The ACS NSQIP Pathway to Improvement (P2I)

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Salt Lake City, UT
Quality Improvement Methodologies

• Change Management
• Six Sigma
• Lean Healthcare
• Continuous Improvement
Change Management
Change Management

- Structured, proactive, coordinated approach to
  - transition individuals and organizations from a current state
    → desired future state
    → achieve lasting change.
- Change is NOT an event
  - planned process
  - occurs within a specified period of time
Change Management

• A successful change management initiative is usually
  – guided by strong model or framework that anticipates and mitigates resistance along the way
  – outlines a stepwise, gradual process of transition
"Unfreeze-Change-Refreeze" Model

1. "Unfreezing" stage
   - Individuals and organizations are made ready for change
     - "shocked out" of status quo

2. Change (or transition) stage
   - Previously 'unfrozen' individuals (or organizational units)
     - led to make the changes needed
     - to achieve the desired end state

3. "Refreezing" stage
   - Adjustments made during the transition
     - Embedded/hardwired into the system
     - to ensure lasting change
### Planning for Change

<table>
<thead>
<tr>
<th>Step 1: Understand the Need for Change</th>
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<tbody>
<tr>
<td><strong>DO:</strong> Scan the external environment; perform internal diagnostics</td>
</tr>
<tr>
<td><strong>DON'T:</strong> Become complacent</td>
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<table>
<thead>
<tr>
<th>Step 2: Build the Guiding Change Team</th>
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<tbody>
<tr>
<td><strong>DO:</strong> Enlist individuals with expertise, credibility, leadership/management skills, and &quot;position power&quot;.</td>
</tr>
<tr>
<td><strong>DON'T:</strong> Act alone</td>
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<thead>
<tr>
<th>Step 3: Create a Vision/Strategy for Change</th>
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<tbody>
<tr>
<td><strong>DO:</strong> Make it simple, tangible, and desirable; engage key stakeholders → ensure &quot;shared ownership&quot;)</td>
</tr>
<tr>
<td><strong>DON'T:</strong> Ignore silos (→ potential barriers to change)</td>
</tr>
</tbody>
</table>
Ensuring “Shared Ownership” of the Change Initiative

- **Change agent**
  - initiates the call for change (the "why")

- **Core/guiding change team**
  - helps build the case for change and create the vision/strategy for change (the "what")

- **Key stakeholders** (*black arrows*)
  - help implement change outwards throughout the organization (the "how").
## Implementing the Change

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 4: Create a Sense of Urgency</strong></td>
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</table>
**DO:** Use tangible/dramatic evidence from both within/outside the organization to make a case for change  
**DON'T:** Rely on a dry business case → create a burning platform! |
| **Step 5: Communicate The Vision/Strategy for Change** |  
**DO:** Make the change vision simple and compelling → present the right message/right format/right time  
**DON'T:** Under-communicate |
| **Step 6: Empower Broad-Based Action** |  
**DO:** Recognize & reward individuals who have "bought into" and promote the change vision/strategy  
**DON'T:** Try to remove all barriers at once; ignore intractable resisters |
## Implementing the Change

<table>
<thead>
<tr>
<th>Step 7: Generate Short-Term Wins</th>
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<tbody>
<tr>
<td><strong>DO:</strong> Ensure and celebrate quick/visible/meaningful wins early on</td>
</tr>
<tr>
<td><strong>DON'T:</strong> Launch too many projects at once (→ burnout)</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Step 8: Exploit Gains to Produce More Change</th>
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<tbody>
<tr>
<td><strong>DO:</strong> Promote &quot;change champions&quot;; continually re-invigorate the change process with new people/projects</td>
</tr>
<tr>
<td><strong>DON'T:</strong> Let up; tie yourself to a rigid plan (rather, allow for flexibility/take advantage of unforeseen opportunities)</td>
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<table>
<thead>
<tr>
<th>Step 9: Hardwire Change</th>
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<tbody>
<tr>
<td><strong>DO:</strong> Ensure the change &quot;roots&quot; itself into the organizational culture; use the orientation/promotion process to create new advocates</td>
</tr>
<tr>
<td><strong>DON'T:</strong> Rely on individuals/structures/processes <em>alone</em> to hold major changes in place</td>
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Six Sigma

