TABLE
Pearson Correlations of Global Director Rating and Predictors

Predictor Variable	PGY-1 (n = 72)		PGY-2 (n = 68)		PGY-3 (n = 630)	
	r	*P* Value	r	*P* Value	r	*P* Value
USMLE Step 1	0.03	.78	0.1	.67	0.3	.06
USMLE Step 2	0.1	.35	0.1	.48	0.3	.07
COMLEX Step 1	0.3	.52	0.4	.27	0.6	.22
COMLEX Step 2	0.3	.50	0.3	.37	0.2	.65
Academic points	0.3	.017[a]	0.3	.05[a]	0.5	.002[a]
Interview scores	0.4	.001[a]	0.3	.009[a]	0.6	< .001[a]
Learning style visual[b]	-0.1	.24	0.003	.99	-0.2	.29
Learning style auditory[b]	-0.1	.52	0.2	.31	-0.2	.48
Learning style read/write[b]	0.1	.50	-0.1	.66	0.2	.25
Learning style kinesthetic[b]	-0.1	.59	0.2	.13	-0.1	.54
SIPPS score[b]	0.2	.15	0.1	.46	0.2	.39
In-training examination score[b]	0.2	.06	0.1	.60	0.03	.79
Patient care[b]	0.6	< .001[a]	0.4	.002[a]	0.5	< .001[a]
Medical knowledge[b]	0.6	< .001[a]	0.3	.019[a]	0.2	.13
Practice-based learning and improvement[b]	0.5	< .001[a]	0.4	.010[a]	0.5	.001[a]
Interpersonal and communication skills[b]	0.6	< .001[a]	0.3	.034[a]	0.4	.022[a]
Professionalism[b]	0.6	< .001[a]	0.2	.17	0.5	.002[a]
Systems-based practice[b]	0.5	< .001[a]	0.3	.037[a]	0.1	.37

Abbreviations: PGY, postgraduate year; USMLE, United States Medical Licensing Examination; COMLEX, Comprehensive Osteopathic Medical Licensing Examination; SIPPS, Systematic Instruction in Phonological Awareness, Phonics, and Sight Words.
[a] *P* values that are statistically significant.
[b] Variables identified after starting residency.

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NEW IDEAS

Getting Neighborly in 2030: A Shared Fellow Workspace Improves Communication, Teaching, and Burnout

Setting and Problem

Over the past several decades, hospitalized patients have become increasingly complex, often with multisystem needs. In response, hospital teams now rely

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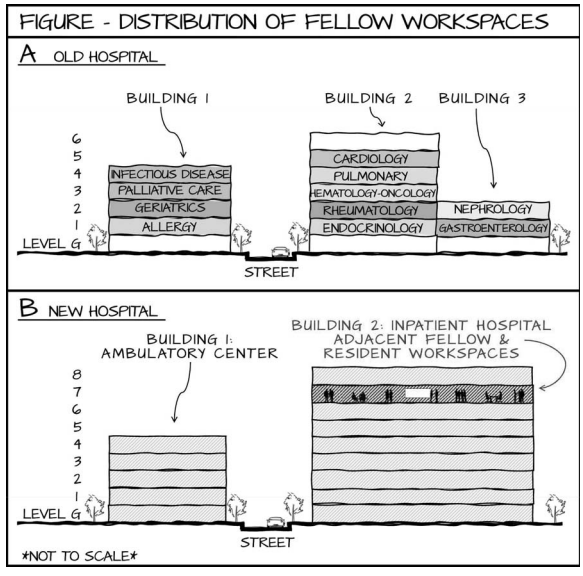

FIGURE

Schematic of Old and New Hospital Buildings on Campus

Note: Panel A depicts the original distribution of fellow workspaces across 3 buildings in 2020; Panel B shows the colocated resident and fellow workspaces on the 7th floor of the new inpatient hospital building, opened in 2030.

heavily on subspecialty consultants and interprofessional colleagues. While this has improved care delivery, fragmentation of responsibilities has changed the clinical learning environment, and graduate medical education has suffered.

By the mid-2020s, collaborative models of care made it unclear who was responsible for teaching and evaluating residents. Subspecialty consultation—particularly e-consults—were common, but residents and fellows rarely met face-to-face, forfeiting opportunities for workplace learning. Isolation and anonymity overtook any sense of community in the hospital, and rates of burnout soared. Moreover, asynchronous siloed work patterns led to misunderstandings and conflicting recommendations from different teams.

Recognizing the potential for the built environment to impact work patterns and workplace learning, we assessed whether colocating medicine subspecialty fellows in a shared workspace near the medicine resident workroom could increase face-to-face interactions during subspecialty consultation. We hypothesized this would have benefits for communication, teaching, and burnout.

