NCICLE NATIONAL COLLABORATIVE FOR IMPROVING THE CLINICAL LEARNING ENVIRONMENT

Achieving the Optimal Interprofessional Clinical Learning Environment:

PROCEEDINGS FROM AN NCICLE SYMPOSIUM

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OVERVIEW

On October 13 and 14, 2017, the National Collaborative for Improving the Clinical Learning Environment (NCICLE) held a national symposium to better understand the issues related to enhancing the interprofessional clinical learning environment (IP-CLE). Throughout the course of the 2-day symposium, participants engaged in dialogue to articulate the value of IP-CLEs and to identify characteristics of high-functioning IP-CLEs. Importantly, they were asked to consider the roles of national stakeholders and leaders at the macro, meso, and micro levels of health care organizations in providing a clinical experience that promotes and supports collaborative practice and learning in the context of optimal patient care. The following proceedings, developed by an NCICLE work group representing a diverse set of symposium participants, capture the essence of the conversations and may serve as a catalyst to stimulate new ideas and approaches to viewing the clinical learning environment as a shared responsibility. In the discussion section, the work group shares their reflections on what they heard and thoughts on potential next steps for future work in this area.

Overall, the symposium participants expressed a high degree of energy and enthusiasm for the work ahead. Collectively, they embraced the challenges of shared responsibility, viewing them as an opportunity to highlight and capitalize on how dedicated, coordinated efforts in this area can benefit both learners and patients.

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BACKGROUND

As health care in the United States becomes more complex, it requires health care providers from all professions to be adept at collaborating to learn, assess, problem solve, and deliver coordinated care in new and innovative ways. Although the need for collaboration and teamwork in clinical environments has always existed, the impacts of technology, specialization, access to health information, and new delivery structures require the various health professions to think differently and purposefully about how to simultaneously optimize learning and patient care.

To date, there have been substantive efforts to optimize interprofessional education and learning at the undergraduate and preprofessional level. Many health education programs have incorporated an interprofessional approach to designing and implementing their curricula.[1] In these programs, students and trainees from various health care professions learn with, about, and from each other.[2] By introducing learners to interprofessional education at the beginning of their professional journey, health education programs are providing them with an essential understanding of their various roles and how those roles support collaborative, integrated care. They are also providing them with skills that promote communication and teamwork—skills that are essential for high-quality patient care.[2,3]

Although interprofessional education continues to gain momentum, interprofessional values taught at the undergraduate and preprofessional level are often lost once new clinicians leave the classroom and enter the clinical environment.[3,4] Frequently, new clinicians encounter a clinical infrastructure that reflects traditional approaches to delivering health care that are siloed and hierarchical in nature. In these settings, the skills new clinicians have acquired in interprofessional communication and learning may quickly become extinguished as the new clinicians assimilate to the existing culture.

These findings highlight the need for health care leaders to take a close look at the settings in which clinicians are learning in the context of delivering patient care and to consider how existing cultures, structures, and processes can support or hinder interprofessional learning and collaborative practice.

SYMPOSIUM PLANNING AND FRAMEWORK

In 2017, NCICLE convened a work group to plan a symposium on envisioning optimal interprofessional clinical learning environments (IP-CLEs). For purposes of this symposium, clinical learning environments were defined as the hospitals, medical centers, and other clinical settings in which clinicians train and practice. The group invited participants that would provide a range of perspectives—both across professions (eg, medicine, nursing, pharmacy, advanced practice providers) and across various levels of leadership (eg, national stakeholders, educational leaders). The goal was a series of discussions that would lead to a shared understanding of:

- the value of optimizing IP-CLEs
- the characteristics of optimal IP-CLEs
- the role of leadership in various environments of health care systems (ie, macro, meso, micro)
- the role of other stakeholders in promoting IP-CLEs
- potential timelines and next steps

Of note, the symposium planning work group did not design the activities to result in specific recommendations. Rather, NCICLE viewed the symposium as the beginning of a national conversation to address the importance of the clinical learning environment in enhancing interprofessional learning and collaborative practice.

The symposium was held on October 13 and 14, 2017, at the Accreditation Council for Graduate Medical Education's (ACGME's) offices in Chicago, IL. The symposium was sponsored by the ACGME and the Josiah Macy Jr. Foundation—with advisory input from the National Center for Interprofessional Practice and Education—and in collaboration with the American Medical Association, the American Association for Physician Leadership, and the Joint Accreditation for Interprofessional Education. The approximately 100 invited participants included content experts from numerous health professions holding various roles within health professions education and the health care system. Participants were nominated by NCICLE members, the NCICLE IP-CLE symposium work group, and the National Center for Interprofessional Practice and Education.

The planning work group designed the symposium to be dynamic and interactive. It began with a gallery walk—an activity in which the participants reviewed a series of posters on current issues relevant to health care and society that may potentially influence the clinical learning environment (**Figure 1**). The remaining activities were primarily small group and large group discussions in which participants had the opportunity to share, review, and build upon the many thoughts and ideas that emerged throughout the 2 days. For each day of the symposium, the work group also embedded rapporteurs in the discussions, whose assignment was to listen carefully and synthesize and share reflections of what they had heard throughout the day to the large group.

FIGURE 1:

Image of the NCICLE IP-CLE symposium's gallery walk. Participants reviewed and commented on posters depicting current issues in health care and society that may potentially influence the clinical learning environment.