- A type of logistic regression
- The latest boy band from the UK
- A statistically based PI methodology focused on reducing defects and variation
- Management philosophy that was derived mainly from the Toyota Production System
Quality Improvement Methodologies

• Change Management
• Six Sigma
• Lean (Healthcare)
• Continuous Improvement
## Six Sigma vs. Lean

<table>
<thead>
<tr>
<th>Primary Metric</th>
<th>Six Sigma</th>
<th>Lean</th>
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</thead>
<tbody>
<tr>
<td>Change Agents</td>
<td>Six Sigma experts</td>
<td>Those “in the front lines”</td>
</tr>
<tr>
<td>Culture</td>
<td>Top Down</td>
<td>Empowerment</td>
</tr>
<tr>
<td>Underlying Science</td>
<td>Statistics</td>
<td>Industrial Engineering</td>
</tr>
</tbody>
</table>
Six Sigma
What is Six Sigma?

- A statistically based process improvement methodology for reducing defects and variation
- Six Sigma concentrates on improving the quality of process outputs by:
  - identifying and removing the causes of defects (errors)
  - minimizing variability
- Goal = defect-free processes
DMAIC Methodology

• Define
  - Critical to Quality analyses
    • “does it really matter?”
  - Define and scope problem
  - Define objectives/benefits
  - Create project charter

• Measure
• Analyze
• Improve
• Control
DMAIC Methodology

- Define
- Measure
  - Define process ("as is")
  - Validate measurement system for output(s) = "y"
    - i.e. ACS NSQIP postop occurrence
  - Quantify past process performance
    - Statistical process control (SPC) charts
- Analyze
- Improve
- Control
DMAIC Methodology

- Define
- Measure
- Analyze
  - Identify potential (root) causes = “x”
  - Identify *significant* causes to focus on
    - y=f(x)
- Improve
- Control
Identifying Root Causes

- Brainstorm
  - Organize into groups ("affinity diagrams")
  - Fishbone diagrams
  - Ask Why Five Times

- Failure Mode and Effects Analyses (FMEA)

Study Design

Problem

Data definition

Data collection

Poor Patient Compliance

Study Design Problem

Poor Provider Compliance

Lack of info on immunization schedules

Lack of info on documentation needs

Education

Religion

Access

Economic

Delivery

Lack of supplies
Identifying Root Causes

• Brainstorm
  – Organize into groups (“affinity diagrams”)
  – Fishbone diagrams
  – Ask Why Five Times

• Failure Mode and Effects Analyses (FMEA)
  – For process steps key to your output
  – “What happens if it fails?”
    • List causes
    • Rate Severity x Occurrence X Detection of failure (= Risk Priority Number)
      – Act on process step (& causes) with highest RPN
DMAIC Methodology

- Define
- Measure
- Analyze
- Improve
  - Generate solutions
  - Select & test solutions
    - Conduct experimental trials
      - Real life (small scale)
      - Virtual (Monte Carlo simulations, etc)
  - Develop implementation plan
- Control
DMAIC Methodology

• Define
• Measure
• Analyze
• Improve
• Control
  – Create control & monitoring plan
    • SPC charts
  – Implement full-scale solution
  – Finalize transition (back to process owners)
Lean
What is Lean?

Lean Manufacturing or “Lean” is

• Management philosophy that was derived mainly from the Toyota Production System

• A customer-focused framework utilized to solve problems

• 3 Primary Concepts
  - The elimination of waste
  - Enhancing “value-added” operations
  - Reducing process complexity to improve process flow
Identifying Waste in Healthcare

- **Transportation**: Any excess movement of what flows in the process.
- **Overproduction**: Producing too much or too soon.
- **Waiting**: Over-processing, Process Variability.
- **Intellect**: Any failure to fully utilize the time and talents of the healthcare staff.
- **Rework**: All the processing required to correct a defect or mistake.
- **Inventory**: Too much or too little stock, supplies, work piles.
- **Motion**: Any excess movement of people, equipment or information that does not add value.
Lean Tools & Techniques

• Value stream mapping
• Identifying/minimizing waste
• Standardizing work
• “Mistake-proofing” processes
Kaizen Events

Rapid Process Improvement Workshop/Week

Start

Document Reality

Identify Waste

Separate value added from non value added steps

Eliminate unnecessary non value added and plan counter measures

Reality Check

Make Changes

Verify Change

Do It Again

Celebrate

Make this the Standard

Measure Results

5 day period
Current State ("As Is")
Process Flow

• Are those doing the mapping responsible for the process?
  – Have the authority to change it?

