Fistula First Goals (AVF Rates)

- CMS goal – 66% by June 30, 2009
- Yearly Network 18 goal – 53.4% by June 30, 2008
- Yearly Network Stretch Goal – 55.0% by June 30, 2008
- Dec. 2007 AVF rates: NW 18 – 52.0%
  US – 48.6%
FFBI Partners

- Dialysis facilities
- Dialysis patients
- Nephrologists
- Surgeons
- CMS
- ESRD Networks
- State Survey Agencies
- QIOs
- And many more!

Tools & Best Practices: Fistula First Change Concepts

1. Routine CQI Review of vascular access
2. Timely referral to nephrologist
3. Early referral to surgeon for “AVF Only”
4. Surgeon Selection
5. Full range of appropriate surgical approaches
6. Secondary AVFs in AFG patients
7. AVF evaluation/placement in catheter pts
8. Cannulation training
9. Monitoring and maintenance
10. Continuing Education
11. Outcomes feedback
K-DOQI Guidelines

- Kidney Disease Outcomes Quality Initiative launched in 1995
- Evidence-Based Clinical Practice Guidelines for patients and health care providers
- First Guidelines – 1997
- Currently 22 topics
- Three-stage review process

Fistula First Dashboard (Prevalent Patients)
Fistula First Dashboard
(Incident Patients)

Network 18 AVF Trend
(Dashboard)
Late Adaptor Group: Goal – 6% Increase AVF rate in the next 6 months – you can do it!

AVF Trend: <40% AVF Rate FIP Facilities

Why “Late Adaptors”? 

- AVF rate < 40%
- Long-standing issues
- Remotely located
- No good surgeon in the area
- Patient insurance problems
- AVFs not maturing
- Cannulation Problems
- More?
### What have we tried before?

- Facility monitoring & feedback
- CQIs and/or FIPs
- Fistula First Sharing Sessions
- Facility Site Visits
- Network letters to nephrologists and vascular surgeons
- What worked? What did not?

### Need new approach!

*Rapid Cycle Improvement: Simple Methods, Powerful Results*
Special Acknowledgement for Content Contributions:

Institute for Healthcare Improvement
Associates in Process Improvement
Paul Plsek and Associates
Laura L. Adams
President and CEO, Rhode Island Quality Institute
Faculty, Institute for Healthcare Improvement

Aims to Action
What is Rapid Cycle Improvement?

- Variant of process improvement that:
  - relies on existing knowledge
  - dramatically shortens discovery process
  - works on “rapid trial & learn” method
  - relies heavily on action

Model 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?
Root-Cause ANALYSIS (Fishbone Diagram)

- Determine the problem and create a problem statement (effect). Write it at the right center of the chart
- Brainstorm the major categories of causes of the problem. Write them as the main branches steaming from the center line
- Brainstorm all possible causes of the problem. Ask “Why did this happen?” about each cause.

Root-Cause ANALYSIS (Fishbone Diagram – cont).

- Write sub-causes stemming from the category of causes
- Collect data to confirm root-cause
- If no further causes can be identified, then you found the root causes of the problem
Plan-Do-Study-Act

- **Plan** – Identify Opportunity and plan for change
- **Do** – Implement the Change on a small scale
- **Study** – Use data to analyze for the change and determine whether it made a difference
- **Act** – If the change was successful, implement the plan and continuously monitor results. If the change did not work – start the process again.
The Myth of One Big Improvement

- Research
- Benchmark
- Plan, Plan, Plan, Plan, Plan
- Educate, Educate, Educate
- Roll Out (often 12-18 months)
- Debug

By-products:
- Skepticism & resistance.
- Lost energy & resources before the roll-out leading to apathy and discouragement.
- “Bugs in the system” at roll-out resulting in the belief that the improvement does not work.
- Lost time and opportunity.
- and...the problem has changed before you get to a solution.

This Is Different From Research!

<table>
<thead>
<tr>
<th>Learning and Improving</th>
<th>Doing Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aim:</strong> Applying New Knowledge</td>
<td><strong>Aim:</strong> Discovering New Knowledge</td>
</tr>
<tr>
<td><strong>Methods:</strong></td>
<td><strong>Methods:</strong></td>
</tr>
<tr>
<td>- Test observable</td>
<td>- Test blinded</td>
</tr>
<tr>
<td>- Stable bias</td>
<td>- Eliminate bias</td>
</tr>
<tr>
<td>- Just enough data</td>
<td>- Just in case</td>
</tr>
<tr>
<td>- Adaptation of changes</td>
<td>- Fixed hypothesis</td>
</tr>
<tr>
<td>- Sequential tests</td>
<td>- One large test</td>
</tr>
</tbody>
</table>
Model 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?

Aim

Act

Plan

Study

Do

Developing Your Aim

- Write a clear statement of aim—make the target for improvement unambiguous
- Include numeric goals
- Set “stretch” aims
- Focus on issues that are important to your organization - choose appropriate goals
Developing Your Aim (cont.)

- Improvement relies on intention to improve
  - Senior leaders set & align aim with strategic goals
  - Agreement on aim is critical
  - Include a specific time frame for accomplishing your aim

Examples of Aims

- To increase the number of patients utilizing AVF as a primary vascular access for hemodialysis by 6 percentage points between January and June 2008
- 100% of all dialysis patients with failing grafts will be converted to secondary fistulae by XYZ date
Three Ingredients of an Effective Team

- **System Leadership**
- **Technical Expertise**
- **Day-to-day Leadership**

Establishing Your Team

- Have day-to-day, system, and technical expertise
  - Day-to-day leader gives at least 20% (loses sleep)
  - System leader can arrange for the resources to do the work
  - Technical experts know the subject matter—often bedside people
- Use multidisciplinary teams
## Applying The Model: Aims to Action

- Work together in twos or threes
- Identify your project
- Identify:
  - A strong, clear aim statement to guide your improvement work on your project
  - An aim that has a numeric, stretch goal included
  - How you will form your team using the three ingredients of an effective team
- Give feedback to each other in the large group

## Using Data for Improvement
You can’t fatten a cow by weighing it.
—Middle Eastern Proverb
What changes can we make that will result in an improvement?

