

Clinical and Technologic Innovation: Planning for Success

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Clinical and technologic innovations are fundamentally disrupting the healthcare market. Advances have already begun to change the interaction between patients and physicians, the location in which diagnostic and therapeutic services are provided, clinical protocols, and care management processes. Categories of innovation include:

- Consumer convenience: physician services by phone (e.g., Copper Queen Community Hospital); same-day/next-day care (One Medical)
- New forms of diagnostics: wearable and implantable devices for ongoing/home monitoring (Apple, American Well); non-invasive diagnostics (the smart contact lenses from Alphabet's Verily)
- New modes of clinical treatment: 3D printed tissues and skeletal structures (Organovo), exoskeletons (Ekso), stem cell therapies, immunotherapies, and pharmacogenomics
- Telehealth: remote diagnosis and treatment via physician kiosks; clinical support in rural hospitals (Banner Health)
- Artificial intelligence: algorithm-based diagnostics and machine learning for patient use (Babylon) and physician guidance (Alphabet's DeepMind)

Consumers and providers are propelling innovation to meet their needs, while payers are encouraging these changes with growing support for innovative care management and population-based healthcare. Entrepreneurs and major companies are investing in healthcare innovation because the industry is ripe for disruption.

In this environment, providers must address innovation or face the risk of becoming progressively marginalized. Hospitals and health systems should actively seek to apply innovation to control their future role, enhance the value they deliver, and maximize their competitive position and financial performance.

Many organizations see innovation as daunting and risky because it is significantly outside their traditional business model. Yet, many of these innovations are no fad, and as the work of innovation pioneers shows, they can be an effective component of strategy.

Key Board Takeaways

In the boardroom directors should play a proactive role in helping their organization achieve success in innovation in the following six ways:

1. **Insight:** As representatives of the community, share their insight with the management team regarding where particular forms of clinical and technological innovation would enhance how the organization meets the value sought by local employers and community residents.
2. **Culture:** Reinforce a culture within the board itself and the management team of openness by the organization to an evolving role and informed risk-taking. The board should work with management to set the boundaries and guidelines for risk-taking.
3. **Education:** Set an expectation that management provides to the board periodic (e.g., semi-annually) profiles on the trends and implications specific to clinical and technologic innovation.
4. **Strategy and focus:** Require management to include goals and strategies specific to clinical and technologic innovation in the organization's strategic plan, establish focus (priority) in pursuing specific initiatives, and provide periodic reports to the board on the progress made on those initiatives.
5. **Champions:** Encourage the CEO to designate an individual or a dyad (administrative and medical staff member) to be the champion and accountable person for the organization's strategy(ies) specific to innovation.
6. **Partners:** Encourage the management team to selectively enter into strategic relationships with other organizations to gain critical expertise and resources (funds, staff, IT, other) that enhance the hospital/health system's likelihood of success in implementing innovation. The board should work with management to set guidelines for consideration of partners and play a role in evaluating and approving them.

Headlines about innovation initiatives often convey a sense that they require “deep pockets” or critical mass. While organizations with these features are among the most active,¹ smaller regional systems (e.g., Bryan Health in Lincoln, NE, and Florida Hospital in Orlando/Tampa/Daytona Beach) and independent community hospitals are also applying the forms of innovation listed above in order to respond to market demand. Their initiatives are made possible through partnerships with innovation vendors (e.g., American Well), collaborative relationships with academic medical centers (AMCs), grant funding, and shared initiatives with other independent entities.

AMCs and large regional systems may be the natural parties to pursue the most complex forms

1 “58 Hospitals with Innovation Programs: 2017,” *Becker’s Hospital Review*, August 24, 2017 (available at www.beckershospitalreview.com/lists/58-hospitals-and-health-systems-with-innovation-programs-2017.html).

of innovation (e.g., 3D organ printing, immunotherapies, and AI), but other forms require modest resource investment (e.g., Babylon) enabling community hospitals to participate. Increasingly where there is a will, there is a way to pursue innovation. Executive teams and their boards should turn their attention to making it happen.

Innovation Pioneers

A number of healthcare providers have positioned themselves as pioneers in applying clinical innovation through the formation of innovation institutes and strategic relationships (see **Exhibit 1**).

Embedding Innovation in the Organization

These pioneers and other organizations that are successful at innovation have specific cultural attributes:

- Innovation champions in the C-suite² (with titles such as Chief Strategy, Integration, and Innovation Officer)
- Openness to change and risk-taking, within boundaries set by the board and management
- Rewarding and recognizing innovation and new ideas even when they do not ultimately result in success³
- A management team and board willing to enter into strategic relationships with outside organizations to further the adoption and implementation of specific innovations
- Performance metrics and incentives that are relevant to risk-taking and innovation

2 Richard Lee, “Six Keys to Enabling an Innovation Culture,” Presented at the Industrial Research Institute Meeting, October 2014.

