Session Objectives

- Identify established design principles for successful Breakthrough Series (BTS) Collaboratives
- Diagnose and address the common issues and challenges that arise in using the BTS method
The IHI Breakthrough Series: How It Began

“Knowing is not enough; we must apply. Willing is not enough; we must do.”
  - Goethe

The IHI Breakthrough Series (BTS)

An improvement method that relies on spread and adaptation of existing knowledge to multiple settings to accomplish a common aim.
The IHI Breakthrough Series Is Not:

- Research for new clinical knowledge
- Single-setting (single team) focus
- Small changes to existing systems
- A benchmarking project
- A consulting engagement

IHI Breakthrough Series
(6 to 18 Months Time Frame)

Select Topic (Develop Mission)

Expert Meeting

Develop Framework & Changes

Planning Group

Participants (10-100 Teams)

Prework

LS 1

AP1

LS 2

AP2

LS 3

AP3*

Dissemination
Publications, Congress, etc.

Holding the Gains

Supports

Email

Phone Conferences

Extranet

Visits

Assessments

Sponsors

Monthly Team Reports

*AP3 – continue reporting data as needed to document success

LS – Learning Session

AP – Action Period
Overview of the BTS

<table>
<thead>
<tr>
<th>Prework</th>
<th>Start with good Senior Leader support. Form a pilot team and develop an aim statement and focus for team’s work. Begin useful data collection. Prepare story board for LS1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Session 1</td>
<td>Get ideas for improvement. Refine aim and measures. Develop plans for tests of changes for AP1. Begin to collaborate.</td>
</tr>
<tr>
<td>Action Period 1</td>
<td>Test changes and get feedback from results. Establish monthly reporting. Get support from the Collaborative.</td>
</tr>
<tr>
<td>Learning Session 2</td>
<td>More ideas for change. Deeper understanding of testing and implementation. Overcoming barriers. More collaboration.</td>
</tr>
<tr>
<td>Action Period 2</td>
<td>Test changes in all areas of change package. Collaborate with colleagues. “Become faculty.” Begin discussing plans beyond pilot project.</td>
</tr>
<tr>
<td>Learning Session 3</td>
<td>Celebrate results. Plan for holding gains and spread. Get more ideas for change. Develop detailed plans for team’s role in spread.</td>
</tr>
<tr>
<td>Action Period 3</td>
<td>Continue testing and implementation of rest of change package. Monitor measures to hold the gains made. Participate in spread.</td>
</tr>
</tbody>
</table>

IHI Experience: Factors that Contribute to Success in Project Set-up

- Ripe topic with at least moderate degree of belief that theory will lead to improvement
- Use of clear charter for recruiting teams
- Teams have will and resources
- Sponsors involved
- Change ideas with a pedigree (Change Package developed from ideas supplied by experts in the topic)
Topic Selection for IHI BTS

- Gap between science and practice
- Examples of better performance exist
- A good “business case” exists for the topic

Chronic Care: The Gap

<table>
<thead>
<tr>
<th>Disease</th>
<th>Parameter</th>
<th>Typical</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>HbA1c</td>
<td>30% &lt; 8</td>
<td>70% &lt; 8</td>
</tr>
<tr>
<td>Asthma</td>
<td>Symptom free days</td>
<td>&lt;50%</td>
<td>&gt;80%</td>
</tr>
<tr>
<td>CHF</td>
<td>Hospital readmits</td>
<td>&gt;10%/mo</td>
<td>&lt;3%/mo</td>
</tr>
<tr>
<td>Depression</td>
<td>Follow-up</td>
<td>&lt;50%</td>
<td>&gt;80%</td>
</tr>
<tr>
<td>CVD</td>
<td>LDL &lt; 100mg/dl</td>
<td>&lt;50%</td>
<td>&gt;70%</td>
</tr>
</tbody>
</table>

When Are We Ready To Run a BTS Collaborative?