Intervention

In 2020, our medical center began a 10-year process of building a new hospital. To inform space design and involve end users in the process, we performed surveys and focus groups with residents and fellows to understand the consultation process, assess the feasibility and acceptability of creating a shared workspace for fellows, and measure burnout. After the hospital opened in 2030—with a shared fellow workspace adjacent to the medicine resident workroom—we repeated our surveys and focus groups. We also tracked work patterns by looking at computer logins and performed work sampling in which observers noted who used the new workspace and how (eg, working alone, discussing a patient, teaching at the whiteboard).

Outcomes

Respondents to our baseline survey confirmed that face-to-face communication and teaching during consultation were rare. We also learned that residents and fellows worked on different floors in different buildings (FIGURE, panel A), and few knew each other, leaving many feeling isolated. Over 40% of residents and 50% of fellows met criteria for burnout. In focus groups, fellows reported a willingness to try a shared workspace, especially if it had ample workstations, snacks, and places for socialization and respite.

Based on our review of computer logins during the 3 months after the new shared workspace (FIGURE, panel B) opened, 78% of fellows representing 10 of 11 medical subspecialties (all but gastroenterology) used the workspace. Half used it daily, and a core group of fellows (23%) performed most of their work there. Work sampling data revealed a median of 4 fellows (range 0–9) and 2 residents (range 0–17) in the workspace at any time. Entire medicine teams often came to the room for interdisciplinary meetings, improving teams' agreement on care plans, and fellows were taught using the whiteboard multiple times daily.

In surveys and focus groups, both residents and fellows reported that working in close proximity facilitated getting to know each other and improved community. They noted that face-to-face interactions became much more common, leading to more in-depth conversations about patients, reduced push-back on consults, and increased resident empowerment to ask questions as opposed to "just following the recs." All trainees reported feeling less isolated, and rates of burnout fell to 20% and 23% among residents and fellows, respectively.

Our novel intervention of colocating medicine subspecialty fellows in a shared workspace near medicine residents increased face-to-face communication, improved teaching, and reduced burnout. This design-based approach could be readily adopted in other departments and institutions—particularly at academic medical centers—that have compelling reasons to improve the trainee experience.

Remodeling existing spaces would likely achieve similar goals at substantially lower costs.

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NEW IDEAS

Through the Patient's Eyes: Application of GoProEmo Technology to Improve Resident Clinical Interviewing Skills in 2030

Problem and Setting

A long-standing problem in graduate medical education has been the inability to provide residents with accurate, timely, and actionable feedback based on authentic patient encounters. Opportunities are limited for attending physicians to directly observe and critique residents' clinical encounters; in addition, these encounters rely on the attending's perception of the interaction, which often lacks the patient's input or perspective. Thus, due to limitations in the quantity and quality of direct observations, these encounters may not accurately reflect the resident's overall performance, and often can't be more broadly generalizable. In this setting, we chose to study the impact of the audio-visual emotional assessment tool, GoProEmo, to enhance the quality and quantity of feedback provided to residents.

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Intervention

In 2030 a total of 160 internal medicine residents (postgraduate years 1–3) at a university-affiliated tertiary care academic medical center were enrolled. Residents wore the GoProEmo body camera for all clinical encounters on a general medicine ward rotation over 4 weeks. Patients consented to wearing the GoProEmo receptor patch, which synced to the camera, on admission to the hospital.

The GoProEmo technology uses a novel assessment tool known as body language coding to evaluate patient emotions. Patient variables include heart rate, blood pressure, cortisol level in perspiration, facial expression, and muscle tension. These factors are analyzed continuously and recorded for later review as a "stoplight" indicator (green, activated/engaged; yellow, confused/emotionally tense; red, emotionally distressed). On playback mode, the stoplight indicator is synced to the audiovisual recording in real time, allowing for pinpoint identification of emotionally activated moments in the interview and resident responses to those moments. This intervention provides opportunities for objective feedback about the learner's ability to adapt to patient emotions or confusion, and for learner reflection regarding opportunities for improvement of their clinical interviewing skills. The percentages of green, yellow, and red interactions per encounter were also tracked for each learner over a 4-week rotation.

Outcomes to Date

The primary outcome was the percentage of emotionally concordant learner responses to interactions that were coded either yellow or red in week 4 compared to week 1. We found learners had a significantly increased percentage of concordant red interactions at the conclusion of the intervention compared to week 1 (46% versus 88%, $P < .001$). Yellow interactions also showed increased concordance at week 4 (28% versus 64%, $P < .001$).

The secondary outcome was the overall percentage of green, yellow, and red interactions for each learner. We noted significantly fewer yellow interactions in