# Integration of Interprofessional Education Into Routine Resident Practice: 2 Cases of Successful Implementation

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## Introduction

Interprofessional (IP) learning is the meaningful exchange of knowledge between diverse professionals, leading to integration of perspectives and expertise that improves outcomes and experiences.[1] Graduate medical education (GME) that is aligned with clinical operations supports systems-based practice[2] (FIGURE), and the skills and processes that allow individuals to work concurrently and form fluid, flexible, high-functioning teams are a key component of health systems science.[3] The Accreditation Council for Graduate Medical Education (ACGME) recognizes the importance of IP collaboration and requires residents to train in clinical learning environments (CLEs) that support patient-centered, high-functioning IP teams.[4] Including residents in IP care teams will better prepare them to leverage a team's complementary skills in practice.[5] However, IP education is often omitted from key areas of GME. Barriers can include lack of time, financial stress, space limitations,[6] and physician resistance.

This article describes 2 initiatives, both funded by American Medical Association (AMA) Reimagining Residency (RR) initiative, that incorporate residents into IP experiences in authentic, sustainable ways. At Montefiore Einstein, the initiative *Residency Training to Effectively Address Social Determinants of Health: Applying a Curricular Framework Across 4 Primary Care Specialties* implemented social determinants of health (SDH) training within IP clinical environments. This addressed a gap in prior curricular efforts in this space. A scoping review of SDH in GME did not identify IP training approaches as explicit components of any of the 12 identified studies.[7] At Maine Medical Center (MMC), the initiative *Interprofessional Partnership to Advance Care and Education (iPACE): Across, Out, and Over* used an iterative design process to build on previously published recommendations to integrate IP care into inpatient bedside rounding.[8] These initiatives leveraged curricula, protocols, and organizational structures to support team-based care.

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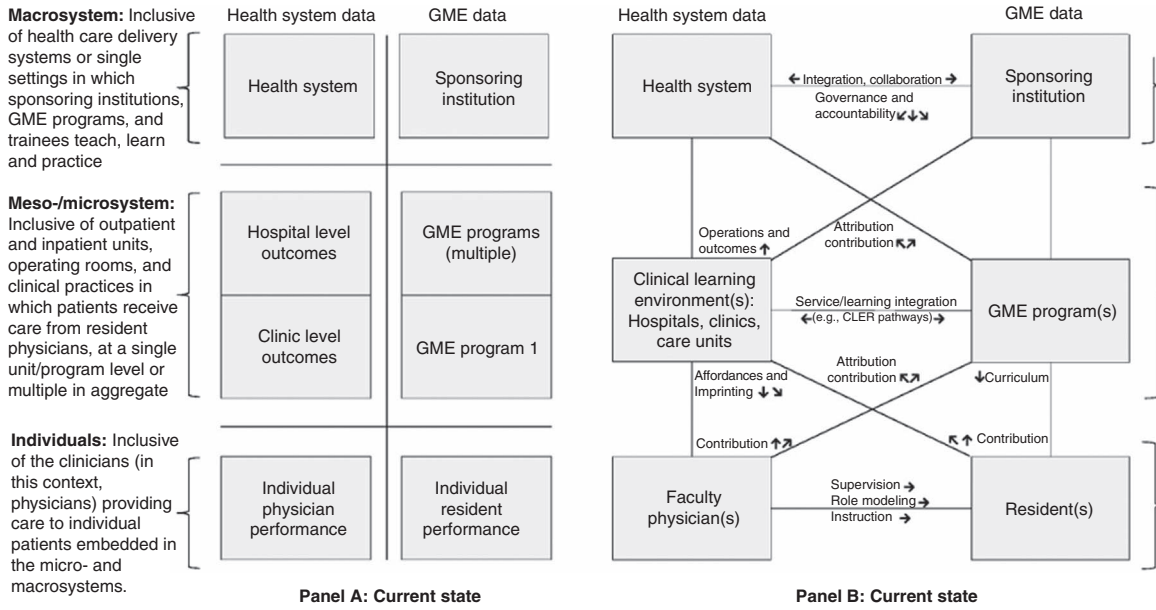
### Case 1: Montefiore Einstein

Montefiore Einstein, comprised of 10 member hospitals and more than 200 outpatient ambulatory care sites, had an established clinical program to ascertain and refer patients for SDH at the time of this initiative, including: (1) community health worker (CHW) and social work support; (2) a standardized social needs screening tool; (3) adaptive practice-based workflows for social work and CHW referrals; (4) an online social service directory; and (5) related data-based quality improvement processes.[9] This work relied on partners including the medical group, practice transformation teams, Office of Community and Population Health, a community health partner, and a state-funded Medicaid reform initiative.[10]

Montefiore Einstein's new curriculum, funded by the AMA, supported residents in building pragmatic skills to access this infrastructure. The intervention targeted 6 affiliated Federally Qualified Health Centers where more than 300 primary care residents per year (internal medicine, pediatrics, family medicine, obstetrics and gynecology) provide continuity care. Curriculum components were informed by existing frameworks for integrating social care and medical care, ACGME Milestones for systems-based practice, expert consensus, and resident perspectives.[11-13] AMA funds also supported faculty and administrative time, community partner input, research, expert consultation, and micro-grants that furthered the work. Goals included eliciting patients' priorities regarding social needs, communicating with the IP team to address SDH and adverse childhood experiences, and referring to clinic resources. An adapted survey[14] on resident perceptions prior to curriculum implementation confirmed that, while all resident respondents (72 of 123) thought that SDH are clinically important, many (46%) did not feel independently competent in identifying and connecting with community-based resources, with lack of time as the major reported barrier (69%).