• Do NOT record idealized version of the process
  – rather than the way it actually works

• Identify NVA, NVA-R and VA steps
Process Flow Diagrams
Kaizen Events

Rapid Process Improvement Workshop/Week

Start

Document Reality

Do It Again

Celebrate

Make this the Standard

Measure Results

5 day period

Identify Waste

Separate value added from non value added steps

Eliminate unnecessary non value added and plus counter measures

Reality Check

Make Changes

Verify Change
Value vs. Waste

**VALUE**
An activity that transforms the medical service in a way that contributes to satisfying patient expectations

**WASTE**
Activities *that consume time, resources and space, but do not contribute to satisfying patients needs*

Patients will pay for value ... they will NOT pay for waste
Value and Waste

- Describing symptoms
- Taking Vital Signs
- Diagnosis and Treatment
- Medication review
- Staff meetings
- Stocking Supplies
- Regulatory Items (policies)
- Walking to get equipment
- Moving patient to equipment
- Waiting for referrals
- Waiting for answers
Lean Approach

Identifies waste & reduces non-value added activity (maximizing gain)
Value Stream Map ("As Is")

Used to identify wastes (time, etc) in the process in question

1. Patient Sign-in
   - 1) Patient arrives desk
   - 2) Tech quick look
   - 3) Patient completes Sign-in Sheet
   - 4) Patient put in triage bay if available

2. Triage
   - 1) Tech starts triage if tech present
   - 2) Nurse signs off on tech triage
   - 3) Nurse triage patient

3. Bed Assignment
   - 1) Patient dragged to bed in computer system

4. Evaluation and Treatment
   - 1) Nurse evaluation
   - 2) MD evaluation
   - 3) Tests ordered
   - 4) Treatment ordered
   - 5) Await testing/treatment outcome

5. Discharge
   - 1) Doc orders discharge
   - 2) Nurse takes vitals if LOS > 120 min
   - 3) Nurse discharges patient

Total: 151 Minutes (2 hours and 31 minutes) Average LOS
Value Stream Map ("As Is")

Used to identify wastes (time, etc) in the process in question.

1. Patient Sign-in
   - 1) Patient arrives desk
   - 2) Tech quick look
   - 3) Patient completes Sign-in Sheet
   - 4) Patient put in triage bay if available

2. Triage
   - 1) Tech starts stage if tech prescribes
   - 2) Nurse comes off on tech triage
   - 3) Nurse triage patient

3. Bed Assignment
   - 1) Patient placed to bed in corner system

4. Evaluation and Treatment
   - 1) Nurse evaluation
   - 2) MD evaluation
   - 3) Tests ordered
   - 4) Treatment ordered
   - 5) Await testing/treatment outcome

5. Discharge
   - 1) Doc orders discharge
   - 2) Nurse takes vitals if LOS > 2 days
   - 3) Nurse discharges patient

Total Time: 151 Minutes (2 hours and 31 minutes) Average LOS
Value Stream Map (After)

Patient Sign-in
1) Patient arrives desk
2) Patient completes Sign-in Sheet
3) Tech quick look, decides if fast track patient or not
4) Patient put in triage bay if available

Evaluation and Treatment in Triage Bay
1) MD/PA interviews patient while nurse enters info into computer
2) Nurse performs vitals
3) MD orders treatment/testing
4) Nurse treats patient while MD finishes charting

Patient Discharge
1) MD orders discharge
2) Nurse discharges patient

Total Projected LOS = 35 min
• Workplace organization methodology
Workflow ("Spaghetti") Diagrams

