Opportunities to Advance Interprofessional Education through the Interprofessional Partnership to Advance Care and Education (iPACE) Unit

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No disclosures

Objectives

- Introduce the iPACE model
- How can the iPACE model be operationalized in other health systems?
  - Low resource settings
- Does iPACE and other interprofessional rounding models add to or alleviate clinician stress?

What is iPACE?

Interprofessional Partnership to Advance Care and Education

- iPACE is a patient-centered care delivery model in which an interprofessional team (**one team**) partners and rounds (**one round**) with the patient and their families to co-develop one plan of care that is clearly communicated in (**one message**)

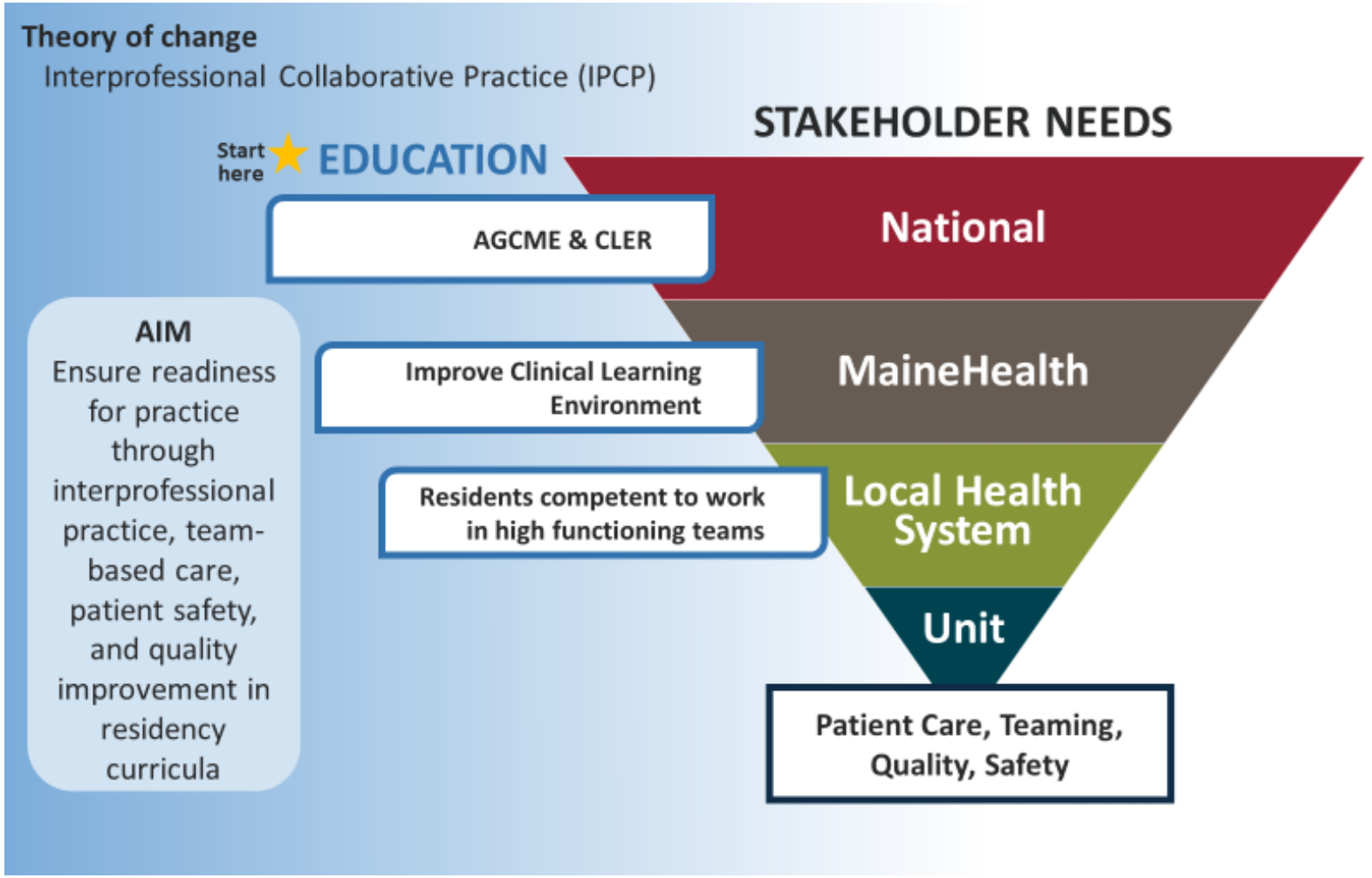
- Model features a standardized approach for teams to co-create customized interprofessional bedside rounds