<table>
<thead>
<tr>
<th>Stage</th>
<th>Degree of belief</th>
<th>Proposed Changes</th>
<th>Changes</th>
<th>Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prototype</td>
<td>Low</td>
<td>Unsuccessful</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>Proposed Changes</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>Proposed Changes</td>
<td>2 or 3</td>
<td>3</td>
</tr>
<tr>
<td>Pilot</td>
<td>Low</td>
<td>Unsuccessful</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>Proposed Changes</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>Proposed Changes</td>
<td>2 or 3</td>
<td>3</td>
</tr>
<tr>
<td>Adapt &amp; Spread</td>
<td>Low</td>
<td>Unsuccessful</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>Proposed Changes</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>Proposed Changes</td>
<td>2 or 3</td>
<td>3</td>
</tr>
</tbody>
</table>

Start a Collaborative when degree of belief is moderate to high

IHI Experience: Factors that Contribute to Success in Project Set-up

- Ripe topic with at least moderate degree of belief that theory will lead to improvement
- Use of clear Charter for recruiting teams
  - Clear purpose with numeric breakthrough goals
  - Clear expectations
- Teams have will and resources
- Sponsors involved
- Change ideas with a pedigree (Change Package developed from ideas supplied by experts in the topic)
Collaborative Charter

- A document to describe and to launch the collaborative, establishing a common vision for the work, including:
  - Problem statement, gap, mission statement with business case for the improvement
  - Specific goals...improve outcomes, reduce costs
  - Expectations...IHI, organizations

Reducing Readmissions Charter – Statement of Need (Excerpts)

- Starts with a compelling patient story.....
- Poorly executed transitions in care – like the one described above - negatively affect patients’ health, well-being, and family resources, and unnecessarily increase the costs incurred by the health care system and the patients, families, and communities they serve.
- Maintaining continuity in patients’ medical care is especially critical following discharge from the hospital, and for older patients with multiple chronic conditions, this “handoff” period takes on even greater importance. Research shows that one-quarter to one-third of these patients have to return to the hospital due to complications that could have been prevented.

http://www.ihi.org/explore/Readmissions/Pages/default.aspx
Reducing Readmissions Charter – Mission (Excerpts)

- The mission of this Collaborative is to bring together patients, cross-continuum care providers, and other stakeholders from participating organizations to reduce readmissions and to increase patient and family satisfaction with transitions in and coordination of care.
- The Collaborative will focus initially on creating an ideal transition out of the hospital. Medical surgical units from participating hospitals nursing will work on improving processes in four areas: 1) enhanced assessment of post-discharge needs 2) enhanced teaching/learning 3) enhanced communication at discharge and 4) timely post-acute follow up.

Reducing Readmissions Charter – Goals (Excerpts)

- The overall aim of the Collaborative is for participating hospitals to achieve a breakthrough in the transitions in care for their patients by September 2010. The specific goals are:
  - Decrease all cause 30-day readmissions in participating hospitals by 50 percent
  - Ninety-five percent or more of patients in participating hospitals report that hospital staff talked with them about help needed when they left the hospital; and
  - Ninety-five percent or more of patients in participating hospitals report they got information in writing about symptoms or health problems to look for after leaving the hospitals.
Reducing Readmissions – Methods (Excerpts)

- The Collaborative involves 15 to 60 organizations working together intensely to achieve significant improvements. Over 12 months, teams participate in one face-to-face Learning Session, several one day Virtual Learning Sessions, and maintain continual contact with each other and faculty members through conference calls, listserv discussions, email, and monthly progress reports.

