The Three Fundamental Questions
Fundamental Questions for Improvement

• What are we trying to accomplish?

• How will we know that a change is an improvement?

• What changes can we make that will result in an improvement?
A Model for Learning and Change

When you combine the 3 questions with the...

PDSA cycle, you get...

...the Model for Improvement.

Question #1:
What are We Trying to Accomplish?

Developing the team’s Aim Statement
Establishing the Team’s Aim

• Involve senior leaders
  ✓ Align aim with strategic goals of the organization

• Focus on issues that are important to your organization
  ✓ Choose appropriate goals
The Project AIM is:

- Not just a vague desire to do better
- A commitment to achieve measured improvement
  - In a specific system
  - With a definite timeline
  - And numeric goals

“Hope” is not a plan

“Some” is not a number

“Soon” is not a time
Constructing an Aim Statement

- **The System**: the system to be improved (scope, boundaries, patient population, processes to address, providers, beginning & end, etc.)
- Specific **numerical goals** for **outcomes**
  - Ambitious but achievable
- Includes **timeframe** *(How good by when?)*

An aim statement can also provide **guidance** on sponsor, resources, strategies, barriers, interim & process goals.
And don’t forget the voice of your patients/customers:
- Focus on what matters to them

“The quality of patients’ experience is the ‘north star’ for systems of care.”

Don Berwick
Aim Statement Exercise: You Make the Call!
Aim Statement Checklist

- The System (scope & boundaries, for whom?)
- Numerical goals (How good?)
- Timeframe (By when?)
In the pilot units, we will reduce the incidence of falls (with and without injury) by 50% within 3 months and to zero within 1 year.

We will ensure that our work contributes to a sustainable QI infrastructure to support future projects and we will gather input on falls assessment and prevention practices from patients and their caregivers.

**Example of an Aim Statement**

- **System**: falls with and without injury in pilot units
- **Goal**: Reduce falls by 50% then to zero
- **Timeframe**: 3 months and 1 year
- **Guidance**: Build QI infrastructure and input from the VOC
1. We aim to reduce harm, improve safety and customer service for all of our patients.

2. By December 2015 we will reduce the incidence of pressure ulcers in the critical care unit by 50%. We hope to make patients and family members involved in this project.

3. Our outpatient testing and therapy patient satisfaction scores are in the bottom 10% of the national comparative database we use. As directed by senior management, we need to get the score above the 50th percentile by the end of the year.

4. We will reduce all types of hospital acquired infections.

5. According to the consultant we hired to evaluate the flow of patients in our outpatient clinic, we need to decrease wait times and improve productivity. The board agrees, so we will work on these issues this year.

6. Our most recent data reveal that on the average we only reconcile the medications for 35% of our discharged inpatients. We intend to increase this average to 50% by 31 Dec 2015 and to 75% by 31 March 2016. We will need to assess the impact of moving the pharmacy department to a new location schedule for October 2015.
“Meaning cannot be measured.”

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“I have no data yet. It is a capital mistake to theorise before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.”


(Courtesy of Dr. Imran Aurangzeb, FCCP, Sutter Health)
The Role of Measurement

“*You can’t fatten a cow by weighing it*”
- Palestinian Proverb

However, without measurement of some kind it is difficult to know the answer to question #2 in the MFI.
Measurement is Central to the Team’s Ability to Improve

- The purpose of measurement in QI work is for *learning not judgment!*
- **All measures have limitations, but the limitations do not negate their value for learning.**
- You need a *balanced set of measures* reported daily, weekly or monthly to determine if the process has improved, stayed the same or become worse.
- **These measures should be linked to the team’s Aim.**
- Measures should be used to guide improvement and test changes.
- **Measures should be integrated into the team’s daily routine.**
- Data should be plotted over time on annotate graphs.
- **Focus on the Vital Few!**
A Family of Measures

- **Outcome Measures**: Voice of the customer or patient. How is the system performing? What is the result?

- **Process Measures**: Voice of the workings of the system. Are the parts/steps in the system performing as planned?

- **Balancing Measures**: Looking at a system from different directions/dimensions. What happened to the system as we improved the outcome and process measures (e.g. unanticipated consequences, other factors influencing outcome)?
# A Family of Measures: Surgical Safety

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Process</th>
<th>Balancing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical Site Infection Rate (infections/cases)</td>
<td>% of appropriate antibiotic selection</td>
<td>Cost per case</td>
</tr>
<tr>
<td></td>
<td>% on time administration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% cases where surgical checklist is used</td>
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</table>
Annotated Time Series
(the minimum standard for QI projects)
Question #3: What Changes Can We Make that will Result in Improvement?

"Nobody really looks forward to change, except a wet baby!"

OK, I’m ready for a change now...any time would be fine!

