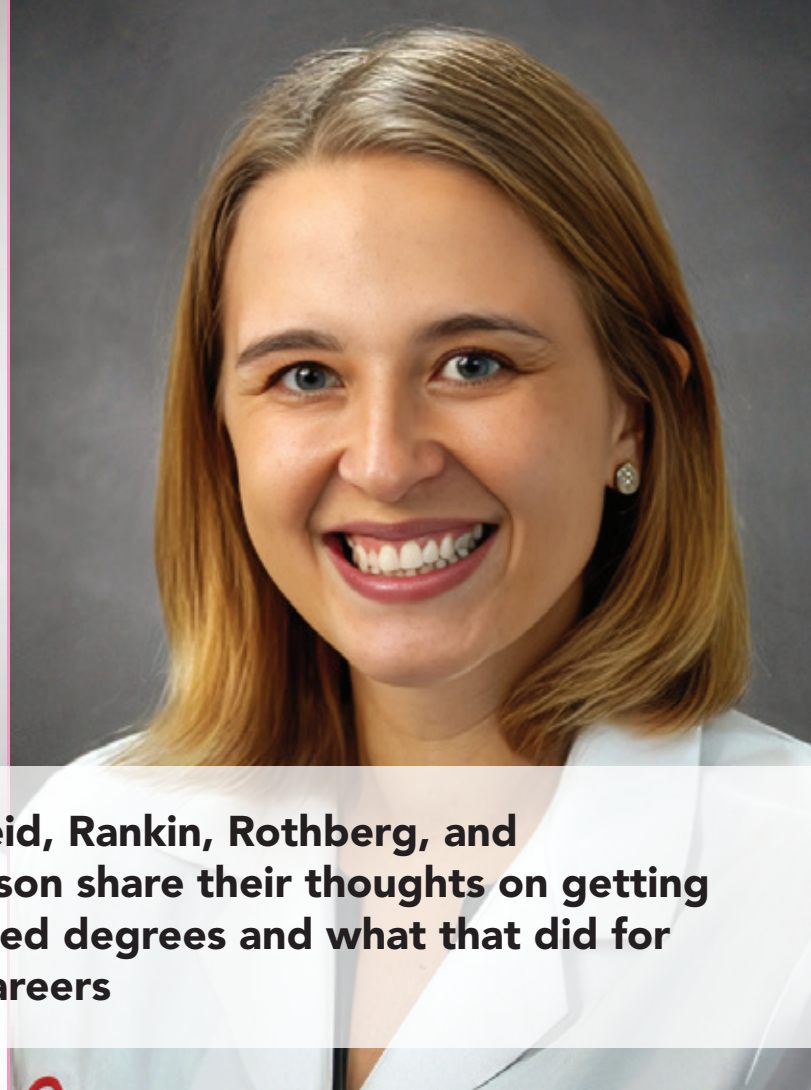


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The Hospitalist Welcomes New Board Members

The Hospitalist's editorial board is comprised of SHM members who volunteer their time and experience in hospital medicine to ensure the magazine remains relevant to readers.

During their two-year terms, board members contribute articles, sources, and ideas that enable the editorial team to deliver timely, relevant, and useful articles to readers.

We're happy to welcome the following new board members:

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Thank you to our outgoing board members for their time and dedication to the magazine:

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From JHM

Given the recent expansion of U.S. immigration and customs enforcement (ICE) detention facilities and the growing number of people in immigration detention, hospitalists are increasingly likely to provide care to immigrant detainees.

These patients face distinct ethical, legal, and structural challenges that can affect clinical care.

