Multi-State Success: Large-Scale Adoption
Kate DeBartolo, Kathy Duncan, Jo Ann Endo, and Gareth Parry

Objectives

After this presentation, participants will be able to:
• Identify several strategies that facilitate large-scale adoption
• Describe practical tools that can be used to assist in diffusion of evidence-based practices
Agenda

1:00 – 1:20  Introduction
1:20 – 1:50  Review of Network Theory Principles
1:50 – 2:40  Implementation
Break!
3:00 – 3:25  Evaluation
3:25 – 3:50  Communications and Story Harvesting
3:50 – 4:10  Hard-won Lessons
4:10 – 4:30  Planning Time

How to Increase Speed of Adoption

- Success of IHI Breakthrough Series Collaborative Model
  - Needed something faster and less resource-intensive.

- IHI’s Rapid Spread Network
  - Built on our experience with the 100,000 Lives and 5 Million Lives Campaigns
  - Network of state “Nodes”
  - Fast dissemination strategy

- Great Idea …but does it work?
  - We needed a topic
All Eyes on Infection Prevention

- IOM Reports in 1999 and 2003 – Focus on Hospital Acquired Infection
- Centers for Medicare and Medicaid Services implemented pay-for-performance quality measures
- Department for Health and Human Services disseminated national targets for reducing HAIs
- Joint Commission National Patient Safety Goals, 2010

Surgical Site Infections for Hips and Knees

- Key Opportunity due to frequency, cost and the availability of prevention measures
- SSIs occur in 2-5% of patients undergoing inpatient surgery (500,000 SSIs annually)
- Joint Commission targets hip and knee procedures in its NPSG and many states have mandated SSI reporting for arthroplastic surgery
- 327,000 total hip and 676,000 total knee arthroplasties are performed annually in the US
- Projected increase of 572,000 total hip and 3.48 million total knees through 2030
- Infection rates currently at 1.5% for total hip and 1.2% for total knee
Encouraging New (and Old) Studies

- **New Practices:**
  - Use an alcohol-containing antiseptic agent for preop skin prep
  - Preop bathing or showering with chlorhexidine gluconate (CHG) soap
  - *Staph aureus* screening and intranasal mupirocin and CHG bathing or showering to decolonize *Staph aureus* carriers

- **Applicable SCIP practices:**
  - Appropriate use of prophylactic antibiotics
  - Appropriate hair removal

Our Charge – Testing IHI’s Rapid Spread Network

The overall goal of this project is to test the hypothesis that activation of the IHI Rapid Spread Network, a multi-modal health care network spread system developed by IHI, will lead to increased adoption of the Enhanced SSI Prevention Bundle in arthroplastic hip and knee surgery – a high-volume, high-cost procedure in which infection is a devastating complication.

- **Specific Aim 1:** To activate the IHI Rapid Spread Network to disseminate the Enhanced SSI Prevention Bundle to hospitals in 10 states.
- **Specific Aim 2:** To evaluate whether the IHI Rapid Spread Network has been effective by assessing change in preoperative practice (Aim 2a), the actions of IHI node and hospital-based leaders (Aim 2b), and rates of SSI (Aim 2c):
  - Specific Aim 2a: To compare adoption of the Enhanced SSI Prevention Bundle among hospital surgical staff in 10 states before and after the implementation of the spread strategy using a lagged, cluster-randomized trial design.
  - Specific Aim 2b: To assess the factors influencing the effectiveness of the IHI spread strategy, using case study methods to assess how the IHI network nodes influence the adoption of the Enhanced SSI Prevention Bundle in local hospitals.
  - Specific Aim 2c: To compare rates of SSI following arthroplastic hip and knee surgery before and after the implementation of the IHI Rapid Spread Network.
What was Project JOINTS?

- An initiative funded by the federal government to give participants support from IHI in the form of in-person and virtual coaching on how to test, implement and spread the enhanced SSI prevention Bundle comprised of **three new Evidence-based Practices** as well as the two applicable Surgical Care Improvement Project (SCIP) practices.

