A Day In The Life of a Quality Director...And How to Prevent Burnout

Learning Outcomes:
By the end of this presentation, you should be able to:

• Describe the quality dynamics and how they fit together
• Identify core elements of healthcare quality knowledge
• Identify how to use rapid tests of change on small scale
• Establish best practices for making continuous quality improvement work
Quality Dynamics
Healthcare Costs
Errors

• Headline: “Medication errors in 2006 added $3.5 billion to the cost of healthcare”

• Headline: “80,000 catheter-related bloodstream infections occur in intensive care units in the US each year”
Healthcare Effectiveness
Acute URI visits/10,000 with antibiotic prescription

![Bar chart showing healthcare effectiveness for URI visits with antibiotic prescription, comparing 1997-1998 to 2000-2001. The chart indicates a significant increase in visits with antibiotics for the younger age group.](image)
Headline: “We pay for medical errors”
  – By Richard Lord and Dr. Marylou Buyse. 9/12/ 2007

“WHAT IF your mechanic forgot to replace the lug nuts after changing one of your tires and you got into a serious accident when the wheel came off? You wouldn't expect your mechanic to send you a bill for the repairs, would you?”

“Unfortunately, that's what happens in healthcare; we pay a high price for mistakes.”
Boston Globe

“Healthcare entities should not be rewarded financially when such preventable errors occur. Hospital-acquired infections offer one example.”

“No other industry generates revenue from mistakes. Preventable errors should not be part of the usual cost of healthcare.”
Can we fix this?

• The train is out of the station and it’s heading towards YOU
• Hop on.......or prepare to be trampled
Quality Improvement
Basic Ingredients

- Clinical knowledge and experience
  + QI basic concepts
  + Systems approach
Our current medical world

Contributing factors

• Knowledge and technology explosion
• Barriers to translation of scientific knowledge into clinical practice
• Increasing complexity of healthcare needs
• Outdated processes and systems for complex multidisciplinary healthcare delivery
Our medical world
Past and future

• Cottage industry
  – Individual patient focus
  – “I know it when I see it”

• Integrated healthcare system
  – System focus
  – Evidence based
Our current medical world
Accelerating factors

• Multiple studies and reports
  – widespread and frequent incidence of medical errors
  – lack of consistency in the care received in different facilities and from different providers

• Explosion of healthcare quality interest and organizations

• Institute of Medicine Reports
  – *To Err is Human: Building a Safer Health System* (1999)
  – *Crossing the Quality Chasm* (2001)
CROSSING THE QUALITY CHASM

“Quality problems occur typically not because of failure of goodwill, knowledge, effort or resources devoted to health care, but because of fundamental shortcomings in the ways care is organized”

Trying harder will not work: changing systems of care will!

A NEW HEALTH SYSTEM FOR THE 21ST CENTURY (IOM, 2001)

THE NATIONAL ACADEMIES
Advisors to the Nation on Science, Engineering, and Medicine

INSTITUTE OF MEDICINE
Quality Chasm/Gap

• Defined by the IOM
• The difference between what is scientifically sound and possible and the actual practice and delivery of health services
• Illustrates the need for healthcare quality improvement efforts
Quality problems
Healthcare services

• Underuse
• Overuse
• Misuse
• Variation
• Fragmentation
Institute of Medicine
Quality Alms

• Name the 6 quality aims identified by the IOM
IOM’s “Crossing the Quality Chasm”

**10 Rules**
- Care based on continuous relationships
- Customized based on the patient’s needs
- Patient is in control
- Shared knowledge
- Evidence Based
- Safe
- Transparent
- Anticipates patient’s needs
- Decrease in waste
- Cooperation amongst clinicians

**6 Aims**
- Safe
- Effective
- Patient-Centered
- Timely
- Efficient
- Equitable
Institute of Medicine
Quality Alms

• **Safe**
  – Avoid injury to patients from the care that is intended to help them

• Examples
  – Prescription of medication that patient is allergic to
  – Failure to address an abnormal lab or Xray result
  – Failure to perform the correct procedure
Institute of Medicine
Quality Aims

• **Timely**
  – Reduce waits and harmful delays for both those who receive care and those who give care

• Examples
Institute of Medicine
Quality Alms

• Effective
  – Avoid overuse of ineffective care and underuse of effective care

• Examples
  – Obtaining lab or Xray tests that don’t alter treatment plan
Institute of Medicine

Quality Aims

• **Efficient**
  – Avoid waste including waste of supplies, equipment, ideas and energy

• Example
  – Necessary supplies, personnel, and medications in room for patient procedure
Institute of Medicine
Quality Alms

• **Equitable**
  – Provide care that does not vary in quality due to gender, ethnicity, geographic location or socioeconomic status

• Example
Institute of Medicine
Quality Aims

• **Patient centered**
  – Provide care that is respectful of and responsive to individual patient preferences, needs and values

• **Examples**
  – Shared decision making for treatment options
Quality Management

- QA
- TQM
- CQI
- QAPI
Quality Assurance (QA)

- QA in healthcare is a commitment to the public by healthcare professionals...they work toward the goal of achieving excellence in services
- Been around since 1960
- Often used interchangeably with Performance Improvement, Quality Improvement...but there is a difference
Total Quality Management (TQM)