Interprofessional Partnership to Advance Care and Education

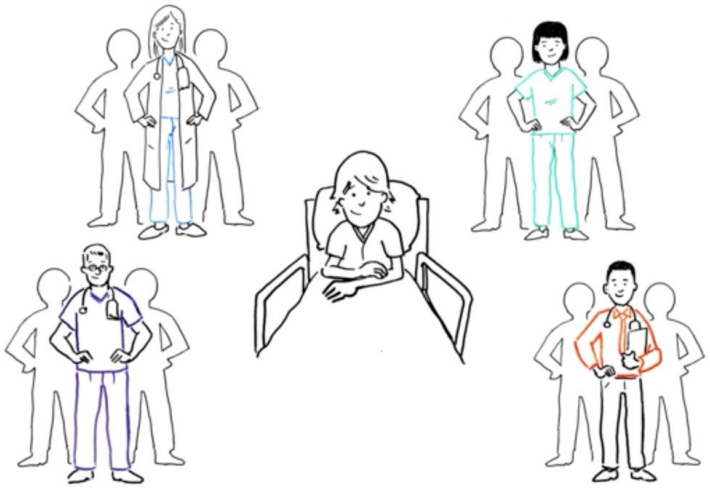
iPACE Origin: GME innovation to create an optimal clinical learning environment

Accreditation Council for Graduate Medical Education (ACGME) Pursuing Excellence in Clinical Learning Environments Grant

- Residents integrated into interprofessional collaborative care
- Residents driving innovation in patient safety and quality improvement initiatives



iPACE Pilot Unit – 2017 ACGME Pursuing Excellence in Clinical Learning environments



The Learning Laboratory

- New, 11-bed inpatient internal medicine teaching unit
- Geographic co-location of clinicians & patients
- Structured, scheduled bedside interprofessional rounds
- Interprofessional educational sessions
- Continual self-assessment of model and systems with goal of continual improvement in care

Pilot Outcomes

2017 – 2018

11 bed unit
Internal Medicine
Teaching Team

- ↑ Feedback from patients and families was overwhelmingly favorable
- ↑ Improved care-team wellbeing
- ↑ Improved team communication
- ↓ Decreased length of stay & cost of care
- ↑ Better quality feedback for residents

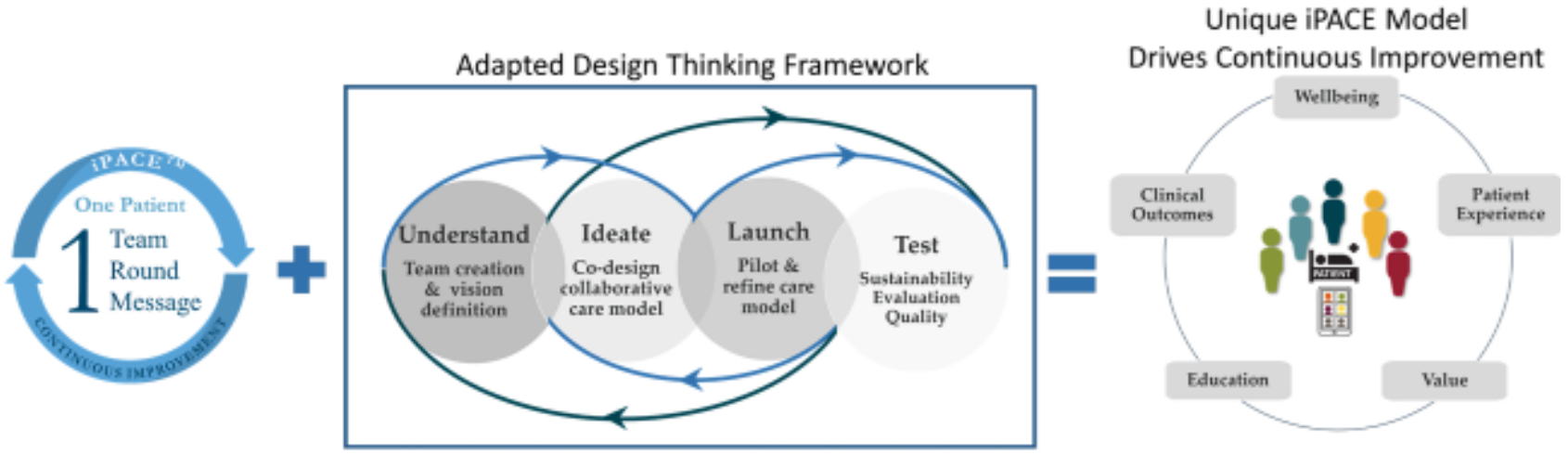
Hallen S, Van der Kloot T, McCormack C, Han PKJ, Lucas FL, Wierda L, Meyer D, Varaklis K, Bing-You R. Redesigning the Clinical Learning Environment to Improve Interprofessional Care and Education: Multi-Method Program Evaluation of the iPACE Pilot Unit. J Grad Med Educ. 2020 Oct;12(5):598-610. doi: 10.4300/JGME-D-19-00675.1. PMID: 33149830; PMCID: PMC7594784.

