Transformations: 2007 Innovation Symposium Addresses New Health Care Delivery Models and Strategies

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Abstract This article synthesizes the discussions and conclusions of a 2007 symposium on innovations in health care delivery and economics sponsored by Mayo Clinic’s Department of Internal Medicine, Rochester, Minn.

“Transformation: A Symposium on Innovative Health Care Delivery,” communicated what current innovations in health care delivery look like, what the frontiers of innovation seem to be, and what elements are necessary to support innovation and change.

Over 200 health care practitioners and experts in the innovation and design fields learned how Renaissance Health of Cambridge, Mass., delivers low cost, primary care to people who can’t afford insurance premiums, and how Blue Cross Blue Shield of Minnesota, based in Eagan, Minn., created a partnership with primary care providers to deliver specialty diagnoses to patients without additional office visits. They also heard how MinuteClinic based in Minneapolis, Minn., was able to expand its practice throughout the United States by bringing their services directly to patients in convenient consumer locations.

These innovations could be attributed to several business re-engineering strategies that rely on getting closer to what the consumer is thinking and feeling. Design and innovation firms suggested empathy as a pathway to improved customer services. Renaissance Health even called on Disney Imagineers to help them develop a practice that could deliver what few other health care organizations have been able to – unsubsidized primary care to poor Americans.

The symposium helped create useful partnerships and initiate critical dialogue among those who can truly have an impact on American health care delivery. It was a timely addition to the national debate in which many citizens, politicians and policy makers are engaged.

Introduction

Late in 2007, Mayo Clinic’s Department of Internal Medicine, Rochester, Minn., hosted its first-ever innovation symposium. The audience for “Transformation: A Symposium on Innovative Health Care Delivery,” included 200 practitioners and thought leaders in health care, design, and innovation. Discussions were engineered to help encourage and create unique partnerships that could improve health care delivery and economics. This article synthesizes the conference discussions and conclusions by relating the current trends in health care innovation and describing the mechanisms that promote innovation throughout an organization.
The State of Health Care Delivery
Denis Cortese, M.D., president and CEO of Mayo Clinic, Rochester, Minn., welcomed symposium participants and explained how innovation relies on two concepts: taking a new idea or discovery and applying it to the practice, or taking an old idea and using it in new ways to advance the science of health care delivery. He said organizations should prepare for innovation by employing strategies that encourage new thinking and new partnerships.

“The ever-changing health care environment and the ever-changing needs of patients, who will be living longer with multiple chronic conditions, present new opportunities in disease prediction, prevention, and wellness. Symposium participants should forge new partnerships, learn from each other, and create new models of care that reduce illness and disease and provide the best care possible.”

Nicholas LaRusso, M.D., symposium host, and chair, Department of Internal Medicine at Mayo Clinic’s Rochester campus, continued the welcome and explained the rationale for including recognized pioneers in innovation, design strategy, retail, manufacturing, and the hospitality industry with some of the nation’s brightest health care practitioners.

“Academic medical centers such as Mayo Clinic have an opportunity and an obligation to partner with others inside and outside the health care industry to develop optimal models of health care centered around the needs of the patient. Health care organizations operate in an environment of uncertainty, which prevents or discourages innovation, particularly transformative innovation which is essential to advancing a new and better model of health care delivery.”

Dr. LaRusso quoted a 2006 Voluntary Hospitals of America (VHA) Health Foundation report called “The Power of Innovation,” that critiqued the status of the American hospital system:

“The end result is a system of health services that, at the technical level, involves some of the most advanced science on the planet, but is based on business models and delivery systems that are decades, and even centuries old. When compared to other industry sectors such as technology and transportation, health care has fallen way behind in its ability to innovate.”
DISRUPTIVE INNOVATION  Delivering Additional Access to High Quality Health Care

Michael Howe's career as chief executive officer of MinuteClinic, Minneapolis, Minn., is distinguished by his ability to identify consumer needs, create a strategic vision and build nationally recognized brands. He presided over the national expansion of MinuteClinic from 19 clinics in two states to more than 400 clinics in 25 states. During this panel discussion, Howe described MinuteClinic’s new model of primary care delivery from conception through to its adoption by consumers.