- Based on the premise that quality failures are flaws in processes and controlling processes in turn improves quality.
Continuous Quality Improvement (CQI)

• Seeks to improve services with emphasis on future results
• Set of statistical tools to uncover problems
• Essentially a component of TQM for ongoing assessment and improvement
## QAPI Core Elements

<table>
<thead>
<tr>
<th>12 Action Steps to QAPI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP 1:</strong> Leadership Responsibility &amp; Accountability</td>
</tr>
<tr>
<td><strong>STEP 2:</strong> Develop a Deliberate Approach to Teamwork</td>
</tr>
<tr>
<td><strong>STEP 3:</strong> Take your QAPI “Pulse” with a Self-Assessment</td>
</tr>
<tr>
<td><strong>STEP 4:</strong> Identify Your Organization’s Guiding Principles</td>
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<tr>
<td><strong>STEP 5:</strong> Develop Your QAPI Plan</td>
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<td><strong>STEP 6:</strong> Conduct a QAPI Awareness Campaign</td>
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<tr>
<td><strong>STEP 7:</strong> Develop a Strategy for Collecting &amp; Using QAPI Data</td>
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<td><strong>STEP 8:</strong> Identify Your Gaps and Opportunities</td>
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<tr>
<td><strong>STEP 9:</strong> Prioritize Quality Opportunities and Charter Performance Improvement Projects (PIPs)</td>
</tr>
<tr>
<td><strong>STEP 10:</strong> Plan, Conduct and Document PIPs</td>
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<td><strong>STEP 11:</strong> Get to the “Root” of the Problem</td>
</tr>
<tr>
<td><strong>STEP 12:</strong> Take Systemic Action</td>
</tr>
</tbody>
</table>
QAPI Elements

• Element 1: Design and Scope
• Element 2: Governance and Leadership
• Element 3: Feedback, Data Systems, and Monitoring
• Element 4: Performance Improvement Projects
• Element 5: Systematic Analysis and Systematic Action
Pursuit

- Baldrige Recognition
- High Reliability Organization
- Magnet Recognition
- Triple Aim
Lean 101

An introduction to Lean concepts: Foundation to rapid tests of change
Benefits

- Increased value-added work
- Reduced floor space
- Standardized work
- Improved productivity and quality
- Reduced inventory and work-in-process
- Reduce lead time, cycle time, and handoffs
- Cost savings
- Customer satisfaction
- Improved employee morale and engagement

Easy to learn, deploy, and apply tools. Savings come relatively quick and easy.
History of Lean

- Origins
  - Early founders are Joseph Juran and W. Edwards Deming

- Refined by/attributed to Toyota Motor Corporation in early 1970s (aka TPS, or Toyota Production Systems)

- Now successfully adopted across all sectors (e.g., private and public) and product manufacturing and service organizations
What is Lean?

A time-tested set of tools, an organizational desire, to understand and solve problems within systems and processes, by engaging your staff to improve productivity, quality, staff morale, and customer service.

“Preserving value with less work”
Manufacturing to Healthcare: We aren’t factory workers and patients aren’t widgets

• Building a car or providing care:
  – Must rely on multiple, complex processes
  – Standard workflow established
  – Succession of steps
  – Areas of expertise
  – Interaction to produce an output or outcome
  – Waste of money, time, supplies or goods will decrease value
Why Lean, Why Now?

Public agencies are being asked to do more with smaller budgets and a shrinking workforce.

Customers used to want better, faster and cheaper products and services; now they want everything free, perfect, and now Lean can help.

30 Minute Guarantee

Started a revolutionary Shift in Customer Expectations
The Three Principles of Lean

1. Engage the **people** who work in the **process** to improve the process

2. Focus on creating value from the **customer’s** perspective

3. Bring **measurable and sustained** improvement
Lean Principle #1: Process

Why focus on process?

• Nearly every tangible output; service or product, is created as the result of a process or series of processes (a system).

• It’s been shown that over 85% of the opportunity to improve those outputs, while reducing time and cost lie within the process itself.
Lean Principle #1: Process

Process is the base of every organization.

- Processes
- Division/Program
- Agency/Dept.
- Enterprise
Lean Principle #1: Process

“A bad process will beat a good person every time”

- W. Edwards Deming
Lean Principle #2: Customer

WHO are your customers?

In healthcare, it may be easier to define who the end user of the service is rather than the customer:

• Every service we provide is the result of a process and ALL processes can be improved
• If a process doesn’t have an end user, then it has no value, and should be eliminated immediately
Lean Principle #2: Customer

WHAT are their requirements?

Customers judge value on:

• **Speed** – How quickly do I receive it once I request it
• **Accuracy** – The information is correct and responded to my request
• **Understandable** – The information is easy to read and understand
• **Convenience** – It is convenient for me to get it, I can get it when I want it (and not when you are willing to give it to me)
Lean Principle #3: Sustainment

- Continuous Improvement
- Measure
- Sustain
Lean Principle #3: Sustainment

“If you don't know where you are going, you will wind up somewhere else.”

- Yogi Berra
The 4 Fundamentals of Lean

Lean Transformation
- Strategy
- Leadership
- Sustainment
- Training
- Planning

Increasing Organizational Value

1. 8 Wastes
2. 5S
3. Kaizen
4. Standard Work
# How Do We Define Value-added?

