

Pursuing Excellence: Innovations in Designing an Interprofessional Clinical Learning Environment

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Introduction

Optimizing the Interprofessional Clinical Learning Environment

Over the past decade, there have been increasing efforts to enhance interprofessional education and collaboration. The Accreditation Council for Graduate Medical Education (ACGME) Clinical Learning Environment Review (CLER) National Report of Findings 2016¹ identified, among other recommendations, the need for deeper exploration of interprofessional learning, teamwork, and collaborative practice in the context of the clinical learning environment (CLE) to promote better care for patients and improved health for communities. In 2017, the National Collaborative for Improving the Clinical Learning Environment² highlighted the opportunity and the need to focus on improving interprofessional cohesion and collaboration within US CLEs. In 2018, the Macy Foundation³ outlined key benefits of optimizing the CLE, including decreased clinician burnout, increased learning efficiency, enhanced professional identity, and improved teamwork and communication. Despite the continued national efforts in this area, there is a gap in how health care organizations harness resources and connect patient outcomes to education. Additionally, there is no widely accepted definition of interprofessional learning.

To address these gaps and other findings in the CLER reports, in 2016, the CLER Program launched the Pursuing Excellence in Clinical Learning Environments initiative.⁴ A key component of this initiative was a 4-year collaborative known as the

Pathway Innovators. In this collaborative, teams from 8 ACGME Sponsoring Institutions—Children's National Medical Center; Cleveland Clinic; Maine Medical Center; Our Lady of the Lake Regional Medical Center; Strong Memorial Hospital of the University of Rochester; Dell Medical School at The University of Texas at Austin; University of California, San Francisco School of Medicine; and The University of Chicago Medical Center—came together to envision and test new approaches to transforming the CLE.

The Guiding Framework

The Pathway Innovators collaborative used a formal improvement tool, the driver diagram, to guide its work. This framework proved to be effective in aligning the baseline goals of each individual Pathway Innovator team with other teams in the collaborative (FIGURE 1). Having created the diagram as a group early in the 4-year process, the teams were able to refer to the tool on a regular basis, thereby maintaining individual and group focus on the goals and the key processes required to meet these goals.

The focus of the collaborative's work was articulated in 4 drivers derived from the overarching themes in the CLER National Report of Findings 2016.⁵ The aim was to integrate health care delivery system operations and graduate medical education (GME) in a way that the CLE would enable measurable improvement, in both learner experience and patient care, with integration being the true goal.

The design and methods of the Pathway Innovators collaborative, details on the approach, and lessons learned in addressing Drivers 1 to 3 are described in prior articles in this series.^{6–8} This article focuses on Driver 4 and the Pathway Innovator teams' journey toward transforming the interprofessional clinical learning environment (IP-CLE) through improving interprofessional learning, teamwork, and collaborative practice.

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Editor's Note: This article is the fifth in a series to chronicle the processes, work, and outcomes of the CLER Pursuing Excellence Pathway Innovators initiative. The online version of this article contains Pathway Innovator Actions to Maximize Driver 4. The ACGME News and Views section of JGME includes data reports, updates, and perspectives from the ACGME and its Review Committees. The decision to publish the article is made by the ACGME.

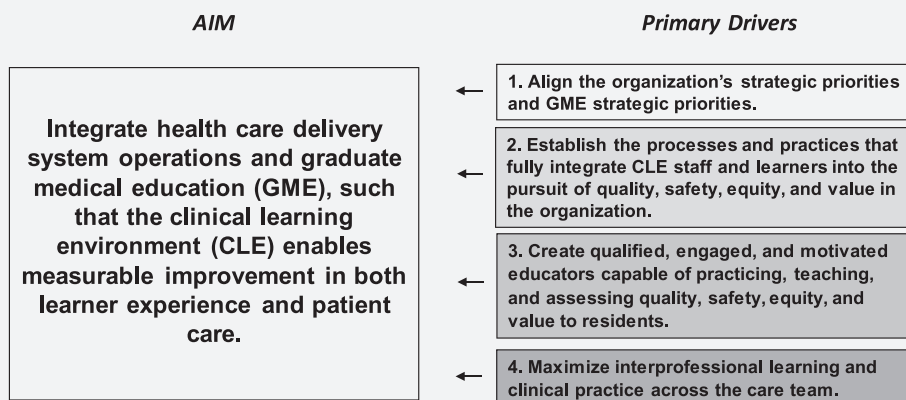


FIGURE 1
Driver Diagram

Advancing Driver 4

Interprofessional values taught at the undergraduate and preprofessional level require engagement and reinforcement, as clinicians newly enter the CLE either as graduate-level learners or practicing clinicians. Research has shown that learners are often biased toward learning from within their own professions.^{9,10} The Pathway Innovator teams noted that, while learners may have attained skills to work in interprofessional teams early in their educational training, once they entered the clinical environment, their care of the patient was siloed. Maximizing interprofessional collaboration, education, and clinical practice across the care team served as the primary driver for the work.