- Two cohorts of 5 states with a 6 month intervention period followed by national roll-out

IHI’s Role

- Offer implementation support to participants on the recommended interventions to reduce prevent hip and knee SSIs
- Build a network of facilities that are working together toward the same aim – literally **Joining Organizations IN Tackling SSIs**
- Test IHI’s ability to spread evidence-based practice
Large-Scale Projects

What do we mean by planning for scale or spread?

- The science of taking a local improvement (intervention, idea, process) and actively disseminating it across an existing system

- There are many possible definitions for “a system” (e.g., a hospital, a group of hospitals, a region, a country)
Planning

- **Three key questions:**
  1. What do we want to spread?
  2. To whom do we want to spread (and by when)?
  3. How are we going to spread?

Core Elements

**Aim:**
What are you trying to accomplish by when?

**Nature of the Intervention:**
What are you asking people to adopt?

**Nature of the Social System:**
How are you accounting for the environment in which you are trying to spread?

**Motivation:**
Why would anyone participate?

**Foundation:**
Who else has adopted the intervention?

**Network Building:**
What is the infrastructure for connection between participants?
Aim - What are you trying to accomplish by when?

- Time and number
- Heart of the work
- Aligns with larger goals, but still has edge

Your Planning

- Back of the envelope calculation
- Images to tell your story
Aim - Ideas to Try

Getting Started:
- Set a “what by when” goal
- Have team create back of the envelope calculations; discuss similarities and differences
- Use thumbs up, neutral, or down to come to number agreement
- Ask yourself: How is the heart of this work reflected in the aim?

Accelerating Good Work:
- Re-evaluate your aim. Will you reach it? If not, do not be afraid to extend the time. How will you change your work to reach the aim?
- Identify three or four stories that support your overall aim and bring a face to the work
- Set milestones along the way; what’s the trajectory of the work? Where do you expect to be at interim periods?

Nature of the Intervention - What are you asking people to adopt?
- Selecting individual interventions
  - Once you think an intervention is simple enough, simplify again
- Selecting a group of interventions
  - Look at the portfolio of interventions
- Degree of belief
Your Planning

- Selection criteria
- Sequencing and sense making
- Find and create tools for all types of adopters
- Identify most useful resources

Nature of Intervention - Ideas to Try

**Getting Started:**
If you can't count the steps on one hand, go back to the drawing board
Put asterisks by the most low resource places to start, but remind people they will have to do all the work eventually
Develop intervention criteria to narrow the list
Watch or visit a high performer to understand how they really do their work

**Accelerating Good Work:**
Supplemental materials for specific types of organizations
Develop a gap assessment or tool to help people know where to start
Simplify again. Most likely everything has gotten more complex over the course of time.
Nature of the Social System - How are you accounting for the environment?

Letter Text:
"Requesting hard copy of Conversation Starter Kit
Please mail to:...

Your Planning

- Find examples – site visits, town halls, scanning
- Make tools flexible
- Identify what makes different systems special
- Additional relationships to consider?
- Research on group dynamics?"
Nature of Social System - Ideas to Try

Getting Started:
- Base recruitment strategies off what you know about the environment
- Build on success from other leaders or projects

Accelerating Good Work:
- Evaluate what has changed in the environment. How have you adjusted your work to account for the changes?
- Allow organizations to tailor content to specific needs.
- Create templates that organizations can alter.