<table>
<thead>
<tr>
<th>Value-added</th>
<th>vs.</th>
<th>Non Value-added</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Customer is willing to pay for it</td>
<td>• Consumes resources without creating value for the customer (often CYA)</td>
<td></td>
</tr>
<tr>
<td>• Actually transforms a product or service</td>
<td>• Low first pass yield</td>
<td></td>
</tr>
<tr>
<td>• Done correctly the first time</td>
<td>• Requires extra time, effort, or resources</td>
<td></td>
</tr>
</tbody>
</table>
WASTE

Waste comes in three main forms

- **Mura** or waste due to variation
- **Muri** or waste due to overburdening or stressing the people, equipment or system
- **Muda** also known as the “seven forms of waste”
Non Value-Added = Waste

Non-value added:
- Defects, errors
- Overproduction
- Waiting
- Non-utilized sources/talent
- Transportation
- Inventory
- Movement
- Excess-processing

*Typically 95 percent of all lead time is non-value added*
Waste #1 – Defects

Any element of a product or service that does not meet or exceed a key customer requirement.
Waste #1 – Defects

Defects also create:
• Re-work
• Re-inspection
• Employee frustration
• More cost
Waste #2 – Overproduction

Producing more than our customer needs or wants

Staff meetings when email could suffice

We are likely producing less of something the customer does want.
Waste #2 – Overproduction

Examples:

• Print and distribute forms that frequently change.
• Creating reports/documents that no one reads or really needs
• Multiple meetings/discussions about the same issue with the same information without making a decision
People, parts, systems, or facilities idly waiting for a step in the process to be completed.
Waste #3 – Waiting

Fact:
About 95% of the time that is required to produce a product or service is because of waiting.
Waste #4 – Non-utilized Staff Creativity

People who work in the process know the process best

But

Do they have the tools, training, and permission to improve it?
Waste #5 – Transportation

The unnecessary movement of people, information, or materials during a process.
Waste #5 – Transportation

Follow the bouncing paperwork (could be a patient)
Waste #6 – Inventory/Storage

• Buying and storing more products than the customer needs
• Filing and storing multiple copies of the same document, in multiple locations
• Record retention policies
Waste #7 – Motion

Any people movement that does not add value to a product or service.
Waste #7 – Motion

**Per semester**

About **500** = Trips required to collect course change forms per semester

About **80** = Hours of walking between buildings required per semester
Waste #8 – Excess (Over) processing

- Multiple inspections
- Multiple signatures
- Passing phone call to multiple staff
- Different ways to produce the same product (no standard work)
- Batching
Value Added vs. Non Value Added Oil Change

**Car Dealer A**

Call - Make Appointment
Take Car In
Write Up Order
Wait For Shuttle
Drain Oil and Remove Filter
Replace with New Filter and Oil
Call - See If Car Is Done
Get A Ride Back To Dealer
Check With Service
Pay Cashier
Look For Your Car
Check Oil
Drive Off

**Traditional**
8 Hours
# Value Added vs. Non Value Added Oil Change

## Car Dealer A
- Call - Make Appointment
- Take Car In
- Write Up Order
- Wait For Shuttle
- Drain Oil and Remove Filter
- Replace with New Filter and Oil
- Call - See If Car Is Done
- Get A Ride Back To Dealer
- Check With Service
- Pay Cashier
- Look For Your Car
- Check Oil
- Drive Off

## Car Dealer B
- Drive Into Lube Area
- Write Up Order
- Drain Oil and Remove Filter
- Replace with New Filter and Oil
- Pay Cashier
- Wait
- Pick Up Car
- Drive Off

**Improved**

**29 Minutes**

**Traditional**

**8 Hours**
### Value Added vs. Non Value Added Oil Change

#### Car Dealer A
- Call - Make Appointment
- Take Car In
- Write Up Order
- Wait For Shuttle
- Remove Oil & Filter
- Replace with New Filter & Oil
- Call - See If Car Is Done
- Get A Ride Back To Dealer
- Check With Service
- Pay Cashier
- Look For Your Car
- Check Oil
- Drive Off

#### Car Dealer B
- Drive Into Lube Area
- Write Up Order
- Drain Oil & Remove Filter
- Replace with new Filter & Oil
- Pay Cashier
- Wait
- Pick Up Car
- Drive Off

#### Quick Lube
- Drive Into Work Station
- Drain Oil & Remove Filter
- Replace Filter & Oil
- Pay While Oil Is Being Changed
- Drive Off

#### Ideal
- **10 Minutes**

#### Traditional
- **8 Hours**

#### Improved
- **29 Minutes**
Exercise: Identifying Non Value-Added Steps

• Objective: Practice identifying NVA steps

• On the next page, review the detailed flowchart of an order taking process.

• Circle or highlight each step in the process you think is not adding value.