After the symposium, NCICLE convened a second work group, comprising a diverse set of symposium participants, to synthesize the activities, conversations, and reflections outlined above into a summary of themes. This document presents those themes according to the framework of the symposium and concludes with a discussion section that reflects the collective input of the members of the NCICLE report work group on the importance of these proceedings.

Note: The members of NCICLE recognize that education and learning take place in both academic and patient care settings as a continuum of learning. To distinguish the various settings in which health professions learn and train, this document primarily uses ***interprofessional education*** *when referring to the preprofessional and undergraduate settings and primarily uses* ***interprofessional learning*** *when referring to the clinical learning environment and other patient care settings. These and other terms and definitions are listed in the Glossary on p. 23.*

SYMPOSIUM PROCEEDINGS

Understanding the Value of Optimizing the IP-CLE

To better understand how optimizing the IP-CLE can provide value across the health care system, the participants were asked to consider value from 4 different perspectives:

- patients
- learners
- health care organizations and health systems
- academic medical centers

This set of discussions was designed to support the participants in developing an expansive and collective understanding of value by asking them to view value through lenses that might be different than that of their individual professional expertise.

Some of the themes that emerged included: value in the form of safer care and improved health outcomes, a workforce that is prepared to engage in safe and effective interprofessional collaborative practice, improved quality of care and lowered costs, and optimal care models that translate knowledge to improved practice of patient care. **Figure 2** presents a more expansive list of the various ways optimizing IP-CLEs can provide value from each of these perspectives.

> We need to look at how we are teaching those in preprofessional and professional training programs. If we can break down silos early for these learners, they will be more likely to embrace interprofessional collaboration and teamwork throughout their professional careers.
>
> — Kristen Will, MHPE, PA-C

FIGURE 2:
The Value of an Optimal IP-CLE for Patients, Learners, Health Care Organizations and Health Systems, and Academic Medical Centers[a]

For ***patients and families***, an optimal IP-CLE can provide:

- **Safer care and improved health outcomes**
- Strong communication with providers, including trust and respect
- Improved satisfaction with care
- A more effective and efficient care experience
- A central and defined role on the care team
- An understanding of the skills and uniqueness of various members of the health care team
- Improved access to care
- Continuity and coordination of care across all care settings

For ***learners***, an optimal IP-CLE can provide:

- **Preparation to engage in safe and effective interprofessional collaborative care throughout their career**
- Informed and empowered patients who understand their role on the health care team and the unique skills of each of their providers
- An enhanced understanding of the scope of practice of each member of the care team
- Improved communication with the clinical team and the patient about various aspects of the patient's care
- Effective shared goalsetting with the patient
- Reduced risk of burnout
- Effective role modeling and feedback
- An enhanced involvement with health care quality improvement activities
- A learning environment that models optimal practice and lifelong learning

For ***health care organizations and health systems***, an optimal IP-CLE can provide:

- **Improved quality of care and lowered costs**
- Streamlined clinical operations
- The ability to attract and retain top talent
- An environment that fosters an engaged workforce
- An environment that supports wellness and resiliency of the workforce
- A more cohesive workforce that can eliminate fragmented care

For ***academic medical centers***, an optimal IP-CLE can provide:

- **The ability to train a workforce in optimal care models, translating knowledge to improved practice of patient care**
- The opportunity to foster an interprofessional faculty
- Improved faculty development
- A culture that fosters commitment to lifelong learning
- An improved reputation as a center that contributes to enhanced health system performance and patient outcomes

[a]Adapted with permission from Hawkins et al.[5]

Abbreviation: IP-CLE, interprofessional clinical learning environment.

Characteristics of Optimal IP-CLEs

In follow-up to the discussion on value, the participants were asked to identify the characteristics of optimal IP-CLEs that would maximize value for patients, learners, health systems, and academic medical centers. The majority of the characteristics fell into 1 of 6 categories: patient centeredness, continuum of learning, reliable communications, team-based care, shared accountability, and evidence-based practice centered on interprofessional care (**Figure 3**). These characteristics, which were first published in an initial report of selected findings,[5] denote a culture where learners experience how all members of the clinical and administrative team best serve patient care needs.

PATIENT CENTEREDNESS

Participants agreed that optimal IP-CLEs consistently place the patient at the center of every aspect of health care delivery. They envisioned that high-functioning IP-CLEs could successfully accomplish this by viewing health care as being co-created with the patient and his or her family and community—considering the patient as an integral member of the health care team. As a member of the health care team, the patient is empowered to actively engage in his or her health. A key theme that emerged from the symposium's discussions was that, when patients participate with their various providers working together as a team, they gain a better understanding of each provider's role as well as gain confidence in their health care plan. As a result, patients are able to experience firsthand how effective team-based care can close gaps in care and improve efficiency, safety, and outcomes.

CONTINUUM OF LEARNING

The symposium participants noted that everyone in the clinical environment—not just students and new clinicians—is a learner. They indicated that organizations with high-functioning IP-CLEs have a commitment to lifelong learning—ensuring that interprofessional learning begins in preprofessional and graduate education and is subsequently integrated and reinforced into the clinical workflow and all key health care activities. The participants noted this continuum of learning creates opportunity for moving from competitive to collaborative environments and from individual to collective competence among health care professionals.