Reducing Readmissions – Expectations (Excerpts)

- The Institute for Healthcare Improvement and the Collaborative faculty will:
  - Provide a designated IHI Director and Project Manager, in addition to faculty who have expertise in the subject matter and in improvement methods
  - Provide information on subject matter, application of that subject matter, and methods for process improvement, both during and between Learning Sessions
  - Offer guidance and feedback to teams
  - Provide communication strategies to keep teams connected to the Collaborative faculty and colleagues
Reducing Readmissions – Expectations (Excerpts)

- Participating organizations will...
  - Connect the goals of the Collaborative to a strategic initiative...
  - Designate a senior leader to serve as Sponsor for the team
  - Convene a Cross-continuum Improvement Project Team
  - Select two medical or surgical units for the front-line improvement work and a Day-to-Day Leader to drive the work of the front-line teams....
    - Conduct tests...implement....
    - Participate on Collaborative calls....
    - Submit monthly report....
  - Provide resources for front-line team....

IHI Experience: Factors that Contribute to Success in Project Set-up

- Ripe topic with at least moderate degree of belief that theory will lead to improvement
- Use of clear Charter for recruiting teams
- Teams have will and resources
  - Aim is customized and aligns with org. strategy
  - Team composition is appropriate
  - Team resources appropriate
  - Day-to-day team leader with adequate time
- Sponsors involved
- Change ideas with a pedigree (Change Package developed from ideas supplied by experts in the topic)
IHI Experience: Factors that Contribute to Success in Project Set-up

- Ripe topic with at least moderate degree of belief that theory will lead to improvement
- Use of clear Charter for recruiting teams
- Teams have will and resources
- Sponsors involved
- Change ideas with a pedigree (Change Package developed from ideas supplied by experts in the topic)
  - Ideas most powerful
  - Ideas sequenced

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Change Package

- The key content for the Collaborative
- A listing of the essential changes needed to get results
- Ideas with “a pedigree”—either evidence in the literature or from credible expert opinion
- Organized
  - From broader change concept....to specific changes...to examples of first tests to try
  - Often use driver diagram format
  - Sequenced...what to work on first, etc.
- This is the heart of the Collaborative and is needed for Learning Session #1
Change Package for Unplanned Readmissions (Excerpts)

1. **Enhanced Admission Assessment for Post-Discharge Needs**
   - Include family caregivers and community providers (e.g., home health nurses, primary care physicians, HF clinic nurses, etc.) as full partners in standardized assessment, discharge planning, and predicting home-going needs.
   - Reconcile medications upon admission.
   - Initiate a standard plan of care based on the results of the assessment.

2. **Enhanced Teaching and Learning**
   - Identify the learner(s) on admission (i.e., the patient and family caregivers).
   - Redesign the patient education process to improve patient and family caregiver understanding of self-care.
   - Use Teach Back daily in the hospital and during follow-up calls to assess the patient’s and family caregivers’ understanding of discharge instructions and ability to do self-care.

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**IHI Experience: Factors that Contribute to Success in Project Execution**

- Action Oriented: Use of Model for Improvement-lots of testing
- Measurement system that connects testing to tracking progress
  - Each team has goals with measures to match
  - Required monthly reporting with measurement tracked monthly
- Great Learning sessions
- Robust Action Periods
  - Good communication system (listserv/extranet/great calls)
- Oversight
  - Tracking progress, participation, connecting teams, fostering shared learning
- A culture is established with specific values:
  - Everybody learns, everybody teaches
  - A sense of “family” and support
  - Urgency-need results now!
The PDSA Cycle for Learning and Improvement

**Act**
- What changes are to be made?
- Next cycle?

**Plan**
- Objective, questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)

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

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

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The Model for Improvement

When you combine the 3 questions with the PDSA cycle, you get...

- 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?