Motivation - Why would anyone participate?
- Start with yourselves
- Align with local priorities and push the envelope
- How does this solve someone else’s problem?
- Develop a plan to engage a diverse group
## Your Planning

<table>
<thead>
<tr>
<th>Group Name</th>
<th>Stop?</th>
<th>Let?</th>
<th>Help?</th>
<th>What Matters to Them</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academia (early adopters)</td>
<td></td>
<td></td>
<td>X</td>
<td>Educating the next generation of health care professionals to provide outstanding patient care in a changing environment</td>
</tr>
<tr>
<td>Academia (late adopters)</td>
<td></td>
<td>X</td>
<td></td>
<td>Educating the next generation of health care professionals with a deep understanding of science and sharing what they have learned during their tenure</td>
</tr>
<tr>
<td>Medical Student Associations</td>
<td></td>
<td></td>
<td>X</td>
<td>Networking with like-minded students and providing value to members; being on the cutting edge</td>
</tr>
<tr>
<td>Nursing Student Associations</td>
<td></td>
<td>X</td>
<td></td>
<td>Networking with like-minded students and providing value to members</td>
</tr>
<tr>
<td>Pharmacy Student Associations</td>
<td></td>
<td>X</td>
<td></td>
<td>Networking with like-minded students and providing value to members</td>
</tr>
<tr>
<td>Boards</td>
<td></td>
<td></td>
<td>X</td>
<td>Ensuring boarded members will be good practitioners</td>
</tr>
</tbody>
</table>

## Motivation – Ideas to Try

**Getting Started:**
- Identify what has impressed you
- Canvas potential participants
- Find or use milestones and red letter days
- **Complete a stakeholder analysis**

**Accelerating Good Work:**
- Update and celebrate – data, cases, successes
- Keep up your own motivation
- Identify participant milestones and key dates
- **Move a stop partner to a let partner, move a let partner to a help partner**
Foundation - Who else has adopted the intervention?

- Include letters of support
- Kick off calls with high ranking leaders
- Tell the story of the change
- Find examples that look like intended adopters
Your Planning

- Who already has success?
- Finding bright spots
- Who at your organization should make the ask?
- Find examples from many settings
- Create affinity groups
- Sequence change – envelope version ok

Foundation – Ideas to Try

*Getting Started:*
Build publicity around early adopters
Identify well-liked peers (individuals and facilities)

*Accelerating Good Work:*
Develop an alignment grid
Identify new groups to engage
Update publicity to include new stories and examples
Network Building- What is the infrastructure for connection between participants?

Value of Recognition

“Not sure if you had anything to do with this recognition, but you have no idea how much it has impacted our hospital. It has given us the jolt of energy around quality that we needed. We have focused all week on celebrating and refocusing around quality. Thanks for all you do. You really make the fight worthwhile!”

-Hospital Quality Manager
Network Building – Ideas to Try

**Getting Started:**
Think about where you want to be at the end of the work; imagine an infrastructure to accomplish it
Who would be the first two people you’d want to include and with what frequency and format would you like to connect?
Create a node or faculty structure

**Accelerating Good Work:**
Test new ways of connecting network members
Identify additional contacts
**Identify opportunities for recognition and celebration**

---

**Issues**

- Know the evidence – tell the truth
- Patients want to learn
- Tools are helpful
- All teach, all learn
- Be consistent
- Stay in touch
- Be encouraging
Implementation: Reviewing all Three Years

Year 1

- Expert meeting
  - How to use faculty wisely
  - Start with patient story
  - Driver diagram x2 (project design and content)
- Build content
  - Branding, name, and slogan
  - Develop dissemination materials (what is the principle/what we think will happen)
    - How-to Guide
    - FAQs
    - Business Case
    - Surgeon one-pager
    - Measurement tracker
    - Listserv and website
  - Have surgery yourself 😊
- Recruitment strategy
  - States and hospitals (provided text for newsletters, rolling for hospitals, fixed for states)
  - IHI didn’t collect data!
  - Endorsement from national group
<table>
<thead>
<tr>
<th>Network Building</th>
<th>Motivation</th>
<th>Foundation</th>
<th>Aim</th>
<th>Nature of the intervention</th>
<th>Nature of the social system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Started Kit (GSK)</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measurement information</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expedition calls</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business case</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toolkit for surgeons and anesthetiologists</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement tools</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient and family 1-pager(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Newsletter and electronic updates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Mentor hospital support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>In person site visits</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Virtual discussion groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Specialized dissemination materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Monthly node work group calls</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Year 2