3 John Epperson and Clayton Mitchell, “Four Strategies for Enabling Innovation in the Face of Risk and Compliance,” Crowe Horwath, October 2017.

Exhibit 1: Selected Innovation Pioneers

Organization	Selected Features of Innovation Program
Banner Health	<p>Use of telehealth in multiple settings:</p> <ul style="list-style-type: none"> • Banner iCare—in-home care with interaction via tablet • TeleICU and TeleAcute Care teams, with two-way audiovisual in every patient room • TeleBehavioral Health—for ED consults • Banner Simulation Medical Center (medical education simulation)
Intermountain Healthcare	<ul style="list-style-type: none"> • New ventures (strategic investing and partnerships) in mental health, genomics, outcomes, and specialty pharmacy • Business incubator and development with internal departments • Data insights, analytics, and industry-sponsored research • Healthcare Innovation Fund (\$35 million) for innovative companies • Enterprise services—new enterprises and direct sales • Intermountain Simulation Center
Providence/St. Joseph Health	<ul style="list-style-type: none"> • Digital Innovation Group: software support for clinical care and technology partners (e.g., digital therapeutics for chronic disease prevention) • Consumer Innovation Group: new services and tools to support patients between episodes of care in areas like women’s health and chronic disease management • Providence Ventures: funding technology advances and development of collaboration platform with early-stage companies

Sources: From the Web sites of each organization.

Embedding innovation in the fabric of the organization also requires:

- Taking a long-term perspective (five, 10, and 20 years)
- Aggressively seeking relevant strategic relationships
- Creating a structure for pursuing innovation initiatives
- Learning to actively scan the environment to identify emerging trends and new forms of innovation that may be a fit with the organization
- Formalizing your innovation strategy⁴

Innovation within Organizational Strategy

Incorporating innovation in organizational strategy is a “must”; the challenge is determining where to focus. There is no shortage of ideas for innovation initiatives. Clinical or other staff may propose ideas, as may vendors, and leaders may have their own ideas. Some of these will be appropriate for the hospital or health system, but the question is, which are worth pursuing? Providers must establish an innovation strategy, consistent with the overall organizational strategy, that provides the focus needed to answer that question.

There are four important steps to achieving focus:

1. **Determine the innovation vision.** Innovation requires a big picture vision for a cohesive program.⁵ That requires determining the business goals that the hospital or health system wants to achieve. Is it seeking

4 Mike Miliard, “6 Tips to Help Your Hospital Embrace Innovation and Collaboration,” *Healthcare IT News*, June 15, 2018.

5 Nora Zetsche, “Increasing the Speed of Innovation in Healthcare,” *Forbes*, November 21, 2017.

to improve organizational performance in quality of care, clinical outcomes, and patient satisfaction? Does it want to build capabilities related to strategic targets in clinical care? Does it want to strengthen its ability to engage and retain leading clinicians? Is it important to reduce operating costs? Or, is the hospital or health system seeking a role in a new business/sector of the industry, or targeting a new portion of the healthcare dollar (e.g., payer, pharmaceuticals, medical devices/equipment/ supplies, big data)?

2. **Identify the forms of innovation that offer the most powerful response to the vision.** For example, Banner Health’s many telehealth programs (see **Exhibit 1**) address the needs of the health system, which has numerous small and rural hospitals. The programs enable *enhanced clinical outcomes* through remote expertise, while *controlling operating costs* through centralization. Their simulation center trains clinicians and can *enhance system success in physician recruitment and retention*, while also *diversifying income sources and increasing net income*.
3. **Determine the priority form(s) of innovation the hospital or health system must address** versus those that are “elective” or even unsuitable. Precedence must go to innovations that are entering the mainstream in markets the organization serves, and that are consistent with the hospital or health system’s strategy. Almost as essential are innovations that are becoming mainstream in other markets. Examples include innovations that address consumer convenience and control patient

out-of-pocket costs, as well as mobile health and some types of telehealth programs.

4. **Assess innovations that could be beneficial but are not essential.** These are innovations that are emerging but not mainstream. These types of innovation will be pertinent to select organizations, often those that target a leading-edge position (e.g., AMCs, specialty hospitals, national/ international “destination” institutes). These forms of innovation will include new diagnostics and modes of clinical treatment, and technologies that are likely to take a longer time to enter the mainstream, such as some forms of AI.

Making Innovation Initiatives Real

Success in innovation requires a well-structured and managed implementation process, including:

- Establishing leadership and accountability for the initiative(s)
- Building stakeholder commitment to adoption
- Assuring sufficient resources to support the initiative
- Using strategic partners to provide needed operational expertise
- Developing contingency plans, and leadership commitment to apply those plans and/or discontinue an initiative if the original enablers change.

The environmental trends are clear: Whether your organization is an independent community hospital, regional system, or AMC, it is crucial that innovation be incorporated in your strategic plan. Establishing the innovation capabilities and resources described in this article are key enablers for success. Get started now, or risk getting left behind.

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