Current state (panel A) and ideal state (panel B) of data relevant to systems-based practice education. Panel A shows the current state between the various components of the systems-based practice multilevel model; although interactions and interdependencies exist, data are not shared and are analyzed in silos. Panel B shows an ideal state where data are shared among the various entities reflective of the interactions and interdependencies that exist, fostering integrated work and an opportunity to perform integrated data analyses toward continuous improvement and achievement of the shared goals of the health system and graduate medical education enterprise. Abbreviation: GME, graduate medical education.

**FIGURE**

Interactions Between Graduate Medical Education and Health Systems

Note: Adapted with permission from Wolters Kluwer Health Inc: Reilly JB, Kim JG, Cooney R, et al. Breaking down silos between medical education and health systems: creating an integrated multilevel data model to advance the systems-based practice competency. *Acad Med.* 2024;99(2):146-152. doi:10.1097/ACM.0000000000005294

Attending physician champions provided 6 hours of foundational curriculum via lectures and case studies during required lecture times across the disciplines. Additional methods included a Twitter (now X)-supplemented educational intervention in internal medicine.[15] Teaching consistently included discussion of team-based work between physicians, CHWs, and other team members. Screening workflows and the CHW program grew to additional ambulatory and inpatient settings to comply with Centers for Medicare & Medicaid Services and Joint Commission mandates. This growth was supported by integration into practice through the didactic curriculum, consistent faculty role modeling engagement with the IP team, and microgrants for resident and faculty teams to take a quality improvement approach to increasing screening and referral.

## Case 2: Maine Medical Center

MMC's RR project began in 2016, when MMC, now a 926-bed tertiary care, independent academic medical center, was awarded an ACGME Pursuing Excellence in Clinical Learning Environments Pathway Innovators grant to redesign the CLE through development of a structured IP bedside rounding model. Building off this success, the project proposed to spread the iPACE model to other care settings within MMC and out to rural training hospitals within the MaineHealth system (including primary care, surgical, and critical care house staff). In both cases, the funds provided by the grants were dedicated to administrative and research support for the initiatives only.

The original iPACE model was piloted in a new 11-bed internal medicine inpatient teaching unit for 2 years. The iPACE pilot model featured daily, structured IP bedside teaching rounds with residents, medical students, attending physicians, pharmacy, nursing, and the other care team members co-located on the unit as available. The key principles of iPACE can be summarized by the phrase "one team, one round, one message." Patient integration into IP rounds to co-create a unified, consistent, and clear

care plan with the team is a cornerstone of the model. During the pilot, the approximate schedule of rounding appointments was posted to further encourage family involvement in rounds.

A pragmatic observational evaluation of the iPACE pilot demonstrated that IP team bedside rounding had a positive impact on several factors relevant to IP practice.[8] When surveyed, patients and families felt like active and engaged members of the care team. iPACE team members also demonstrated significantly improved perceptions of communication, including shared goals and knowledge and mutual respect, as measured by the Relational Coordination framework.[16] iPACE team members perceived their work as significantly more professionally rewarding.[16] This model was also shown to have benefits to resident education compared to traditional teaching rounds, and resulted in longer written faculty assessments of residents of higher quality with more direct observation of patient/family and team interactions and more specific, actionable, and corrective feedback.[16]

The initiative endeavored to spread this approach across the health system. Adaptability of the original iPACE rounding model for different care settings across the health care system was critical for widespread acceptance and utility of the model. The iPACE team used engineering techniques, including design thinking (a method used in many settings, including health care, as a standard and structured approach to generate innovative solutions customized for unique environments).[17] The team adapted this process to assist clinical care teams in designing their own IP rounding models based on the iPACE principles. Three years into the RR grant, the iPACE model received the health system endorsement to implement team-rounding models, like iPACE, throughout the system, as a health system strategic priority. Currently, 34 unique versions of the iPACE model are now deployed through all 9 hospitals that comprise MaineHealth. The successful spread and operationalization of the iPACE project across the institution has allowed residents to have access to consistent high quality IP teamwork opportunities across services and clinical care sites.

## Conclusion

The 2 interventions described in this article succeeded by creating authentic, clinically meaningful opportunities for resident integration into IP teams by aligning with existing strategic priorities within their institutions. Both achieved integration of new team compositions, activities, and care improvements across clinical operations and GME curricula. Both interventions also were embedded into established resident clinical experiences that allowed for sustainability after the end of AMA funding.

The strategic approach of alignment and integration within clinical operations also allowed both initiatives to mitigate and overcome common barriers. These barriers most prominently included resource constraints, including constraints on time in clinical work, on teaching time, and on engagement of faculty and residents. The success of 2 initiatives despite very different clinical settings and areas of topical focus support that this approach may be generalizable to additional settings. Alignment of GME and clinical operations for IP curricula also increases the likelihood of sustainability, since the IP teams were supported by preexisting organizational support based on regulatory or quality imperatives independent of the GME program alone. Alignment also allowed faculty and residents to integrate quality improvement approaches and iterative adaptation of the clinical model as part of their curricular activities.

After starting with more than 300 residents, Montefiore Einstein plans to extend this work to other residencies and fellowships. The MaineHealth project's adaptability facilitated the spread of iPACE from a small pilot with an internal medicine teaching service to a leading model of IP collaborative care across the health system, allowing residents to participate in high functioning teams across the organization. These projects illustrate that IP learning can be integrated into GME concurrent with health care delivery to provide residents the opportunity to develop and implement collaborative skills essential to patient-centered care.

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