Time & Distance Traveled - Before

<table>
<thead>
<tr>
<th>Distance</th>
<th>Time</th>
</tr>
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<tbody>
<tr>
<td>100 feet</td>
<td>16 min</td>
</tr>
<tr>
<td>200 feet</td>
<td>16 min</td>
</tr>
<tr>
<td>150 feet</td>
<td>11 min</td>
</tr>
<tr>
<td>250 feet</td>
<td>11 min</td>
</tr>
<tr>
<td>200 feet</td>
<td>1 min</td>
</tr>
<tr>
<td>150 feet</td>
<td>31 min</td>
</tr>
<tr>
<td>200 feet</td>
<td>1 min</td>
</tr>
<tr>
<td>300 feet</td>
<td>21 min</td>
</tr>
</tbody>
</table>

1,550 Feet 108 min
No Searching or Waiting - After

Workflow ("Spaghetti") Diagrams

Reduced travel by 1150 ft. & search time by 68 min.
Why “Lean Six Sigma”?

• Lean focuses on flow
  – defects inhibits flow of a process
  – Six Sigma can reduce variation that causes defects

• Six Sigma focuses on variation
  – Complexity of process from non value added activities cause variation
  – Lean can reduce complexity
Continuous Improvement
Continuous Improvement

• Ongoing effort to improve products, services or processes. These efforts can seek “incremental” improvement over time or “breakthrough” improvement all at once
Plan - Do - Study - Act

**P**
- **Plan**
  - Understand the problem
  - Identify the root causes

**D**
- **Do**
  - Execute the plan

**S**
- **Study**
  - Study results against expected results

**A**
- **Act**
  - Act to implement changes
ACS NSQIP
Pathway to Improvement (P2I)
ACS NSQIP
Pathway to Improvement (P2I)

- Draws from Multiple QI methodologies
  - Change Management
  - Six Sigma
  - Lean
- Two Phases
  - Planning phase (6 steps)
  - Implementation phase (4 steps)
P₂I: Planning Phase

1. Identify the problem
2. Explore the process (behind the problem)
3. Build the improvement team
4. Drill down on the process (behind the problem)
5. Identify root causes
6. Select and test possible solutions
Step 2: Explore the process (behind the problem)

A. Draw a “high level” (MACRO) map of the process

B. Identify key stakeholders
   → Enlist into the improvement team

C. Define scope and timeline for the improvement project
Step 2: Explore the process

Swim lane diagram

- Multidisciplinary team
- Nurse
- Transitional care team
- Doctor
- Ward pharmacist

Diagram details:
- Start
- Discusses a need for transitional care
- Decides discharge date
- No transitional care
- Transitional care
- Yes
- Requests assessment for transitional care
- Assesses patients need
- Confirms transitional care service
- Generates a discharge summary
- Runs through discharge checklist
- No problems
- Corrects discharge summary
- No problems
- Discharge patient
- End
Step 3: Build the improvement team

*Power/Influence Matrix*

<table>
<thead>
<tr>
<th></th>
<th>LOW</th>
<th>INFLUENCE OVER CHANGE INITIATIVE</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH</td>
<td></td>
<td>C</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dr. Harold</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sue Smith</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amanda Thomas, etc</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kelly Richards</td>
<td></td>
</tr>
<tr>
<td>LOW</td>
<td></td>
<td>D</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dr. Stone</td>
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<td></td>
<td></td>
<td>Marta Jones</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Betty Rouse, etc</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kathy Powers</td>
<td></td>
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</table>
### Stakeholder Analysis