> All of the interprofessional work that we do in the preprofessional years is for naught if our students go into clinical learning environments with hidden curriculums.
>
> — Barbara Brandt, PhD

RELIABLE COMMUNICATIONS

According to the symposium participants, an important characteristic of optimal IP-CLEs is ensuring ongoing, reliable communications that result in care plans that are rich, collaborative, continuous, and patient centered. They noted that organizations can support such processes by carving out physical and mental space for teams to effectively and actively communicate. They also emphasized the importance of creating a culture of respect and psychological safety that supports healthy and productive relationships between various team members as well as between various levels and departments of the organization. The participants indicated that high-functioning IP-CLEs anticipate conflict and miscommunication and proactively address them through purposeful training and strategies for conflict resolution and effective communication (eg, narrative medicine).

TEAM-BASED CARE

Symposium participants expressed the belief that interprofessional team-based care thrives in a culture that is value based, rewards team-based innovation, and fosters leadership skills at all levels. They noted that such a culture supports and encourages team interdependence, shared decision making, and collective competence.

Participants also noted that high-functioning IP-CLEs promote and model team-based care by setting expectations for communication, collaboration, and shared learning, as well as implementing processes to ensure these expectations are realized.

SHARED ACCOUNTABILITY

According to symposium participants, organizations with high-functioning IP-CLEs have structures and processes in place to ensure shared accountability for evaluating, improving, and maintaining an interprofessional approach to learning and collaborative practice. For example, organizations may have an IP-CLE steering committee to keep the organization engaged in interprofessional efforts. This steering committee could in turn put in place, formal, scheduled assessments to evaluate the effectiveness of interprofessional efforts and encourage strong and rapid quality improvement practices and dissemination of lessons learned. In addition, participants identified a need for periodic review of clinical policies, procedures, and payment models to identify and address issues that either promote or inhibit clinicians from being engaged in interprofessional learning and practice.

The symposium participants expressed the belief that the way to instill the principles of shared accountability for interprofessional learning and collaboration in new clinicians is to first articulate clear competencies that inform desired behaviors and then to provide opportunities for experiential learning with measurable outcomes. They noted that incentives that result from positive experiential education will keep clinicians engaged in interprofessional learning and collaborative practice throughout their careers.

EVIDENCE-BASED PRACTICE CENTERED ON INTERPROFESSIONAL CARE

Participants noted that exemplars of high-functioning interprofessional collaborative care are already present in many health care systems (eg, Hospice care, intensive care units). They indicated that, by identifying key characteristics of these successful areas and engaging in research, health care leaders can begin to develop evidence-based models for IP-CLEs that could be widely implemented throughout the system.

FIGURE 3:

Key Characteristics of an Optimal IP-CLE[5]

Patient Centeredness	Health care is viewed as cocreated, with the patient, as well as his or her family and community, as an integral part of the health care team.
Continuum of Learning	Learning is fostered throughout one's career, with interprofessional values integrated and reinforced in the clinical workflow as well as in preprofessional/ undergraduate and graduate education.
Reliable Communications	Care plans are rich, collaborative, continuous, and truly focused on the patient by carving out physical and mental space for teams to effectively and actively communicate.
Team-Based Care	The culture rewards risk taking and innovation and fosters leadership skills at all levels, all while embracing team interdependence, shared decision making, and collective competence.
Shared Accountability	Structures and processes are in place to ensure accountability in interprofessionalism, such as measurable outcomes and clear competencies that inform desired behaviors.
Evidence-Based Practice Centered on Interprofessional Care	Care is based on key characteristics of high-functioning collaborative care exemplars, research, and evidence-based IP-CLE models.

Abbreviation: IP-CLE, interprofessional clinical learning environment.

The Role of Leadership in Optimizing the IP-CLE

In establishing the framework for the symposium, the NCICLE work group recognized that, in the United States, health care delivery is often structured as a complex set of systems within systems and noted that leadership and accountability have an important role throughout the various environments within these systems. To help facilitate a comprehensive discussion that accounted for this complexity, the NCICLE work group asked symposium participants to consider leadership in 3 different health care environments: *(1)* macro (ie, health systems consisting of multiple hospitals and clinics), *(2)* meso (ie, hospitals or multispecialty clinics), and *(3)* micro (ie, clinical or service line units) (**Figure 4**).

Through a series of small and large group discussions, the participants identified the key aspects of leadership in each of these environments that would foster IP-CLEs with the optimal characteristics articulated at the start of the symposium. The following sections summarize the main themes that emerged in each of these discussions. The participants recognized that every setting will have unique considerations. They noted that, although the macro, meso, and micro framework may not be representative of all health care environments, the themes that emerged could be applied across the continuum of care. Participants posited that, by working together, leaders throughout health care systems have the opportunity embed the principles of interprofessional learning and collaborative practice in all aspects of health care delivery and benefit from the value it brings to both learners and patients.

FIGURE 4:

Optimal IP-CLE Characteristics for Leadership in the Macro, Meso, and Micro Health Care Environments[a]

[a] Macro environment = health systems; meso environment = hospitals and health clinics; micro environment = clinical care units and service lines.