“Nobody really looks forward to change, except a wet baby!”
On the Nature of Change

“All improvement will require change, but not all change will result in improvement!”


The Model for Improvement (MFI) provides an approach to help increase the odds that the changes we make will result in lasting improvement.
So what does a change look like?
Why don’t we change?

- US standard rail gauge is 4’8.5” - Why?
- Because English standard rail gauge is 4’8.5” - Why?
- Because pre-rail trams used that gauge - Why?
- Because the same tools were used for building railroads and wagons - Why?
- Because the wheel spacing was designed to fit the width of ruts in old English roads - Why?
Because the width of the ruts was carved into the dirt by Roman war chariots.
Developing Changes

- Logical (critical) thinking about the current system
  reflecting on current system and use existing subject-matter, flow charts are a great tool, here!
- Benchmarking or learning from others
- Using technology
  practical applications of science. IT systems. Cautions
- Creative thinking
  inventing of a new idea, Managing the thinking: creative thinking, logical positive thinking, logical negative thinking
- Using Change Packages
  a document listing evidence-based or best practice changes specific to a topic
- Using change concept
  A change concept is a general notion or approach that has been found to be useful in developing ideas for change that result in improvement. Change concept can be used to stimulate both critical and creative thinking.
Change Concepts

The *Improvement Guide* contains an Appendix (Appendix A: A Resource Guide to Change Concepts) that describes in detail how 72 change concepts can be used to create ideas for testing.
The Improvement App
Institute for Healthcare Improvement

- Concept of the Day
- Change targets or set points
- Browse Change Concepts
- Explore the catalog of concepts
- Inspire Me
- Need a place to start?
- My Favorites
- Change concepts you have saved
- Model for Improvement
- Information about the mfi
MFI Mobile App – Home Screen
Using Change Concepts

Change Concept: a general notion or approach to change that has been found to be useful in developing specific ideas for changes that lead to improvement.

**Critical and creative thinking can lead to change concepts.**

**Concept**
An opportunity to create a new connection

- Thought Process
- Concept
- Specific Idea A
- Specific Idea B
Change Concepts vs. Ideas

Vague, strategic, creative

Specific, actionable, results

Improve process to reduce anxiety

Give patients and families access to information

Use beepers for family and friends waiting

Make beepers available to families of all surgery patients for one day next week as first test of change

Taking a concept and getting specific. Getting to actionable ideas.
Change Package

• A collection of good ideas ready for use
• Proven ideas, known to bring about improvement
• Based on:
  – Research
  – Clinical guidelines
  – Experience
• Usually organized around a model or framework
Using a Change Package

• Often there are testing and implementation tips and tricks added to the change package
• Some change packages are sophisticated enough to be sequenced and tiered.
• Focus of testing and adapting the ideas in the change package in your environment.
Surgical Site Infection and Safe Surgery Overview

Background:
- Worldwide there are approximately 234 million surgeries annually, now exceeding birth rates.
- In industrialized countries, it is estimated that 3 percent to 16 percent of surgeries experience a major complication with a perioperative inpatient surgery death rate of 0.4 to 0.8 percent.
- Nationally, the rate of surgical site infection averages between two to three percent for clean cases (Class I/Clean as defined by CDC), with an estimated 40 – 60 percent of these infections being potentially preventable.
- Studies show that patients with SSI have a longer stay by seven to 10 additional postoperative days and an added cost of approximately $3,000 - $29,000 per SSI depending on the procedure and pathogen.
- Seventy-five percent of deaths among patients with surgical site infections are directly attributable to surgical site infections.

Suggested AIM:
- Reduce preventable surgical site infection rates by 20 percent by December 31, 2013

Potential Measures:
**Outcome:** Surgical site infection rate: (number of infections per 100 surgical procedures)

**Process:** Percent of cases in which the Surgical Safety Checklist is used in its entirety and appropriately

<table>
<thead>
<tr>
<th>Primary Drivers</th>
<th>Secondary Drivers</th>
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</table>
| Adopt Surgical Safety Checklist | ✓ Conduct three pauses with surgical team at critical points:  
- Before induction of anesthesia.  
- Before skin incision.  
- Before patient leaves the operating room.  
✓ Verbally confirm all items on the surgical checklist at each pause with appropriate surgical team members.  
✓ Ensure the use of a standard tool so as not to rely on memory for items in the surgical checklist. |
| Antimicrobial Prophylaxis | ✓ Develop standardized order sets for each procedure that include antibiotic, timing, dose and discontinuation.  
✓ Develop pharmacist and nurse-driven protocols that ensure correct antibiotic selection based on type of surgery and patient characteristics (age, weight, etc.)  
✓ Create a process to review all exceptions to protocols.  
✓ Ensure that antibiotics are redosed appropriately in surgeries longer than four hours. |
| Perioperative Skin Antisepsis | ✓ Develop standardized practices for application of skin antiseptic agents.  
✓ Educate perioperative personnel on the safe application of selective skin antiseptic agents. |
| Preadmission Skin Cleansing | ✓ Develop standardized order sets for preadmission skin cleansing.  
✓ Develop a strategy for distribution of skin antiseptic agent to the patients.  
✓ Educate patients as to how to apply the skin antiseptic agent prior to hospital admission. |
| Normothermia in the Operating Room | ✓ Develop standardized procedure for pre-warming for every surgical patient without a contraindication.  
✓ Develop standardized procedure for active warming in the operating room that could include warming blankets under patients on the operating table. |
| Perioperative Glucose Control | ✓ Obtain glucometers for every anesthesia station.  
✓ Develop a perioperative glycemic control team that includes surgeons, anesthesiologists, endocrinologists and nurses to ensure that responsibility and accountability is assigned for blood glucose monitoring and control. |
## Change Package Examples:
- **Always Events**