...the Model for Improvement.
Measurement System

- The key measures that will be used to track improvement in the Collaborative
- Definitions of data elements
- Data collection strategies

Used for prework and for Learning Session 1

Building a Measurement System

- Attributes
  - Small number (<8) of key measures that refer to the Collaborative goals
  - Together describe a great system of care
    - Include Outcome, Process and Balancing measures
  - Ideally – clearly defined for common data collection and reporting (but not necessary)
  - Each on a graph and all graphs on same page
### Measures: Reducing Readmissions (Excerpts)

<table>
<thead>
<tr>
<th>Measure Name</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>30-Day All-Cause Readmissions</td>
<td>Percent of discharges with readmission for any cause within 30 days</td>
</tr>
<tr>
<td>HCAHPS Discharge Question 19</td>
<td>Percent of patients surveyed in the month who answered, “yes” to: “Did hospital staff talk with you about whether you would have the help you needed when you left the hospital?”</td>
</tr>
<tr>
<td>HCAHPS Discharge Question 20</td>
<td>Percent of patients surveyed in the month who answered, “yes” to: “Did you get information in writing about what symptoms or health problems to look out for after you left the hospital?”</td>
</tr>
<tr>
<td>Teach Back Communication</td>
<td>Percent of discharges where patient/family understanding of Teach Back is documented in the electronic medical record</td>
</tr>
</tbody>
</table>

### All-Cause Readmissions (St. Luke’s Hospital)

The graph shows the percent of 30-day all-cause readmissions over time. Key dates and events include:
- **02/09**: The service to reduce readmissions was started by the Executive Health Resources team.
- **06/09**: Key changes were fully implemented.
- **10/09**: Key changes spread to AMI and PIMA.

The graph highlights the percentage of readmissions with a significant drop after the implementation of key changes.

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If you require any further assistance or have specific questions, please let me know!
Learning Session Objectives

Learning Session 1
Get Ideas
Get Methods
Get Started

Learning Session 2
Get More Ideas
Get Better at Methods
Get a “Stride”

Learning Session 3
Celebrate Successes
Get ready to Sustain and Spread

Action Period Goals

- This is the time of maximal learning
- Goals:
  - Support teams in their improvement work
  - Build collaboration and shared learning
  - Assess collaboration and progress
**Action Period Tools (Infrastructure)**

- First Tests
- Conference calls
- Interactive communication system (e.g., Listserv)
- Online reporting, document repository and one-way communication system (e.g., Extranet)
- Monthly Senior Leader progress reports

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**IHI Breakthrough Series (6 to 18 Months Time Frame)**

- Select Topic (Develop Mission)
- Expert Meeting
- Develop Framework & Changes
- Planning Group
- LS 1 → LS 2 → LS 3
- AP1 → AP2 → AP3*

Participants (10-100 Teams)

Prework

Dissemination Publications, Congress, etc.

Supports

- Email
- Phone Conferences
- Extranet
- Visits
- Assessments
- Sponsors
- Monthly Team Reports

*AP3 – continue reporting data as needed to document success

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**Notes:**

- LS – Learning Session
- AP – Action Period
Adaptations of the BTS Model

- Variation in set-up and execution
- Pilot versus Traditional Collaboratives
- Virtual Collaboratives
- International Context

Common Variations

- Roles – director, improvement advisor, faculty
  - Tip: Ensure roles are clear
- Time Period – length of collaborative
  - Tip: Avoid “never ending” collaboratives or those with “rolling enrollments”
- Learning Sessions – number and length
  - Tip: track progress, momentum, and vibrancy
- Action Period activities
  - Tip: watch for robust testing, results, and level of shared learning
What is different for Pilots?

- Change package evolving
  - Charter
  - Measures
  - Key change concepts
- More frequent Learning Sessions
- Combine with site visits for more learning
- Preserve time as a team….they won’t get it back home!
- Early focus on sharing multiple tests of change
- Less “promise” of results with evolving change package

IHI/Sloan Virtual Collaborative to Improve Access to Care  (May 2004 to June 2005)

Participants
(20 teams)

Planning Group
Update Access Framework
Develop virtual methods
Launch VLS1 VLS2 AP1 VLS3 AP2 AP3
Dissemination
Holding the Gains
Final Reports
Publications

Ongoing Supports
Email (listserv) Extranel Online Collaboration Tools
Phone Conferences Assessments Clustered Learning Calls
Monthly Team Reports
**Virtual Collaboratives: Lessons Learned**