• Time: 10 minutes
1. Phone rep takes order
2. Is item in stock?
   - Yes: 3. Enter order in computer
   - No: 4. Check the production schedule
3. Enter order in computer
4. Check the production schedule
5. Is timing OK?
   - Yes: 6. Send order to Order Processing
   - No: 17. Lose the order
6. Send order to Order Processing
7. Errors?
   - Yes: 8. Phone rep corrects errors
   - No: 9. Process the order
8. Phone rep corrects errors
9. Process the order
10. Send to shipping scheduler
11. Errors?
   - Yes: 12. Approves order
   - No: 13. Schedule shipping
12. Approves order
13. Schedule shipping
14. Is promise date delayed?
   - Yes: 15. Phone Rep calls customer
   - No: 16. Is the new date OK?
15. Phone Rep calls customer
16. Is the new date OK?
   - Yes: 18. Send order to warehouse
   - No: 19. go to warehouse process map AA
17. Lose the order
18. Send order to warehouse
Taking Customer Orders

1. Phone rep takes order
2. Is item in stock?
   - Yes: Go to 3. Enter order in computer
   - No: Go to 4. Check the production schedule
3. Enter order in computer
4. Check the production schedule
   - Yes: Go to 5. Is timing OK?
   - No: Go to 17. Lose the order
5. Is timing OK?
   - Yes: Go to 6. Send order to Order Processing
   - No: Go to 15. Phone Rep calls customer
6. Send order to Order Processing
7. Errors?
   - Yes: Go to 8. Phone rep corrects errors
   - No: Go to 7. Errors
8. Phone rep corrects errors
9. Process the order
10. Send to shipping scheduler
11. Errors?
   - Yes: Go to 12. Approves order
   - No: Go to 10. Send to shipping scheduler
12. Approves order
13. Schedule shipping
14. Is promise date delayed?
   - Yes: Go to 14. Is promise date delayed
   - No: Go to 15. Phone Rep calls customer
15. Phone Rep calls customer
16. Is the new date OK?
   - Yes: Go to 18. Send order to warehouse
   - No: Go to 15. Phone Rep calls customer
17. Lose the order
18. Send order to warehouse
19. go to warehouse process map AA
Lean Fundamental #2: 5S

What is 5S?

A simple methodology for creating a clean, safe, orderly, high performance work environment.
The Pre-5 S

- Scrounge
- Steal
- Stash
- Scramble
- Search
The 5 “Ss”

1. Sort
2. Set In Order
3. Shine
4. Standardize
5. Sustain
Benefits of 5S

• Improve safety
• Decrease down time
• Raise employee morale
• Identify problems more quickly
• Develop control through visibility
• Establish convenient work practices
• Increase product and process quality
• Strengthen employee’s pride in their work
• Promote stronger communication among staff
• Empower employees to sustain their work area
Before
After
Sort

“When in doubt, move it out.”
1S (Sort) – Example

Distinguish between necessary and unnecessary items and information
1. Identify what to sort
   – Equipment that is no longer needed or does not work
   – Excess office supplies
   – Out-dated data or information
   – Books, catalogs and files that are no longer used
1S (Sort) – Process Steps

2. Identify where to sort
   – Personal workspaces
   – Common areas
   – Supply cabinets
   – Storage areas
   – Medication Rooms
   – Maintenance Areas
1S (Sort) – When is Enough?
1S (Sort) – Helpful Hints

• Determine if the item is necessary
  – Usefulness
    ✓ Does it function?
    ✓ Do I need it for my job?
  – Frequency of use
  – Quantity needed
• Don’t compromise
1S (Sort) – Electronic Files

- Email
- Files on:
  - Hard drive
  - Personal drive
  - Shared Drive
- Archiving
1S (Sort) – Shared Drive

- Develop a file structure to include projects, meeting minutes, commonly shared files, etc.
- Develop a consistent file naming scheme for folders.
- Assign responsibility to clean out on a monthly basis.
2S Set In Order

“A place for everything, and everything in its place.”
2S (Set in order) – What Is It?

- Organize
- A specific place for everything
- Accessibility
- Procedures to find, return and replenish items.
2S (Set in order) – Why?

- Immediately recognize items out of place, and an excessive or insufficient amount of items
- Eliminate time wasted locating items
- Improve customer service
Where should this item be located?

How about this one?

Frequency of gets and put-aways
Times/Day

Distance Carried (feet)
2S (Set in order) – Example

Where should this file be located?

How about this one?

Frequency of use
Times/Month

# of Mouse Clicks to Open File
2S (Set in order) – Rule of Thumb

• Arrange and label items so that ANYONE can find them.
• YOU should be able to find ANYTHING in your office in 30 seconds or less.
• ANYONE should be able to find ANYTHING in YOUR office in 60 seconds or less.
2S (Set in order) – How long?

How long would it take you to find what you’re looking for here?
2S (Set in order) – How long?

Versus HERE !!!
2S (Set in order) – Visual Management

A communication device that tells, at a glance, how work should be done.

• Where items belong
• How many items
• Standard procedure
• Work in progress

There is only one place to put each item.
2S (Set in order) – Strategy: Color

- Visually indicates an item’s purpose
- Example: Similar files are color-coded and stored in the same location.
2S (Set in order) – Strategy: Visual

Visual management - stock room example.

Labeled and organized

Each item labeled and bar-coded for reorder
3S Shine

“The best cleaning is to not need cleaning.”
3S (Shine) – What Is It?

- Cleaning from top to bottom
- Daily maintenance
- Taking preventive measures for ongoing cleanliness
3S (Shine) – Why?

