

# Innovating in Health Care – an Environment Adverse to Change



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Decades of practicing medicine have created a system that teaches physicians and members of the care team best practices to replicate standardised behaviours, the very antithesis of change. In health care, the antibodies to change are embedded in the culture and the training of the employees who provide care. It is a finely tuned workplace environment that strives to drive out variance, understands the hard science of quantitative measures, and embraces standardisation of care practices with the intention of keeping patients safe, all while creating safety standards and efficiencies intended to reduce cost with streamlined services. Medical errors are usually the result of a procedure or a process that was missed: reinforcement that doing something out of the norm can cause a mistake.

It is perhaps this very culture that has created a system of healthcare in America that has not changed the model of care delivery in over a century.

Setting the stage, and creating the buy-in among leaders and employees to question – even simply suggesting that there are service changes to be made – has become an art in itself. Medical knowledge, previously owned solely by the physician, is now readily accessible to anyone with an internet connection. Shared decision-making

and the intensive nature of the clinical interaction it requires is well ingrained in health care. All of these elements require clinics, hospitals, and health systems to approach care delivery differently. Traditional business models are insufficient. These largely analytical and incremental approaches will not yield the transformational changes needed to anticipate and respond to these forces.

Health care organisations desperately need innovation in procedural

techniques, protocols, roles and tools. However, some of the most powerful opportunities for innovation can be found in the way that patients experience health care: the service of medicine. Health care organisations simply cannot continue to practice and deliver care the way they have for the last 50 years. This change requires conviction and confidence and will take extraordinary acts of imagination by all of us.

**A Paradigm Shift Is Needed**

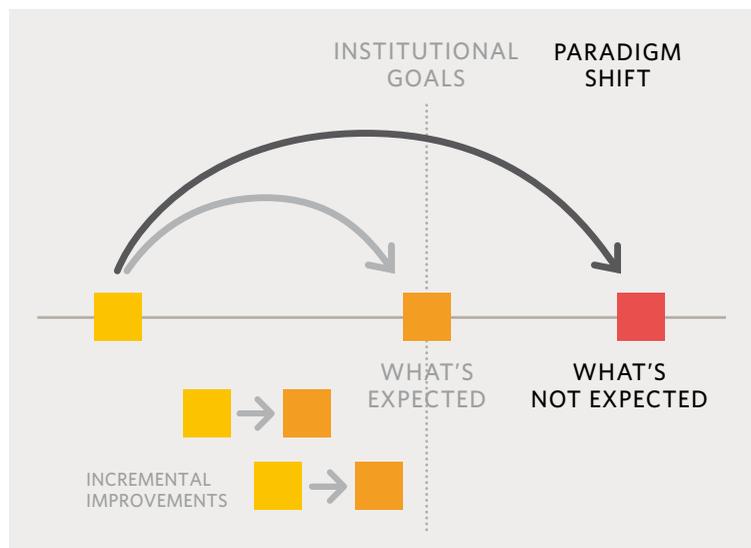
Often, we have a very clear view of where we are going when we face a challenge and begin by figuring out the incremental steps that will get us there. This is a predictable and familiar way to meet objectives. This is especially true when we are trying to implement institutional goals. We can confidently get the expected results through a series of well-planned, managed stages. However, what often happens in this situation is that the goal sits neatly in our crosshairs... and does not move. Incremental improvements will never lead an organisation beyond what is expected.

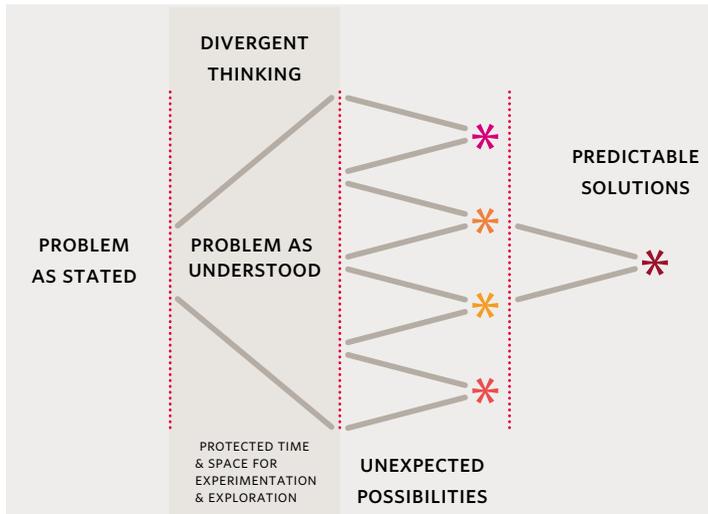
If something can be clearly described then it is not the future. A goal as articulated is a function of the need for consensus and agreement. The problem as stated will lead to a predictable solution, and not the

