



## **The Case for Lean Innovation at Harvard Vanguard Medical Associates**

# Executive Summary

The healthcare landscape is changing, presenting unprecedented challenges in the quest to improve access and quality, while reducing costs. Because just 1 percent of patients account for more than 20 percent of healthcare spending in the United States (U.S.)<sup>i</sup>, care management programs are critical to reducing healthcare spending. Reimbursement models are shifting to value-based care, leaving healthcare executives and boards of directors challenged to maintain financial health in a traditionally fee-for-service world.

Some value-based reimbursement models may also help to ease physician turnover, allowing physicians to work at the top of their license and focus more on patient care versus driving the number of patients they see. According to a recent study in the *Journal of the American Medical Association*, nearly half of all physicians surveyed are experiencing symptoms of burnout under volume incentive models.

In addition to the shift in reimbursement, group practices and their traditional care models have created an umbrella under which an increasing number of new disruptive competitors are entering the market. A recent *Health Affairs* study demonstrated that patient visits to retail “minute clinics” increased from 1.48 million in 2006 to 5.97 million in 2009.<sup>ii</sup> And, CVS MinuteClinic, the largest and fastest growing retail clinic company in the U.S., announced just this month that it has surpassed 20 million patient visits since 2000.<sup>iii</sup>

A key differentiator for these clinics is flexibility in scheduling. In fact, a total of 44.4 percent of retail clinic visits occurred when traditional physicians’ offices were likely to be closed, such as weekday evenings or weekends.<sup>iv</sup> These clinics’ ability to market non-traditional hours is just one competitive attribute of care models offering more catered care in response to the growing consumerism of healthcare. Another consumer trend is the increase in threshold for patients seeing a doctor. Websites such as WebMD are making it seemingly easier for the average patient to self-diagnose and put off treatment from a physician.

As the industry looks to new ways to truly manage population health, better understand patient needs, achieve the IHI Triple Aim, AND remain financially viable, these challenges and threats to traditional care models must be addressed. To address these and other issues, Simpler Consulting has responded by providing a rapid and disruptive design approach, known as Lean Innovation, to address the challenges in this shifting healthcare landscape.

### **The Simpler Approach to Innovation**

Simpler's Lean enterprise transformation approach falls into two main subcategories, Conversion and Innovation. Conversion describes a traditional Lean improvement initiative, which enables steady, continuous financial and performance improvement of the current business over an extended period of time, with return on investment that is outpacing the industry.

Many healthcare organizations may describe the work they are doing in Conversion as innovative, and it is, when done correctly. However, Lean Innovation is defined as the creation of services for the future, with a rapid and disruptive continuum shift in performance and cost that separates itself drastically from the industry performance standard.

Simpler's Innovation approach can be boiled down into three main phases, which include:

- 1. Research:** Includes market studies of macro issues affecting the patient population using advanced health data and data analytics techniques.
- 2. Exploration:** Describes a detailed analysis and report of market studies, ethnography, and solution proposals based on findings. Exploration also includes the real-life testing of said solution proposals, with a team of physicians and patients.
- 3. Execution:** Describes the roll-out of an approved solution proposal with embedded performance tracking technology. This can be executed at a macro level across the entire enterprise, or on a hospital-by-hospital basis.

Simpler focuses its Innovation application at four main levels, which include:

1. Implementing a new technology to provide better care
2. Designing a new service line
3. Designing a new care model
4. Designing an entirely new business model

An Innovation Center can be simply defined as an internal team dedicated to introducing a constant stream of breakthrough services. The goal of an Innovation Center is to accelerate the transformation of a health system toward achieving the goals of the Triple Aim using a systematic Innovation process to achieve breakthrough results in performance, revenue, and patient care.

## Harvard Vanguard Medical Associates: The Need for Disruptive Innovation

Over the last 5 years, Harvard Vanguard Medical Associates (HVMA) has undergone a Lean cultural transformation to engage staff at every level of the organization in a continuous effort to cut costs, improve patient and employee satisfaction, and ultimately improve patient care. Through this journey, more than 3,000 employees have been trained in Lean, conducting nearly 1,500 events, resulting in a documented return of investment of more than \$60 million. This Lean management approach, known as Conversion, focuses on improving the current state of the business.

However, the marketplace in Massachusetts has seen a shift over the last decade that warrants a more aggressive, disruptive Innovation approach to the traditional care models. The shift in market dynamics includes:

- **Competitive Landscape:** Traditional care models such as Steward Healthcare and Partners still exist and compete on market reach, marketing efforts, and service line competitiveness; however, there is intense and increasing competition. Concierge type “minute clinics” are becoming increasingly popular with younger demographics. In the Boston area alone, minute clinic presence has gone from zero in 2008 to now 40.