Howe says the MinuteClinic model is a deliberate attempt to move outside the traditional medical system and look to other industries for service delivery. Quality of care, access to care, and continuity of care — the three imperatives of health care — remain part of the model, but its strategic intent is to redefine integration in health care. MinuteClinic’s mission is to integrate high-quality health care solutions into consumers’ lifestyles, unlike the traditional concept of integration.

Historically, health care integration has meant bringing all resources to one place. As long as the patient or the consumer is willing to come to the provider on the provider’s terms at the provider’s location, the provider can solve whatever problems the consumer wants.

Instead of one-stop-shopping for any and every health care need, MinuteClinic places a limited number of services where people do other shopping — integrating into the consumer’s lifestyle instead of into the bricks and mortar of full-service systems. MinuteClinic applies an ATM machine concept to health care by focusing on a small range of services. For health care that means binary, acute and episodic care.

Once MinuteClinic decided on its range of treatment services, it was able to create a system to deliver these services with a focus on the patient. The system includes an exam room designed to provide for all targeted services; delivery of most services within 15 minutes; clearly posted services and prices; no appointments necessary — patients are treated in order of arrival; and limited capital-intensive equipment with only specific diagnostic supplies. Another important differentiating element of MinuteClinic is its ability to provide access to medical records and services in multiple locations throughout the United States.

INNOVATION IN ACTION  What does innovative health care delivery look like? Four breakthrough innovations in health care delivery were discussed during the symposium: 1) MinuteClinic, based in Minneapolis, Minn., and how it developed its market strategy to deliver limited services in convenient, cost effective ways, 2) proof of concept pilots led by BlueCross BlueShield of Minnesota, based in Eagan, Minn., who partnered with Mayo Clinic’s Department of Internal Medicine in Rochester, Minn., to create a system that delivers more cost effective and timely specialty care diagnostics to patients, 3) a redesigned private, primary care practice called Renaissance Health based in Cambridge, Mass., that is able to serve the uninsured through low monthly fees rather than high insurance premiums, and 4) how a large group practice, the Texas Children’s Pediatric Associates (TCPA) of Houston, Texas, created a framework for evolving to keep pace with changes in the health care landscape. These four examples demonstrate many of the design thinking and innovation strategies that were promoted during other panel discussions.
Howe cited internal satisfaction scores at nearly 98%, with likelihood to recommend or refer at 98%—patients seem to love it. The University of Michigan Market Strategies Group conducted a poll with similarly high patient satisfaction scores. From a health care experience, people are looking for physiological relief, emotional relief and stress relief. So when MinuteClinic looked at quality, it considered these three parameters.

MinuteClinic also looked at the provider side of delivery. Clinics are staffed by board certified nurse practitioners and, in a few markets, by physician’s assistants. Each provider is supported and evaluated by local physicians. Physicians are available by cell phone for care-related questions and they attend monthly clinic staff meetings. They also review cases through an online medical chart system. This information is used to provide follow-up performance reviews of the mid-level providers and for quality improvement initiatives. Approximately 200 physicians are constantly looking at the performance of clinic providers and treatment provided to patients to evaluate each provider for effectiveness.

MinuteClinic is also active in the referral system. Clinics are designed for acute, episodic care, but when a patient’s needs exceed the scope of services, patients are referred to local providers.

To assure that the treatment provided is the highest possible quality, MinuteClinic embedded the guidelines of each medical condition it treats within its electronic medical record, which acts as a data repository and a decision-support tool. In August 2006, MinuteClinic became the first and only retail health care provider to be accredited by The Joint Commission, headquartered in Oakbrook Terrace, Ill.