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost effective</td>
<td>Clinical needs/demands at the sites</td>
</tr>
<tr>
<td>Productivity at participating sites is maximized</td>
<td>Not being able to see reactions from the participants</td>
</tr>
<tr>
<td>More people from each site can participate</td>
<td>Easy for participants to get distracted with e-mails, etc.</td>
</tr>
<tr>
<td>Leadership, patients and community members can more easily attend</td>
<td>Need to be very proactive with the agenda and materials for participants</td>
</tr>
<tr>
<td>Organizations like the idea of not having to travel</td>
<td>Faculty training is needed on new methods to facilitate discussion</td>
</tr>
<tr>
<td>You have greater access to and willingness of outside speakers to participate</td>
<td></td>
</tr>
</tbody>
</table>

*Source: IHI/Indian Health Service Innovations in Planned Care Initiative*

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**International Context**

- May be used as part of larger national strategy, i.e., from pilot, to small collaborative for testing what’s needed for bringing to scale, to larger collaborative or other spread method
- Importance of national and regional leadership and local community will building
- Part of building capability for improvement
- Resource constraints dictate creative solutions, e.g., change agents in response to lack of internet connectivity
For Additional Information

http://www.ihi.org/knowledge/Pages/IHIWhitePapers/TheBreakthroughSeriesIHI'sCollaborativeModelforAchievingBreakthroughImprovement.aspx

IHI’s Breakthrough Series College – intensive three day program offered annually
http://www.ihi.org/offerings/Training/BreakthroughSeriesCollege/BreakthroughSeriesCollegeApril2014/Pages/default.aspx

References


References (continued)


Resources (see slides that follow)

- BTS Planning Timeline
- Scale for Assessing BTS team progress
- Example of measures for tracking progress of entire collaborative
<table>
<thead>
<tr>
<th>TASK:</th>
<th>To Be Completed: (before meeting)</th>
<th>Date</th>
<th>Person Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop a new topic:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify topic, conduct research, and select Expert Group</td>
<td>16 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convene Expert Group</td>
<td>Select Director and Planning Group</td>
<td>16 weeks</td>
<td></td>
</tr>
<tr>
<td>Identify selection criteria/begin enrolling teams</td>
<td>15 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select Director and Planning Group</td>
<td>Convene Planning Group</td>
<td>15 weeks</td>
<td></td>
</tr>
<tr>
<td>1st Learning Session goals</td>
<td>14 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Learning Session calls with participants</td>
<td>As soon as applications are received</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Learning Session agenda</td>
<td>6-8 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan for Action Points Activities (e.g., reporting, calls)</td>
<td>Ongoing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set up faculty on presentations and breakout sessions</td>
<td>6 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicate logistics with faculty</td>
<td>Ongoing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Register attendees for all teams</td>
<td>Ongoing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicate with site registrars: AV needs, catering, morning lists, assign sessions to rooms</td>
<td>Ongoing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Learning Session materials received for copying</td>
<td>2 weeks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create evaluation forms, on-site forms</td>
<td>1 week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create working agenda, draft staff</td>
<td>1 week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning Session 1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Learning Session 1**

- **Learning Group Meeting on eve of Learning Session and debrief meeting between days 1 and 2**
- **Pre-Learning Session calls**
- **Senior and Project Manager call to debrief from 1st Learning Session**
- **Conference calls with Collaborative teams between Learning Sessions**
- **Learning group calls to debrief from 1st, review exam progress, plan conference call topics, and plan for next LS**
- **Senior and Project Manager conference call to review agenda for Learning Session 2**
- **Annual assessment on campus**
- **5x reviews Senior Leader reports due monthly, follow as with teams as needed, communicate with Senior leaders, assess teams/collaborative**
- **Meeting calls to review overall Collaborative progress and plan necessary interventions**
- **Preparing for next Learning Sessions:**
- **1st Learning session agenda with Planning Group as conference call**
- **1st faculty and best teams on presentations and breakout session facilitation via phone and e-mail**
- **Communicate logistics with faculty**
- **Register attendees from all teams**
- **Communicate with site registrars: AV needs, catering, morning lists, assign sessions to rooms**
- **2 weeks**
- **Create evaluation forms, on-site forms**
- **Create working agenda, draft staff**
- **Learning Session 2**
- **Learning group Meeting on eve of Learning Session and debrief meeting between days one and two**
- **Pre-Learning Session calls**
- **Senior and Project Manager call to debrief from Learning Session**
Project Progress Assessment Scale