Operationalization & Dissemination

iPACE Model Spread

American Medical Association (AMA) Reimagining Residency Initiative

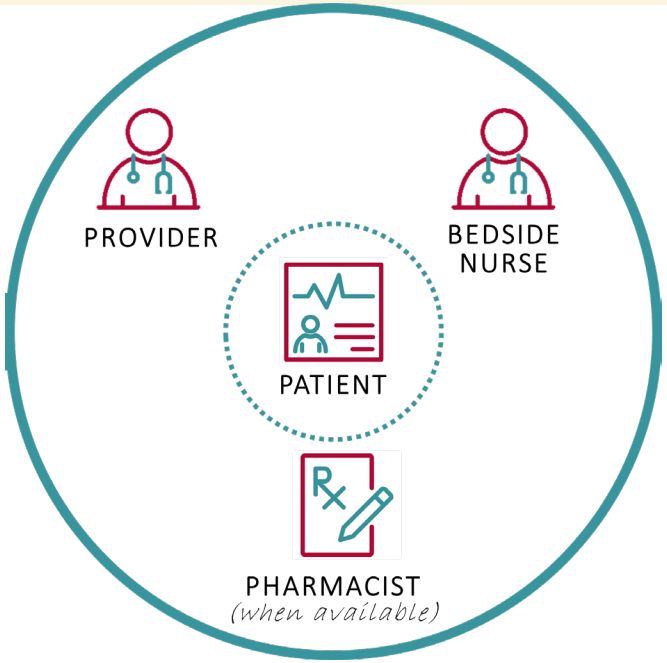
- **Scalable & Adaptable = successful dissemination**
  - *iPACE rounds = provider & another team member with the patient*
- Standard approach to model design and implementation
- ***Must*** address a problem or patient care need that is important to care team members and their patient population



Exemplar iPACE Model Implementation

MHMMC Biddeford

Most successful iPACE implementation to date



- Launched February 2023
- Less structured than the original iPACE pilot
- Leveraged existing team (no new resources)
- Target = Length of stay, patient experience & staff engagement
- 7 rounding teams on two medical-surgical units & hospitalist service

Exemplar iPACE Model Implementation

Patient Experience

	FY22	FY23	FY24
Communication with Nurses	68.8%	71.1% ↑	73.7% ↑
Communication with Doctors	68.9%	74.1% ↑	74.3% ↑