RETHINKING SPECIALTY CARE DELIVERY
An Insurance Company’s Transition
MaryAnn Stump, chief innovation officer at Blue Cross Blue Shield (BCBS) of Minnesota, based in Eagan, Minn., is a leader in health care consumerism. She invites health care providers and stakeholders to work collaboratively toward providing people with the information they need to make intelligent health care decisions. As a health care reform advocate, she has engaged employers, health care providers and policy makers in viewing health care from the consumer’s perspective and encouraged innovations in the delivery of high-quality, affordable health care.

During her panel discussion Stump said leaders at BCBS of Minnesota continually ask themselves if the delivery system they designed in the 1930s is working now in relation to changing demographics, market dynamics, policy changes, social structures and consumer expectations.

She said answering this question has led BCBS of Minnesota and Mayo Clinic’s Department of Internal Medicine to collaborate on a virtual consult “proof of concept” project. A virtual consult is defined as a non-visit, rapid turnaround consultation between primary care providers and Mayo subspecialists that offers patients and primary care providers a cost-effective alternative that is locally delivered and advances the Institute of Medicine’s principles of safe, timely, efficient, effective, equitable and patient-centered care.

The ultimate objective is to transform how care is delivered by redefining the relationship between primary care providers and specialists. The concept has the potential to change the competitive landscape by removing geographic boundaries to specialty care and provide primary care practices with an opportunity to differentiate themselves while increasing the delivery of evidence-based care.

In a virtual consult, the provider sends relevant reports to a Mayo Clinic specialist through a secure, e-mail linked e-Health portal. The specialist reviews the patient’s documents and dictates recommendations. The recommendations are transcribed and posted through the portal within 48 hours. The primary care provider reviews the recommendations and discusses next steps with the patient over the phone or during an office visit.

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The initial proof of concept project conducted at Superior Health Center in Duluth, Minn., expands the scope of primary care without requiring an actual clinical visit and it integrates more conveniently into the patient’s life. Results show that patients are more confident about the care they receive from primary care physicians because of the physician's willingness to get a second opinion. It demonstrates that primary physicians are increasing their familiarity with unique cases and the latest treatments. It also proves that the system can respond much more quickly to patients with acuities that can’t be cared for by a primary physician. And finally, the process eliminates many unnecessary specialty consultations, saving time and money for patients, providers and payers.

Fifty-one cases have been generated by 13 primary care providers during the first 6 months of the project. Eighteen different Mayo Clinic specialists were consulted on a diverse range of treatment options. The feedback from both patients and providers is extremely positive with each offering suggestions on opportunities to advance and increase the application of virtual consults. Other metrics being used to evaluate this model include the cost and value of the treatment encounter, provider productivity, and access and choice for patients.

As for organizational lessons, Stump said this project confirmed for BCBS of Minnesota that changing care models is the right strategy and that senior leadership’s commitment to this innovation effort has great potential to establish collaborations across traditional organizational boundaries.

REBUILDING THE PRIMARY CARE MODEL
Re-Imagining Primary Care: Innovating Health Care from the Garage

Rushika Fernandopulle, M.D., cofounder of Renaissance Health, Cambridge, Mass., says primary care is delivered in a “fundamentally awful” way. He is experimenting on a small scale with new practice models and seeks ways to apply more broadly what he has learned.

Dr. Fernandopulle discussed how the current primary care model produces poor quality, dissatisfaction and inefficiency. Most efforts to innovate primary care and health care delivery have focused on incremental changes to the existing system — disease management programs, customer service improvement, group visits — instead of fundamental change.

He decided to seek a process for innovation from experts and industries outside of health care, including Disney Imagineers from the Walt Disney Company based in Burbank, Calif., professors from Harvard Business School in Boston, Mass., and from a small group of doctors across the country who were dissatisfied with the status quo and started their own primary care practices.

