

Cultivating



a culture of innovation



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Healthcare innovation can be exciting and invigorating, yet also intimidating. The healthcare industry is innately risk-averse, and rightly so—our goal as providers is to prevent harm and ensure patient safety. But if we avoid embracing innovation, we'll miss the opportunity to use emerging technologies that support optimal patient care, minimize error, enable decision support, and ultimately relieve potential burden on nurses and other caregivers. Rapid technologic development is driving improvements in healthcare to provide better dashboards, create more meaningful patient engagement, leverage the power of pharmacogenomics, and offer virtual capabilities that provide clinical services.¹ Nurses have an opportunity to embrace this new culture of innovation and share their knowledge and experience to inform its evolution. This article provides practical guidance, tools, resources, and insights for how to cultivate a culture of innovation

that will inspire nurses to begin their innovation journey.

Point-of-care involvement

To address our healthcare environment's increasing complexity, nurse leaders should enable the knowledge, tools, and resources necessary for organizations to evolve. "The Innovation Road Map: A Guide for Nurse Leaders" recommends that nurse leaders embrace the following characteristics to promote a culture of innovation:²

- encourage and value divergent thinking, which will promote creativity and enable innovation
- support and manage risk-taking behavior
- be willing to tolerate and learn from failure
- embrace agility and flexibility in designing solutions to adjust to global market changes
- promote autonomy and freedom to instill confidence in employees' abilities and decisions. (See *The Innovation Road Map: A Guide for Nurse Leaders*.)

Education and training are also necessary to enable this culture change, especially because divergent thinking and risk-taking behaviors are typically avoided within nursing. While transitioning to a culture that supports exploration and innovation, nurse leaders must maintain a strong program of safety and quality oversight to ensure that innovative ideas are well tested before being implemented in the clinical setting.²

Although leadership is essential for success, promoting an innovative culture is a team effort. Innovation is inherently complex and multidisciplinary in its realization. The innovation

process works best when people are organized into teams, allowing individuals to share and respond to creative thoughts and inspirations.³ A culture of innovation should respect individual ideas and voices, understanding that the people who know the system best are those who work within it.⁴ A well-functioning team should be a cohesive unit moving forward together toward innovation.

According to the Innovation Road Map, nurse leaders should also consider the following key strategies to guide their teams and promote innovative leadership:²

- define and demonstrate your commitment to your teams and the organization
- mobilize resources to help achieve innovation goals
- share failures and lessons learned within the team
- challenge all perspectives, especially ones that are particularly ingrained
- keep listening to employees because they usually have the answer
- refrain from participating in gossip but listen for the message.

Leaders can promote productive interaction and cohesiveness by fostering creativity and serving as a catalyst for the innovation process. Nursing is often overlooked when product developers need input; however, nurses can provide a wealth of information from their daily work delivering patient care and improving workflow. Nurses spend more time with patients than any other caregiver and they gain valuable insights from that experience, which can be used to inform

emerging technologies and innovation. Encourage nurses to share their knowledge and patient care stories so solutions are developed that actually solve real-world problems.⁵ Involving nurses early in the design and development process of any new technology that touches patient care is important for success.

It's possible that nurses aren't comfortable envisioning themselves as an important component of the innovation process. Providing education to better understand what innovation is and how it works can be helpful. Live-action events such as pitch competitions provide opportunities for nurses to learn how to embrace an innovator role by observing nurse inventors describe their products and receive financial awards.

For example, the American Nurses Association (ANA) and the Healthcare Information and Management Systems Society (HIMSS) have developed a collaborative partnership that aims to drive nurse-led innovation through cobranded initiatives, such as NursePitch, NurseJam, and other events.⁶ At the inaugural NursePitch event held in March during HIMSS19 in Orlando, Fla., contestants were given 5 minutes to present their innovative products to expert judges and answer questions, such as what problem the product solves, its cost to produce, the target market, and related challenges. During the NursePitch event held in April at the ANA Quality and Innovation Conference, the top three winning nurse innovators presented products they developed to enhance

The Innovation Road Map: A Guide for Nurse Leaders

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1 The Characteristics of Innovation

Promote five key characteristics:

To promote a culture of innovation, healthcare leaders must exhibit, foster, promote, and reward five key characteristics:

Divergent Thinking

Divergent thinking allows for the connection or consideration of unrelated matters while contemplating a specific problem

Risk Taking

Divergent thinking can produce ideas that seem risky to implement. Put simply, risk-taking is engaging in a behavior that involves risk in order to achieve a goal.