• Boost employee morale
• Improve health and safety of employees
• Develop sense of ownership in the workspace
• Identify and eliminate root causes of cleanliness issues

If a workspace is getting dirty faster than it can be cleaned, the root cause of the problem has not been identified.
3S (Shine) – Process Steps

Effective execution

1. Assign areas
2. Develop standard work (checklist)
   --keep additional log for needed maintenance activities
3. Set time limits “Five-Minute Shine”
4. Encourage coordination (team effort)
5. Ask an objective third party to conduct inspections
4S (Standardize)

Standardize

“See and recognize what needs to be done.”
4S (Standardize) – What Is It?

- Makes “Sort,” “Set in order” and “Shine” habitual
- Commitment from team members
- Incorporate 5S into regular work routine
4S (Standardize) – Why?

- Enhances organizational performance
- Eliminates the need to re-do first 3S’s
- Consistency
4S (Standardize) – Process Steps

1. Assign roles and responsibilities
2. Train
5S (Sustain) – What Is It?

• Effective, ongoing application of 5S in order to improve organizational performance
• Maintaining a commitment to 5S
• Sustaining improvements is the most difficult part
5S (Sustain) – Process Steps

1. Set goals
2. Action plans
3. Identify resources
4. Accountability
5. Keep it fun
5S (Sustain) – Process Steps

6. Friendly competition
7. Teamwork
8. Before and after photos
9. Positive reinforcement
10. Individual recognition or rewards
5S (Sustain) – Before
5S (Sustain) – After
Before 5S
After 5S
Waste and 5 S Activity

Tennis Ball Exercise
Create Teams

• Count off 1-6
• One person will be timekeeper
• One person is the leader/starter
• If too many in our groups, one will be note-taker
Round 1

- Team must stand in circle
- Leader starts process...creating a widget
- Must pass the ball to each person,
- No ball to your neighbor
- Must start/stop with leader
- No 2 people can touch ball at same time
- Takes 10 rounds for full production
- Drop ball is a defect...start over
Round 2

• Must cut your time in half...competitor will
• Keep same order
• Do not have to stand in a circle
• No 2 people can touch ball at same time
• Must be repeatable
• 10 times for full production
Round 2 Summary

• After Round 2
  – What did you do to make the improvements? (like moved closer, rearranged, the rules changed)
  – Did you use just one person’s idea?
  – Did you draw out a detailed plan? Or did you just try it? Did it work on the first try?
Round 3

- Round 3 Rules
  - Must cut your time in half, or your competition will
  - Can use ANY prop in the room
  - Must keep the same order from Round 1 & 2
  - Do not have to stand in a circle
  - Two people cannot touch the ball at the same time
  - Must be repeatable!
Round 3 Summary

• After Round 3
  – What did you do to make the improvements? (like moved closer, rearranged, the rules changed)
  – Did you use just one person’s idea?
  – Did you use other groups ideas?
  – Did you draw out a detailed plan? Or did you just try it?
  – Did it work on the first try?
Lean Fundamental #4: Standard Work

“Where there is no standard, there can be no Kaizen.”

Taiichi Ohno
Vice-President,
Toyota Motor Company
Lean Fundamental #4: Standard Work

Standard work is:

• The safest, highest quality, and most efficient way known to perform a particular task in a process
• The only acceptable way to do the task and process
• Continually improved

• May be met with resistance by employees
Lean Fundamental #4: Standard Work

Why standard work?
• Focuses on helping the employee be successful in process
• Reduces variation, increases consistency
• Improvements will not be sustained without it

3 critical elements of standard work:
1. Customer demand
2. The most efficient work routine (steps)
3. Cycle times (task and wait time combined)
Lean Fundamental #4: The Standard Work Model

1. Define start and end
2. Determine requirements
3. Gather information
4. Create documents
5. Train the supervisor
6. Train employees
7. Ask the 5 questions
8. Run and observe
9. Make adjustments
Pig Exercise
Standard Operating Procedure
Objectives:

• Demonstrate the significance of correctly documenting Standard Operating Procedures in clear, concise terms that are easy to read, understand, and teach to others

• Demonstrate the importance of performing work specifically as outlined by the Standard Operating Procedures
Instructions

• Take a piece of paper and draw a Pig facing left, with part of the Pig in every section of the grid except the upper right.

• You have 2 minutes
<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Sub-Task</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Draw a letter M at the top left intersection.</td>
<td>1.1</td>
<td>Bottom center of M touches intersection</td>
</tr>
<tr>
<td>2</td>
<td>Draw letter W at bottom left intersection</td>
<td>2.1</td>
<td>Top center of W touches intersection</td>
</tr>
<tr>
<td>3</td>
<td>Draw letter W at bottom right intersection</td>
<td>3.1</td>
<td>Top center of W touches intersection</td>
</tr>
<tr>
<td>4</td>
<td>Draw arc from letter M to top right intersection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Draw another arc from top right intersection to bottom right W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Draw an arc between the two bottom Ws</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Draw the letter O in center left box</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Draw arc from letter M to tangent of the circle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Draw arc from left W to tangent of the circle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Draw an arc for the mouth</td>
<td>10.1</td>
<td>Half way between the W and circle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10.2</td>
<td>Must be a happy pig</td>
</tr>
<tr>
<td>11</td>
<td>Draw an arc for the eyes</td>
<td>11.1</td>
<td>Half way between the M and circle</td>
</tr>
<tr>
<td>12</td>
<td>Draw cursive letter e near top of arc on right</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Draw two dots in middle of circle for pigs’ nose.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Standard Operating Procedure