In 2004 Dr. Fernandopulle opened Renaissance Health, a private primary care practice, and affiliated with Massachusetts General Hospital, Boston, Mass. The Renaissance Health paradigm is based on re-imagining the delivery system and building on new principles and a new culture of care. Examples he gave include doing a better job of meeting the needs of patients; providing tools and resources to help patients manage their health; jointly creating strategic health plans; providing in-depth patient education; giving unfettered access to help — secure and unsecured e-mail (having patients e-mail blood pressure readings instead of an office visit); making follow-up calls after an appointment to check on issues such as medication compliance; building new staffing structures; creating a robust information technology platform; thoughtfully engaging physical design strategies; and a building a new business model where patients pay a membership fee of $20 to $40 per month instead of pay per visit. The practice has been successful, but growth has required a change in strategy.

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Renaissance has worked with a number of self-insured employers and payers as their allies in smaller markets, taking their primary care model and applying it in different settings. For example, a janitors’ group in Houston, Texas, whose workers receive wages, but not insurance, can’t afford $300 per month for insurance premiums, but they can pay $30 per month for high-quality primary care.

**SHIFTING GIANT PRACTICE GEARS**

*The Next Generation: Creating a New Practice Model*

How can a large operation shift gears and achieve sustainable change? Ayse McCracken, the former president of Texas Children's Pediatric Associates (TCPA), Houston, Texas, a subsidiary corporation of Texas Children’s Hospital, described during her symposium session co-presented with Mark Buchalter, lead for IDEO’s Smart Space Practice division, Palo Alto, Calif., how TCPA’s innovation journey took place.

McCracken was in search of a systematic method for generating sustainable change within her organization. TCPA employs over 180 pediatricians practicing in 41 sites throughout Houston and its surrounding communities. The nation’s largest pediatric practice, TCPA provides primary pediatric care to more than 300,000 children in Houston (approximately 20% of the population).

McCracken and IDEO’s Buchalter transformed the TCPA practice by operating under three principals: 1) they established a platform for change or a way of communicating the context and catalysts for change; 2) they designed a strategy for change based on a consumer-driven approach to innovation; and 3) they created a unique, consistent vision for growth.

Buchalter has led many complex and strategic projects within the health care and higher education industries for clients such as the Ohio’s Cleveland Clinic, Ohio, Kaiser Permanente, based in Oakland, Calif., Nemours Children’s Clinic, headquartered in Jacksonville, Fla., and several major universities. Buchalter’s Smart Space team focuses on strategic innovation where space and environment are primary platforms for delivering customer experiences. They go beyond demographics using tools such as observational research, photo essays and behavior segments to determine what drives customer or user expectations.

To address the challenge McCracken and TCPA presented, TCPA and IDEO teams spent time together with patients and their families, even going to patients’ homes. This work contributed to the creation of conceptual frameworks and maps of the kinds of visit types, to identify when convenience mattered to patients as opposed to continuity of care from the providers’ perspective.

The research established that patients were frustrated and were shopping around for options based on convenience or workarounds of the system. Also, patients were growing out of the system and were not being retained to the full potential relationship. An additional framework that organized the research included behavioral segments that categorized patients according to their attitudes towards health care and providers. The final piece of research focused on the changing work force and care providers’ needs to rebalance work and life.
CREATING INNOVATION POTENTIAL  Design and innovation experts from within and outside the health care industry who presented at the symposium discussed the infrastructure requirements for innovation, mechanisms that promote innovation in an organization, how to support integration of design thinking into daily practice, as well as defining how many different types of innovation exist. In many ways, these instructive sessions supported how the other innovations discussed at the symposium were achieved. They confirmed that successful innovation has some guideposts: 1) organizational commitment at the leadership level helps encourage innovation in the ranks, 2) empathy and prototyping can increase the success of innovation, and finally, 3) going outside your traditional resources to seek help can inspire new forms of innovation.