Also, HVMA’s demographic is an aging population. Similar to the challenges we are seeing in the health insurance exchange, in order to be sustainable the system needs to also attract a younger patient population, while still discovering ways to treat the aging population cost effectively. Minute clinics have twice the percentage of young people than HVMA.

- **Affordable Care Act:** In an era of reform, primary care and the industry as a whole are shifting from fragmented and episodic to integrated and coordinated in approach. This comes at a balance, as the healthcare industry shifts from a volume-based reimbursement system to a value-based system. This will continue to emerge over time as current reimbursement models still reimburse based on the number of encounters versus value. However, it is imperative the HVMA acts now to strike a balance between productivity and personalized, value-based care to remain sustainable in the future.
- **Resource Scarcity:** With increased reporting and productivity pressures and fewer available physicians, there is a need to redefine standard work to help ensure all clinicians are able to operate at the top of the license and maintain work-life balance.

## Launch of the HVMA Adult Medicine Care Model

With a commitment from leadership, HVMA launched the Total Redesign of the Adult Medicine Care Model in August 2013 with the notion that disruptive Innovation is required to help ensure its ability to remain competitive, provide long term sustainability, and improve care targeted toward each patient demographic.

Deputy CMO Karen DaSilva currently serves as the executive sponsor of the Care Model Re-Design. Other team members include: Deb Bradford, Internal Medicine Nurse Leader; Thad Schilling, M.D., Chief Internal Medicine at Medford; Nancy Kampf, Specialty Administrator for Internal Medicine; Rebecca Wexner, Psychologist; and Will Nieves, Registered Nurse. The team has a target of 0.2 FTE committed to this project. The team

meets on a weekly basis and reviews the charter monthly. The care model team is also supported by two lead 'engineers' (Process Improvement Leaders) George Higgins and Ted Toussaint, as well as being coached by their Innovation Sensei, Adam Ward of Simpler Consulting.

The targets for the model included both quantitative and qualitative goals and objectives, including:

- Create a world-class, population-health focused health care system that allows the patients to feel cared for, to provide resolution when cared for, and have a low impact on life
- Improve medical experience through longer happier lives
- Increase margin by 4 percent
- Increase the number of patients by 80,000
- Reduce number of exiting patients by 40,000
- 100 percent of panels at 2,600
- 2 percent at 5,000 in 12 months access driven by patients
- Appropriate clinical utilization
- Twice the number of providers get willingness to recommend top box score

**Research:** With goals and metrics in place, the team began the first phase of the Innovation Model and conducted both qualitative and quantitative market research in the following areas:

- **Patient Demographics:** Currently, HVMA encounters the patient infrequently across the care continuum. The goal of the research was to identify the various patient demographics and to help identify new care models. The team performed nearly 100 face-to-face interviews and collected more than 1,000 responses from individuals in eastern Massachusetts via an online survey. The interviews were later transcribed, sorted and analyzed. Through this research, eight new patient profiles were identified.
- **Internal Stakeholders:** 50 to 75 HVMA employees were interviewed about challenges related to patient care. The most common challenge noted in the audit was the ability to balance the shift from a volume-based healthcare system to a value-based healthcare system.

The team also analyzed the market demographics of eastern Massachusetts to help further define HVMA's potential value proposition (business model) and the environment of the customer (patient demographics, activity level of patients, deductibles, etc.) to help further build out potential care and service models.

**Exploration:** From the research, the team realized that a universal approach to treating and scheduling primary care patients in the same manner is a source of major frustration for many patients. Within 2 months, the team created several clear patient segmentations that each have their own needs and require unique approach in order to provide them with the best care.

Through this phase, three basic customer needs were universal, meaning each of the eight patient segments wanted their healthcare to:

- Provide medical expertise
- Minimize dollars spent
- Be simple

However, four other needs were also identified:

- Low life impact
- Resolution when desired
- Familiarity
- Feel cared for

These needs were not universal, and varied on the patient segment, adding on an additional complexity to identifying the patient segments. Overall, five patient continuums were identified:

1. Technology adoption
2. Control of time
3. Health level
4. Health concern
5. Health literacy

With the patient segments in place and the needs identified, the Care Model Re-Design team developed several different team-based care models targeted toward each patient. Currently, the team is in the process of developing a prototype lab with real clinicians and patients to trial the feasibility of each of these care models.

**Execution phase:** Slated for third quarter 2014, the execution phase will take the solutions determined as feasible in the exploration phase and deploy them to determine their viability and efficacy in a true patient care environment. For the final stage of the Innovation process, Simpler and HVMA will work to determine resources required as this phase will require significant modifications to the organization's approach to care delivery along with a substantial effort to achieve the previously-identified performance targets.