Macro Environment (Health System)

The participants indicated that leaders in macro environments have an important role in creating, disseminating, and supporting a vision and mission of IP-CLEs that radiates in all directions—both throughout the meso and micro environments of the hospitals and ambulatory sites that comprise their systems and out into the community through relationships with other stakeholders. The participants noted that widespread support in the macro environment can lead to improved quality of care and lowered costs, which can in turn improve patient safety, care outcomes, and access to care (see pages 7 and 8). The themes that emerged for this environment were: modeling a team-oriented approach, allocating resources, and advocating for interprofessional learning and collaborative practice.

MODELING A TEAM-ORIENTED APPROACH

In their discussions, participants noted that health systems that recognize the value of interprofessional learning and collaborative practice have high-functioning teams at the highest levels of the organization and include interprofessional input and representation in governance and operations. Executive teams in the macro environment often seek input from a range of perspectives, building relationships with community organizations and other professional entities to better address the needs of a wide-ranging patient population. As such, they have the opportunity to set a tone and culture of collaboration and shared accountability that permeates throughout the system.

ALLOCATING RESOURCES

The symposium participants noted that executive leaders have the opportunity to optimize IP-CLEs (ie, patient centeredness, continuum of learning, reliable communications, team-based care, shared accountability, and evidence-based practice centered on interprofessional experience) by allocating resources to develop and maintain system-wide infrastructures that promote integrated approaches to learning both across professions and across the various hospitals and clinical sites throughout the system—potentially recognizing value in enhanced workforce development and efficiencies through standardization and economies of scale.

ADVOCATING FOR INTERPROFESSIONAL LEARNING AND COLLABORATIVE PRACTICE

Symposium participants identified the potential for patients, clinicians, business and community partners, law makers, and regulators to serve as advocates for optimizing the IP-CLE. They noted that, as the evidence base demonstrating the value of interprofessional learning and collaborative practice grows, various stakeholders such as new clinicians and patients will potentially begin to promote and request these practices throughout the health care system, making those health care organizations that are early adopters both desirable and marketable.

Meso Environment (Hospitals and Clinics)

The participants noted that leaders of hospitals and ambulatory sites can best serve learners, educators, and care teams in the meso environment by integrating the optimization of IP-CLEs into the strategic plan and operations of the organization—creating an infrastructure that ensures sustainability. The themes that emerged for this environment were: ensuring ongoing interprofessional input, integrating interprofessional learning and collaborative care into the strategic plan, and building team-oriented infrastructures.

ENSURING ONGOING INTERPROFESSIONAL INPUT

The participants noted that leaders in the meso environment can best support IP-CLEs by putting in place processes to ensure ongoing interprofessional input into the organization's strategic planning and oversight—including interprofessional representation in governance and interprofessional approaches to leading major initiatives. In doing so, leaders in the meso environment—as with those in the macro environment—can model interprofessional teamwork and distributed leadership at the highest levels of their organization.

INTEGRATING INTERPROFESSIONAL LEARNING AND COLLABORATIVE CARE INTO THE STRATEGIC PLAN

According to the symposium participants, when leaders of the major hospitals, medical centers, and ambulatory sites view optimizing the IP-CLE as a strategic goal, infrastructure and resources that support a systems-level approach to interprofessional learning and collaborative practice become a priority. Optimally, this results in an investment in recruiting and supporting champions of team-based learning and practice, enhancements to the infrastructure that support patient safety and health care quality, and a cohesive workforce that can improve organizational performance and patient outcomes, thereby attracting top talent and new patients. Leaders may wish to identify successful models of IP-CLEs within the micro environment and pilot the spread of such models to other areas of the organization.

BUILDING TEAM-ORIENTED INFRASTRUCTURES

The participants expressed the belief that leaders in the meso environment can support optimal IP-CLEs by creating infrastructures that are team oriented. They noted, for example, organizations with flattened organizational structures enable teams from the bottom up to actively engage in system-wide problem solving and decision making. Such structures also support shared accountability among team members, which can promote greater patient and workforce satisfaction. Leaders in this environment can also support those in the micro environment to structure specific times to come together by ensuring that team members have protected time for collaborative reflection and shared decision making as well as time for team-based quality improvement and research. They can additionally support collaboration by creating physical workspaces and gathering places designed to promote team interactions. They noted that tools and technology will be important considerations for aiding communication (eg, a single electronic health record with open notes), a consideration for meso leaders as they develop infrastructures for supporting optimal IP-CLEs.

Micro Environment (Clinical Care Units and Service Lines)

Participants noted that leaders in the micro environment are closest to the front lines, where clinicians are learning while delivering patient care. In this environment, actions have a direct impact on patient safety and health care outcomes. Micro environment leaders are tasked with building strong interprofessional teams and identifying and developing faculty who serve as role models, coaches, and mentors in demonstrating excellence in interprofessional learning and collaborative care—particularly for new clinicians. For clinicians who are in training, there is opportunity to model and imprint new approaches to collaborative learning and practice that have the potential for positive impact throughout their careers. Participants noted that leaders in the micro environment will benefit from working with leaders of the meso environment to incentivize individuals serving as role models, coaches, and mentors in interprofessional learning

and collaborative care by formally recognizing their skills and by providing them with other types of intrinsic and extrinsic motivators to lead programs of interprofessional learning. Important to sustainability are structured touch points to ensure accountability for evaluating, improving, and maintaining the IP-CLE.

The themes that emerged for this environment were: practicing optimal team behaviors, promoting shared decision making, and fostering shared leadership.

