IHI Innovation Relay

International Forum on Quality and Safety in Healthcare

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Objectives

- Articulate the uses and approaches to innovation and how they can be applied to solve problems in health care organizations

- Learn Innovation strategies: scanning, idea generation, prototyping and theory building

- Participate in a rapid design process to identify a problem and begin building prototypes that can be tested in their home organizations and across others
Our Mission
To improve health and health care worldwide.

Our Vision
Everyone has the best care and health possible.

Who We Are
IHI is a leading innovator in health and health care improvement worldwide, joining forces with the IHI community to spark bold, inventive ways to improve the health of individuals and populations.
The Way We Work

**Goal:** Build reach and will to accelerate the pace of improvement worldwide

**Goal:** Harvest, create, and test bold, innovative ideas and new models of care that support our strategic initiatives

**Goal:** Offer programming to transfer knowledge and build improvement capability

**Goal:** Leverage strategic partnerships and key initiatives to achieve ambitious improvement goals
Healthcare Delivery Innovation

Outcomes vs. Cost

1940s vs. Today vs. Biomedical Innovation

Chris Trimble, Tuck Business School
INNOVATION IS NOT AN EVENT
INNOVATION IS NOT A PRODUCT
INNOVATION IS A PROCESS...
...WITH VARIOUS VISUALIZATIONS.
# Innovation & Improvement

<table>
<thead>
<tr>
<th>Continuous Improvement</th>
<th>Innovation</th>
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<tbody>
<tr>
<td>The act of raising to a more desirable quality or condition—<em>to make better</em></td>
<td>Introducing genuinely new methods, ideas, or products—<em>to make new</em></td>
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<td>Mental model = elimination; making something (i.e. performance problems) go away</td>
<td>Mental model = creation; making something new</td>
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A visualization

Quality Control  Quality Improvement  Innovation
Where Does Innovation Come From?

- Innovations come from within research and industry (e.g., diagnostics, therapeutics, technology)

- “Bi-directional” innovations (e.g., community care givers, pt extenders, NPs) – Nigel Crisp

- Disruptive innovations (e.g., mobile communications technology) – Clayton Christensen

- Innovations come from the “lead-users” (staff & patients) – Von Hippel
“Bi-Directional” Innovation…Learning from Low Income Settings

- Plumpy’nut for malnutrition
- Sunflower seed oil for premature infants
- Cataract Surgery at Aravind Eye Care Hospital
- 30 min or your money back’ – Fortis patient experience
# Disruptive Innovations

<table>
<thead>
<tr>
<th>Disruption theory</th>
<th>Private sector example</th>
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<tr>
<td>Usually introduced or successfully taken to market by an “outside” organization. Existing competitors rarely introduce disruptive innovations. When they do, they rarely succeed with it in the newly created market.</td>
<td>Netflix introduced DVD by mail when DVDs were still relatively new. Netflix was an entirely new player in the home video market.</td>
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<td>Typically targets an underserved or entirely new market. The innovation initially targets a set of users who do not need the complexity of existing products.</td>
<td>Southwest Airlines’ cheap flights first targeted Texas business travelers who previously had to drive between Dallas, Houston, and San Antonio, and, later, leisure travelers who did not regularly travel via airplane.</td>
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<td>Initially inferior to existing products. The innovation typically begins by offering worse performance than current or existing products. It is, however, considered “good enough,” and may be “simpler” than the status quo.</td>
<td>The first digital cameras had slow shutter speed, poor resolution, and fewer capabilities than traditional film cameras. Today, digital cameras are the primary types used in the market, with capabilities surpassing those of many film cameras.</td>
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<tr>
<td>Less expensive than traditional or current products. Existing products generally become overly complex as new “features” are added, and therefore become more expensive. When introduced, the disruptive innovation is significantly cheaper than similar products.</td>
<td>Compared to professional dental whitening, which costs on average US$400, whitening strips offer similar results with a less cumbersome process and a cheaper price tag of US$44 for two weeks.</td>
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<td>Typically advanced by an enabling technology. Disruptive innovations are powered by a technology that independently experiences rapid improvements in performance; think of computing, mobile communications technology, nanotechnology, and biotechnology. This factor helps drive the disruptive innovation toward increasingly complex markets.</td>
<td>The Internet allowed Netflix to introduce a new business model by first offering Web-based DVD rentals and, later, instant video streaming.</td>
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Lead-user design
Why IHI Focuses on Innovation?