- Two six-month waves
  - testimonials from Cohort 1 to recruit Cohort 2 facilities
- State calls
- Call series for hospitals
  - Structure of the 60 minutes
  - Action periods between calls
  - Surgeon/MD calls
- State site visits (town hall meetings, annual conferences…)
  - Created Rosie Bartel video
- Fine-tune materials
- Identify exemplars
  - Application process and tool collection
- Prepare for national spread

Rosie video
Site Visits

Preparing for Your Project JOINTS Site Visit

The JOINTS Site Visit is designed to enhance the success of the project by providing valuable insights and feedback from site visits. To ensure a successful visit, please follow these guidelines:

1. **Decide your objective from the outset:** exploratory, evaluative, celebratory
2. **Give clear input to the hosting team on who, what, where, when in your expectations:**
3. **Meet with an array of roles:** leaders, middle-managers, front-line admin and health care staff
4. **Use a pre-planned feedback form**

Agenda and Feedback Form: Project JOINTS

Year 3

- National spread and site visits
- Support evaluation
- Preparing for journal publications and national media
- Applying for other grants to build off this work
- Incorporating into further IHI offerings (TDABC/HBS)
By the Numbers – Program Highlights

- 350 enrolled facilities in 10 original states
- 38 exemplar/"mentor" hospitals
- Visits to 25 states
- Support from the American Academy of Orthopedic Surgeons and Award of Excellence at annual meeting
- Over 1000 listserv messages
- 150-500 participants on each call
- 32 mentions in the media – including Wall Street Journal

Break!

- Please be back in 15 minutes
- Share questions with us during the break so we can properly address them when we’re back together
What are we learning?

The Kirkpatrick Evaluation of Learning Framework has four levels:

- **KP1** What was the participants’ experience?
  - Did the participants have an excellent experience working on the improvement project?

- **KP2** What did the participants learn?
  - Did they learn improvement methods and begin testing?

- **KP3** Did they modify their behavior?
  - Did they work differently and see change in their process measures?

- **KP4** Did the organization improve their performance?
  - Did they improve their outcomes?
Evaluation of Project JOINTS

- Project JOINTS Aimed to:
  - Activate the IHI Rapid Spread Network to disseminate the Enhanced SSI Prevention Bundle to hospitals in 10 states.

- The Project JOINTS Evaluation aimed to:
  1. Compare adoption of the Enhanced SSI Prevention Bundle in states before and after the implementation of the spread strategy
  2. Assess the factors influencing the effectiveness of the IHI spread strategy
  3. Compare rates of SSI following hip and knee surgery before and after the implementation of the IHI Rapid Spread Network.

Conceptual model for Project JOINTS. JOINTS, Joining Organizations IN Tackling SSIs; SSI, surgical site infection; IHI, Institute for Healthcare Improvement.


Copyright © BMJ Publishing Group Ltd and the Health Foundation. All rights reserved.
Cluster Randomized Controlled Trial Design: What we planned

Two cohorts of 5 states with a 6 month intervention period followed by national roll-out

Cluster Randomized Controlled Trial Design: Oops!

Two cohorts of 5 states with a 6 month intervention period followed by national roll-out
Cluster Randomized Controlled Trial Design: What we did

Two cohorts of 5 states with a 6 month intervention period followed by national roll-out.
Adoption of the Enhanced SSI Prevention Bundle

Factors influencing the effectiveness of the IHI spread strategy


Copyright © BMJ Publishing Group Ltd and the Health Foundation. All rights reserved.
Factors influencing the effectiveness of the IHI spread strategy

- Participants reported value in being able to learn from one another.
- Adherence to QI methods was a strong predictor of adoption of the SSI reduction practices.
- More complex components were challenging to implement.

