

# Seven Tips for Successfully Operationalizing GME Innovations at the System Level: The iPACE Experience

Kalli Varaklis , MD, MEd

Sarah Hallen , MD

Little has been written about the role of graduate medical education (GME) as a catalyst for innovation to improve patient care delivery at the health system level. Many GME innovations have focused on *educational* gaps, such as curriculum modification,<sup>1</sup> new education delivery models,<sup>2</sup> and strategies to improve feedback validity and reliability to improve learner competency.<sup>3</sup> Simulation-based innovations have sought to improve patient outcomes, such as central line placement training to reduce infection rates, demonstrating that GME innovations have the potential to address gaps in health care that align with larger health system patient safety goals.<sup>4</sup> Several prominent national organizations such as the Accreditation Council for Graduate Medical Education (ACGME) and the American Medical Association (AMA) have recognized that GME innovations can be catalysts to drive change in health care and have funded initiatives that redefine them as *promoters* of innovation.

GME innovations also have the potential to effect change in health care *delivery*. However, few examples of this exist in the literature, possibly because medical education might have been considered as separate from, rather than integral to, patient care delivery transformation. Another challenge has been to find GME-initiated system-level clinical and operational innovations that can be easily attributable to medical education innovation. It is hard to build a case for GME innovation as a valuable driver of health system improvement without robust and attributable data.

The Interprofessional Partnership to Advance Care and Education (iPACE) is an example of how GME innovation may improve health care delivery at the unit, hospital, and health care system levels. iPACE began as an ACGME grant, followed by an AMA grant, to fund a Clinical Learning Environment Review (CLER) innovation. The innovation focused on an interprofessional bedside rounding model to change the learning environment while teaching residents important teaming skills.<sup>5</sup>

The iPACE model is focused on the principle of interprofessional, team-based care provided at the bedside and including the patient and family as key team members. The model emphasizes *one team* conducting *one round* together and communicating *one plan of care* to the patient and family. The iPACE pilot was designed for and launched on an 11-bed internal medicine (IM) teaching unit at our hospital in 2017. An interprofessional research team created a pragmatic, observational evaluation plan to assess the impact of the model on teaming (team functionality), care team experience (well-being), interprofessional education (perceived quality of education and care and perceptions of educational value), and patient experience.<sup>6</sup> These measures demonstrated that the iPACE pilot was positively received by patients and contributed to team members' increased job satisfaction and communication metrics.<sup>6</sup> Retrospective analysis of resident rotation evaluations demonstrated higher quality evaluations on the iPACE unit compared to traditional units.<sup>7</sup> Later analyses also demonstrated significant reductions in length of stay and cost of care compared to a similar non-iPACE unit.<sup>8</sup>

Pilot project data solidified leadership support and eventually prompted inclusion of the iPACE model in the health system strategic plan, which encouraged adoption at 9 institutions within MaineHealth (MH)—the largest health care system in Maine. No financial or other incentive was provided to units or institutions that elected to adopt the iPACE model. MH sponsors 16 ACGME-accredited residency and fellowship programs. Although the majority of GME training occurs at MH Maine Medical Center-Portland, residents and fellows have required and elective rotations at 5 of MH participating institutions across Maine.

To prepare for system-wide dissemination of the interprofessional bedside rounding model, the iPACE team utilized change management and systems engineering techniques to streamline the process of creating customizable iPACE models, while maintaining model fidelity to allow for evaluation of system-level metrics across care delivery settings<sup>8,9</sup> (TABLE). This permitted clinical teams to independently design models

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TABLE

Seven Operationalization Tips Aligned With Change Management and Systems Engineering Technique

