The Bedside Care Collaborative:  
*Opportunities for Investigation within an Improvement Initiative*  

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BEDSIDE CARE COLLABORATIVE

TEAM Collaboration

Patient and Staff Satisfaction

Ongoing Performance Improvement

Improve Unit Efficiencies

Seniors Leadership Support
What is a Collaborative?

- Team Based Learning
- Broadly Themed
- Multiple Learning Sessions
- Action In Between Sessions at Local Facilities
- Coached
- Benefits: Common Methodologies, Networking, Rapid Dissemination of Ideas, Structure to Facilitate Change
VA Background

The Collaborative Learning Process

- Initial Work - Advanced Clinic Access
- FIX Initiative - Focus on (In)Patient Flow
- FIX - Encouraging ROI and self-reported Learner Outcomes
- “Next Generation” FIX
  - Bedside Care Collaborative
  - Patient Flow Collaborative
  - Transitions in Care Collaborative
The Bedside Care Collaborative

• 45 teams, 250 participants
• One of three “FIX” Initiatives
• ALL VA facilities participate in one of the “FIX” collaboratives
  – Multiple layers of experience and engagement
  – Consider implications for study population
The Model For Improvement (The VA Version)

- Team
- Aim
- Map
- Measure
- Change
- Sustain

Compare To:
- PDSA
- Lean’s Eight Steps
- Berwick
- Batalden/Nelson
BCC Timeline and Goals

**Action Period 1 – Goals:**
- Identify Aims
- Map Current Process
- Implement Tests of Change
- Measure/Track: Run Chart

**Action Period 2 – Goals:**
- Rapid Cycles of Change
- Solidify Future State
- Post Demonstrable Improvement
- Sustain and Spread
The Foundation - Content

IHI – RWJ
“Transforming Care at the Bedside”

NHS
“The Productive Ward”

Dartmouth/Hitchcock (Batalden/Nelson)
“Clinical Microsystems Guide”

• “Patient Centered” Care, e.g. Planetree
• Lean/Six Sigma, e.g. Virginia Mason
Transforming Care at the Bedside
IHI/RWJ Initiative

SAFE AND RELIABLE CARE: Care for moderately sick patients who are hospitalized is safe, reliable, effective and equitable.
- Codes on med/surg units are reduced to zero
- Patient harm from high hazard drugs is reduced by at least 50% per year
- Incidents of patient injury from falls (moderate or higher) are reduced to 1 (or less) per 10,000 patient days
- Hospital-acquired pressures ulcers are reduced to zero

VITALITY AND TEAMWORK: Within a joyful and supportive environment that nurtures professional formation and career development, effective care teams continually strive for excellence.
- Increase staff vitality and reduce annual voluntary turnover by 50%

PATIENT-CENTERED CARE: Truly patient-centered care on medical and surgical units honors the whole person and family, respects individual values and choices, and ensures continuity of care. Patients will say, "They give me exactly the help I want (and need) exactly when I want (and need) it."
- 95% of patients are willing to recommend the hospital
- Readmissions within 30 days are reduced to 5% or less

VALUE-ADDED CARE PROCESSES: All care processes are free of waste and promote continuous flow
- Nurses spend 60% or more of their time in direct patient care

CREATE EARLY DETECTION & RESPONSE SYSTEMS (INCLUDING RTN)
DEVELOP HOSPICE & PALLIATIVE CARE PROGRAMS
PREVENT HARM FROM HIGH HAZARD DRUG ERRORS
PREVENT HOSPITAL-ACQUIRED PRESSURE ULCERS
PREVENT PATIENT INJURIES FROM FALLS

BUILD CAPABILITY OF FRONT-LINE STAFF IN INNOVATION & PROCESS IMPROVEMENT
IMPLEMENT A FRAMEWORK FOR NURSING PRACTICE BASED ON THE FORCES OF MAGNETISM
DEVELOP MOLANDERAL MANAGERS & CLINICAL LEADERS TO LEAD TRANSFORMATION
OPTIMIZE COMMUNICATIONS AND TEAMWORK AMONGST CLINICIANS & STAFF

CREATE PATIENT-CENTERED HEALING ENVIRONMENTS
INVOLVE PATIENTS & FAMILY MEMBERS IN MULTIDISCIPLINARY ROUNDS AND "CHANGE OF SHIFT" REPORT (CUSTOMIZING CARE TO PATIENTS' VALUES, PREFERENCES & EXPRESSED NEEDS)
OPTIMIZE TRANSITIONS TO HOME OR OTHER FACILITY

CREATE ACUITY ADAPTABLE BEDS
OPTIMIZE THE PHYSICAL ENVIRONMENT FOR PATIENTS, CLINICIANS AND STAFF
ELIMINATE WASTE & IMPROVE WORK FLOW IN ADMISSION PROCESS, MEDICATION ADMINISTRATION, HANDOFFS, ROUTINE CARE & DISCHARGE PROCESS
A microsystem's self-awareness journey

1. Create an awareness of work as a microsystem (description or picture)
2. Work on some foolishness to understand that change is possible
3. Connect work to those who do or could benefit from it, building a sense of the related purpose of the work.
4. Try some strategic change & improvement.