> The central ingredient for collaboration is relationships. The thing that makes relationships work is trust.
>
> — Ronald Cevero, PhD

PRACTICING OPTIMAL TEAM BEHAVIORS

The participants indicated that, in optimal team-based care, clinicians understand each other's roles, recognize and respect the value of having everyone practice at the top of their license, and integrate each team member's strengths and unique contributions into collective decisions that result in shared accountability. To do so requires leaders that focus on fostering collaborative relationships and purposeful attention to developing processes that ensure reliable, effective, and rewarding communications and expectations for regular feedback and assessment. Leaders in the micro environment may implement training activities and ongoing processes that eliminate bias, resolve conflict, establish cultural competency, and promote a culture of psychological safety.

PROMOTING SHARED DECISION MAKING

In their discussions, the symposium participants agreed that optimal IP-CLEs have leaders who promote shared decision making to achieve consensus on a plan of care that is patient centered and ideally includes the patient voice. They noted that strong clinical teams involve the patient and family in the decision-making process, ensuring that patients and their families understand the role of each member of the care team. They also noted that many situations would benefit from a holistic approach that expands the concept of team-based care to involve various clinicians as well as nonclinician professionals, including community-based social workers, community health workers, patient advocates, hospital liaisons, interpreters, counselors, and others.

FOSTERING DISTRIBUTED TEAM LEADERSHIP

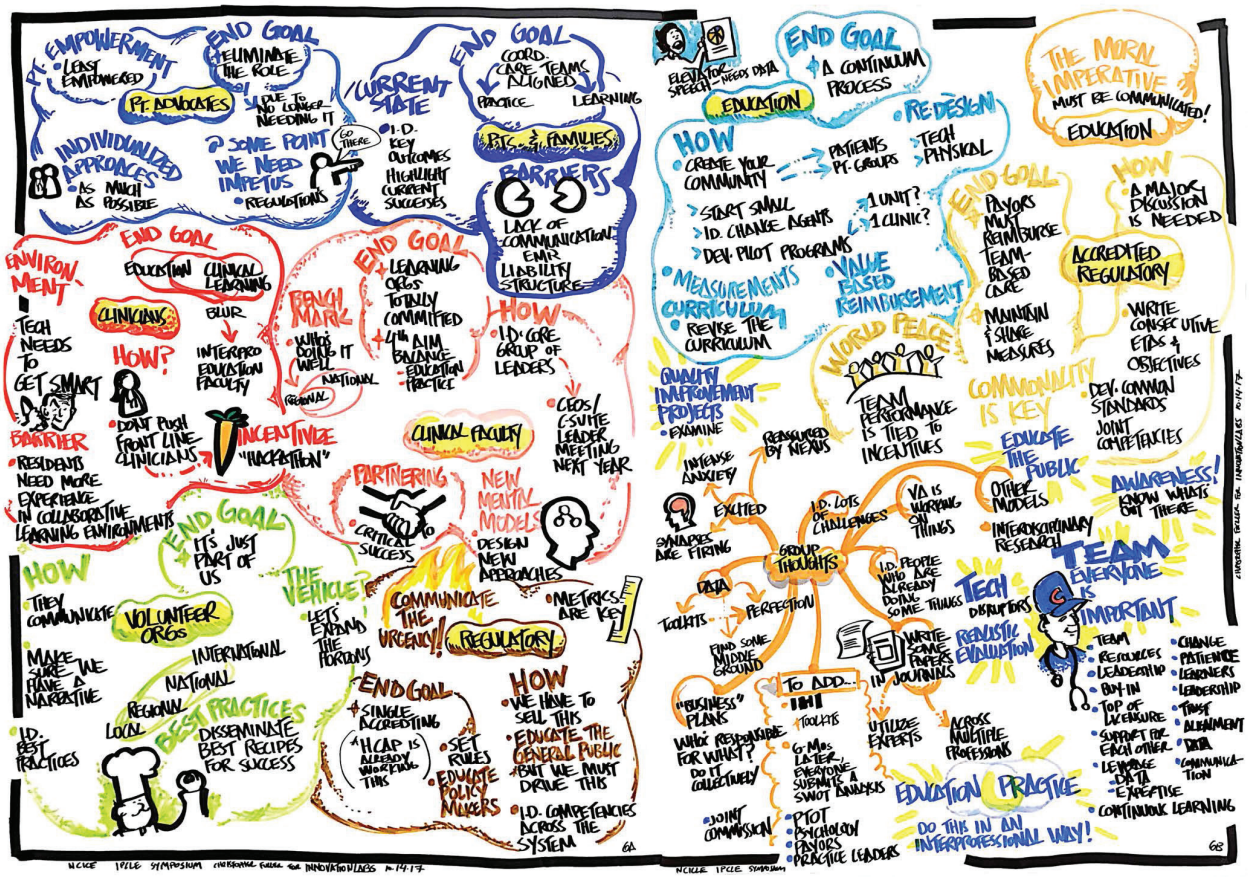
Participants noted that legacy structures in health care are shifting, resulting in new models of team leadership. An optimal model of interprofessional collaboration and team-based care recognizes the importance of situational and rotating leadership that responds to the challenge at hand with the leader whose skill set best serves the need. In this model, each member of the health care team will be expected to rotate in and out of leadership and supportive roles.

