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Overview

The National Collaborative for Improving the Clinical Learning Environment (NCICLE) provides a forum for organizations committed to improving the educational experience and patient care outcomes within clinical learning environments. NCICLE seeks to simultaneously improve the quality of learning and patient care within clinical learning environments through shared learning and collaborative practice among its member organizations. In 2017, NCICLE convened a symposium on envisioning optimal interprofessional clinical learning environments (IP-CLEs)¹. For purposes of this symposium, clinical learning environments were defined as the hospitals, medical centers, ambulatory care centers and other clinical settings in which clinicians train and practice. 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 (i.e., macro, meso, micro)
- The role of other stakeholders in promoting IP-CLEs
- Potential timelines and next steps

As the symposium findings noted in the United States, health care delivery is often structured as a complex set of systems within systems and that leadership and accountability have an important role throughout the various environments within these systems². To further explore the leadership elements NCICLE convened a workshop in 2019 as a follow-up to the 2017 symposium to discuss and develop guidance for leaders to consider when designing an optimal interprofessional clinical learning environment. The main goal of the workshop was to provide actionable elements for healthcare leaders, in any clinical setting, to improve the interprofessional clinical learning environment.

Background

Health care delivery is often structured as a complex set of systems within systems requiring medical educators to purposefully design and plan educational experiences with leadership and collaborate across professions. Optimizing these learning experiences for patient care includes interprofessional engagement and practice in the clinical learning environment. Efforts to optimize interprofessional education and learning within health education programs has progressed substantially over the last decade with many incorporating an interprofessional approach to designing and implementing their curricula³. However, the interprofessional values taught are often lost once new clinicians leave the classroom and enter the clinical environment. In the fall of 2019, a workgroup of diverse health care professionals was organized by NCICLE with the intent to identifying structures and processes clinical leaders could put into practice to construct optimal interprofessional clinical learning environments (IP-CLE).
A workshop was convened representing over 20 health care professional organizations and their constituents to collaboratively clarify interprofessional, systems-based approaches to optimizing clinical learning environment’s (CLEs) for health care’s future. Through an iterative process the workshop participants generated guidance for organizational and clinical education leaders. Drawing on the findings of the 2017 NCICLE symposium, the workshop focused on hospitals and clinics identified as the meso environment in the symposium findings (figure 1).

FIGURE 1:
Meso Environment from 2017 NCICLE Symposium

The workshop activities were organized into three areas: 1) Ensuring ongoing interprofessional input, 2) Integrating interprofessional learning and collaborative care into the strategic plan, and 3) Building team-oriented structures which included: flattening organizational structures, shared accountably, protected time, shared decisions making, tools and technology, and designing physical space (figure 2). Strategic and operational guidance was developed for each of the areas.

The NCICLE guidance may be used by educators and leaders to create conversations and actions toward developing an interprofessional clinical learning environment that meets the current and future needs of patient care and learner experience.

FIGURE 2:
Meso Layer for Interprofessional Clinical Environment
Workshop Goals

The purpose of the 2019 NCICLE Workshop was to bring multiple health care professional organizations and their constituents together to collaboratively clarify interprofessional, systems-based approaches to optimizing clinical learning environment’s (CLEs) for health care’s future. Workshop participants were asked to identify structure, process, and outcome guidance to inform how leaders of hospital and ambulatory sites may best serve learners, educators, care teams, and patients to achieve an optimal interprofessional clinical learning environment through organizational strategy and operational structures.

Integrating Interprofessional Learning and Collaborative Care into the Strategic Plan

The first activity of the workshop focused on, “Integrating Interprofessional Learning and Collaborative Care into the Strategic Plan.” Participants were intentionally organized into small groups of 5-6 to engage in a problem-solving exercise called, “TRIZ.” First developed by a Russian Scientist, the TRIZ exercise was developed to analyze systems and assess where failures may occur in a system. Participants were asked to focus on a series of questions and brainstorm ideas around the following objectives:

1. Describe ways that current practices (behaviors, structures, incentives, etc.) preclude or diminish the likelihood that interprofessional practice and collaborative care will be realized within our institutions.

2. Discredit several myths related to strategic planning at local healthcare organizations.

3. Design steps for ways to increase the likelihood interprofessional practice and collaborative care will be reflected on the strategic plan of the local healthcare organization.

After a series of robust brainstorming sessions for each part of the TRIZ exercise, the small groups were able to report out their culminating findings and ideas. Many themes emerged integration of interprofessional learning and collaborative care into the strategic plan for healthcare systems (Box).
Buy in and awareness from of interprofessional learning and collaborative care benefits by leadership needs to occur to be considered as part of the strategic plan. To create buy in, evidence must demonstrate the benefits of supporting current efforts and implementing new strategies for interprofessional learning and collaborative care. Without evidence, buy in will not occur from leadership. Therefore, the current literature and best practice of these efforts must be leveraged and reported to leadership to create awareness and ultimately, buy in for support.

The groups identified that buy in and awareness can also come from within the leadership team. Interprofessional learning and practice champions on the leadership team can ensure interprofessional learning and practice is a priority for the institution and is at top of mind when strategic planning occurs.