paradigm shift necessary to implement true organisational change. The real goal is far beyond what can be described, or even imagined.

**Think Big, Start Small and Move Fast**

The Mayo Clinic Center for Innovation’s (CFI) patient-centred mission is to transform the way health care is experienced and delivered. The key to our approach is in how we frame and understand our objectives. We know we will never realise the potential of an endeavour if we drive too quickly towards solutions. However, through





divergent thinking, collaboration and a commitment to experimentation, we will identify multiple possible outcomes. By doing this we mitigate risk, greatly increasing our potential for success.

Divergent thinking is key to the Center for Innovation's fusion of design thinking and the medical practice within Mayo Clinic. CFI brings together people from diverse disciplines to use human-centred participatory research and design methodologies. We look beyond the problem as defined during a protected period of experimentation and exploration to allow for unexpected possibilities. At a high level, our work is based on a process that includes planning, research, synthesis, prototyping and implementation. The core of the activity is centred around the research component. This is where we build out a model of the landscape for design. It's a best shot at imagining the future: it's where we assemble everything we can learn about the current task, including a deep understanding of the past and present landscape.

The second phase of research is through experimentation. We build to think. This is a period of rapid, spontaneous, low-res, low-tech experimentation. Insights and findings from these experiments are combined to maximise the range and number of concepts to prototype. Once concepts are made tangible

we are then able to display, evaluate and evolve an idea.

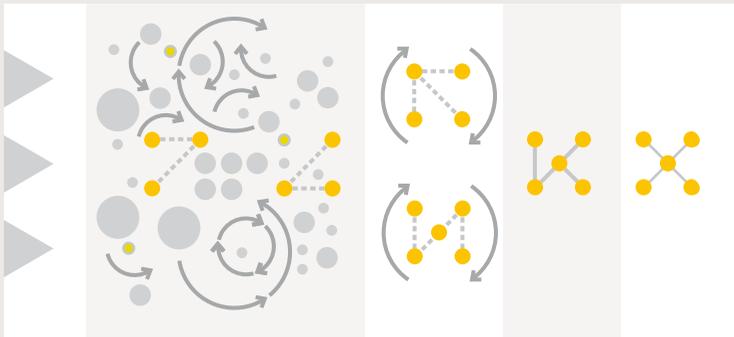
An experiment is a means to an end, not an end in itself. It's an opportunity to create a situation for people to collaborate and try things together, and to do things differently and to then talk about how it felt. Experiments are opportunities to learn unexpected things. In the end, the value comes from the conversation the moments trigger: the experiment itself disappears. What is said and felt is what we pay the most attention to. People reacting to the experience, building upon it, making it better and more relevant is where the really good ideas come from. Through taking chances and learning from failure as much as success, we co-create innovative solutions to ultimately implement in a real world context to validate and pilot. The people who introduce novel ideas might be physicians, nurses, administrators, secretaries, desk attendants, engineers, designers, custodians, researchers, lawyers, computer programmers or volunteers. Together, they help make the invisible, visible. Most importantly, patients are crucial partners in our innovation journey. At CFI, we ask these stakeholders to participate and validate our experiments at every step of the way. Each project encounter with CFI creates internal evangelists who sing the praises

of the process and the changes that the Center for Innovation team inspires, spreading the word between specialties about CFI's unique methodologies and our contributions to their environment. CFI leaders also present the team's work to the broader enterprise leadership and include observations, testimonials, measurements, data (both qualitative and quantitative) that encompass efficiencies, improved patient encounters and improved work environments for the staff. All of this contributes to a more open attitude about approaching health care delivery from a new direction.