Build measures of performance for those who do or could benefit, of the functioning of the microsystem & for accountability.

Work with inputs and outputs
- Work with "peer microsystems."
- Work with the population
- Work with your own microsystem.
- Work with your macro-organization.
“The Productive Ward” – UK/NHS
Content Highlights

Areas of Content Focus:
– Fundamentals of Improvement Framework
– Optimizing Multidisciplinary Rounds
– Fostering Patient Centered Care
– Increasing “time to care”, e.g. nursing time at the bedside

Partnerships:
– NCOD, Organizational Health, ONS, NCPS
Collaborative Aims

• Increase throughput, efficiency of resource utilization.
• Increase staff empowerment and satisfaction.
• Increase patient satisfaction wards.

Our challenge: Multiple directions for teams to take and multiple potential measures of success
Does This Work?

Upinieks et al:

- Correlated team-reported numbers of changes made in four TCAB domains with self-reported trend in vitality

Through an initiative called Transforming Care at the Bedside (TCAB), the Robert Wood Johnson Foundation and the Institute for Healthcare Improvement have created an innovative bottom-up framework for reconceptualizing the work environment and redesigning care processes. The specific purpose of this study, conducted by the University of California, Los Angeles/RAND evaluation team, was to examine the number of innovations tested and the outcomes of the volume of team reports and changes as a measure of self-reported vitality at the 14 participating hospitals. The findings of this evaluation yielded several important implications for nurse leaders.
**FIX Collaborative Evaluation - Overall VA Results (DRAFT)**

**Level 1: Reaction, Satisfaction, and Planned Action**

**Key Measures**

| Program objectives were relevant to professional needs/interests | Overall Rating (% agree/strongly agree) | 3.65 (99.20%) |
| Overall, the program was worthwhile | 3.63 (98.04%) |
| Use new skills/knowledge in regular work assignment | 3.55 (97.46%) |
| Recommend this program to a friend or co-worker | 3.50 (98.38%) |
| Competent applying skills/knowledge developed during the program | 3.46 (96.93%) |
| Developed new skills/knowledge as a result of program participation | 3.43 (96.87%) |

**Level 2: Learning, Confidence, and Attitude Change**

**Key Measures**

Skill Improvement increase % due to FIX Collaborative % Agree/Strongly Agree

- FIX Collaborative provided opportunities to learn/share lessons learned: 89.90%
- FIX Collaborative provided opportunities to share success strategies: 82.00%
- FIX Collaborative provided networking opportunities: 87.05%
- LS attendee/quality resources to successfully inform team: 83.42%
- Non-LS attendee, provided right quality of information from LS attendee: 57.93%

**Level 3: Application and Implementation on the Job**

**Top 3 Skills**

| % Successful | Top 3 Enablers | % Agree |
| Modify aim statements | 75.50% | Usefulness of skills/behaviors: 74.83% |
| Set aims | 73.54% | Opportunities to practice/use the skills learned: 74.45% |
| Establish measures | 69.65% | Team support: 70.00% |

**Bottom 3 Skills**

| % | | |
| Obtain buy-in for change | 44.23% | Time allowed to implement FIX: 39.11% |
| Embed change in culture | 42.89% | Support of work environment: 32.31% |
| Control variability | 35.38% | Level of complexity implementing FIX: 30.82% |

**Level 4 and 5: Business Impact and ROI**

- FIX Collaborative contributed to 48.00% of improvements for:
  - Acute OMELOS: improvement of 0.51 (difference between 06 & 08) resulting in cost avoidance of $185,087,925 x 48.00% = $88,842,204.00
  - ICU OMELOS: improvement of -0.30 (difference between 06 & 08) resulting in cost avoidance of $110,250,000 x 48.00% = $52,920,000.00

- FIX Collaborative total cost: $5,840,297.00

- Overall, the FIX Collaboratives: BCR: $141,762,204 / $5,840,297 = 24.27:1
  
  ROI: $141,762,204 - $5,840,297 / $5,840,297 = 23.27 x 100 = 2,327%

**Intangible Benefits**

As a result of the FIX Collaboratives, improvements in the following business measured occurred:

- % Discharge by 12
- ED Missed Opportunities
- Patient Satisfaction
- ED Stays over 6 hrs
- % of Avoidable Days
- Employee Satisfaction
- ED Diversions
- Teamwork
- Innovation

