI, successful projects need a team.
3. Success without failure is atypical, expect challenges.
4. Disappointing PDSA cycles are often the most informative.
5. Think about sustainability before implementation.
Thank you!

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