Engagement

	2022	2023	
Care Team	3.06	3.88	↑ *27.0%*
Provider	2.67	3.21	↑ *20.2%*

2024

Length of Stay OE Ratio

MaineHealth
Maine Medical Center
Biddeford

Length of Stay O/E Ratio

Target ≤1.05

1.39	**1.25** ↓	**1.15** ↓
FY22	FY23	FY24

30-day Readmissions

9.71%	9.97%	10.45%
FY22	FY23	FY24

Statistically non-significant difference

2024 iPACE vs. pre-iPACE units

Length of stay OE ratio

FY24

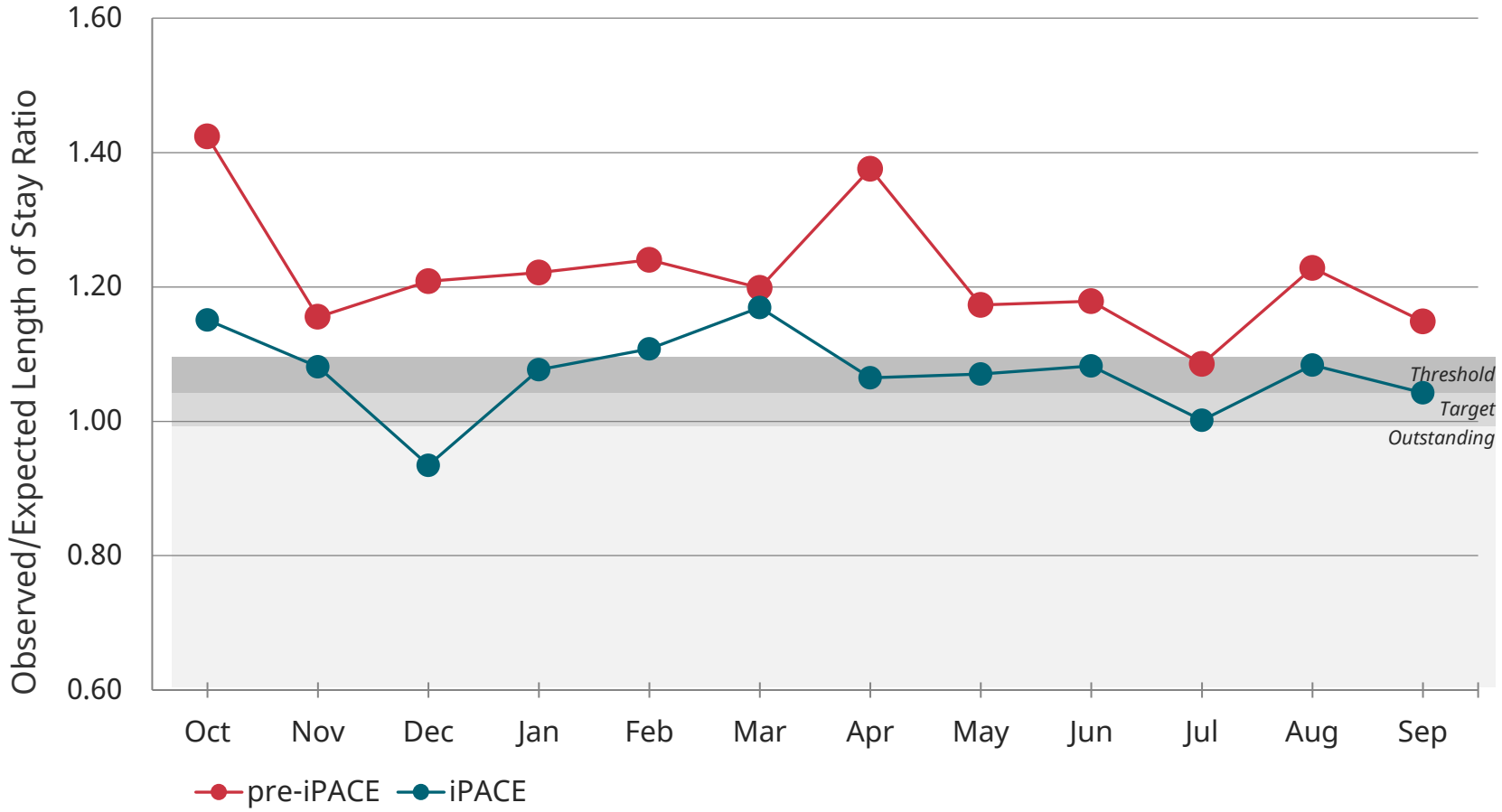
1.22

pre-iPACE units

1.07

iPACE units

12.2% ↓



Potential benefits of models like iPACE

- Improved care efficiency & patient throughput
- Improved employee engagement and retention
- Unquantifiable benefit of focusing on patient and families
- Access to high-functioning interprofessional beside teams to implement patient quality and safety initiatives

Burden or Benefit?

Barriers to Buy-in

- Perceived as more inefficient than hallway or table rounds
- Perceived potential for loss of credibility and confidence in medical decisions in front of the patient and family
- Physicians & providers are often not trained to round this way

Hallen S, Zelaya MI, White P, Varaklis K. Creating Optimal Clinical Learning Environments Through Interprofessional Bedside Rounding Models: Lessons From the iPACE Story. Acad Med. 2024 Dec 1;99(12S Suppl 1):S28-S34. doi: 10.1097/ACM.0000000000005863. Epub 2024 Aug 29. PMID: 39208243.