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>Intent to Participate</td>
</tr>
<tr>
<td>1.0</td>
<td>Charter and team established</td>
</tr>
<tr>
<td>1.5</td>
<td>Planning for the project has begun</td>
</tr>
<tr>
<td>2.0</td>
<td>Activity, but no changes</td>
</tr>
<tr>
<td>2.5</td>
<td>Changes tested, but no improvement</td>
</tr>
<tr>
<td>3.0</td>
<td>Modest improvement</td>
</tr>
<tr>
<td>3.5</td>
<td>Improvement</td>
</tr>
<tr>
<td>4.0</td>
<td>Significant improvement</td>
</tr>
<tr>
<td>4.5</td>
<td>Sustainable improvement</td>
</tr>
<tr>
<td>5.0</td>
<td>Outstanding sustainable results</td>
</tr>
</tbody>
</table>

Operational Definitions of Project Assessment Scale

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>Intent to Participate: Project has been identified, but the charter has not</td>
</tr>
<tr>
<td></td>
<td>been completed nor team formed</td>
</tr>
<tr>
<td>1.0</td>
<td>Charter and team established: A charter has been completed and reviewed.</td>
</tr>
<tr>
<td></td>
<td>Individuals or teams have been assigned, but no work has been accomplished</td>
</tr>
<tr>
<td>1.5</td>
<td>Planning for the project has begun: Organization of project structure has</td>
</tr>
<tr>
<td></td>
<td>begun (such as: what resources or other support will likely be needed, where</td>
</tr>
<tr>
<td></td>
<td>will focus first, tools/materials needed gathered, meeting schedule developed)</td>
</tr>
<tr>
<td>2.0</td>
<td>Activity, but no changes: Initial cycles for team learning have begun (project</td>
</tr>
<tr>
<td></td>
<td>planning, measurement, data collection, obtaining baseline data, study of</td>
</tr>
<tr>
<td></td>
<td>processes, surveys, etc.)</td>
</tr>
<tr>
<td>2.5</td>
<td>Changes tested, but no improvement: Initial cycles for testing changes have</td>
</tr>
<tr>
<td></td>
<td>begun. Most project goals have a measure established to track progress.</td>
</tr>
<tr>
<td></td>
<td>Measures are is graphically displayed with targets included</td>
</tr>
</tbody>
</table>
Operational Definitions of Project Assessment Scale (Cont.)

3.0 - Modest improvement: Successful tests of changes have been completed for some components of the change package related to the team’s charter. Some small scale implementation has been done. Anecdotal evidence of improvement exists. Expected results are 20% complete.

3.5 - Improvement: Testing and implementation continues and additional improvement in project measures towards goals is seen.

4.0 - Significant improvement: Expected results achieved for major subsystems. Implementation (training, communication, etc.) has begun for the project. Project goals are 50% or more complete.

4.5 - Sustainable improvement: Data on key measures begin to indicate sustainability of impact of changes implemented in system.

5.0 - Outstanding sustainable results: Implementation cycles have been completed and all project goals and expected results have been accomplished. Organizational changes have been made to accommodate improvements and to make the project changes permanent.

*This may mean either that a) 20% of project numeric goals have been met or b) each measure is showing 20% improvement towards goal.

**This may mean either that a) 50% of your numeric goals have been met or b) each measure is showing 50% improvement towards target.

Assessing Progress on a BTS: Family of Measures