Defining interprofessional learning within the context of the CLE became a critical component for reconceptualizing interprofessional education at each of the Pathway Innovator's institutions. The teams in the collaborative developed a working definition of interprofessional learning as follows: *Interprofessional learning is the meaningful exchange of knowledge between diverse professionals that results in the integration of perspectives and expertise with the aim to improve outcomes and experiences.* Defining interprofessional learning also led the collaborative to arrive at a working definition of faculty and learners, ultimately concluding that everyone in the CLE is both a teacher and a learner.

From the beginning of the Pursuing Excellence initiative, the Pathway Innovator teams recognized that the CLE is heavily influenced by the missions, visions, and values—in essence, the culture—of their health care delivery systems. Organizational culture has the power to impact the IP-CLE positively or negatively, which in turn can support or hinder learning and can enhance or diminish the quality of patient care. The teams also recognized that the

IP-CLE is not owned by any one profession and will not be optimized without a true interprofessional approach.³

A Focus on the Secondary Drivers

Once the primary drivers were in place, the Pathway Innovators developed secondary drivers to add further direction to the work ahead. For Driver 4, these included a focus on aligning efforts across the professions, increasing opportunities for interprofessional learning, and engaging in joint efforts to improve patient safety and health care quality (see FIGURE 2).

The Pathway Innovator teams recognized that interprofessional education and collaborative practice is a continuum and that each of the participating teams were in a different starting place with regard to the secondary drivers. The teams found that developing a business plan was beneficial to helping them prioritize where to begin their work. The Pathway Innovators found that levels of readiness to embrace interprofessionalism varied across the CLEs. However, regardless of the baseline level of readiness, all of the Pathways Innovator teams found new ways to enhance interprofessional learning and care. Each team planned and implemented diverse initiatives and strategies to address the secondary drivers of Driver 4, to maximize interprofessional learning and clinical practice based on organizational needs. The examples below highlight various aspects of some of the teams' journeys in relation to the secondary drivers.

Example A: Maine Medical Center focused on enhancing the efforts of their Interprofessional Partnership to Advance Care and Education (iPACE) program.¹¹ This program utilized engineering design methods, simulation modeling, and other operations research tools to redesign patient care units to

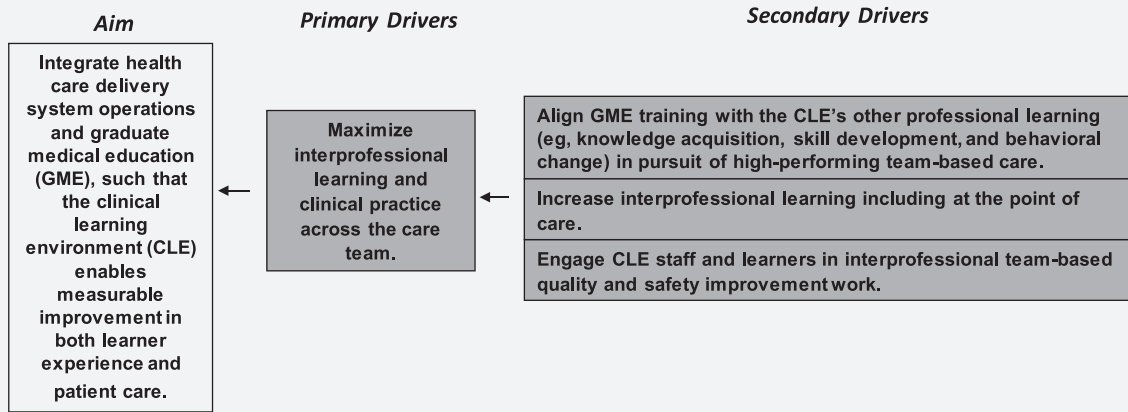


FIGURE 2
Driver 4 and Corresponding Secondary Drivers

maximize efficiency and quality, optimize logistics, and promote interprofessional learning among the members of the clinical care team.