Equally (in)efficient?

- A 2017 pragmatic cluster randomized controlled trial of standardized medicine bedside rounds with nurse participation showed that
  - **Trainees in the intervention arm perceived rounds to last longer** (mean estimated time167 min vs. 152 min, $P < 0.001$).
  - **Shorter** than traditional rounds by 8 minutes on average (143 vs. 151 minutes, $P = 0.052$)
  - 4 minutes less per patient (average (19 vs 23) minutes, $P < 0.001$)

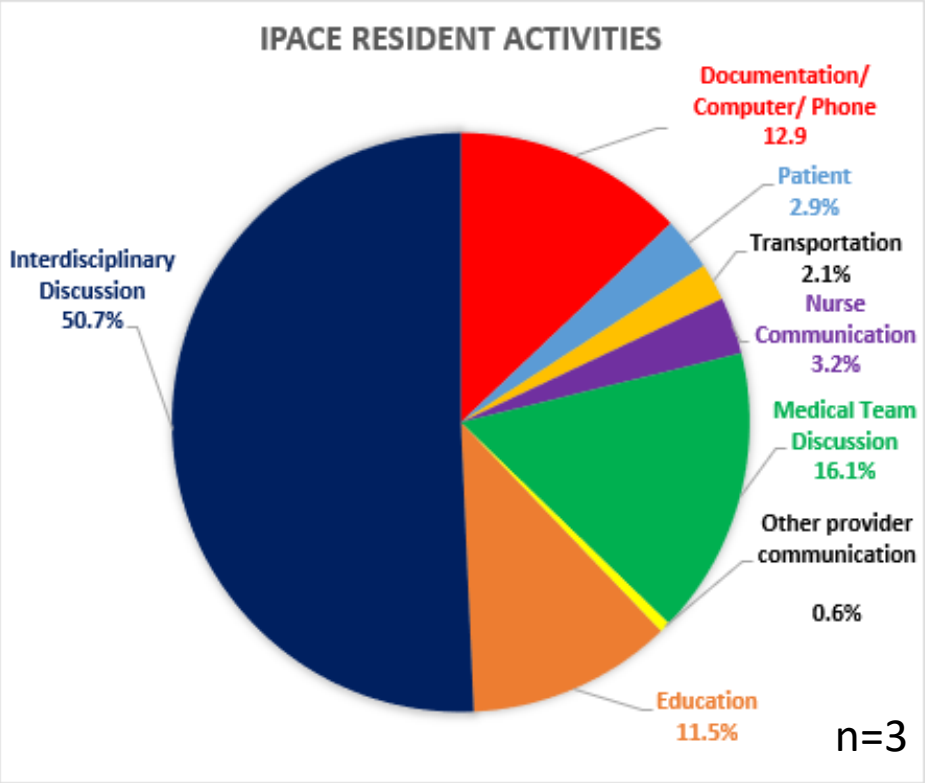
Monash B, Najafi N, Mourad M, Rajkomar A, Ranji SR, Fang MC, Glass M, Milev D, Ding Y, Shen A, Sharpe BA, Harrison JD. Standardized Attending Rounds to Improve the Patient Experience: A Pragmatic Cluster Randomized Controlled Trial. J Hosp Med. 2017 Mar;12(3):143-149. doi: 10.12788/jhm.2694. PMID: 28272589.