To facilitate such leadership, an optimal IP-CLE fosters leadership in all environments and across all professions—providing leadership training as part of the continuum of learning. Participants indicated that faculty serve an important role in setting expectations and modeling behaviors that exemplify the behaviors of distributed leadership.

The Role of Various Stakeholders

In progressing through the framework of the symposium, the participants were next asked to consider the role of various stakeholder groups, including education leaders, voluntary membership organizations, regulators, patients and families, and patient/consumer advocacy groups, in promoting optimal IP-CLEs. In the course of conversation, the participants added a sixth stakeholder—that of clinicians and clinical faculty. The participants formed several small groups for each stakeholder area. The subsections below combine the key points from the like stakeholder groups (**Figure 5**).

FIGURE 5:
Graphic artist's rendering of report-outs from stakeholder groups at the interprofessional clinical learning environment symposium.



CLINICIANS AND CLINICAL FACULTY

As noted above, the symposium participants added clinicians and clinical faculty to the groups of various stakeholders, noting that, in optimal IP-CLEs, clinicians and clinical faculty demonstrate principles of lifelong learning and interprofessional practice in all aspects of patient care and, in doing so, serve as role models for new clinicians. As previously mentioned, learners who benefit from interprofessional education often find that these approaches to learning are quickly extinguished once they transition to the clinical learning environment. By consistently promoting the value of and actively role modeling interprofessional learning and collaborative practice, clinicians and clinical faculty can begin to establish culture that supports optimal IP-CLEs.

EDUCATION LEADERS

The symposium participants proposed that some manner of interprofessional education be the new standard for learners of all health professions. They also noted that, as interprofessional learning becomes the new norm, education leaders will need to partner with clinical faculty leaders to ensure that undergraduate and preprofessional interprofessional education is aligned with the experiential learning that occurs in clinical training and practice, acknowledging that learning occurs on a continuum throughout one's training and career.

REGULATORS

In discussions about the role of regulators, participants proposed that, to optimize IP-CLEs, regulators could develop new models in which they coordinate the assessment and accreditation of key components of IP-CLEs across professions and delivery systems. For example, this model may include coordinated efforts to assess knowledge and skills in delivering interprofessional collaborative care.

VOLUNTARY MEMBERSHIP ORGANIZATIONS

Symposium participants noted that the role of voluntary membership organizations in promoting optimal IP-CLEs will be to ensure that their constituencies are represented in local, regional, and national discussions focused on interprofessional learning and collaborative practice. The participants also noted these various member organizations have a responsibility to align their efforts with similar efforts from like member organizations across the professions with the common goal of serving the public need. They noted that voluntary membership organizations may also potentially play a role in helping their members understand and navigate shifts in culture that may be needed to optimize new models of interprofessional learning and care.

PATIENTS AND FAMILIES AND PATIENT/CONSUMER ADVOCACY GROUPS

The participants noted that, in optimal IP-CLEs, patients have a clear and present voice as part of the health care team, understanding their treatment options, sharing their care preferences, and actively participating in informed decisions about their care. Participants proposed that patient and consumer advocacy groups could serve an important role in educating and informing patients of the roles of the various providers that make up the health care team and the value of shared decision making. The participants indicated that patient education and involvement in decision making needs to be tailored to meet individual patients' baseline knowledge and health literacy levels. They suggested that advocacy groups could serve a role in organizing patient focus groups on interprofessional collaboration and teamwork that could inform all levels of health care in developing educational materials and best practices for integrating the patient into the care team.

Envisioning the Path Forward

In a final activity of the symposium, the participants were asked to remain in their assigned stakeholder groups and identify milestones needed for optimizing IP-CLEs over the next 10 years. In the following sections, the NCICLE report work group present these milestones by stakeholder group, with milestones categorized as "short-term" (ie, those ideally achieved in the next 1 to 5 years) and "long-term" (ie, those ideally achieved in the next 5 to 10 years).

CLINICIANS AND CLINICAL FACULTY

In their discussions, participants in the clinician and clinical faculty stakeholder groups indicated that advancing clinician engagement in the IP-CLE begins with a broad basic awareness that health systems have a dual role in both providing care and providing continual interprofessional learning for all members of the patient care team. To achieve this enhanced awareness, the groups suggested that short-term steps should focus on developing both communication tools as well as faculty development tools and programs. They suggested these tools and programs be designed to enhance clinicians' understanding of the concepts, skills, attitudes, and behaviors that support an optimal IP-CLE. In addition, those in these stakeholder groups noted that newly emerging educational tools such as "smart" technologies and virtual learning environments will be important for facilitating learning into the workflow of patient care.

Specific to clinical faculty, short-term steps would include a set of national discussions to identify the specific skills clinical faculty need to establish and nurture learning in the IP-CLE. They further suggested that these discussions include specifying learner competencies and key components of curricula, assessment, and outcomes. The participants noted that long-term steps would include disseminating the outcomes of these national discussions across professions and throughout the various clinical sites that serve as clinical learning environments.

EDUCATION LEADERS

The participants noted that a short-term step for aligning interprofessional education with interprofessional learning that occurs in clinical training will be for health education professionals to identify important educational learning objectives specific to optimizing the IP-CLE. The participants also indicated a need for these stakeholders to review models of interprofessional education and to identify key components of these models to be brought forward as learners transition to clinical environments.