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Role</th>
<th>Power/Influence</th>
<th>Impact of Change on Stakeholder</th>
<th>Current/Desired Support</th>
<th>Reasons for Support/Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sue Smith</td>
<td>Head, Inf Prev &amp; Control</td>
<td>A</td>
<td>High</td>
<td>Strongly Opposed</td>
<td>Reduce UTI rates</td>
</tr>
<tr>
<td>Dr. Harold</td>
<td>Head, Acute Pain Serv</td>
<td>C</td>
<td>Low</td>
<td>Opposed</td>
<td>Urinary retention?</td>
</tr>
<tr>
<td>Dr. Stone</td>
<td>Urologist</td>
<td>D</td>
<td>Medium</td>
<td>Neutral</td>
<td></td>
</tr>
<tr>
<td>Betty Rouse, etc</td>
<td>Charge Nurses, Surgery Units</td>
<td>B</td>
<td>High</td>
<td>Supportive</td>
<td>&quot;More work&quot;</td>
</tr>
<tr>
<td>Marta Jones</td>
<td>Charge Nurse, OR</td>
<td>B</td>
<td>High</td>
<td>Champion</td>
<td>&quot;More work&quot;</td>
</tr>
<tr>
<td>Amanda Thomas, etc</td>
<td>Admin Chief Residents</td>
<td>A</td>
<td>Medium</td>
<td></td>
<td>Erodes resident autonomy?</td>
</tr>
<tr>
<td>Kelly Richards</td>
<td>Head, Nursing Quality</td>
<td>A</td>
<td>Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kathy Powers</td>
<td>Head, Staff/Patient Educ</td>
<td>B</td>
<td>Low</td>
<td>Champion</td>
<td></td>
</tr>
</tbody>
</table>

- **Assumed position**
- **Confirmed position**
- **Where they need to be**
Ensuring “Shared Ownership” of the Change Initiative

- **Change agent**
  - initiates the call for change (the "why")
- **Core/guiding change team**
  - helps build the case for change and create the vision/strategy for change (the "what")
- **Key stakeholders** (*black arrows*)
  - help implement change outwards throughout the organization (the "how").

Planning (*light gray area*) and implementing (*dark gray area*) change
Ensuring “Shared Ownership” of the Change Initiative

- **Champion**
- **Process Owner**
- **Team Members**

Planning *(light gray area)* and implementing *(dark gray area)* change
Champion

• Senior Level Manager who has the authority to:
  – Identifies project ideas
  – Commit resources
  – Remove roadblocks
  – CEO, CMO, Chair, etc
• Owns the success of project
Process Owner

- Knows what is critical about the process
- Helps to assemble the team
- Owns the solution delivered by the team
- Works with the Champion to ensure that gains are sustained
Team Members

• Individuals from various functional areas
  – Subject matter experts
  – Contribute ideas
  – Receptive & ready to make changes
  – 5 to 7 members
    • too many team members → hinder team performance
Step 4: Drill down on the process (behind the problem)

- Draw a current state ("as is") process flow diagram
  - What does it actually look like?
Current State ("As Is")

Process Map

Patient Sign-in
1) Patient arrives desk
2) Tech quick look
3) Patient completes Sign-in Sheet
4) Patient put in triage bay if available

Triage
1) Tech starts triage if tech present
2) Nurse signs off on tech triage
3) Nurse triages patient

Bed Assignment
1) Patient dragged to bed in computer system

Evaluation and Treatment
1) Nurse evaluation
2) MD evaluation
3) Tests ordered
4) Treatment ordered
5) Await testing/treatment outcome

Discharge
1) Doc orders discharge
2) Nurse takes vitals if LOS > 120 min
3) Nurse discharges patient

1 Minutes 4 Minutes 9.1 Minutes 17.2 Minutes 1 Minutes 6 Minutes 79.4 Minutes 10 Minutes 16.4 Minutes

Total = 151 Minutes (2 hours and 31 minutes) Average LOS
Step 5: Identify root causes

A. Identify best practices
   - Medical literature
   - ACS NSQIP
     - Best Practice Guidelines and Case Studies

B. Identify root causes

C. Critically analyze your current process
Step 5: Identify root causes

A. Identify best practices

B. Identify root causes
- Brainstorm
- Fishbone diagrams
- 5 Whys
  → “actionable”

C. Critically analyze your current process
Step 5: Identify root causes

A. Identify best practices

B. Identify root causes

C. Critically analyze your current process
   - Look for waste!
Step 5: Identify root causes
Critically analyze your current process

Identify wastes (time, etc) in the process in question
Step 5: Identify root causes
Critically analyze your current process

Identify wastes (time, etc) in the process in question

Patient Sign-in
1) Patient arrives desk
2) Tech quick look
3) Patient completes Sign-in Sheet
4) Patient put in triage bay if available

Triage
1) Tech starts triage if tech present
2) Nurse gets off on tech triage or
1) Nurse triage patient

Bed Assignment
1) Patient placed to bed in correct system

Evaluation and Treatment
1) Nurse evaluation
2) MD evaluation
3) Tests ordered
4) Treatment ordered
5) Await testing/treatment outcome