Frontiers and Battlegrounds of Innovation in Health Care

Larry Keeley, president and co-founder of Doblin, Inc., Chicago, Ill., frequently lectures and teaches about frontiers of innovation and business strategy. During his panel session, he said his task was to “UN-teach” participants what they think they know about innovation — initially, by questioning how innovative the $1.9 trillion American health care industry actually is.

To develop the competency for innovation, Keeley explains, organizations must replace the “myth and lore” of what they think about innovation with a “method and logic” to produce on-demand the disruptive innovations that will define the field.

Keeley gave several innovation examples that demonstrate bold and transformational efforts: 1) focused health care factories that offers a single procedure to patients; 2) practices outside the country that offer health care services at lower costs, bundled with luxury accommodations and experiences such as surgeries and safaris; 3) the trend of deluxe-style and ‘VIP’ or concierge-style health care services; 4) the impact of ‘Health 2.0’ or the virtual communities of support for patients and physicians; and 5) employer-sponsored on-site clinics.

Keeley also described current battlegrounds of innovation in the health care industry: 1) stretching resources by using technologies more efficiently; 2) lowering the cost base for delivering care; 3) creating new incentives for staff; 4) using information and technology for networked observation such as the Global Disease Detection program from the Centers for Disease Control and Prevention based in Atlanta, Ga.; 5) modeling disease life cycle management like the company Archimedes does, or the DNA mapping under way at IBM Corp., based in Armonk, N.Y.; 6) devising new service models that include convenience and VIP clinics; 7) delivering consistent quality outcomes through service substitutes and best-practice amplifiers like focused factories; 8) advocating for quality choices or tailored and personalized health care; and 9) providing transparency and enhanced choices for patients.

Keeley concluded by sharing new paradigms for innovation that could include creating a case manager model; partnering for a universal payer system; providing secure, portable personal health records; identifying new care and value propositions; making wellness the desired lifestyle; nurturing health literacy; customizing wellness, prevention and intervention; making compliance intuitive; and simplifying customer decision making.

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Keith Strier, another session presenter and principal of National Life Science and Health Industry Practice, Deloitte & Touche LLP, Costa Mesa, Calif., discussed how bioinformatics is one direction that health care can achieve great innovation. He introduced his idea after referencing a survey conducted in 2004 by John Glaser, chief information officer of Partners Healthcare, based in Boston, Mass., which found there was little information technology convergence between clinical data and research capability that would encourage data mining. From Strier’s perspective, translating research into practice holds the most promise for innovation.

Strier suggested creating a kind of “open source” data warehouse that would keep patient privacy and anonymity protections in place, but would build bridges for data sharing. There is currently little incentive to share data due to the separation of patient data and the research activity, he said. However, when the National Institutes of Health, based in Bethesda, Md., awarded funding to Mayo Clinic to create one of the first Centers for Translation Science Activity, it was an indication the federal government understood the importance of being able to translate research into clinical practice, allowing those information technology bridges to be built.

What informs and promotes innovation?
Several presenters held that having empathy for the consumer’s experience can create new opportunities for innovation. Tom Dierking, director of design innovation capability with Proctor & Gamble (P&G), Cincinnati, Ohio, has 20 years of experience driving innovation across organizational disciplines and P&G’s diverse product categories. He discussed how he employs three strategies to inspire corporate innovation and “design think”: 1) by understanding real people and having deep empathy, 2) by seeking a point of view that allows you to solve the right problem, and 3) by considering what is possible (effective brainstorming).

Dierking described how P&G’s leadership has supported innovation efforts by creating nontraditional sites away from the main campus that give teams the freedom to focus on projects, to develop new ways of thinking and to build communication strategies around the project.

Suri Fulton, managing partner and chief creative officer of IDEO, Palo Alto, Calif., a design innovation consulting practice, echoed Dierking’s principals. Her session discussed how empathy and insight, prototyping and experimentation and finally empowerment could inspire many kinds of meaningful and consumer friendly service strategies.