Example B: Strong Memorial Hospital of the University of Rochester engaged resident and fellow physicians in unit-based teaming initiatives that focused on optimizing interprofessional learning and team-based care. The units were led by nurse-physician dyads that facilitated education on patient safety, teaming, Lean principles, and rapid cycle improvement, utilizing specific professional development workshops and embedded coaching.

Example C: The University of Chicago Medical Center created Improving GME Nursing Interprofessional Team-Based Experiences (IGNITE) teams of resident-nurse champions to improve interprofessional collaboration and patient care. IGNITE teams used daily huddles or rounds to facilitate touch points about plans of care. These teams worked together to select process improvement outcome goals and measures relevant to their service line to design and implement action plans to address these goals.

Example D: Cleveland Clinic engaged residents, fellows, and the entire team of health care professionals (15 professional groups from their medical ICU) in longitudinal interprofessional learning experiences (SMiLE: Strengthening Minds by Leveraging Education) that focused on improving team functioning and supporting the development of empathetic teams. The highly interactive sessions, led by either nurses, nutritionists, physicians, physician assistants, or pharmacists, facilitated learning about topics such as roles and responsibilities, psychological safety, empathy, and teaming.

All of the Pathway Innovator teams recognized some form of improvement as a result of their efforts. Through coordinated engagement of key players, Children's National Medical Center realigned educational programming in patient safety that previously existed in silos across various professions. Cleveland Clinic instituted an Office of Interprofessional Learning to leverage existing interprofessional efforts and resources to maximize interprofessional learning and collaboration across the organization. Our Lady of the Lake Regional Medical Center transformed an inpatient unit by cohorting the internal medicine teaching service patients to facilitate interprofessional learning and teaming at the point of care. Dell Medical School at The University of Texas at Austin created an interprofessional crowdsourcing program where improvement ideas that are aligned with hospital priorities are selected for funding through a Shark Tank-style competition. The University of California, San Francisco (UCSF) aligned strategic quality improvement priorities between GME and UCSF Health through the development and launch of a Learning Health Systems Coaches professional development program.

As a result of initiating these efforts, some of the Pathway Innovator teams—such as Maine Medical Center, Our Lady of the Lake, and Strong Memorial Hospital of the University of Rochester—were able to associate their efforts with improvements in patient length of stay. Dell Medical School, The University of Chicago, and others saw improvements in patient experience metrics. For others, such as Cleveland Clinic, Children's National Medical Center, and UCSF, the efforts catalyzed the formation of new entities and support to ensure sustainability and scalability. All teams benefited from strengthening their relationships with the executive leadership of

their respective organizations. For more details on each of the initiatives, see the online supplementary data.

Lessons Learned

While each of the Pathway Innovator teams started this journey at a different place in their organization, after 4 years of sharing and learning from one another, the teams recognized some common themes in the form of lessons learned. These lessons include: (1) shift the approach to organizational thinking; (2) engage the frontline workforce; (3) focus on sustainability; (4) be intentional; and (5) secure leadership support.

Shift the Approach to Organizational Thinking

The teams acknowledged that to achieve the ambitious goals set forth in Driver 4 there must be a shift in organizational thinking and engagement. This required involving leadership, specifically the chief medical officer, chief nursing officer, chief executive officer, and designated institutional official, in the creation of a shared vision that articulates what could be and focuses on the “ideal state,” moving beyond improving what already exists. The teams also noted the importance of communicating the shared vision of the ideal state at all levels of the organization through the cultivation of key champions who embrace the vision and become vital agents of change within the organization.

Achieving the goal of maximized interprofessional learning and clinical practice across the care team required a fundamental shift of who is considered faculty in the CLE and a broadening of perspectives that allowed for the design of interprofessional collaborative efforts that span the CLE. In their conversations with executive leadership, the teams were consistently encouraged to think bigger—to recognize that true disruptive innovative change requires moving beyond small projects to envisioning significant and sustainable systemic redesign.

Engage the Frontline Workforce

Another of the lessons the Pathway Innovator teams learned was that empowering the frontline teams to determine the barriers to achieving an integrated, interprofessional learning environment is critical to achieving buy-in and success. One of the Pathway Innovator teams found success in the formation of a Nurse-Resident Council led by frontline clinicians who determined their own projects and learned from rapid cycle tests with the support of leadership. This work led to the implementation of a buddy system for

all incoming residents where respect for each other's discipline was gained through residents shadowing nurses and nurses shadowing residents.