<table>
<thead>
<tr>
<th>Fundamental Elements</th>
<th>Leadership</th>
<th>Patient and Family Partnership</th>
<th>Staff Engagement</th>
<th>Measurement</th>
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</thead>
<tbody>
<tr>
<td><strong>Phase 1: Identify an Always Event</strong></td>
<td>Set positive tone</td>
<td>Ask patients and families to identify what is important</td>
<td>Use data to identify and prioritize opportunities for improvement</td>
<td>Use an event to teach and prepare people for the initiative</td>
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<tr>
<td></td>
<td>Emphasize importance</td>
<td>Validate that proposed Always Event addresses an unmet need</td>
<td>Begin to identify metrics to evaluate the Always Event initiative</td>
<td><strong>Phase 3: Evaluate an Always Event Initiative</strong></td>
</tr>
<tr>
<td></td>
<td>Provide focus, resources, sustained commitment</td>
<td>Define scope and scale</td>
<td><strong>Leadership</strong></td>
<td><strong>Patient and Family Partnership</strong></td>
</tr>
<tr>
<td></td>
<td>Define scope and scale</td>
<td>Consider building on others' tools</td>
<td>Create a process/structure for the initiative</td>
<td>Reinforce a culture of continuous organizational learning</td>
</tr>
<tr>
<td></td>
<td>Consider building on others' tools</td>
<td><strong>Phase 2: Develop and Implement an Always Event</strong></td>
<td>Build an interdisciplinary team</td>
<td>Learn from both successes and failures</td>
</tr>
<tr>
<td></td>
<td>Align Always Event initiative with other organizational goals</td>
<td>Incorporate real-world experience from all disciplines</td>
<td>Collect meaningful metrics</td>
<td>Set realistic expectations</td>
</tr>
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<td></td>
<td>Identify leaders at all levels and incorporate opportunities for leadership development</td>
<td>Provide targeted education, role modeling, support, and coaching</td>
<td>Collect baseline data</td>
<td>Provide resources to conduct a credible evaluation</td>
</tr>
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<td></td>
<td>Model appropriate behaviors</td>
<td>Translate ideas into concrete, accountable behaviors</td>
<td>Develop evaluation tools</td>
<td>Recognize and reward both effort and achievement</td>
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<tr>
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<td>Put the right structure in place</td>
<td>Use patient and family stories to motivate and inspire</td>
<td>Collect qualitative and quantitative information</td>
<td>Continue to use patient and family stories to motivate the team</td>
</tr>
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<td>Identify peer champions</td>
<td>Respond to suggestions and concerns raised during implementation and adapt the initiative as necessary</td>
<td>Build Always Events into technology (e.g., the electronic health record)</td>
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<td>Apply for <a href="http://www.ihi.org/resources/Pages/Tools/AlwaysEventsGettingStartedKit.aspx">Always Event Recognition Program</a></td>
<td>Embed the Always Event into organizational systems and processes</td>
<td>Modify the Always Event initiative based on feedback</td>
</tr>
</tbody>
</table>

IHI Always Event Getting Started Kit:
http://www.ihi.org/resources/Pages/Tools/AlwaysEventsGettingStartedKit.aspx
The Three Questions Form the Key Components of a Charter

• What are we trying to accomplish?

• How do we know that a change is an improvement?

• What changes can we make that will lead to improvement?
Chartering (Answering the Three Questions)…

- Challenges you to think through the problem and potential improvements
- Helps you outline the scope and boundaries for your project (when does it start and when does it end)
- Focuses the timeline for your project
- Provides a document that can foster communication and education
- Is a work-in-progress! The arrows in the Model for Improvement go both ways.
The Chartering Process is Iterative

- Project Sponsors (senior leaders accountable for the outcome), Team leaders, and team participants must work together to develop the answers to the three questions
Team Composition

- Suppliers
- Processors
- Customers
- System to be improved