The groups recognized that currently our U.S. healthcare systems are not always incentivized to reinforce or promote teamwork. A lack of accountability and attribution for all members of the healthcare team based on reimbursement does not support interprofessional education and collaborative practice. Thus, healthcare systems should create methods to incentivize and reimburse healthcare teams to optimize patient care and provider satisfaction. This would be extremely impactful and change the landscape of healthcare if teams, not individual providers, drove reimbursement. This would drive healthcare leaders to recognize the return on investment that interprofessional learning and practice bring to a healthcare system, patient, and families.

The participant groups recognized that accreditation and regulation drive strategic planning as well. With the advent of the Health Professions Accreditors Collaborative (HPAC) and the Joint Accreditation for Interprofessional Continuing Education, for the first time, accreditation has incorporated interprofessional learning and collaborative practice into the standards across the health professions for both professional training programs and continuing education for healthcare professions.

Collectively, these ideas to integrate the interprofessional learning and practice concepts into strategic planning are the first steps in developing a robust interprofessional clinical learning environment.

**BOX**

Emerging Themes from Activity One

1. **BUY-IN**

   from leadership on the benefits of interprofessional learning and collaborative care

2. **IDENTIFY**

   interprofessional learning and collaboration champions on the leadership team

3. **CREATE**

   innovative ways to track team member attribution and incentivize team-based care

4. **LEVERAGE**

   the work of accreditors and regulatory bodies to promote further interprofessional learning and collaboration
Ensuring Ongoing Input

Following the TRIZ strategic planning activity participants explored opportunities to develop and strengthen mechanisms to ensure interprofessional input into organizational strategic planning and oversight. This included interprofessional representation in governance structures across all levels of the organization, from unit-based leadership to the board of directors.

Participants went through a three-stage activity that involved collecting facts, synthesizing those facts, and strategizing solutions. In the first stage, of collecting facts, a series of small groups were organized for a fishbowl activity in which participants in each small group divided into two subsets: one an inner discussion group and the other an outer ring of observers. Inside the fishbowl the participants described their actual experiences, both successes and failures, of interprofessional input into the governance, oversight, and planning of the organizations represented at the workshop. The observers, outside the fishbowl, listened to the exchange, observed nonverbal exchanges, and formulated questions. Ideas generated included: Issues often stem from trying to align interprofessional goals with pre-existing structures of healthcare which are not conducive to collaboration; the focus on efficiency and cost cutting within these structures can miss opportunities for improvement through collaborative approaches; professional and organizational policies may produce unintended exclusionary processes; and concerns about power dynamics, whether explicit or implicit, that can limit engagement if not addressed. In the second stage, of making sense of the facts, the observers posed questions to identify patterns that characterize the success and challenges identified. The questions generated during this aspect of the activity included:

- How to differentiate structural challenges from cultural differences of professions?
- What can be done to mitigate cultural dissonance when merging disparate organizations to streamline operations?
- What skills are needed to facilitate effective collaborative engagement of individuals across multiple teams and organizational structures?
- What could move interprofessional structures from being ad hoc and lacking in effective communication?
After discussing the questions, the entire group engaged in the third stage, of strategizing solutions for ensuring ongoing interprofessional input into the governance, oversight, and planning at their own institution. Strategies included:

- Develop a formal structure that provides oversight for interprofessional education and collaborative practice throughout the institution (practice, education, and research).

- Continue to leverage outcome data to reinforce the importance of interprofessional education and collaborative practice across the institution by creating common goals and embedding into current metrics.

- Promote equitable methods of representation for all health professions in the co-creation of the interprofessional clinical learning environment.

The strategies outlined in the first two activities, integration of interprofessional learning and collaborative care into the strategic plan and ensuring ongoing interprofessional input within organizations, are powerful and collectively align across the common themes of:

1) Evidence to support interprofessional CLEs;

2) An organization structure which houses a formal IP-CLE office led by organizational leaders who will champion for the cause;

3) Equitable methods which represent all health professions within the IP-CLE, including innovative reimbursement models and other ways to recognize the importance of all team members within the IP-CLE.

Together these themes underpin the six team-oriented structures realized in the 2017 symposium. As further innovation occurs in IP-CLEs, both the strategies and team-oriented structures should be combined to promote optimal IP-CLEs.