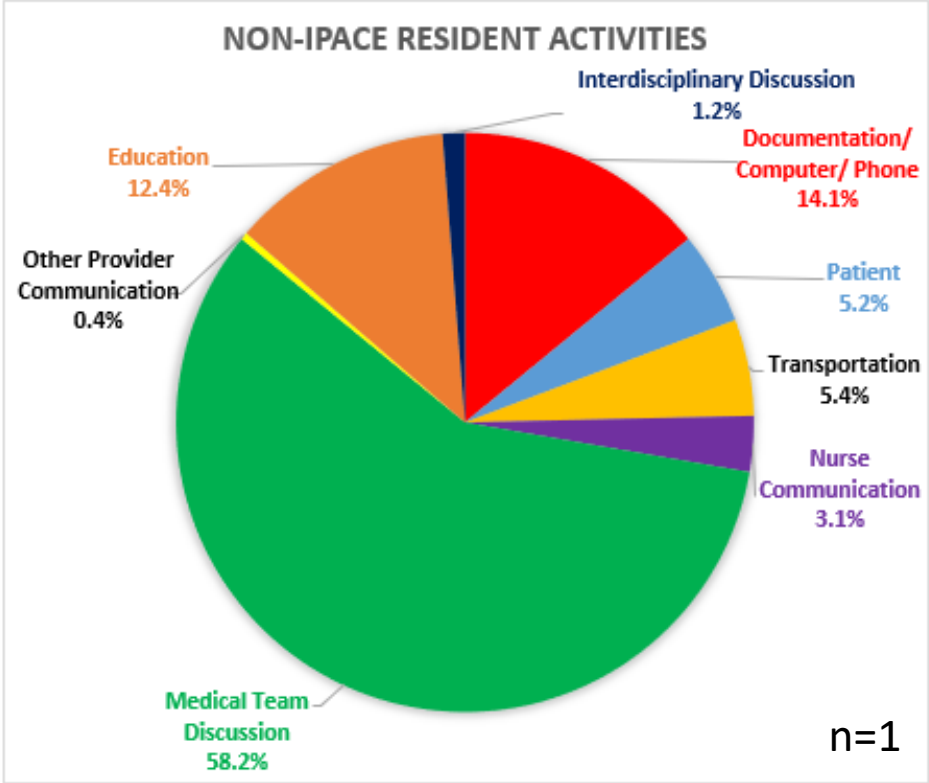
IPBR Time Distributed Differently

- Traditional model
  - IM interns only spend13.4% of their time in patients' rooms during inpatient rotations
  - Residents spent less than 10% of their time interacting with patients

Mamykina L, Vawdrey DK, Hripcsak G. How do residents spend their shift time? A time and motion study with a particular focus on the use of computers. Acad Med.
Rosen MA, Bertram AK, Tung M, Desai SV, Garibaldi BT. Use of a real-time locating system to assess internal medicine resident location and movement in the hospital. JAMA Netw Open. 2022;5(6):e2215885.