| 7 Tips for Successfully Operationalizing GME Innovations at the Health System Level | Kotter's Model for Change: The 8 Accelerators <sup>10</sup>                                                                      | Systems Engineering Techniques                                                                                                              |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Make innovations easier to implement by simplifying the model                       | Create a sense of urgency<br>Form a strategic vision and initiatives                                                             | Implementation science—focus the change on what must happen                                                                                 |
| Provide well-written resources to standardize model development and dissemination   | Create a sense of urgency                                                                                                        | Design thinking framework <sup>11</sup><br>Project management<br>Implementation science—focus the change on what must happen                |
| Allow for customization                                                             | Communicate the vision and enlist a volunteer army<br>Accelerate action by removing barriers                                     | Design thinking framework<br>Systems design<br>Interprofessional team identifies the problem(s)<br>Interprofessional team co-creates change |
| Identify local interprofessional champions                                          | Build and maintain a guiding coalition                                                                                           | Interprofessional team leading the effort                                                                                                   |
| Start small                                                                         | Generate and celebrate short-term wins<br>Accelerate action by removing barriers                                                 | Rapid cycles of improvement                                                                                                                 |
| Define data-driven success in advance                                               | Generate and celebrate short-term wins<br>Never let up—sustain acceleration<br>Institutionalize strategic changes in the culture | Identify institutional-level metrics that may be impacted by the change<br>Interprofessional team defines metrics                           |
| Share return-on-investment data with senior leaders, often                          | Celebrate short- and long-term wins with those empowered to facilitate project endorsement                                       | Emphasize results on institutional-level metrics impacted by the innovation                                                                 |

using a standardized process aligned with the iPACE core principles, and positioned the iPACE leadership team to be an operationalization resource for rapid adoption of the patient care delivery model. By the end of fiscal year 2023 (the year that iPACE operationalization was an MH strategic action plan), 35 iPACE teams advanced the iPACE model in 9 different MH institutions, meeting the health system target for this strategic goal.

The proliferation of the model and accumulation of further data supporting its benefit has allowed iPACE to influence care delivery across MH by becoming the preferred way to perform interprofessional collaborative bedside rounds.<sup>9</sup> Key lessons from operationalizing the iPACE GME innovation at a system level that maybe applicable to the operationalization of other GME innovations can be summarized in 7 tips.

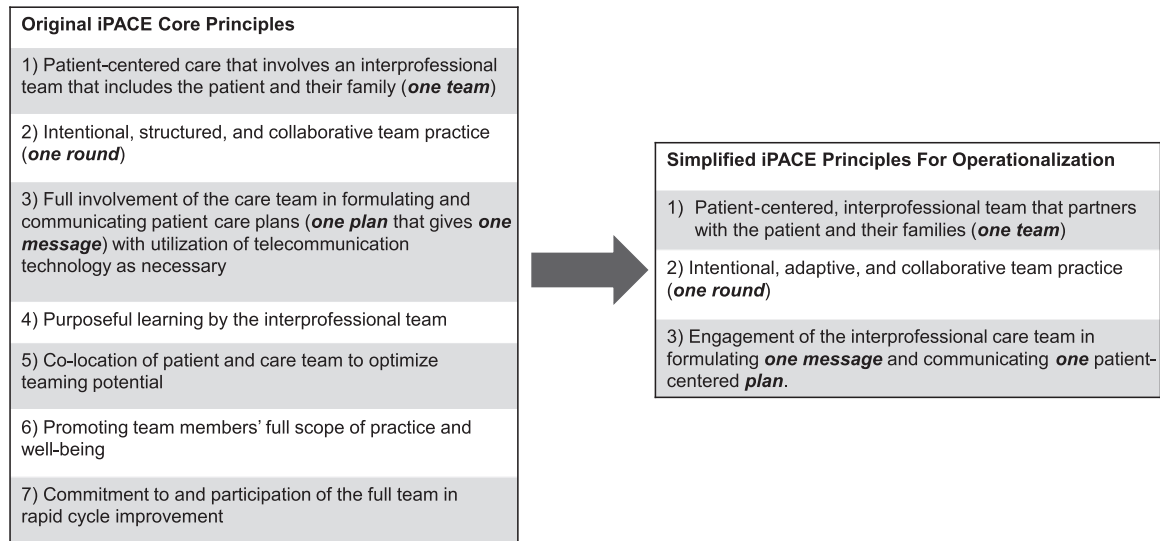
### 1. Make Innovations Easier to Implement by Simplifying the Model

The original iPACE pilot model was based on 7 principles that meticulously defined the mission of the innovation. In preparation for system-wide

operationalization, these principles were condensed to 3 essential principles (FIGURE). By mandating fewer “must have” elements of the model, it was easier for busy and diverse health care delivery teams to conceptualize what iPACE was and commit to adoption of the model.