In their *Journal of Hospital Medicine* article, *Caring for Hospitalized Patients in U.S. Immigration and Customs Enforcement Custody*, authors Katarzyna A. Mastalerz, MD, Michelle Knees, DO, and Katie E. Raffel, MD outline practical strat-

egies for hospitalists to support patient-centered, equitable care for this population, emphasizing approaches that align with ethical and legal principles, mitigate bias, and respect patient autonomy. Scan the QR code to read the *Journal of Hospital Medicine's* article for more information. ■



SHM Supports AAP's 2026 Childhood Vaccine Schedule

SHM expresses its full support of the American Academy of Pediatrics' 2026 vaccine schedule, released Jan. 26, 2026, and reaffirms that vaccines are safe, effective, lifesaving public health tools. In contrast to the Centers for Disease Control & Prevention's recommendations, the AAP's vaccine schedule is grounded in decades of rigorous research and a strong scientific consensus, confirming efficacy of vaccines

in preventing disease and related complications. SHM continues to stand with the AAP and other medical and public health organizations that anchor their decisions and recommendations in credible, evidence-based science.

Following the AAP's 2026 vaccine schedule will help curtail the recent rise in vaccine-preventable illnesses that hospitalists are beginning to encounter more regularly. ■

Hospital Aleman's Medical Literature Reviews

By Francisca Alcuaz, MD, Gonzalo Gauto, MD, Nadia Ozon, MD, Juan Ignacio Ruiz, MD, MPH, Micaela Danila Monteagudo, MD, Gonzalo Grondona Fernández, MD, Patricio Agustín Vernengo, MD, Emilia de la Puente, MD, Juan Patricio Furlong, MD, and Lara Arinovich, MD

Hospital Aleman, Buenos Aires, Argentina

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By Francisca Alcuaz, MD

1 Anticoagulation and Antiplatelet Therapy in Patients with AF and Atherosclerosis

CLINICAL QUESTION: In patients with atherosclerotic disease and concurrent atrial fibrillation, does adding antiplatelet therapy to oral anticoagulation improve net clinical outcomes compared with anticoagulation alone?



Dr. Alcuaz

BACKGROUND: Current guidelines recommend long-term oral anticoagulation (OAC) for patients with high-risk atrial fibrillation (AF), including those with ischemic stroke, and antiplatelet therapy for patients with symptomatic intracranial atherosclerosis or small vessel stroke. However, management becomes challenging when stroke, AF, and concomitant atherosclerotic disease coexist.

STUDY DESIGN: Randomized, open-label, clinical trial (ATIS-NVAF)

SETTING: Multicenter trial conducted at 41 hospitals in Japan

SYNOPSIS: The ATIS-NVAF trial randomized 321 patients with ischemic stroke within the prior year, AF, and coexisting atherosclerotic disease. They defined the latter as ischemic stroke from large artery atherosclerosis or small vessel occlusion;

intracranial or carotid stenosis; or coronary or peripheral arterial disease. The primary outcome was the combination of ischemic events (stroke, myocardial infarction, vascular death, systemic embolism, or urgent revascularization) or major bleeding over two years. The primary outcome occurred in 19.6% of the monotherapy group and 17.8% of the combination group (hazard ratio [HR], 0.91; 95% confidence interval [CI], 0.53 to 1.55; $P=0.64$). Ischemic events were numerically lower with combination therapy, but major or clinically relevant nonmajor bleeding was significantly higher (19.5% versus 8.6%; HR, 2.42; 95% CI, 1.23 to 4.76, $P=0.008$). Limitations include the open-label design, modest sample size, and heterogeneity of antithrombotic regimens. The authors emphasize that the increased bleeding risk outweighs the uncertain ischemic benefit and caution against routine combination therapy outside specific indications, such as recent stenting.

BOTTOM LINE: In patients with stroke, atrial fibrillation, and atherosclerosis, routine addition of antiplatelet therapy to anticoagulation increases bleeding without improving net clinical outcomes.

CITATION: Okazaki S, et al. Optimal antithrombotics for ischemic stroke and concurrent atrial fibrillation and atherosclerosis: a randomized clinical trial. *JAMA Neurol.* 2025;82(12):1227-1234. doi: 10.1001/jamaneurol.2025.3662.

Dr. Alcuaz is a hospitalist at the clinical medicine department at Hospital Aleman and an instructor of internal medicine at the University of Salvador, both in Buenos Aires, Argentina.