The authors concluded that:

“This association between adoption of evidence-based practices and QI methods adherence (developing a plan, forming an implementation team, and conducting small-scale tests of change) is consistent with prior literature suggesting that basing a campaign on systematic use of QI methods is an important pathway towards its effectiveness.”

Rates of SSI following hip and knee surgery Network

KP2

KP4
Conclusions

The evaluation provides rigorous evidence supporting the use of campaign-style approaches to accelerate the adoption of simple, evidence-based practices.

Communications and Story Harvesting

Jo Ann Endo
3-Step Communications Strategy

- Identify target audiences
- Customize messages
- Tailor materials

Target Audience: Surgeons

- Message: Implementing three key evidence-based interventions will help reduce SSIs
- Spokespeople: Surgeons speaking to surgeons
  - Project JOINTS testimonials
  - Addressing concerns raised by surgeons
- Materials:
  - Handout summarizing evidence for the three interventions
  - Videos featuring surgeons speaking to surgeons
Testimonial from a surgeon

- Fear of scaring patients

"At first, I was concerned that using the patient education materials would make them skittish. In fact, patients were delighted. People seem to appreciate that we're speaking specifically to [the risk of infection] and not glossing over it. We don't get push back; we get thank-yous!"

Brian McCardel, MD
Head of orthopedic surgery at Sparrow Hospital
Lansing, MI

Surgeon-to-Surgeon Videos
Target Audience: Implementation Team

- Message:
  - Project JOINTS provides helpful free tools and resources.
  - Peer-to-peer support is available.
  - “Why wouldn’t you join [Project JOINTS]?”
- Spokespeople: Exemplar Hospitals
- Materials:
  - How-to guide
  - Webinars
  - Exemplar Hospital presentations
  - Listserv

Target Audience: Leadership

- Message:
  
  *Project JOINTS participation makes good business sense*

- Business case
- Customizable press release template
Target Audience: General Public

Message:

*Patients have a role to play in preventing Surgical Site Infections*

- Educational materials for patients
- *Wall Street Journal* article
Internal Learnings

For us:
- Recruitment
- Competition in the field
- Working with external evaluators

To support our hospitals:
- Finding examples of success earlier
  - Understand variation in different settings (rural vs. urban, large vs. small)
  - Importance of classes and providing CHG (didn’t know this at first)
Planning Time

Developing Your Action Plan

Change takes place when people decide to take action. *What action do you want to take?*

- Who do you need to talk to when you get back?
Developing Your Action Plan

Change takes place when people decide to take action. *What action do you want to take?*

- Who do you need to talk to when you get back?
- What information will you still need?

Developing Your Action Plan

Change takes place when people decide to take action. *What action do you want to take?*

- Who do you need to talk to when you get back?
- What information will you still need?
- In one year, if you were to have wild success, what will have been the factors of this success?
Developing Your Action Plan

Change takes place when people decide to take action. *What action do you want to take?*

- Who do you need to talk to when you get back?
- What information will you still need?
- In one year, if you were to have wild success, what will have been the factors of this success?
- In one year, if this project was a flop, what will have been the factors of this failure?

Developing Your Action Plan

Change takes place when people decide to take action. *What action do you want to take?*

- Who do you need to talk to when you get back?
- What information will you still need?
- In one year, if you were to have wild success, what will have been the factors of this success?
- In one year, if this project was a flop, what will have been the factors of this failure?
- What would you like to see in place in 30 days? In 90?
Developing Your Action Plan

Change takes place when people decide to take action. *What action do you want to take?*

- Who do you need to talk to when you get back?
- What information will you still need?
- In one year, if you were to have wild success, what will have been the factors of this success?
- In one year, if this project was a flop, what will have been the factors of this failure?
- What would you like to see in place in 30 days? In 90?
- **What will you try by next Tuesday?**

Questions?

- Kate DeBartolo
  - kdebartolo@ihi.org
- Kathy Duncan
  - kduncan@ihi.org
- Jo Ann Endo
  - jendo@ihi.org
- Gareth Parry
  - gparry@ihi.org