**Procedure Number**: FIG0001-A

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Sub-Task</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Draw a letter M at the top left intersection.</td>
<td>1.1</td>
<td>Bottom center of M touches intersection</td>
</tr>
<tr>
<td>2</td>
<td>Draw letter W at bottom left intersection</td>
<td>2.1</td>
<td>Top center of W touches intersection</td>
</tr>
<tr>
<td>3</td>
<td>Draw letter W at bottom right intersection</td>
<td>3.1</td>
<td>Top center of W touches intersection</td>
</tr>
<tr>
<td>4</td>
<td>Draw arc from letter M to top right intersection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Draw another arc from top right intersection to bottom right W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Draw an arc between the two bottom Ws</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Draw the letter O in center left box</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Draw arc from letter M to tangent of the circle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Draw arc from left W to tangent of the circle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Draw an arc for the mouth</td>
<td>10.1</td>
<td>Half way between the W and circle</td>
</tr>
<tr>
<td></td>
<td></td>
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</table>
Problem Solving

“If I were given one hour to save the world, I would spend 59 minutes defining the problem and one minute solving it.”

- Albert Einstein
Defining the “wrong” problem wastes considerable time looking in the wrong direction for solution.
When should I use the 5 Whys?

When you get symptoms but want the root cause.
Problem: The Jefferson Memorial was disintegrating rapidly.

How would your team solve this problem for the National Park Service?
What information would you like to have?
Problem Solving Using the 5 Whys

Problem: The Jefferson Memorial was disintegrating rapidly

Why was it disintegrating?
Why?
Why?
Why?
Why?

Root Cause!

Five Why Analysis helps drive to source of the problem.
The actual technique can take more or fewer iterations.

How many why’s did it take to get to the root cause of the Jefferson Memorial’s problem?
Root Cause Analysis: The 5 Whys?

Why is Jefferson Memorial Crumbling?
- Frequent Washings

Why are frequent washings needed?
- Bird Droppings

Why are there so many bird droppings?
- Many Spiders to Eat

Why are there so many spiders for birds to eat?
- Many Midges for Spiders to Eat

Why are there so many midges?

Midges are attracted to the lights that turn on at dusk. Turn on lights 1-hour later to break causal chain.
5 Why analysis is a SIMPLE but POWERFUL technique that is designed to uncover the root cause of a problem.

If we don’t solve problems at the level of the root cause, we risk the same problem resurfacing in the future.

**Action Steps:**

1. Write the problem/effect/issue at the top of a flip chart page.
2. Ask the team why this problem occurs. Capture each possible cause.
3. Each of the causes now becomes a problem statement. For each cause ask, “Why is this occurring?” and/or “How does it cause the problem?” Write each response as the next “layer” of the problem.
4. Repeat step three until the team feels it has reached the fundamental cause(s).
5. Place a checkmark on the causes the group wants to pursue with solutions.

_Borrowed with permission from Ken Miller, “Change Agent’s Guide to Radical Improvement”_
5 Why’s Fishbone

Materials: Define what types of communication we are dealing with

Why?

Why?

Why?

Why?

Why?

Why?

Process/Methods: Where does the current method fail.

Why?

Why?

Why?

Why?

Why?

Why?

Problem Statement

To copy all fishbone "objects"
Use Cntl-Shift-A

People: Effective management styles vs non-effective

Why?

Why?

Why?

Why?

Why?

Machine: What technology is currently used and what is available

Why?

Why?

Why?

Why?

Why?
Process Mapping
Types of Process Maps

• Flow Charts – Good for showing decisions and loops
• Value Stream Maps – Good for showing how value is added (tend to be linear)
• Spaghetti Maps – Good for showing physical movement of people and material
• Swim Lane Map – Good combination of first two maps
Flow Chart

1. Get Mail
2. Sort
3. Open Bills
4. Correct?
   - No: Call Company To Resolve
   - Yes: Write Check & Due Date on Envelope
5. Wait for Due Date -5
6. Put in Envelope & Attach Stamp
7. Mail
8. Resolved?
   - No: Call Company To Resolve
   - Yes: Stop
Swim Lane Mapping

Three Elements

Time
People (job functions)
Tasks/Process
Example of Swim Lane Map
People (job functions)
Process
**Icons**

- **Wait / Delay**
- **Storage / File**
Icons

Electronic, phone, or fax

Physical (e.g. passing a paper item back and forth)
Building a Swim Lane Map

<table>
<thead>
<tr>
<th>People / Departments</th>
<th>Enter Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td></td>
</tr>
<tr>
<td>Customer Service</td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td></td>
</tr>
<tr>
<td>Order Entry</td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td></td>
</tr>
<tr>
<td>Supplier</td>
<td></td>
</tr>
<tr>
<td>Shipping</td>
<td></td>
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</tbody>
</table>
## Building a Swim Lane Map

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<th></th>
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<tbody>
<tr>
<td>Customer Service</td>
<td></td>
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<tr>
<td>Sales</td>
<td>Enter the Tasks</td>
</tr>
<tr>
<td>Order Entry</td>
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<td></td>
</tr>
<tr>
<td>Shipping</td>
<td></td>
</tr>
</tbody>
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Customer Calls in order.

