The Importance of Quality Improvement in Infection Control Programs

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Defining Quality

• Doing the right thing
• At the right time
• In the right way
• To achieve the best possible results

Quality Improvement Integrates Content of Care and the Process of Providing Care

Content of Care
- Evidence-based:
  - Standards
  - Protocols
  - Guidelines

Process of Care
- Quality Improvement Methodology

Traditional Quality Improvement

Continuous Quality Improvement

Adapted from Batalden and Stoltz (1993)
Quality improvement (QI) in public health is the use of a deliberate and defined process which is focused on activities that are responsive to community needs and improving population health.

Use a *deliberate* and *defined* process

Examples of QI Models:

- CARE Model
- FADE (Focus, Analyze, Develop, Execute)
- Lean Model
- Model for Improvement
- Six Sigma
PDSA Cycle
The basic structure for QI projects

A cyclical process of measuring and improving a process or processes within a system
What are the Benefits of Quality Improvement?
• Improves patient and population based **clinical outcomes**

1823 - Providers conduct Autopsies

1847 - Chlorine Handwash

Puerperal fever
Mortality rates 1784-1849

Wien maternity clinic
Dublin maternity hospital
• Improves Efficiency

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  – # of cases captured by the surveillance system increased when data collection began in the laboratory
  – Improved procurement of supplies
  – Ensure all patients who need a blood culture have one drawn
  – Avoid duplication / error in inputting specimens into the database.

• Proactively identifies and improves problems
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  – Report all errors
  – Early evaluation of surveillance system

• **Avoids costs** associated with inefficient and unreliable processes

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– Avoid duplication of staff needed to collect/input data.
– Use of a check-list for central line insertion

• Enhances communication and accountability
Safety Calendar

Month

September

Days without incident

1 2
3 4
5 6
7 9 11 13 15 17 19 21
8 10 12 14 16 18 20 22

Instructions (see next tab for blank form)

Indicates day without injury, e.g. "On the 27th of the month we had zero accident or recordable incidents."

Indicates day with injury, e.g. "On the 11th of the month we had an accident or recordable incident."

Subtract last green date (27) from last red date (11) to get continuous "days without incident" (16).

The larger this number is the better your safety record.

Printing instructions: legal sized paper (A3), landscape

PDSA Cycle
The basic structure for QI projects

Step 1: Plan
Plan changes aimed at improvement using information from root cause analysis.
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CARE Model
FADE
Lean Model
Model for Improvement
Six Sigma

Tools
- Flow Chart
- Fishbone Diagram
- Pareto Chart
- Check Sheet
- Histogram
- Scatter Diagram
- Control Chart
General Approach on How to Use the Basic Tools of Quality Improvement

“AIM” Issue to Consider

- Brainstorm & Consolidate Data
  - Brainstorming Force and Effect

- Flow Chart Existing Process
  - “As is” State
  - Cause and Effect Diagram – Greatest Concern
  - Use 5 Whys to Drill Down to Root Causes

- Flow Chart New Process
  - “As is” State to “Should Be” State

- Analyze Information and Develop Solutions
  - Solution and Effect Diagram

- Translate Data into Information
  - Pie Charts
  - Pareto Charts
  - Histograms
  - Scatter Plots, etc

- Monitor New Process and Hold the Gains
  - Run Charts
  - Control Charts

- Gather Data on Pain Points
  - Data Management Strategy

PDSA Cycle
The basic structure for QI projects

Step 1: Plan – Plan changes aimed at improvement using information from root cause analysis.

Step 2: Do - Try out the test on a small scale.
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The basic structure for QI projects

**Step 1: Plan** – Plan changes aimed at improvement using information from root cause analysis.

**Step 2: Do** - Try out the test on a small scale.

**Step 3: Study** – Analyze the data and compare the results to your predictions.
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Step 3: Study – Analyze the data and compare the results to your predictions.

Step 4: Act - Make changes based on what was learned.
Tips for Successful QI

- **Strong and Empowered Leadership**
  - Facility leadership supportive.
  - Administration empowers a dedicated team to identify and remove barriers to implementation.
  - Strong implementation champion(s) are identified on wards.


Tips for Successful QI

- Embed QI in the existing health system
  - Avoid a piecemeal approach
  - Focus on sustainability with broader health system in mind rather than isolated QI projects
  - Identify sustainable financing
  - Focus on training HCW to perform QI as part of daily work

Tips for Successful QI

• Pick simple interventions and outcome measures
  • Begin with one or two interventions
  • Have a plan to scale up a successful intervention


Tips for Successful QI

• Implement QI at health care facilities where staff is ready to adopt the interventions as useful or necessary


Quality Improvement Resources on the Web

- USAID – A modern Paradigm for Improving Healthcare Quality [https://www.usaidassist.org/resources/modern-paradigm-improving-healthcare-quality-0](https://www.usaidassist.org/resources/modern-paradigm-improving-healthcare-quality-0)
- HIVQUAL US/International. [www.healthqual.org](http://www.healthqual.org)
Questions?

For more information please contact Centers for Disease Control and Prevention

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E-mail: cdcinfo@cdc.gov Web: www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.