By Gonzalo Gauto, MD

2 Impact of Long-Term Beta-Blocker Therapy on Death and Recurrent MI in Patients with Acute MI with Preserved Ejection Fraction

CLINICAL QUESTION: Does therapy with a beta-blocker reduce mortality and myocardial infarction (MI) in patients with a recent myocardial infarction with preserved ejection fraction?



Dr. Gauto

BACKGROUND: The effects of beta-blockers in patients with MI with reduced ejection fraction are well documented. However, the relevance of routine long-term beta-blocker therapy in patients with preserved left ventricular ejection fraction has become uncertain. Early coronary revascularization, statins, antiplatelet therapy, and renin-angiotensin system inhibitors have substantially lowered post-MI mortality and may have attenuated the incremental benefit of beta-blockers in this population. Despite this uncertainty, current guidelines continue to recommend beta-blockers for most patients after MI. The data on patients with preserved ejection fraction are lacking.

STUDY DESIGN: Multicenter parallel-group, open-label trial (REDUCE-AMI)

SETTING: 45 centers across Sweden, Estonia, and New Zealand

SYNOPSIS: 5,020 patients with recent (less than seven days) MI were enrolled up to 2023, all with preserved ejection fraction (greater than 50%), and were randomized to receive either beta-blocker treatment (metoprolol or bisoprolol) or no beta-blocker treatment. Median follow-up was 3.5 years (median age 65), and the prevalence of comorbidities was similar. The majority had one-vessel disease and were treated with percutaneous coronary intervention. The composite primary endpoint was death from any cause or new MI. This endpoint occurred in 7.9% of the patients in the beta-blocker group compared to 8.3% in the control group (HR, 0.96; 95% CI, 0.79 to 1.16, $P=0.64$). There were also no significant differences in secondary outcomes, including hospitalization for heart failure or cardiovascular death. Safety outcomes, such as bradycardia or asthma exacerbations, were similar between groups.

BOTTOM LINE: Beta-blocker treatment after an acute myocardial infarction in patients with a preserved left ventricular ejection fraction did not lead to a lower cumulative incidence of death from any cause or new myocardial infarction.

CITATION: Yndigeñ T, et al. Beta-blockers after

myocardial infarction and preserved ejection fraction. *N Engl J Med.* 2024;390(15):1372-1381. doi: 10.1056/NEJMoa2401479.

Dr. Gauto is a hospitalist in the department of clinical medicine at Hospital Aleman and an instructor of internal medicine at the University of Salvador, both in Buenos Aires, Argentina.

By Nadia Ozon, MD

3 Caffeinated Coffee Consumption Reduces AF Recurrence After Electrical Cardioversion

CLINICAL QUESTION: What effect does coffee consumption have on atrial fibrillation (AF) after successful electrical cardioversion?



Dr. Ozon

BACKGROUND: Coffee is one of the most-consumed beverages, and it has traditionally been considered proarrhythmic, leading many physicians to advise patients with AF to reduce or eliminate their intake. While some recent observational studies have suggested a neutral or potentially protective association, these findings are often limited by confounding factors, and no randomized clinical trial has previously addressed this question.

STUDY DESIGN: Prospective, open-label, multicenter, randomized clinical trial (The DECAF Trial)

SETTING: Five hospitals in the U.S., Canada, and Australia

SYNOPSIS: This study investigated the impact of coffee consumption on AF recurrence following electrical cardioversion. The trial enrolled 200 adults with persistent AF or atrial flutter and were randomized in a 1:1 ratio to receive daily caffeinated coffee consumption (at least one cup) or total caffeine abstinence for six months.

The findings suggest that coffee may actually have a protective effect: AF or atrial flutter recurred in 47% of the coffee group compared to 64% in the abstinence group (HR, 0.61; 95% CI, 0.42 to 0.89), with moderate certainty in evidence (risk of bias). Similar benefits were noted for AF-only recurrence. Additionally, the abstinence group had higher rates of arrhythmia-related hospitalizations (15 versus 10). As limitations, the researchers noted that the study was unblinded and relied on clinically detected events. Furthermore, adherence was a challenge, as only 69% of the abstinence group successfully avoided coffee throughout the study period.