What are we trying to accomplish?

How will we know that a change is an improvement?

Measurement Guidelines

- The key measures should clarify the aim and make it tangible
- Use outcome and process measures
- Integrate measurement into the daily routine
- Use qualitative as well as quantitative data
- Seek usefulness, not perfection
Age Distribution of Asthma ED Patients
(n = 94 patients)

Age Distribution of Asthma ED Patients
(n = 437 patients)
Measurement Guidelines

- Use sampling to make measurement efficient
- The question - *How will we know that a change is an improvement?* usually requires more than one measure. Balancing measures help to assure that the system is improved.
- Plot data on the measures *over time*

Examples of Sampling Plans Using Satisfaction Surveys

- Call approximately 50% of patients (usually about 15) discharged from the unit each week. Information Systems provides list of all discharges each week.
- Patients are given a short survey and asked to place it in a sealed box before leaving the center. Twenty surveys are randomly selected each week.
The Danger of Comparing Two Data Points!

Peritonitis Episodes/Year

Average = 3.5%

Facility A:
Peritonitis Episodes Per Year
Facility B: Peritonitis Episodes Per Year

Facility C: Peritonitis Episodes Per Year
Improvement in Wait Time (Team A)

![Bar chart showing improvement in wait time before and after change.]

Improvement in Wait Time (Team A)

![Line chart showing wait time over the months with a change implemented in June.]

Change Implemented
Improvement in Wait Time (Team B)

Before Change  After Change

Wait Time (mins.)

Change Implemented

Wait Time (minutes)

date: Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Improvement in Wait Time (Team B)
Conducting Small-Scale (Rapid Cycle) Tests of Change

What changes can we make that will result in an improvement?

What are we trying to accomplish?

How will we know that a change is an improvement?

Model for Improvement

Select Changes

Act Plan

Study Do

What changes can we make that will result in an improvement?
Selecting Changes

- *Blatantly steal*: Use the literature, the experience of others, hunches and theories
- Be strategic: Set priorities based on the aim, known problems, and feasibility
- Avoid low impact changes

Capitalize on Good Ideas…
Resources Abound — Steal Shamelessly and Start Testing!

- **Example: Hypertension**
  Go to: [http://www.ihi.org/IHI/Topics/ChronicConditions/AllConditions/ImprovementStories/AFocusonHypertensionFourYearsofImprovement.htm](http://www.ihi.org/IHI/Topics/ChronicConditions/AllConditions/ImprovementStories/AFocusonHypertensionFourYearsofImprovement.htm)
  - Find a team’s report of 4 years of learning:
    - Aim - Results (from 35% to 70%)
    - The Team Learned/Barriers - Lessons
    - Measures Information - Next Steps/Contact
    - More than 20 changes they tested
**Objective of the Test:**
Change or No Change?

<table>
<thead>
<tr>
<th>Probably Change</th>
<th>Probably No Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>Recruit</td>
</tr>
<tr>
<td>Redesign</td>
<td>Distribute</td>
</tr>
<tr>
<td>Eliminate</td>
<td>Continue</td>
</tr>
<tr>
<td>Reduce</td>
<td>Examine</td>
</tr>
<tr>
<td>Deliver</td>
<td>Discuss</td>
</tr>
<tr>
<td>Implement</td>
<td>Teach</td>
</tr>
</tbody>
</table>

**Selecting Changes**

- Test the changes on a small scale
  - “By next Tuesday”
  - Capitalize on curiosity
  - Have a bias for the “doable”
- Use change concepts
  - Simplify
  - Error-proof
  - Minimize the hand-offs
Using the Change Concept of Simplicity: The Probability of Performing Perfectly

<table>
<thead>
<tr>
<th>No. Elements</th>
<th>Probability of Success, Each Element</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.95</td>
</tr>
<tr>
<td>1</td>
<td>0.95</td>
</tr>
<tr>
<td>25</td>
<td>0.28</td>
</tr>
<tr>
<td>50</td>
<td>0.08</td>
</tr>
<tr>
<td>100</td>
<td>0.006</td>
</tr>
</tbody>
</table>

To Be Considered a Real Test

- Test was planned, including a plan for collecting data.
- Plan was attempted and data was collected.
- Time was set aside to analyze data and study the results.
- Action was taken, based on what was learned.
Two Key Points

- Small scale $\neq$ small change
- Success (or failure) in one PDSA cycle $\neq$ success or failure of the project

Applying The Model: Developing Tests of Change

- Work together in twos or threes
- Stay with your original aim
- Design a test of change using the worksheet provided
- Give feedback to each other
The Value of Small Scale Tests of Significant Changes

- Moves us to action and learning
- Promotes “real time science”
- Reduces the need for buy-in during the early phases of testing a change
- Allows us to test multiple changes at one time
- Respects experiential learning
- Is faster and more reliable than “just try this”

Next Steps:

- Perform Root-Cause Analysis
- Utilize PDSA model – Network will provide a template
- Network – monthly monitoring & feedback
- If physicians are issues - MRB help is there!
- Conference Calls
- We are all partners!
I have heard it said by cynics that the quality of medical care would be far better and the hazards far less if we, like pilots, were passengers in our own airplanes.

We are.

-Donald M. Berwick, MD, CEO
Institute for Healthcare Improvement
Together we can make a difference!

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Southern California Renal Disease Council, Inc.
ESRD Network 18