### **Expansion to an 'Innovation Center'**

While focusing on one of these levels (designing a new care model) in and of itself — as HVMA is doing right now with the redesign of its adult medicine care model — will lead to disruptive and breakthrough change, an even more impactful approach would be the development of an Innovation Center.

While the care model project continues, concurrently another group was meeting to discuss the potential benefits of an Innovation Center at HVMA. On February 12, 2014, the following individuals got together to discuss what might be possible if HVMA were to embark on the journey of creating an Innovation Center:

- Carl Isihara, MD, Chairman of the Board, HVMA
- Dan Burnes, MD, Interim CEO, HVMA
- Steven Lampert, MD, Interim CMO, HVMA
- Karen Dasilva, MD, Deputy CMO, HVMA
- Joe Kimura, MD, Deputy CMO, Atrius Health
- Marc Hafer, CEO Simpler Consulting
- Mike Chamberlain, President and COO Simpler Consulting
- John Gallagher, Account Manager and Innovation Practice Leader Simpler Consulting
- Adam Ward, Senior Innovation Sensei Simpler Consulting

The case for action was not much different than the one stated for the Care Model Redesign, but what was discussed is developing the ability at HVMA to generate a consistent series of new products and services to:

- Build better health communities, targeted toward patient need
- Empower clinicians to work at the top of their licensure
- Position HVMA as the network of choice locally, and a model for the nation
- Increase market share and reimbursement, and diversify revenue
- Prepare for future shifts in healthcare

While those were ideal state, qualitative metrics, we also discussed targets for the Innovation Center that were specific and might identify what good looks like in terms of outcomes. The list of targets included:

1. 30 percent of our practices executing the new care model
2. 50 percent of clinicians new to practice
3. Care model patented and covering 1,000,000 lives outside of HVMA
4. One graduating class of fellows in informatics space
5. \$50 million raised and on trajectory to be self-supporting by year 5
6. \_\_\_% of ideas in Research
7. \_\_\_% of ideas in Exploration
8. \_\_\_% of ideas in Execution  
(NOTE, these % could also be a #, or \$ projected revenue, or \$ GM, or affected lives)
9. Accretive margin % over current product/service offering
10. # publications
11. ROI/Project
12. Total cycle time reduction (Idea to Introduction)

Other “WGLL” discussion targets:

1. 10 percent reduction of Global PMP per year
2. Four percent gross margin
3. 50,000 new covered lives
4. 85 percent of revenue is at risk
5. 80 percent reduction in malpractice premiums
6. Improved Recruiting/Retention of clinicians
7. 95 percent improvement on Likelihood to recommend
8. Team based panels of 5,000-7,500
9. % population served with innovation projects
10. % revenue from innovation center projects

### **Next Steps Needed to Accelerate the Model**

In the case of an Innovation Center and its rate of success, are basic components that must be available to foster an innovation mindset including:

**Correct Resources:** The first requirement is for appropriate resources, including a dedicated cross-functional project team. This team should be comprised of all required functions necessary to deliver the new service. Changing team members at various stages impedes the continuity and project speed. Each team member should expect to invest a minimum of 20 percent (ideal state would be 50 percent) of their time

dedicated to this activity. In healthcare, the team members could be from all facets of the organization: physicians, advanced practice clinicians (APCs), nursing staff, medical secretaries, and medical assistants. Supporting areas of the business, such as Information Technology, Finance, Human Resources, and Marketing should be available on an ad hoc basis. Patients are not included on the project at this stage, but their voice is critical and they will be involved at various times during the project.

The project team is led by the Product/Project Leader. The other team members do not necessarily work directly for this person but their activities are facilitated and directed.

**Funding:** While this is an obvious need, any delay in receiving funding will have a critical, if not catastrophic, impact on the project success. During a major redesign project for an Asian center for infectious diseases, we learned that the mortality and financial impacts during an infectious disease outbreak were directly impacted by the timeliness of funds to finance the research to determine the disease. The organization should be committed to the overall completion and prioritization of the project and funding is one way to confirm that commitment.

**Operating System (Mission Control):** Simple transparency is very important. The project should have a dedicated space to visually manage the project progress. The space becomes the hub of information, including competitive information and project tracking. This space, sometimes referred to as an OBEYA, is also about creativity, internal and competitive insight, and providing a workspace where the team can collaborate and create new unique solutions.

**Regular Review:** The team needs to get together on a weekly basis, at a minimum, to review and report on completion plan responsibilities. Each individual should schedule personal time in the Mission Control room for reflection and regular work. Formal team reviews with a coach providing external perspective should be completed at least quarterly. The mission control room provides the necessary structure to facilitate these reviews.

Without the above components, the pace will be too slow and magnitude of impact will be diminished.