Customer Service sends e-mail to Sales

Sales person is assigned to order and delivers paper copy of order to Order Entry

An electronic order is sent to the supplier.

<table>
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<td>Sales person is assigned to order and delivers paper copy of order to Order Entry</td>
</tr>
<tr>
<td>Order Entry</td>
<td>An electronic order is sent to the supplier.</td>
</tr>
<tr>
<td>Accounting</td>
<td>Order is now entered into the company’s data base.</td>
</tr>
<tr>
<td>Supplier</td>
<td></td>
</tr>
<tr>
<td>Shipping</td>
<td></td>
</tr>
</tbody>
</table>
# Building a Swim Lane Map

<table>
<thead>
<tr>
<th>Employee</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Expense Admin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pat</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Employee: Red
- Expense Admin.: Grey, Blue
- Pat: Blue, Grey
- Other: Yellow, Grey, Pink
Process of Data Collection

1. Walk/observe the process
2. Document the process
3. Characterize the process
Walk the process
From the beginning  To the end
Questions to Ask When Documenting the Process

Where does this information come from?
Is the process completed with or without interruption?
Do you ever miss information or have incorrect information?
Where does the information go from here?
Is there more than one place the information goes?
Is there new information or is it being translated into another form?
What forms, screens or programs does each step use?

How long does each step take?
Check Date

Wait

File Paperwork
Hand-Off

Passing transactional tasks to another department or person
Missing or Incomplete Information

A requested option was not included on the order form.
Duplication

Multiple copies or locations for physical or electronic forms

Order Entry
Shipping Department
Sales
Data Transfer

Moving information from one place to another without changing it

Order Form

Sales Dept.

Shop Floor

Accounting
Wait

- Waiting for someone to make a decision.
- Waiting for information to be placed in the inbox.
Inspection

Reviewing employees' work
System Requirements = No Value

Entering information for the sole purpose of making the business system work.
Let’s Map This Process!
Don’t Forget: DOWNTIME

- Defects
- Overproduction
- Waiting
- Non-utilized sources/talent
- Transportation
- Inventory
- Motion
- Excess Processing
The Road to the Perfect Process
The Perfect Transaction

- Is completed entirely by one person
- Is completed one at a time
- Is completed as soon as the request is made
- Is completed without interruption
- Is completed with the information provided
- Is completed correctly
- It never returns
Preparing your road map

- Identify every step of the transactional process
- Sequence the steps in a map and characterize them as value/non-value
- Work to eliminate non-value added steps
- Connect the value-added steps together without waiting or handoffs
Barriers to the perfect transaction

Poor Information
- Missing information
- Inaccurate information
- Assumptions

Poor information flow
- Hand-offs
- Waiting
- Organizational structure
- Information/Knowledge silos
Eliminating missing information

• Often the result of long lead times, and usually the cause of long lead times (Catch 22)

• Require all information from the customer before the job launches (information filter)

• Put in hard stops that don’t allow partial information (online hotel reservations)
Eliminating Inaccurate Information

- Use menus where a small number of choices exist
- Create a review process with the customer before the job launches
- Create and report on measurements for information accuracy
Eliminating hand-offs

• Identify the value-added tasks and the people who perform them

• Relentlessly challenge why one person can’t perform more of them in sequence

• Identify what needs to be done to accomplish a zero hand-off stream (i.e. training, structure, IT changes)
Eliminating waiting

• Waiting is usually the result of a hand-off or missing or incomplete information.

• Eliminating hand-offs reduces waits

• Making every effort to insure clear, accurate information is gathered upstream, reduces waits
Putting it all Together

Rapid Tests of Change
Background of Methodology

- Methodology developed in 1995 by the Institute for Healthcare Improvement (IHI) and Associates in Process Improvement (API)

- More than 800 teams from over 500 health care organizations have participated in RIPs led by IHI in over 30 different topics
What is a Rapid Test of Change?

Has three essential characteristics...

1. Implemented in a finite time and uses a rapid pace
2. Relies on collaboration
3. Grounded in a change package
Three Essential Characteristics

Has three essential characteristics...

1. **Timing and pace**
   - Finite in time - beginning, middle, and end
   - Rapid work & high energy
   - Starting small - The Model for Improvement is used to test small ideas quickly without over-planning
Three Essential Characteristics

2. Collaboration

- Generates new and better ideas quickly
- Creates opportunities to assess similar strategies in different agencies and with different populations
- Requires a commitment substantial resources (time, staff, technical capacity, money)
Three Essential Characteristics

3. Change Package

- Includes goals, values, framework and measurement strategy for a topic

- Provides clear, specific guidelines to teams that help them make the most of the year while allowing room for teams to test their own ideas.
What Makes this Different?

- Anyone can have and test ideas
- Consensus is not needed to test ideas
- Change happens at all levels
- Ideas are “shared relentlessly” between teams
- Measurement is for improvement
- Rapid Plan-Do-Study-Act cycles are used
- Spread is based on successful tests of change
Process: At-a-Glance

Identify Staff & Select Location

Pre-Work

LS 1 — LS 2 — LS 3

Select Topic
Expert Meeting
Develop Framework and Measures

Types of Support
(On-Site) E-mail Intranet Phone Assessments Measurement & Data
The Process... A Closer Look

Types of Support
(On-Site)  E-mail  Intranet  Phone  Assessments  Measurement & Data
The Model for Improvement
The Model for Improvement

• Small scale does not equal small change

• Success (or failure) in one PDSA cycle does not equal success (or failure) of the project

• Important to document tests (see “Study” in “Plan-Do-Study-Act”)

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What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

Act

Plan

Study

Do

Model for Improvement

Adapted from © 2004 Institute for Healthcare Improvement
Testing Changes: What Is a PDSA?