- Other industries have something to teach healthcare.
- Systems are designed to achieve the results that they are achieving.
- More ambitious aims: old ideas aren’t good enough.
### Innovation Methods Spectrum

<table>
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<tr>
<th>Innovation Lab</th>
<th>90-day Learning Cycle(s)</th>
<th>Innovation Relay</th>
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<tbody>
<tr>
<td><strong>With Partner</strong>: Partner has dedicated time for engagement</td>
<td><strong>For/With Partner</strong>: Partner has limited time for ongoing engagement</td>
<td><strong>For Partner</strong>: Partner has limited time but desires engagement of teams in solution finding</td>
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<tr>
<td>Timeline: <strong>6 weeks</strong></td>
<td>Timeline: <strong>3-6 months</strong></td>
<td>Timeline: <strong>3 months</strong></td>
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<tr>
<td><strong>Clarity</strong> in the problem that needs a solution</td>
<td><strong>Problem still needs further definition and articulation</strong></td>
<td><strong>Clarity</strong> in the problem that needs a solution</td>
</tr>
<tr>
<td>Problem needs a <strong>design solution</strong></td>
<td><strong>Problem needs a research solution</strong></td>
<td>Problem needs a <strong>team-based approach to finding a solution</strong></td>
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<tr>
<td><strong>Prototype</strong> is primary focus</td>
<td><strong>Principles</strong> and theory refinement are emphasized over the development of prototypes</td>
<td><strong>Prototype</strong> is primary focus</td>
</tr>
<tr>
<td>Building and exercising <strong>prototypes</strong> leads to learning</td>
<td>Articulating/validating <strong>theories</strong> inspires/informs developers</td>
<td>Building and exercising <strong>prototypes</strong> leads to learning</td>
</tr>
<tr>
<td>Produces a <strong>tailored solution</strong> to the problem under investigation</td>
<td>Produces a <strong>set of principles or theoretical framework</strong> that can guide further development of prototypes and specific solutions</td>
<td>Produces an energized set of <strong>creative teams</strong></td>
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<td></td>
<td>Produces multiple <strong>tailored solution</strong> that require further testing</td>
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## Six Themes for IHI Innovation Projects

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<tr>
<th>Standardization</th>
<th>Coordination</th>
<th>Improved Decision Making</th>
<th>Find Analogous Situations</th>
<th>Simplification</th>
<th>Removal of accepted system faults</th>
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<tbody>
<tr>
<td>Bundles</td>
<td>Transitions for health systems</td>
<td>What matters to You</td>
<td>Improving handoffs</td>
<td>Remote monitoring of patients</td>
<td>Triple Aim definition</td>
</tr>
<tr>
<td>High reliability systems</td>
<td>Safe transitions for elderly patients</td>
<td>Palliative Care</td>
<td>Risk resilience</td>
<td>Optimizing stroke care</td>
<td>Primary Care 3.0</td>
</tr>
<tr>
<td>Production system design</td>
<td>Integration of behavioral health and primary care</td>
<td>Antibiotic stewardship</td>
<td>Business Case</td>
<td>Real-Time Demand Capacity for Flow</td>
<td>Execution Framework</td>
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Redesign the Communication Experience

Goals for next hour:

- Experience innovation and design thinking for yourself.
- Your challenge: Redesign the communication experience between patients and providers
- Leave this session with a new approach to speaking to your own doctor
- Have some fun & meet new friends
Design begins with empathy

- Pull out whatever device you use to communicate with your friends & family.