(iPACE pilot) Resident Activities



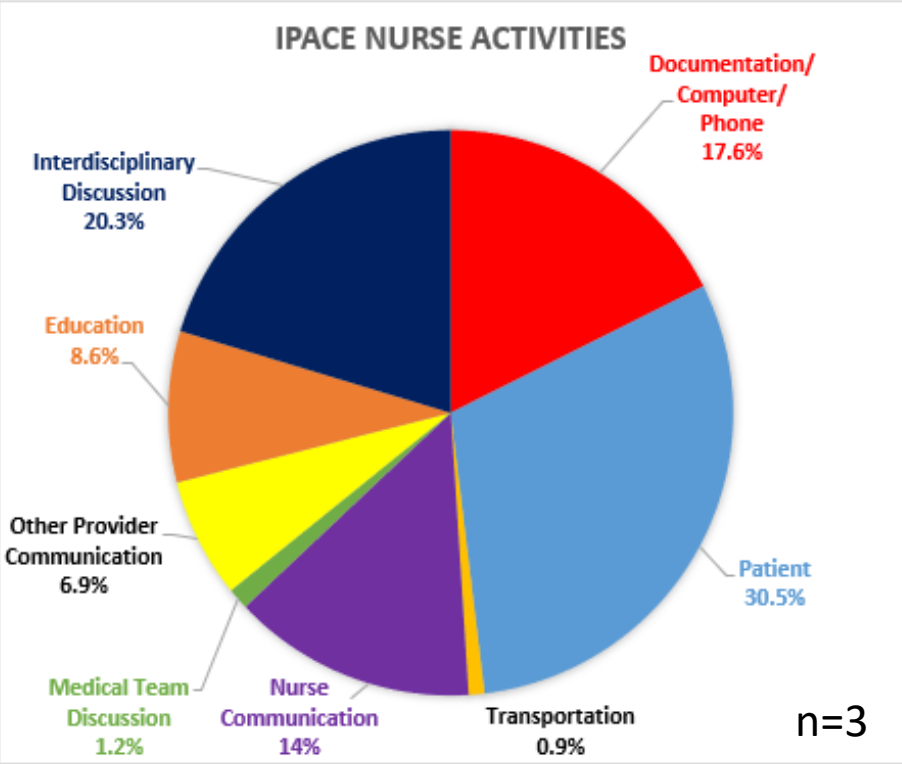


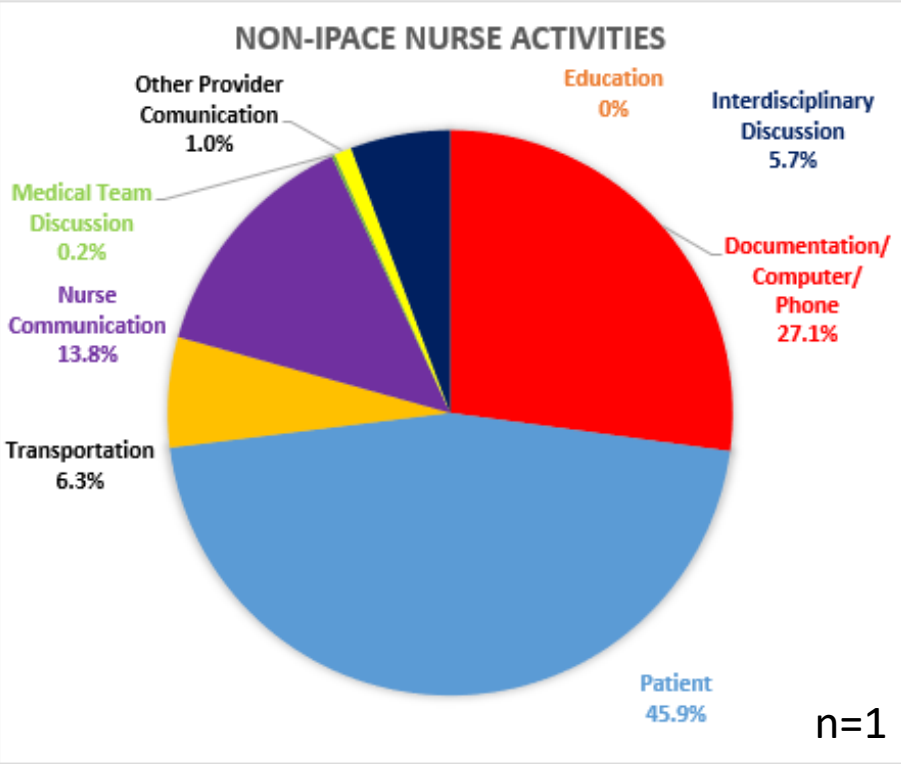
- Preliminary findings suggest:
  Both units spend approximately the same amount of time participating in educational activities, interacting with patients, communicating one-on-one with nurses, and conducting documentation.
  - P2C residents spend the same amount of time in discussion, but spend 2/3 of that time in interdisciplinary discussion.

Resident Interruptions

- Preliminary findings:
  - iPACE residents (n=3) experienced an average of 28.3 interruptions
    - Interrupted 0.85 times every 15 minutes
  - Non-iPACE resident (n=1) experienced 43 interruptions
    - Interrupted 1.34 times every 15 minutes

Nurse Activities





- Preliminary findings suggest:
  - iPACE nurses have access to educational activities
  - iPACE nurses spend more time communicating with other providers, and less time moving from place to place
  - Nurses in both units spend the same amount of time communicating with other nurses

A Qualitative Study of Patient and Interprofessional Healthcare Team Member Experiences of Bedside Interdisciplinary Rounds at a VA: Language, Teamwork, and Trust | *Journal of General Internal Medicine* | Mastalerz KA et al.

VISUAL ABSTRACT

JGIM
Journal of General Internal Medicine

RECOMMENDED BEST PRACTICES FOR BEDSIDE INTERDISCIPLINARY ROUNDS:

1. Sharing bedside rounds goals with patients
2. Using patient-centered language
3. Creating structures for interprofessional inclusion
4. Defining team roles
5. Using structured communication
6. Addressing interprofessional inputs in real time
7. Setting and adhering to timing expectations

1. KEY MESSAGE

Bedside interdisciplinary rounds (BIDR) foster trust between patients and healthcare providers and within the interprofessional team by facilitating observed teamwork interactions.

Study cohort

14 inpatients +
18 interprofessional healthcare team members

2. METHODS

- **Study type:** Qualitative descriptive study with semi-structured interviews.
- **Study aim:** Understand patients' and interprofessional healthcare team members' experiences of BIDR.
- **Study cohort:** 14 inpatients and 18 interprofessional healthcare team members, including nurses, pharmacists, and care coordinators at VAMC who participated in daily structured BIDR.
- **Methods:** Interviews were conducted about participants' experiences with BIDR between January and June 2020, recorded, professionally transcribed, and analyzed using thematic analysis to identify key themes.