Failure Tolerance

Failure tolerance is accepting that the path to success is paved with many failures. Without failure tolerance, there can be no risk-taking behavior.

Autonomy & Freedom

Giving employees freedom to complete tasks as they see fit produces the autonomy they need to become more confident about their abilities and decisions.

Agility & Flexibility

Agility is defined as the capability to adjust swiftly in response to global market changes.



Employee Feedback



Protected Time



Role Filling



Technologic Support



Role Modeling



Rewards



Employee Engagement



"IDEO" Methodology



Education



Budgeting



Leadership

The Components of Innovation



Components for promoting innovation:

As with any solution, once size does not fit all. Leaders must be willing to try, test, adopt, or adapt components until the right combination is found.



3 Team Collaboration: Innovation in Action

Five strategies that promote innovative team collaboration:

The value of a team approach to innovation has become so pervasive that literature on the topic refers to an open innovation concept in which the greatest innovations are produced by teams of individuals from across markets and disciplines.

Unlikely & Diverse Team

Including team members who do not think alike creates the friction that produces innovative solutions.

Productive Interaction

Leaders can promote productive interaction and cohesiveness among team members by having them engage in team activities.

Skillset Development

The innovation team leader must allow each member to develop within his or her role, while providing feedback and kudos during this process.

Play

Play promotes an easygoing atmosphere where ideas can flow in a nonrushed, lighthearted environment. Playing and being creative ignores rules, practicality, and the idea of being wrong.

Pauses & Breaks

While humans naturally do this after becoming frustrated with a task, the practice does not carry over to teams. Like individuals, teams also need pauses and breaks to interrupt faulty thinking and logic.

Lanoue, S. (2015). "IDEO's 6 Step Human-Centered Design Process: How To Make Things People Want." Retrieved April 28, 2016, from <https://www.usertesting.com/blog/2015/07/09/how-ideo-uses-customer-insights-to-design-innovative-products-users-love/>.

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clinical competence for assessing skin lesions; assessing heart, lung, and abdominal sounds via a virtual stethoscope-otoscope; and monitoring patients using computer vision and artificial intelligence (AI).⁷ Cash prizes of \$7,500, \$5,000, and \$2,500 were awarded for first, second, and third place at the ANA event.

Another program featuring nurse-led innovation invites nurses worldwide to develop and share their ideas in the Nurses Innovate QuickFire Challenge.⁸ The inaugural awardees were announced during National Nurses Week in May 2019 and included PhD student Lauren Wright, MSN, AGNP-BC, CEO and founder of The Natural Nipple, and Abby Hess, DNP, APRN, of Cincinnati Children's Hospital who invented a video game app that helps children relax and prepare for surgery.⁹ It's hoped that programs like these will encourage more nurses to leverage their resourcefulness and identify opportunities to create innovative solutions.

Lastly, design thinking is foundational to building a culture of innovation. Creating models to explore and define the potential solution is an effective means for communicating design ideas. These models can be physical models or simple diagrams and sketches—either approach facilitates exploring the challenge and considering alternatives using nonlinear thinking.¹⁰ Prototyping new ideas, products, or services can transform an idea into something truly valuable through an iterative feedback process. The design process is also intended to tolerate failure as a learning mechanism. Nurse leaders should create and support a

culture that allows employees to take chances and move innovation forward, even without a complete logical understanding of a problem. Taking this approach allows organizations to cut through complexity and more freely imagine the future.

Technology to watch

Innovative technologies, such as AI, virtual reality (VR) software, and advances in genomic science, are rapidly appearing in healthcare, and nurses must embrace them to stay ahead of the innovation curve. In the next 3 to 5 years, these innovations will grow at a fast pace, along with the potential to completely change the healthcare experience for both patients and providers.