- Starting point: Examine each other’s phones, tablet, etc and learn how your partner uses their devices to connect with their loved ones.

5 min for Interviewer #1, then switch
5 min for Interviewer #2
Dig Deeper

- Now dig deeper: How do you prefer to get good news? What about difficult news? When do you stop written communication and switch to verbal?

- Ask “why” often…try to really dig for stories, emotion, understanding

- Note any surprising insights or unexpected discoveries

- 5 min for Interviewer #1, then switch
- 5 min for Interviewer #2
Capture findings

- Synthesize your learning into a few ‘needs’ of your partner, and a few ‘insights’ that you find interesting.

- ‘Needs’ should be verbs

- ‘Insights’ are discoveries or observations that you might leverage when creating solutions.

3 minutes
Problem Statement

- Select the most compelling need and most interesting insight and write down a single problem statement.

- Start here: "Lindsay needs a better way to communicate with her doctors. To do this Lindsay needs ___, ___, ___. In her world, ___ (insight)."

- “Lindsay needs a better way to communicate with her doctors. To do this Lindsay needs short, frequent contact, that seamlessly integrates with her busy life. In her world, Lindsay loves to talk on her old school wired home phone!"

- "Lindsay needs a better way to communicate with her doctors. To do this Lindsay needs short, frequent contact, that seamlessly integrates with her busy life. In her world, Lindsay loves to talk on her old school wired home phone!"

- This is the statement that you're going to address with your innovative design so make it juicy and actionable!
Ideate – Draw

- Write the problem statement at the top of the page.
- Create solutions to the new challenge you’ve identified.
- GO FOR VOLUME! & GO FOR PICTURES!
- This is time for idea generation, not evaluation—you can evaluate your ideas later.
- DRAW at least 3 pictures of possible solutions

5 minutes to DRAW
Share solutions

- Now it’s time to share your sketches with your partner!

- Note likes/dislikes and builds on the idea, and listen for new insights in your partner’s responses.

- This is another opportunity to learn more about your partner’s feelings and worldview.

- Fight the urge to explain and defend your ideas—see what they make of them!

5 min for Interviewer #1, then switch
5 min for Interviewer #2
Your new solution

- Now, consider what you have learned both about your partner, and about the solutions you generated.

- From this new understanding sketch a new idea – could be a variation on an idea from before or a completely new idea.

- Try to provide as much detail & color around your idea as possible.

- How might this solution fit in the context of your partner’s life?

- When and how might they handle or encounter your solution?

5 minutes
Your Turn
Next steps…

- Similar exercise with providers
- Would be to build a physical prototype or simulation of the communication experience

...then test, test, test…
Why test?

- To increase the degree of belief that your idea will result in improvements in your setting
- To learn how to adapt the innovative idea to real world
- To evaluate the costs and “side-effects” of the innovation
- To minimize resistance when ready to spread
The power of this process

- Human centered design
- Getting past your first idea quickly
- Getting to a testable prototype in hours not weeks
- A bias towards action and understanding
- Show don’t tell
- Iteration and refinement
Applications to healthcare

- How to change a ‘service’ or an ‘experience based aspect’ of our healthcare system…
  - Waiting room experience
  - Diabetes management
  - ER workflow
  - Non-visit experiences (communication in between visits)
  - Community-based care experiences
  - Rounding experience (for patients and providers)
  - OR team process & workflow pre-incision
What is behind the process

- When undertaking a major initiative:
  - This is an exercise, not the end product
  - This is an engagement/jumping point used periodically throughout a full design session
  - This is a way to demonstrate that everyone can have a role in innovation (although they may not find it comfortable)
  - This type of work is preceded by an short but intense period of research and observation
Concluding thoughts

- What are some experiences, services, or products that need redesign in your work?
  - Think small
  - How will you evaluate?

- Practice making connections in your everyday life…Where do I visit everyday that might have lessons for my work in healthcare?

- Use a process, any process, that builds on empathy, human-centered design, prototyping and iterative learning
Questions?

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