**Plan**
- Determine objective, questions, & predictions
- Create plan to test idea (who, what, where, when, how?)

**Do**
- Carry out the plan
- Document problems and unexpected results
- Begin analysis of data

**Study**
- Complete analysis of data
- Compare data to predictions
- Summarize what was learned

**Act**
- Make adjustments
- Ensure that the next cycle reflects the learnings

Adjust and Do Again
Don’t Forget To Study!

Generation of a Good Idea

SMALL!!!

Adapted from © 2004 Institute for Healthcare Improvement
Progression of Changes

Spread

Implementation in pilot site

Testing
Testing an idea

- Uses the PDSA process to conduct small, rapid tests of change
- Usually requires multiple cycles of PDSA tests
- Is the best time to identify refinements
- Is developmental- as more cycles occur, tests get bigger
- Requires testing all aspects of an idea in order for it to be implemented.
Implementation means a tested change is now being practiced…

- By all workers in the pilot site
- With all families (as applicable) in pilot site
- On an ongoing basis
Spread

- Moves the changes into new areas of the organization or beyond
- Requires that a change has been tested and has been shown successful in pilot site
- Uses a new set of strategies (e.g., key message and messengers identified, etc.)
Strengths of the Test

• Focuses on bridging the gap between current knowledge and practice.

• Action oriented tool. Participants spend time acting (rather than meeting and planning).

• Supports the development of a culture of “micro-innovation” Allows staff at all levels and in all parts of the agency to test changes to improve practice.

• Values the voice of constituents as team members.

• Spreads the most innovative and successful strategies rapidly!!!
Thinking About the Rapid Test of Change

• Should not be approached as “just another initiative.”

• The Methodology provides for an “organic” approach toward generating and testing potentially effective practice and policy change strategies.
  
  – Generally, can be a useful mechanism for testing ideas and strategies to support a departments overarching strategic / action plan.

• Before Implementation outline:
  
  – What will be done
  – Where it will occur
  – How the test will be run
  – What the expected outcome will be
Thinking About the Rapid Test of Change

• Effective Teams:
  – Close working relationship between the Senior Leadership Group and the Core Team
  – Effective engagement of employee/management representatives as equal partners in the work (title off at the door)

• Maximizing the Use of Resources:
  – Intranet
  – Discussion Boards
  – Newsletters
  – Conference Calls
  – Patient/Family Input
  – Staff from various locations

• Developing and Maximizing Collaborative Relationships
Right now...
I'm feeling overwhelmed
Individual Stress Management

• Find ways to release your stress...or it will hold power over you
• Refocus negative thoughts
• Plan for physical activity – even short breaks at work
• Eat healthy
• Relaxation techniques
• Nurture others
Job Depression

“It’s a special hearing aid. It filters out criticism and amplifies compliments.”
Job Burnout/Depression

- Interchangeable terminology
- Burnout is a trap…it wears you down
- Take action to break out of the cycle
- Identify root cause
Simple Factors

Health
• Physical
• Mental

Serenity Prayer

God, grant me the serenity to accept the things I cannot change, courage to change the things I can and the wisdom to know the difference.
Fundamental Challenges

- Failure to prioritize ourselves first
- Unhealthy lifestyles
Time Management
The “to-do” list: A Power Tool

• Use it as a master planning tool
• Use annual, monthly, weekly/daily versions
• Statistics prove you’ll be more productive
  – It’s a visual schedule
  – It acts as a reminder
  – It gives direction
  – You get satisfaction when items are crossed off
Myths of Time Management

• With better time management, you can find new time during the day.
  – Everyone is limited to 24 hours each day

• Effective time management is the same for everyone
  – It is unique for each person because each person has different priorities and goals

• Activity is good in itself
  – Being busy is not the same as being effective, if time is spent on low priorities
Myths of Time Management

• Time management is a complex subject
  – The basic process is actually fairly simple
• Once you learn the basics, you automatically make better use of your time
  – You have to actually use techniques consistently
• Good time managers are born not made
  – Some people seem to be naturally organized, but everyone can learn to manage their time
External Time Wasters

- Interruptions, especially email
- Office socializing
- Cell phone/Fit Bit/iWatch notifications
- Too many meetings
- Unscheduled visitors
- Poor work environment
- Unclear goals
- Trying to get other’s cooperation
- Bureaucratic “red tape”
Internal Time Wasters

- Procrastination
- Lack of planning
- Lack of priorities
- Indecision
- Slow reading skills
- Physical or mental exhaustion
- Not being able to say “no”
- Messy work areas
Burnout Prevention

• List three stressors which you would like to eliminate
• Identify what you can change about these...and what you cannot
• Find two methods of dealing with these stressors
• Create your change plan...don’t forget to reward yourself!
Discussion

Questions are guaranteed in life; Answers aren't.