One of IDEO’s projects mobilized a group of doctors, nurses and administrators to create an improved patient experience. This group was instructed to observe and record their daily work practices by using a disposable camera and notebook. They were also asked to physically role-play a patient’s journey through reception into the emergency room, or to the hospital room. Because they held video cameras at eye-height through this entire journey, they were able to see the hospital as a patient sees it. These empathy activities inspired the team to generate ideas that included an erasable whiteboard for staff and family members to write messages on that helped personalize patients’ rooms, a rearview mirror for a gurney so that patients could easily see who was transporting them and a mobile blood sampling cart created by a nurse.

Fulton concluded that teaching people how to use design thinking has long-term effects. Once a group of people have experienced a successful project, they tend to incorporate the methodology into their daily life at work. She described working with Kaiser Permanente’s nursing staff regarding the transfer of information during shift changes. Besides developing an effective, more reliable and time-saving solution, the nurses became completely engaged and empowered by the design-thinking process. Fulton said excitement spread by word of mouth throughout the nursing staff. Nurses began to train each other and ended up creating their own unique innovations. The design-thinking process was embraced and supported systemically throughout the organization.
Lou Carbone, founder and chief experience officer, Experience Engineering, Minneapolis, Minn., has spent over two decades developing experience management theory and practice in industries that include travel, health care, retail, technology, financial services, manufacturing, and education. During his session, Carbone talked about strategies that help in customer retention and encourage word-of-mouth promotion. He told participants they must move away from the “make and sell” paradigm to a new “sense and respond” paradigm where customers are part of the product development equation – yet another example of empathy or taking the customer experience into account.

To inform the creation of a customer experience, Carbone relies on a hierarchy of consumer behavior developed by Harvard Business School professors². At the base of this hierarchical pyramid is “satisfaction,” or getting as much (or more than) what is expected. Following satisfaction is “loyalty” defined as repeat purchases, then “commitment,” demonstrating loyalty while telling others of one’s satisfaction. “Apostle-like behavior” is next, and means exhibiting a high degree of loyalty while convincing others to purchase. At the top of the pyramid is “ownership” or taking responsibility for continuing the success of the offering. To create a great customer experience a company must move customers toward the “ownership” end of the spectrum.

Paying attention to the clues your company puts out will help you manage your customer experience, Carbone explained. These clues fall into three categories. “Functional clues” are rational and relate to the functionality of the good or service. “Mechanic clues” are emotional and relate to stimuli — sights, smells, sounds, textures. “Humanic clues” are also emotional, but are stimuli associated with people — choice of words, tone of voice, level of enthusiasm, appearance, and body language. Examples include company symbols, rooms, signs, logos, and messages left on hotel beds. Carbone suggests that creating an innovative service or product involves creating an emotional and a rational bond with your customer through a rigorous management of the clues that the customer picks up on consciously and unconsciously.

References
1. Voluntary Hospitals of America (VHA) and the VHA Health Foundation, “The Power of Innovation,” 2006 VHA Research Series
CONCLUSIONS  The symposium communicated what current innovations look like, what the frontiers of innovation in health care seem to be, and what elements are necessary to support innovation and change. Examples cited small and large scale innovations, as well as intuitive and academic ways to achieve successful innovation, from simply paying attention to customer needs to understanding the hierarchy of experiences that a customer or consumer has – and how to move customers up that hierarchy.

Participants agreed that building new collaborative partnerships over and above traditional models are required to leverage the resources, knowledge and skills necessary to deliver the greatest health care value to patients. Design thinking was proven to motivate and empower people to think creatively and make beneficial changes within their own working environments.

At the conclusion of the symposium, Glenn Forbes, M.D., CEO, Mayo Clinic Rochester, announced the creation of the Mayo Clinic Center for Innovation. The mission of the center is to transform the way health care is delivered and experienced.

The next Mayo Clinic innovation symposium will be held in the fall of 2009.
For more information, contact the Mayo Clinic Center for Innovation at 507-266-0900.