### Building Team-Oriented Infrastructures

The final activity involved participants identifying actionable strategies for building and supporting the six team-oriented structures derived from the 2017 symposium: Flattening organizational structure, shared accountability, protected time, shared decision making, physical space, and tools and technology. Each small group was assigned one structural element and asked to identify aspects of three cross-cutting perspectives: human connections, engagement of patients and families, and true team competence. This was followed by an individual and group brainstorm activity to identify how intentional actions, changes that should/can/must be taken to achieve the assigned structural element across organizational levels. As noted in table 2 this activity organized the recommendations into today, near term, and long-term.
### TABLE 2: Recommendations for Building Team-Oriented Structures

<table>
<thead>
<tr>
<th>Infrastructures</th>
<th>RECOMMENDATIONS</th>
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<tbody>
<tr>
<td></td>
<td>TODAY</td>
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<tr>
<td>Flattened Organizational Structure</td>
<td>• Develop leadership through awareness and capacity building</td>
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<td></td>
<td>• Identify and convene stakeholders to inform and design</td>
</tr>
<tr>
<td>Shared Accountability</td>
<td>• Support individuals time for teamwork and education</td>
</tr>
<tr>
<td>Protected Time</td>
<td>• Develop a process to engage a diverse group with an organization-wide focus to inform the process</td>
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<tr>
<td>Shared Decision Making</td>
<td>• In consultation with staff reorganize existing space to encourage collaboration</td>
</tr>
<tr>
<td>Physical Space</td>
<td>• Create common spaces</td>
</tr>
<tr>
<td>Tools and Technology</td>
<td>• Meet with Chief Information Officer/Chief Medical Information Officer to discuss technology collaboration opportunities in clinical and educational tools</td>
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</table>
Participants noted a purposeful approach to building and supporting team-oriented structures requires leadership modeling collaborative behaviors and engagement at all levels of the organization. At every leadership level bringing together an interprofessional coalition of leaders to discuss and improve the CLE will serve to flatten the hierarchy and allow all voices to be heard. This coalition can define and identify expectations and best practices and establish consensus metrics for continuous assessment and improvement. Key to the success of this coalition is fostering a foundation of trust. This includes a CLE where individuals feel comfortable together and acknowledge each other’s roles as team members; have the knowledge and skills to effectively engage in interprofessional learning and practice; and experience structures such as common language and accountability tied to goals that demonstrate the value an interprofessional CLE. Designate time and opportunity for scholarly work to support interprofessional education and collaborative practice will further the need for evidence-based research to inform the community on lessons learned and successful strategies.

**Integrating the Learning**

Building team-oriented structures provides the scaffolding for interprofessional collaboration and a mechanism for outcomes to be readily visible to leadership. A centralized hub for interprofessional learning and collaboration that provides input to leadership may help promote flattening the organizational structure and hierarchy. This transition in structure may further promote shared accountability and decision making, for strategic and operational goals. Promoting operational goals such as protected time for teaching, developing tools and technology for interprofessional learning and collaboration, and the physical space that enables collaboration across the health professions, can support optimization of the interprofessional clinical learning environment. These team-oriented structures are also underpinned by the strategic and operational goals of activities 1 and 2, particularly a centralized unit or hub for interprofessional learning and collaboration within organizations. Table 3 displays the intersection of the 6 characteristics with the 3 meso leader strategies providing the beginnings of a roadmap to achieve an interprofessional clinical learning environment.
TABLE 3:
Matrix of IP-CLE Characteristics and Meso Leadership Strategies

<table>
<thead>
<tr>
<th>6 Characteristics of an Optimal CLE</th>
<th>Integrating into the Strategic Plan</th>
<th>Ensuring Ongoing Interprofessional Input</th>
<th>Building Team-Oriented Structures</th>
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<td>Patient Centeredness</td>
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<td>Continuum of Learning</td>
<td>X</td>
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<td>Reliable Communications</td>
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<td>Team-Based Care</td>
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<td>Shared Accountability</td>
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<tr>
<td>Evidence-Based Practice Centered on IP Care</td>
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Summary

These findings highlight the opportunity for the interprofessional community to identify shared language regarding interprofessional collaboration while maintaining professional identity. Collectively examining the three activities, themes emerge that can be grouped into either strategic or operational initiatives that could be implemented to optimize the clinical learning environments.

Developing a purposeful process for interprofessional learning and collaboration within organizations would allow for strategic input from champions across the organization to provide input to organizational leadership and ensure interprofessional concepts are integrated across the clinical and educational practice. Through the development of a centralized leadership structure, evidence from across the organization could be gathered and relayed to leadership to foster the growth and support of interprofessional learning and collaborative efforts. Developing innovative techniques and strategies to document the work of the healthcare team, either tied to reimbursement or other attribution markers, is both a strategic and operational initiative that needs to occur to optimize interprofessional learning and collaboration.

The recommendations from this workshop provide actionable strategies for the clinical learning environment across the continuum of systems where learners exist. Further work from NCICLE will offer a readiness assessment for healthcare organizations to identify their opportunities in the continuum of creating a fully optimized clinical learning environment.
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, caregivers, 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.”^4

Interprofessional education. “[W]hen two or more professions learn with, about, and from each other to enable effective collaboration and improve health outcomes.”^4 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.”^2 Takes place in clinical learning environments and other care settings as part of the continuum of learning.

Learner. “In a continuously learning and improving health care system, every participant is both a learner and a teacher.”^5

Profession. An occupation requiring specialized knowledge and often long and intensive academic preparation.^6
References


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*NCICLE thanks the workshop participants for their engagement in this interprofessional work.*
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Institute for Safe Medication Practices  
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National Board of Medical Examiners  
National Center for Interprofessional Practice and Education  
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