**2008 Evaluation Overview:**

The FIX Collaborative Evaluation was conducted from September 2007 through January 2008. The FIX Collaborative was evaluated to identify:

- Overall satisfaction of the program by the FIX Collaborative participants
- Knowledge and skill gained through participation in the FIX Collaborative
- Success with related FIX skill/knowledge application in the participants’ workplace
- Barriers and enablers to the application of the FIX knowledge and skills
- Business impact and ROI of the FIX Collaborative
- Alignment of the FIX Collaborative, including reinforcing needed information

**Conclusions**

- The FIX Collaborative appears to be correctly aligned to the work of the participants and an effective approach for implementing FLOW improvement. 99% of survey respondents indicated the “program objectives were relevant to professional needs/interest” and “program was worthwhile”. Both of these indicators reinforce the use of the content in the work environment.
- As a result of participating in the FIX Collaborative, the participants increased FIX related knowledge and skills. 75% of participants reported an increase in knowledge of 50% or more and only 1% indicated “no new knowledge gain”.
- Participants reported success regarding the application of the FIX knowledge/skills back in their work environment. 51% of the participants indicated being successful/very successful with 70% of the 13 skills assessed.
- Overall, the FIX Collaborative contributed the most to maintaining/improving quality of care (27.25%), reducing cycle time in inpatient flow process (24.48%), and reducing length of stay (22.41%). The FIX Collaborative contributed to improvements regarding reducing avoidable fee basis (12.94%).
- For every dollar invested in the FIX Collaborative, there is a return of $24.27. This, along with an ROI of 2,327% reflects that the FIX Collaborative was a very positive investment for the VA.
- The FIX Collaborative successful impact is further supported by the results of the 10 facility specific studies.
- In addition to the ROI, there were many intangible benefits of the program reflecting the FIX Collaborative had an extensive impact on the services offered by the VA.

**Recommendations**

- To ensure continued success with the FIX Collaborative efforts, the enablers identified as supporting the application of the skills/knowledge should continue to be reinforced. When considering the barriers that were identified as prohibiting success, strategies should be identified to reduce or eliminate them from the FIX efforts. Additionally, the enabler/barrier findings should be leveraged when developing new initiatives.
- To further increase the success of the FIX Collaborative, some of the resources should be re-evaluated and enhanced appropriately. For example, the process and utilization of coaches was deemed valuable by some participants but overall, it appears utilization was lower than desired.
- Throughout the evaluation, a key finding was the benefit of sharing and learning from others and therefore, efforts to continue reinforcing VSN, regional, and facility interactions should occur.

**FIX Collaborative Trends**

<table>
<thead>
<tr>
<th>1st Study Baseline</th>
<th>2009</th>
<th>Status / Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Satisfaction</td>
<td>3.63</td>
<td></td>
</tr>
<tr>
<td>Learning Increase (75% of responses)</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>Application Occurred</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>BCR</td>
<td>24.27:1</td>
<td></td>
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**FIX Collaborative Conclusions, Recommendation, & Trends**

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Identify benefits/business measure(s) to convert to monetary value:

- ICU OMELOS
- ACUTE OMELOS

Determine monetary value, leveraged the following formulas:

- ICU OMELOS: measure change x # of patients x $3,500 day
- Acute OMELOS: measure change x # of admissions x $684.75

Identify change in measure

- Compare 2006 to 2008 results
- Use time frame from beginning of FIX to end of study
- Improvement was determined for 1 year

Calculate monetary value of improvement:

- For ICU OMELOS:
  - \(-0.30 \times 105,000 \text{ patients} \times \$3,500 = \$110,250,000.00\)
- For Acute OMELOS:
  - \(-0.51 \times 530,000 \text{ admissions} \times \$684.75 = \$185,087,925.00\)

Total monetary value = \$295,337,925.00

Determine FIX Collaborative Contribution:

- Isolation (estimation) = 48.00%
- \$295,337,925 \times 48.00\% = \$141,762,204.00
FIX Collaborative Evaluation
Developing the ROI - Costs

Fully-loaded FIX Collaborative costs encompass costs associated with:

- **Oversight**: $19,554.00
  - Fabiane / Mary time providing oversight of FIX Collaborative

- **Planning**: $110,254.00
  - Coordinators/Directors time planning resources, including Learning Sessions

- **Development**: $44,101.00
  - Coordinators/Directors time developing resources, materials for Learning Sessions, etc...