Focus on Sustainability

Focusing on sustainability from the outset was another important lesson learned. As the frontline teams achieved improvements, they became intentional about weaving those improvements into the fabric of the organizational culture. This ensured that new practices became part of the standard workflow and were included when onboarding newcomers to the organization. For example, after testing new models of rounding, one of the Pathway Innovator teams set an expectation that physicians would not round without nurses present.

Be Intentional

The Pathway Innovator teams also learned the importance of focused intentionality—deliberately bringing everyone together to build trust and learn from one another. Trust is the foundation of collaboration and teaming, which in turn is an essential component of interprofessional learning.¹² Edmondson refers to this focused intentionality as *Organizing to Learn*. Organizing to learn involves reaching across boundaries, learning from failures, creating psychological safety (the ability to speak up), and framing the work from a learning perspective.¹³ Key principles of focused intentionality are to recruit and identify champions; purposefully reach across hierarchical, functional, and professional boundaries to partner and create environments that support a shared vision; and provide these champion leaders with oversight, guidance, and support. The Pathway Innovators learned that being intentional about bringing people together to learn and problem-solve promotes psychological safety, increases collaboration, and facilitates the development of shared mental models.

The Pathway Innovators also learned the importance of intentional monitoring. Systematically conducting environmental scans helped the teams identify how resources across cross-functional teams can be shared. It also served to help avoid “new initiative fatigue,” ensuring that existing challenges become the catalyst for new work.

The teams also achieved success when they were intentional as to how the organization promotes interprofessional learning. One example was to seek or offer joint accreditation for interprofessional continuing education. This required being intentional about leveraging activities from multiple settings and

sources to include interprofessional perspectives so that everyone in the IP-CLE could benefit.

Secure Leadership Support

Lastly, the teams learned that transformational change entails significant culture change at multiple levels of the organization, and this requires support from executive leadership. The organization's executive leaders are in a position to provide resources and minimize or remove barriers. The Pathway Innovator teams recognized that optimizing the IP-CLE does not happen naturally; it must be intentionally fostered, efficiently facilitated, widely communicated, and fully supported.

At each CLE, the teams engaged their executive leaders to obtain resources, build an organization-wide infrastructure, and establish return on investment through program evaluation. For example, one of the teams sought to implement patient cohorting; another sought to implement nurse-resident dyads. Both of these initiatives required ongoing dialogue with the Pathway Innovator's executive leaders as they involved substantial investment of time, effort, and resources. The teams learned that evaluating the impact of those investments was critical to being able to demonstrate the benefits brought on by such initiatives—benefits that included not only financial savings, but also increases in optimal patient outcomes, enhanced quality of care, and staff/provider satisfaction and/or retention.

Conclusion

For decades, formal education within the health care professions has focused on increasing individual competencies (ie, personal mastery) and team skills. The Pathway Innovators sought to broaden the focus to also include education on how to learn and work together across the professions to design and implement systems-based approaches to improving processes and optimizing patient care. They discovered that driving transformative change and creating an effective IP-CLE required cultivating a sense of shared responsibility across the education and health care systems through the lens of a systems-based orientation to the CLE. This meant organizations needed to shift their thinking about the nature of learning, recognizing that learning expands beyond traditional classrooms into workplace learning, where mutual learning, collaboration, and trust need not only to be reinforced, but also to be viewed as key contributors to culture change. The goal of interprofessional learning in the workplace should be focused on how to view everyday practices as opportunities to optimize learning, collaboration, and teaming.

Of special note, the Pathway Innovator teams found that their efforts to improve interprofessional learning and care served their CLEs well in managing the major disruptions associated with the COVID-19 pandemic. They found that, while many of their individual projects at the time needed to switch to different formats or pause to focus attention on providing acute patient care, their experience in rapid-cycle adaptations and tests of change allowed them to weather setbacks while still keeping sight of their long-term goals. The Pathway Innovators noted that, during the acute peaks of the pandemic, the relationships formed in prior years during the work on various collaborative initiatives had prepared their CLE's interprofessional care teams to quickly and successfully innovate, collaborate, experiment, and communicate like never before as they worked to transform spaces and care processes. As these CLE interprofessional teams look forward, they will see their work through a changed lens of what is possible when care teams rethink the ways they address interprofessional learning and patient care. Both before and during the pandemic, the Pathway Innovators demonstrated the potential for interprofessional teams to not only make improvements at the local level, but also to catalyze changes at the systems level that hold the potential for sustainability and scalability, further emphasizing the importance of investing in interprofessional learning and practice.

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