There are also traditional paradigms of thinking that must be abolished:

- Small-scale thinking. The industry is risk-averse and doesn't want to stretch. Leaders are not leading from the front, not investing enough, and not protecting emerging innovations.
- Blind faith in the newest 'silver-bullet' technology, without due attention to organizational culture and incentives.
- Lack of a systems approach to design. Too often, the industry jumps to the first solution before they know the root cause of the problem that can be exposed in the Research and Exploration phases described earlier.
- Time to results 'feels' like it takes too long. Generally, the industry is patient for scientific solutions (new drugs to treat disease, for example). Yet, the pressure on financial results of process improvements requiring 9 months or more is seen as a long time and funding is often cut just prior to realization of improvements.

## Conclusion

“First and fast to market with the right value proposition is a patient-centered, winning strategy.”

How does one create strategic advantage in this way? For a major health provider such as Atrius Health and HVMA, Innovation must become a core competency to continually reinvent care models to deal with the dynamics of a fast changing environment. Conversion through Lean transformation and continuous improvement will deliver much needed results in the short term, but external market forces will necessitate breakthrough levels of improvement that only true Innovation in care delivery and accompanying change to one’s business models can deliver.

Some might ask, “why not outsource Innovation to others?” Ultimately the answer lies in what competitive advantages an organization is willing to put in the hands of others, and whether or not being first and fast to market is a goal of an organization that strives to be leaders or followers in their local market or on a national scale. What one can outsource from others ... anyone can outsource from the same provider, and thus any timing, quality, or competitive advantages are lost. The only competitive advantage an organization truly has is its ability to improve at a rate faster than the competition.

For Innovation to become a core competency, executives must first be willing to admit that physicians, clinicians, and staff members who apply their knowledge and skills to care delivery on a daily basis have precious little time to dedicate to learning Innovation techniques, let alone sufficient time to conduct the research and run the trials in the development of breakthrough models. This is where the notion of creating an Innovation Center is essential to creating space and time to properly run the process of Innovation and develop proficiency and mastery of Innovation methods and techniques.

The time is right for a breakthrough in Health Care at HVMA and across the globe. We are moving away from a system that is supply-driven and organized around physicians to a patient-centered system that is organized around patients’ requirement to be healthy. Under severe pressure to reduce costs dramatically while improving the quality of life of the patient — and not over-working the staff to get there — industry leaders must become much bolder in their approach to improvement.

# Appendix

## Infrastructure and Financial Support

To overcome the typical failure modes of Innovation that occur across industries, HVMA and Simpler will partner together to create an Innovation Center to accelerate the innovations that are currently in place, prioritize those projects that are currently 'open,' and implement a process to review all ideas in a rapid fashion. To do this, the following engagement model should be implemented:

**Architecture and Infrastructure:** Create an Office of Innovation led by the Chief Innovation Officer and reporting to the CEO at Harvard Vanguard Medical Associates to be governed by an individual responsible for the development and deployment of new products and services.

Create the infrastructure necessary to support the office:

- Dedicated full-time team to consist of:
  - Chief Innovation Officer
  - Physician
  - Mid-level Practitioner
  - Nurse
  - Administrative support (Department Manager Level)
  - Project Manager
  - Care Improvement Resources (x2)
  - Information Technology
- Supported by Simpler Consulting Innovation Resources
  - Innovation Sensei 8 to 10 Days Per Month
  - Full-time Gemba Coach
  - Lean Engineer
  - Simpler Business System Sensei 2.5 Days Per Month
- Dedicated Space for Obeya (Mission Control) and Prototype 'Lab'
- Strategy A3 Governance Reporting at Least Quarterly to the Executive Steering Team

**Financial Summary (NPV):** Funds required for start-up and operation of Innovation Center

Initial 12-month investment required is in the form of salary and associated consulting fees, plus general operating and marketing expenses. To support the infrastructure outlined in the proposal, \$3 to \$3.5 million per year for the first 3 years would be required.

**Estimated ROI (assuming 7 percent discount rate)**

<b>Year</b>	<b>Cash In</b>	<b>Cash Out</b>	<b>Net Cash Flow</b>	<b>Discounted Cash Flow</b>
1	\$0	\$3,500,000	-\$3,500,000	-\$3,271,028
2	\$15,000,000	\$3,500,000	\$11,500,000	\$10,044,545
3	\$35,000,000	\$3,500,000	\$31,500,000	\$25,713,383
4	\$50,000,000	\$3,500,000	\$46,500,000	\$35,474,627
5	\$50,000,000	\$3,500,000	\$46,500,000	\$33,153,857
Total	\$150,000,000	\$17,500,000	\$132,500,000	\$101,115,000

NPV greater than \$100 million in the first 5 years of the Innovation Center.

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