- **Implementation**: $5,553,467.00
  - Coordinators/Directors time implementing resources, learning sessions
  - Participants time, travel expenses for attending learning sessions and time utilizing FIX Collaborative resources

- **Evaluation**: $112,925.00
  - Evaluation team meeting times, developing/reviewing study related material and data; includes consultant fee
  - Participants time provided data (e.g., completing surveys, profile)

- **Total Costs**: $5,840,297.00
FIX Collaborative Evaluation
BCR and ROI Calculations

**BCR:**
- Total Costs: $5,840,297.00
- Total Monetary Benefits: $141,762,204.00

\[
BCR = \frac{\$141,762,204.00}{\$5,840,297.00} = 24.27:1
\]

**ROI:**
- Total Costs: $5,840,297.00
- Total Monetary Benefits: $141,762,204.00
- Net Benefits = $141,762,204.00 - $5,840,297.00 = $135,921,907.00

\[
ROI = \frac{\$135,921,907.00}{\$5,840,297.00} = 23.27 \times 100 = 2,327\%
\]
Collaborative Aims

• Increase throughput, efficiency of resource utilization.
• Increase staff empowerment and satisfaction.
• Increase patient satisfaction wards.

Our challenge: Multiple directions for teams to take and multiple potential measures of success
Lessons Learned, Year 1

• Most entering teams were very new to structured improvement work

• Robust results evolved, but took time
  – Mirrors observed effect in IHI’s TCAB
  – 28 of 45 facilities (62 percent) elected to return for a second year of BCC

• Return is proportionate to investment
  – IHI studies show employee satisfaction on TCAB units is proportionate to number of rapid cycles performed during a 23 month study period

The relationship between the volume and type of transforming care at the bedside innovations and changes in nurse vitality.
What did teams accomplish?

| Collaborative Team Progress Report | 1.0 Non-starter | 2.0 Activity | 2.5 Implemented Action Plan | 3.0 Testing; initial measurable progress | 3.5 Testing; measurable progress over multiple data points; wider spread | 4.0 Achieved goals (aims) initially identified in LS1 and demonstrated sustained gain in performance | 4.5 Surpassed goals; spread to wider area | 5.0 Results represent leading edge of ward improvement |
Team Progress

All BCC Teams – Coaches’ Score

Distribution of BCC Team Scores
What did we accomplish?

All BCC Teams – Coaches’ Score

- Over 2/3 of BCC teams demonstrated sustained progress toward their initial aim
- Approx half achieved their stated aim
- Many more report new “seedlings” based upon their initial BCC experience
Improvement Examples
Improvement Examples

Example #1 – Improved Unit Throughput using Process Redesign
Congestive Heart Failure Length of January 2009 to August 2009

VA NIHCS Cumulative Length of Stay for CHF = 5.4

VISN 11 Cumulative ALOS = 4.79

DRG Expected Length of Stay = 3.1 Days
**PDSA Cycles: Plan, Do Study, Act**

**Changes Instituted:**
- Introduced Patient Satisfaction Questionnaire
- Introduced Patient Folders and Daily Goals Sheet
- Utilization Management Report shared in morning meeting
- UM Prospective Review Process
- Quiet Time
- Employee Suggestion Form.
- Daily multidisciplinary rounds at the bedside: Assigned nurse attending rounds on their patients
- DRG expected length of stay added to rounds
- Report at the bedside at change of shift with patient input welcomed
- Addition of family members to the multidisciplinary rounds for the purpose of sharing information/discharge planning if patient is in agreement
Example #2—Focus on Patient Satisfaction and Education.
Aims

1. Increase the percentage of newly admitted patients who understand the reason for their admission, know what tests and treatments are planned by the medical team during their hospitalization and know who to ask if they have any questions within 24 hours of admission.

2. Reduce complaints related to losses of high value personal items during hospitalization by 95% in 12 months.
The three questions

• Did you receive an explanation of what is wrong with you in a way that you could understand?

• Do you know what tests you are going to have and what treatments you will receive?

• Do you know who to ask if you have questions?

Baseline: 14/43 (32 percent) answered all three questions affirmatively.
Rapid Cycles...

1. standardized handouts - diagnosis specific educational materials given to patients and discussed within 24 hours

2. educational materials regarding tests and procedures handed out as needed

3. “Got questions? Please ask!” magnet placed on whiteboards

4. education of residents on health literacy of patients and communication techniques
Results

Initial score was 32.5% of patients who answered *YES to all three questions*

We set our aim to *50% by 8/12/09*

- On 8/12/09 our score - 70%
- On 9/1/09 our score - 73%

What is it now?

- On 9/11/09 our score - 80%
Aim # 2

Reduce complaints related to losses of high value personal items during hospitalization by 95% in 12 months.
• Changes

– developed laminated signs to be posted at each bed when a patient is admitted with one or more high value items

– in-serviced all nursing, housekeeping, dietary staff regarding the purpose of these signs
Reminders to all staff who enter the room.
Results, aim # 2

• As of June 1, 2009 no missing high value items have been reported since intervention (100+ days)
Questions...

• How best to study impact?
  – Learner outcomes
  – ROI
  – ...messy intervention, messy study population
  – Fixed timeline, work in progress