3. MAIN RESULTS

- **Patients:** Reported positive perceptions of being included in discussions of their healthcare plans and increased trust in providers, but some discomfort due to technical language and unclear plans.
- **Interprofessional healthcare team members including nurses, pharmacists, and care coordinators:** Reported increased understanding, respect, and trust for other team members and improved patient care.
- **Challenges identified:** Lack of supportive structural elements to interprofessional workflow and prolonged physician presentations.

+ positive perceptions of being included, trust
- discomfort due to technical language and unclear plans

+ increased understanding, respect, trust, improved patient care

Abbreviations: Academic VA Medical Center (VAMC); bedside interdisciplinary rounds (BIDR)

J Gen Intern Med 40(3):538–46
DOI: 10.1007/s11606-024-09124-8

Mastalerz KA, Jordan SR, Connors SC. A Qualitative Study of Patient and Interprofessional Healthcare Team Member Experiences of Bedside Interdisciplinary Rounds at a VA: Language, Teamwork, and Trust. J Gen Intern Med. 2025 Feb;40(3):538-546. doi: 10.1007/s11606-024-09124-8. Epub 2024 Oct 29. PMID: 39470902; PMCID: PMC11861478.

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2024

Care Team Engagement

MaineHealth
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	2021	2024		
	pre-iPACE Mean (SD)	*post*-iPACE Mean (SD)	*p*-value	
My professional values are well aligned with those of my department leaders	3.48(0.94)	4.08(0.76)	0.0013**	↑
Overall, I am satisfied with my current job	3.34 (1.12)	3.79 (1.07)	0.045*	↑
Using your own definition of burnout, select one of the answers below:	2.75(1.03)	2.25(0.97)	0.0230*	↓
How would you rate the atmosphere in your primary work area?	3.67(0.84)	3.26(1.00)	0.0494*	↓

**Statistically significant ($p<0.05$) difference between 2021 and 2024 as measured by the iPACE™ Team Survey*
***Most significant finding from the survey*

2024 Care Team Communication

MaineHealth Maine Medical Center Biddeford

	2021 *pre*-iPACE[a] Mean (SD)	2024 *post*-iPACE[a] Mean (SD)	*p*-value	
My care team works efficiently together	3.40 (0.95)	3.89 (0.95)	0.0080*	↑
Contribute to the understanding of each patient's clinical problem(s)	3.65 (1.00)	4.11 (0.78)	0.0240*	↑
Contribute to a comprehensive management plan for each patient	3.48 (1.13)	4.00 (0.85)	0.0320*	↑

[a]*Likert scale of 1 – 5*

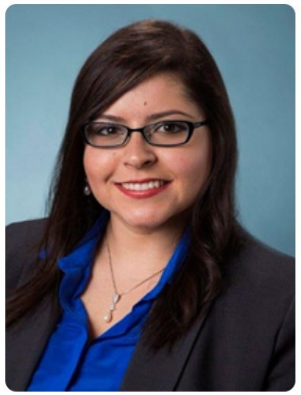
**Statistically significant (p<0.05) difference*

Conclusion

- iPACE started as a GME innovation to see if team-based, interprofessional collaborative care environment would create an optimal CLE to allow residents to use clinical care experiences to inspire innovation in patient safety and quality care
- iPACE has since evolved to be the way in which inpatient teams round at the bedside within our health system
- Scalable, adaptable and can be implemented using existing resources but distributed differently & ideally supported by individualized team workflow modifications
- Benefits of model implementation for patients, clinicians & health system

Thank you!!

Kalli Varaklis, MD, MSEd
Co-Investigator



Melissa Zelaya-Floyd, PhD
Program Manager

Patti White
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- **iPACE team members past and present, but especially Dr. Robert Bing-You, Dr. Peter Bates, Dr. Marjorie Wiggins, Dr. Paul Han, Dr. Thomas Van der Kloot, Christyna McCormack and Dr. Daniel Meyer**

- **Accreditation Council for Graduate Medical Education (ACGME)** Pursuing Excellence in Clinical Learning Environments Grant
- **American Medical Association (AMA)** Reimagining Residency Grant

Questions


iPACE™
One Patient
1
Round
Message
Plan
Mission
One Team
CONTINUOUS IMPROVEMENT