CENTER FOR INNOVATION METHODOLOGY

WE INNOVATE BY USING DESIGN THINKING, DEEP COLLABORATION AND RAPID EXPERIMENTATION TO CO-CREATE THE UNPARALLELED HEALTH CARE EXPERIENCE.



SCANNING AND FRAMING    RESEARCHING AND EXPERIMENTING    SYNTHESIZING    PROTOTYPING    IMPLEMENTING

1. CFI designer, Maggie Breslin, leading a workshop  
 | 2. CFI designer, Caroline Lu (lower right) and Amber Caron (Care Assistant), synthesizing information after a workshop

Mayo Clinic  
Exam Room  
1954-2004



*"We've realized that we need to interact with patients in a setting more conducive to consultation. Only a small portion of a clinical visit today involves a physical exam. Traditional exam rooms, however, are dominated by the tools needed for that activity," says Dr. Mundell, M.D., of the Division of General Internal Medicine (GIM) at Mayo Clinic in Rochester, MN. "The computer has become an active participant in the conversation. We've found that it's better to be able to share screen views with our patients. Current exam rooms don't allow that."*



Prototype of Jack-and-Jill Room, conversation side (above) and exam side (below).



*Building these re-imagined rooms began fast and simple: brainstorming and mocking up cardboard prototypes of how the space could be laid out. These low-fidelity rooms were then used in story telling and mock-visits where inputs for changes were received. Once the team felt that had a better room design, Mayo facilities was engaged to build up real space with two sample setups for CFI to further evaluate the room's layout. This outpatient laboratory became a unique clinical space where real patient volunteers visited with real physicians.*

Completed Jack-and-Jill Room in General Internal Medicine



**A New Patient Exam Room  
– Jack-and-Jill Suites**

*Named the Jack-and-Jill-Suite because the final design included two consult rooms sharing a single exam space, this is one example of CFI's active experimentation process for testing new ideas. From 2006 through 2010 our design team engaged with practice teams to re-visit the design of the patient visit room and the effects of that design on the encounter between patients, physicians and care teams. The premise of this experiment was that medical examination rooms haven't changed much in the last 100 years, however among other developments in the practice, the computer has changed the dynamics of physician-patient interaction.*

*When GIM planned its move to a new space Dr. Mundell teamed with the Center for Innovation and the Department of Facilities to develop the first new major exam room innovation at Mayo Clinic in decades.*

**Key Insights**

The lessons CFI has learned over the years are many. The primary lesson is that creating buy-in involves partnerships and collaborations that increase the value for all involved. Storytelling to key leadership and among employees creates this buy-in, as well as a safety net to work under, while also generating more partners and continuing the momentum. Other insights include:

**Play – Don't Invest a Lot of Time and Resources into Any One Experimental Idea Too Quickly**

Having a casual and curious attitude makes the success of any one direction less precious. Often the experience of trying new ideas and perhaps even learning from their failure leaves you open to discovering the unknown and unexpected.

**Document – Record What You See in a Comprehensive Manner**

How you document depends on the situation. You can take notes, make sketches, audio recordings, video clips and take digital photographs. Anything that captures the rich detail of what you are observing will help you interpret and share your findings.

**Synthesise – Question and Interpret What You See Happening**

What do your observations tell you about larger themes? This is a period to use the technique of going back and forth from the specific to the general and back to the specific. Develop principles from

the specific observation: reapply them to other observations to see if they fit.

**Share – Display Your Findings, Photos, Artefacts and Notes**

Observation is not a solitary activity. The interpretation and synthesis is enriched through sharing, while the meanings and different perspectives and experiences will shape themes that emerge. Set up a dedicated space – a project room – for this purpose. People respond to visual cues. As the project evolves, it becomes a living space where the work is visible and the story can best be told.

Creating meaningful changes in a health-care organisation is not easy and requires purpose and commitment around well-executed experiments with engaged and committed partners. This takes time, documentation and storytelling. The landscape around health care delivery is changing, and the more we understand the surrounding driving trends, the greater our perspective will be on what is needed to meet the demands of the future. ●

**Thanks and recognition to co-authors**

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