The participants in this stakeholder group indicated that long-term steps will include aligning with other stakeholder efforts that may be happening in parallel and disseminating IP-CLE educational programming—both locally and nationally.

REGULATORS

The participants in the regulators stakeholder group focused on 3 broad sets of activities for achieving an optimal IP-CLE. First, they suggested that short-term steps focus on studying the key issues surrounding optimizing IP-CLEs, including gathering data and conducting gap analyses, and that these steps be approached through a collaborative effort that brings together the regulators of the various health care professions and the various regulators of health care organizations. The group noted that, potentially, these efforts could lead to the creation of shared competencies and common performance metrics specific to the area of IP-CLE.

Next, as another short-term step, the participants noted the need for testing of new and innovative models of IP-CLEs that foster the competencies and meet or exceed the performance metrics identified.

Participants in this stakeholder group indicated that, once successful models have been identified, regulators may come together to set and implement common standards. They noted that key in this process is a commitment to ongoing monitoring, evaluation, and redesign that keeps pace with the changing health care environment.

VOLUNTEER ORGANIZATIONS

The participants in this stakeholder group identified coalition building as an essential short-term step for volunteer organizations to advance work in optimizing IP-CLEs. The participants noted that—while NCICLE served an important role in initiating this discussion—these efforts may benefit from an even broader coalition (perhaps an enlarged NCICLE) to advance the model of enhancing the IP-CLE.

This group also envisioned that short-term steps include bringing the coalition together to develop common language and concepts through consensus-building activities that help define a shared understanding of what defines high-performing IP-CLEs. They noted that these activities could be used to both communicate the concepts, as well as assist in recruiting new organizations to join the coalition.

The participants noted that, in long-term steps, the volunteer organizations could partner with other stakeholders to conduct national educational campaigns and advocacy efforts to evolve local, regional, and national policies to support the dissemination and implementation of models to optimize IP-CLEs.

PATIENTS AND FAMILIES AND PATIENT/CONSUMER ADVOCACY GROUPS

Participants in this stakeholder group expressed the belief that patient care in an optimal IP-CLE should be individualized according to the needs of each patient. For achieving this milestone, participants in this group noted the importance of inserting the patient voice into short-term and long-term developmental work of the other stakeholder groups. They also suggested reviewing patient experience data to inform the developmental process.

REFLECTIONS FROM THE NCICLE REPORT WORK GROUP

The intention of the symposium was not to provide consensus or recommendations. Rather, it was to start a conversation that supports and aligns with other efforts and also serves as a foundation for future work in this area.

In this section and the conclusion that follows, members of the NCICLE IP-CLE report work group, made up of symposium participants representing various professions and stakeholders, collectively share their reflections on the symposium, as well as thoughts on potential next steps.

Importance of Leadership in the Macro, Meso, and Micro Environments

In participants' discussions on the macro health care environment, identifying the IP-CLE's value emerged as an important theme—one that is closely linked with allocation of resources. Studies have suggested that well-designed collaborations within health care can improve patient care outcomes,[6-10] increase patient and provider satisfaction,[11] protect providers from burnout,[12,13] and lead to streamlined processes and improved use of resources.[9] In other industries, interprofessional teams have been shown to improve organizational performance, coordination, and internal collaboration,[14] as well as reduce costs.[15]

In adding to this evidence base, researchers have an important opportunity to more comprehensively assess the impact of optimal IP-CLEs. For example, a review of the literature revealed few studies examining the impact of interprofessional education and collaborative practice on population health, patient health outcomes, and reduction of health care costs.[16] More research demonstrating the IP-CLE's value could help build the business case for those in governance and health systems leadership to invest in sustainable infrastructures that support interprofessional learning and collaborative care.

In considering the meso environment, participants referenced the importance of aligning with organizational performance improvement initiatives such as high-reliability training[17] and Lean Six Sigma[18] that are well underway in many hospitals and clinical sites. The participants recognized that key elements of many of these major initiatives—supporting and building relationships and improving communication—are also key to optimizing IP-CLEs. By aligning and coordinating efforts in these areas, leaders in the meso environment could potentially address multiple strategic goals, resulting in benefits for the organization, learners, and patients.

> Through a series of rich, interrelated conversations, the symposium participants took initial steps to envision the value and characteristics of optimal IP-CLEs and the important roles that leadership and other stakeholders may play in operationalizing this vision.

One of the limitations to both the macro and meso discussions was that few of the symposium participants represented executive leadership of health care organizations (eg, chief executive officers, chief medical officers, chief nursing officers, etc). Future work in this area will benefit from greater input from leaders in the macro and meso environments of health care.

In the micro environment, a key theme noted was the recognition that, as the future of health care delivery becomes increasingly more complex, models of distributed leadership may be an important and necessary approach to optimizing interprofessional learning and collaborative care. Symposium participants frequently expressed the belief that, in IP-CLEs, leadership is often situational and contextual. They emphasized that, in strong interprofessional teams, each individual is able to effectively contribute his or her unique knowledge and skills, taking on a leadership role in some situations and a supportive role in others. In reviewing the literature, Brewer et al[19] found that most articles on interprofessional education, interprofessional learning, and collaborative practice did not focus on leadership—perhaps highlighting the opportunity to bring leadership models into the forefront of future work to enhance IP-CLEs.