AI is an emerging technology that creates intelligent computer systems to perform tasks without receiving instructions directly from humans. We anticipate that using AI as a tool to augment clinical judgment, experience, and education will enhance care delivery and improve patient safety in multiple ways.¹¹ For example, the University of Chicago Medical Center uses predictive analytics to streamline patient flow in and out of the OR. By combining real-time data and an AI-powered algorithm to analyze and provide critical patient information at each point of care, the hospital has decreased patient turnover by 20%, over 4 minutes per room.¹² Workflow and communication throughout the perioperative area were improved, and the innovation is expected to lead to more satisfied patients and staff. Nurses must be involved and engaged in AI projects such

as this one to ensure that the systems are well designed and trusted to take full advantage of these advances.

In a recent study from Cedars-Sinai Health System in Los Angeles, Calif., therapeutic VR software was used to achieve significant pain reduction in hospitalized patients.¹³ Patients viewed relaxing and meditative VR experiences through a headset. The VR users experienced a greater drop in pain levels than the control group, which was sustained for up to 72 hours. These results indicate that VR is an effective, safe, and feasible intervention to aid with pain management among diverse hospitalized patients.

Growth in genomic science has enabled healthcare providers to recognize that some healthcare outcomes are directly dependent on a person's individual genetic makeup. These variations in genes can then determine susceptibility to, or increased risk of, certain diseases.¹⁴ Nurse faculty members at Case Western Reserve University were inducted in the Sigma Theta Tau International Nurse Researcher Hall of Fame for developing a genomics toolkit for nurses that provides resources to understand how to use these new and innovative tools.¹⁵ This toolkit helps clinicians understand how an individual's genetic inheritance also affects his or her body's response to drugs. The influences of pharmacogenomics can impact medication efficacy, drug absorption, and drug excretion and toxicity, among other impacts. It's estimated that genetics is adversely affecting 20% to 50% of patients receiving medications.¹⁶

These innovations will produce exponential change in several areas important to nursing, and nurses must be engaged during the design and development phase. Personalized care will be possible, tailored specifically to a patient's genetic profile. Technology-enabled care models will improve workflow and create more efficient, effective, and even virtual healthcare encounters. Mobile technologies will enable nurses to quickly access informa-

an enabler of the overall enterprise strategy as opposed to being focused on something that's just "nice to have."

Nurses are optimally poised to shape and accelerate innovation because of our close observation of patients and daily interaction with care systems. Getting started may be the biggest challenge. Being a part of a culture that supports innovation and having nurse executives who promote that culture will help

ing process is very similar to the nursing process, which is a part of every nurse's portfolio.

Measuring the impact of each innovation is critical to demonstrate success. Make sure that you're continuously assessing your innovation activities to determine if you're on the right path to achieve the expected outcomes. Also, ensure that your innovation strategy is transparent, open, and inclusive so the entire organization will embrace



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tion and help streamline their work with one device. And patients will be able to leverage consumer-facing mobile apps and wearables to manage chronic conditions and share information with their healthcare providers through remote monitoring tools.

Getting on the right track

Innovation isn't necessary just for innovation's sake. Planning your innovation strategy and identifying goals are essential parts of the process. One of these goals may be to improve nurse recruitment or optimize an aspect of the nursing workflow. Improving the patient and provider experience or quality outcomes may be other potential areas of focus. Each of these goals requires measurements, and each innovation strategy should align with your organizational objectives.¹⁷ Innovation should be

nurses feel more comfortable exploring creative solutions. Some organizations are developing innovation labs to help clinical staff build or prototype solutions. Others are providing time for creative thinking by hosting innovation-based events.¹⁸

Getting started on the innovation journey begins with identifying a problem that you're currently experiencing in your work and documenting a potential solution. *The Nurses Guide to Innovation: Accelerating the Journey* is an excellent resource for nurses with an innovative idea.¹⁸ The authors suggest first seeking a mentor who'll give honest feedback and help you make informed decisions. Then, use design thinking to determine the feasibility of the solution. Next, develop a prototype and test it to explore its viability. The design think-

the plan and feel excited about being a part of the evolving culture, allowing the innovation to achieve its full potential.

Are you ready for the challenge?

Change management is an ongoing theme for nursing, and innovation certainly isn't exempt. An aggressive rate of change requires agile nurse leaders and the inclusion of nurses to drive a rapid culture transformation that embraces innovation. To do so, we must be ready for the challenge, exploring opportunities, nurturing creativity, and ultimately transforming care. **NM**

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