### 2. Provide Well-Written Resources to Standardize Model Development and Dissemination

To support teams in creating their own models, the iPACE leadership team developed “how-to” resources, including a workbook with checklists outlining the steps for designing and adopting the model. This workbook includes prompts for eliciting feedback and other strategies for group work and model roll-out. This allowed iPACE leadership to redefine their role as consultants, rather than project managers, focusing on assisting teams to develop evaluation plans and collect data. The iPACE leadership team developed dashboards to centralize outcomes tracking and sharing of data with senior MH leaders and served as the central hub for communication across the system, focusing on sharing of best practices and tips for problem-solving.



FIGURE

Simplification of the iPACE Core Principles to Facilitate Operationalization

### 3. Allow for Customization

The original iPACE pilot was designed to meet the needs of an IM teaching service. The same structure of interprofessional bedside rounds would not be feasible for a surgical service or a mother-baby unit. For successful dissemination of iPACE, it was essential that the model be customizable. To be meaningful for frontline teams and account for unit-based idiosyncrasies, direct care staff needed to be integrally involved in the design planning process. This made the models relevant and useful to teams and cultivated the buy-in required for successful implementation.

### 4. Identify Local Interprofessional Champions

The identification of local, unit-based, and senior interprofessional champions was, and continues to be, vital to the success of operationalization. The iPACE leadership team solidified relationships with local champions with frequent check-ins and by traveling for in-person meetings at participating institutions. Communication and follow-up with local teams was critical to supporting model development, maintaining momentum, and navigating implementation struggles. It also allowed for critical evaluation of models to ensure fidelity to the iPACE principles.

### 5. Start Small

The iPACE leadership team encouraged new model sites to start small and celebrate small successes. Culture transformation and new process development can be challenging even with motivated teams. Choosing

to first implement iPACE rounds in a small subset of patients who could benefit the most from the model (ie, only patients with planned discharges within 48 hours) allowed for the rapid, iterative improvements essential to fine-tuning a model prior to wide dissemination.

### 6. Define Data-Driven Success in Advance

The process to develop novel iPACE models required teams to define outcome metrics and data collection strategies prior to implementation. Adherence to a schedule of frequent data review and analysis fueled continuous cycle improvement and allowed iPACE leadership and local teams to mount a timely and nimble response to unanticipated barriers during implementation. Developing an easy-to-read dashboard summarizing progress across the system was essential for concise communication with senior leaders.

### 7. Share Return-on-Investment Data With Senior Leaders, Often

Senior leaders should be aware of the innovation, and its successes, long before the request for advocacy to support operationalizing the innovation. The ACGME Pursuing Excellence in Innovation grant wisely required meaningful engagement of the Chief Executive Officer and Chief Nursing Officer, ensuring that the senior-most leaders of the institution were aware and supportive of the innovation and informed the project development. Subsequent maintenance of iPACE visibility has been achieved with an annual iPACE conference, newsletters celebrating successes, a dedicated website, site visits, along with

persistent requests from the iPACE team to present successes, new data, and outcomes to key leaders and committees.

The iPACE innovation is a successful example of how a GME innovation can drive improvement at the health care system level. This process takes time and perseverance; it has been almost a decade since the first interprofessional iPACE brainstorming session took place. Grant support was critical not only to jumpstart the innovation, but also to sustaining the innovation during a global pandemic. Intentional and thoughtful scaling of the innovation, based on outcomes and data, is essential to building a compelling case for operationalization and culture change.

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**Kalli Varaklis, MD, MEd**, is Designated Institutional Official (DIO) and a Professor, Obstetrics and Gynecology, MaineHealth-Maine Medical Center, Portland, Maine, USA; and **Sarah Hallen, MD**, is iPACE Principal Investigator and Assistant DIO, Department of Geriatrics, MaineHealth-Maine Medical Center, Portland, Maine, USA.

Corresponding author: Kalli Varaklis, MD, MEd, MaineHealth-Maine Medical Center, Portland, Maine, USA, [kalli.varaklis@mainehealth.org](mailto:kalli.varaklis@mainehealth.org)