Another major theme noted in discussions on the micro environment was the importance of teaching and modeling optimal behaviors as a key aspect of interprofessional learning and collaborative practice. The symposium participants observed that, although role modeling was important for all members of the clinical team, it was especially important in the context of teaching new clinicians. They also noted that such role modeling requires thoughtful planning and cultivation of faculty. Numerous studies have demonstrated the benefits of interprofessional mentoring in helping new clinicians learn the various roles of team members and establishing collaborative work environments.[20,21] In advancing the work of optimizing IP-CLEs, leaders may want to take an expansive view in defining faculty and role expectations for faculty across all professions in the clinical learning environment.

Potential Next Steps for Stakeholders

In envisioning optimal IP-CLEs, the participants in the groups representing the stakeholder perspectives of educators and clinical faculty often focused on the benefits of optimizing interprofessional learning in the preprofessional and undergraduate settings—highlighting, for example, the benefits of strategies such as shared didactic sessions on medical knowledge. Although these efforts are important first steps in establishing a culture that values interprofessional learning, these values diminish once the learner reaches the clinical environment due to traditional culture and hierarchy that inhibits interprofessional learning and collaborative practice.

The next steps in the journey of optimizing the IP-CLE will be to establish and nurture a culture that supports the values of interprofessional learning and collaborative care in the clinical setting. As described in the section “Envisioning the Path Forward,” this culture shift will require educators and clinical faculty to join together to translate the elements of success in the preprofessional setting into a systems-level approach to improving the training experience in the clinical setting —developing and implementing curricula that serve the needs of learners in both the micro and meso IP-CLE environments. Educators and clinical faculty should consider any new curricula in the context of the continuum of learning, ensuring the alignment of preprofessional and clinical training with ongoing professional development. As successful new models emerge, it will be

important to identify and communicate the key elements of infrastructure and curricular needs to national voluntary organizations and other audiences interested in improving education and health systems performance.

As identified by symposium participants, a key challenge in this process will be to ensure shared accountability. The participants often mentioned regulation as a way to ensure accountability, while also acknowledging that regulation has limitations and cannot fully address the multifaceted needs of interprofessional learning and collaborative practice. Perhaps the most successful approach to optimizing the IP-CLE will be multilayered, in which regulators and accrediting bodies first look to leaders in the macro, meso, and micro environments to innovate, test, and identify successful models of interprofessional learning and collaborative practice. Once a variety of models have demonstrated success, regulators across the professions and health care may consider coming together to develop a common set of standards—based on the data from these successful models—that will ensure a basic level of infrastructure and support for IP-CLEs.

Such standards may also simultaneously encourage, support, and recognize work beyond the minimum such that leaders are internally motivated to continue to innovate based on awareness of how high-functioning IP-CLEs can lead to high-quality care.

Finally, although the stakeholder discussions formally explored the patient perspective, patients were central to all of the discussions throughout the symposium, as the goal of all clinical learning environments is to deliver high-quality patient care.

> An important underlying theme throughout the symposium was that clinical learning environments are likely to see the highest quality outcomes at the patient, learner, and system level when they develop and nurture a workforce that is respectful, courageous, collaborative, and patient centered.

CONCLUSION

This symposium on optimizing the IP-CLE sought to advance the important work of identifying value, defining key characteristics, and recognizing key roles for leaders and stakeholders. Through thought-provoking discussions, the participants began to envision the collaborative work of aligning health professions education and clinical learning under a shared model. Important next steps include defining a common language; refining the value statement; building bridges between professions and external stakeholders; developing, testing and disseminating evidence-based models; and advocating for optimal IP-CLEs. Through diligent and continued work in this area, it is possible that new clinicians will enter an era where interprofessional learning and collaborative practice will be engrained and accepted as an essential part of high-quality patient care.

GLOSSARY

Clinical learning environments. The hospitals, medical centers, and other clinical settings in which new clinicians train.

Collaborative practice. "[W]hen multiple health workers from different professional backgrounds work together with patients, families, carers and communities to deliver the highest quality of care. It allows health workers to engage any individual whose skills can help achieve local health goals."[2]

Distributed leadership. A model of leadership that "is about engaging the many rather than the few in leadership activity and actively distributing leadership practice. [It is] premised upon the interactions between many leaders rather than the actions of an individual leader."[22]

Faculty. Health care providers within the clinical learning environment who participate in training new clinicians. Such training may take place inter- and intraprofessionally.

Interprofessionalism. Work occurring between or involving two or more professions.[23]

Interprofessional collaboration. "[A] type of interprofessional work involving various health and social care professionals who come together regularly to solve problems, provide services, and enhance health outcomes."[3]

Interprofessional education. "[W]hen two or more professions learn with, about, and from each other to enable effective collaboration and improve health outcomes."[2] Takes place in preprofessional and undergraduate health professions training programs.

Interprofessional learning. "[L]earning arising from interaction involving members or students of two or more professions."[3] Takes place in clinical learning environments and other care settings as part of the continuum of learning.

Interprofessional teamwork. "[A] type of work involving different health or social care professionals who share a team identity and work together closely in an integrated and interdependent manner to solve problems, deliver services, and enhance health outcomes."[3]

Learner. "In a continuously learning and improving health care system, every participant is both a learner and a teacher."[24]

Profession. An occupation requiring specialized knowledge and often long and intensive academic preparation.[23]

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