Discharge
1) Doc orders discharge
2) Nurse checks vitals if LOS >12 hrs
3) Nurse discharges patient

Setup Reduction

Over Processing

Transport

One Piece Flow

Consolidate

Total: 151 Minutes (2 hours and 31 minutes) Average LOS
Step 6: Select and test possible solutions

A. Rank and Choose
   - ACS NSQIP
     - Best Practice Guidelines
     - Recommendations
     - Appendices
     - Case Studies
   - EPIC solution matrix
     - Ease, Permanence, Impact, Cost

B. Create a future state process map

C. Operationalize the solutions
Step 6: Select and test possible solutions

A. Rank and Choose

B. Create a future state process map
   - What do you want it to look like?

C. Operationalize the solutions
Step 6: Select and test possible solutions

A. Rank and Choose

B. Create a future state process map

C. Operationalize the solutions
   – “Small tests of change”
   – Iterative PDSA cycles
   – Consider using “surrogate” endpoints
     • e.g. compliance with new processes
Step 6: Select and test possible solutions

*Future state process map*
P₂I: Implementation Phase

1. Communicate your vision & strategy for improvement
2. Implement your solutions
3. Validate the improvement (at 30 days)
4. Hardwire the change
P₂I: Implementation Phase

1. Communicate your vision & strategy for improvement
   - Create a “burning platform”
   - ACS NSQIP
     - Best Practice Guidelines:
       Background, Risk Factors, Basic vs. Special Recommendations

2. Implement your solutions

3. Validate the improvement (at 30 days)

4. Hardwire the change
P₂I: Implementation Phase

1. Communicate your vision & strategy for improvement

2. Implement your solutions
   - Empower broad-based action
   - Generate & exploit “wins” and short-term gains

3. Validate the improvement (at 30 days)

4. Hardwire the change
P₂I: Implementation Phase

1. Communicate your vision & strategy for improvement
2. Implement your solutions
   • Validate the improvement (at 30 days)
     – Compliance with new processes sustained?
     – ACS NSQIP “raw data”
     – Statistical process control charts
     – Tweak/adjust solutions
4. Hardwire the change
Step 4: Hardwire the change

A. Approve the future state process map
   - Communicate new process!

B. Develop a control plan
   - SOPs
     - New staff orientations, basis for incentive pay/promotions

C. Evaluate over time (sustainability)
Step 4: Hardwire the change

A. Approve the future state process map

B. Develop a control plan

C. Evaluate over time (sustainability)
   - Statistical process control charts
   - Assess at 60, 90, 120 days…
ACS NSQIP P2I

- Structured, coordinated, 2-phase/10-step approach to implementing change/improvement
- Combines:
  - **Existing ACS NSQIP resources**
    - “Raw” data
    - SPCs
    - Best Practice Guidelines
    - Case Studies
    - QI Primers
  - **Established QI Methodologies**
    - Change Management
    - Lean Six Sigma
    - Continuous Improvement
P₂I: Planning Phase

1. Identify the problem
2. Explore the process (behind the problem)
3. Build the improvement team
4. Drill down on the process (behind the problem)
5. Identify root causes
6. Select and test possible solutions
P₂I: Implementation Phase

1. Communicate your vision & strategy for improvement
2. Implement your solutions
3. Validate the improvement (at 30 days)
4. Hardwire the change
ACS NSQIP P2I

• Backbone of future ACS NSQIP Best Practices
  – Live “online”

• Empower all ACS NSQIP participants to “drive” PI (and ultimately QI) at the local level
  – Focus on the right problem
  – Build the right team
  – Use the right QI tools at the right time
  → “Breakthrough” improvement
ACS NSQIP P2I: Expert panel

- **Change Management**
  - Kate Atchley, PhD
- **Lean Six Sigma**
  - Charles Noon, PhD
- **ACS NSQIP Surgeon Champions**
  - Robert Cima, MD
  - Pascal Fuchshuber, MD, PhD
- **ACS NSQIP SCRs**
  - Beth Turrentine, PhD, RN
  - Jennifer Ritz, RN, BSN
Thank You
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