BOTTOM LINE: Daily coffee consumption is associated with a lower risk of AF recurrence compared to total caffeine abstinence.

CITATION: Wong CX, et al. Caffeinated coffee consumption or abstinence to reduce atrial fibrillation: the DECAF randomized clinical trial. *JAMA.* 2026;335(4):317-325. doi: 10.1001/jama.2025.21056.

Dr. Ozon is a hospitalist in the department of clinical medicine at Hospital Aleman, a professor of pharmacology at the Buenos Aires University, and an instructor of internal medicine at the University of Salvador, all in Buenos Aires, Argentina.

By Juan Ignacio Ruiz, MD, MPH

4 Bedside Chair Placement Increases Physician Sitting and Patient Satisfaction Without Extending Visit Duration

CLINICAL QUESTION: Does the simple “nudge” of placing a chair near a patient’s bedside influence how often hospitalist physicians sit during consultations and improve patient satisfaction?



Dr. Ruiz

BACKGROUND: While sitting at the bedside is known to improve patient trust and communication, busy clinicians rarely sit, often doing so in fewer than 20% of encounters. Previous research has shown that “choice architecture” (altering the physical environment) can influence behavior, but its impact on physicians’ bedside manners was previously unclear.

STUDY DESIGN: Single-center, double-blinded, randomized, controlled, deception trial

SETTING: Parkland Memorial Hospital, a public county hospital in Dallas, Texas

SYNOPSIS: This study observed 125 patient encounters involving 51 hospitalist physicians. Encounters were randomized to either chair placement (chair positioned less than three feet from the bedside and facing the patient) or the usual chair location (typically stored in a closed cupboard). Physicians in the chair placement group were 20 times more likely to sit compared to the control group (63% versus 8%; OR, 20.7; $P < 0.001$). This intervention led to significantly higher patient satisfaction and communication scores (3.9% increase in Tool to Assess Inpatient Satisfaction with Care from Hospitalists scores; $P = 0.01$). Crucially, there was no difference in the actual or perceived time spent in the room. Limitations include the single-center design and early termination due to recruitment challenges. These findings are highly relevant as they provide a low-cost strategy to enhance the patient’s experience.

BOTTOM LINE: Placing a chair near the bedside is an effective, no-cost nudge that dramatically increases physician sitting and improves patient satisfaction without increasing the time spent on rounds.

CITATION: Iyer R, et al. Effect of chair placement on physicians’ behavior and patients’ satisfaction: randomized deception trial. *BMJ.* 2023;383:e076309. doi: 10.1136/bmj-2023-076309.

Dr. Ruiz is the chief of the clinical medicine department at Hospital Aleman in Buenos Aires, Argentina.

By Micaela Danila Monteagudo, MD

5 Comparative Efficacy and Safety of Clopidogrel Versus Aspirin Monotherapy in Patients with Established CAD

CLINICAL QUESTION: Does monotherapy with clopidogrel reduce the risk of major adverse cardiovascular or cerebrovascular events (MACCE) compared to monotherapy with aspirin in patients with established coronary artery disease?



Dr. Monteagudo

BACKGROUND: Aspirin monotherapy is recom-

mended indefinitely for patients with established coronary artery disease (CAD). However, the body of evidence supporting this treatment is based on small studies performed before the advent of modern pharmacotherapies. Previous evidence on the comparative efficacy and safety of the two antiplatelet strategies has been inconsistent and limited by the insufficient statistical power of individual trials.

STUDY DESIGN: Systematic review and meta-analysis

SETTING: Seven clinical randomized trials including patients from Asia, Europe, and North America

SYNOPSIS: 28,982 patients with established CAD were included. 14,507 were assigned to clopidogrel, and 14,475 were assigned to aspirin. The primary efficacy endpoint was a composite of MACCE, and the primary safety endpoint was major bleeding. The median follow-up was 2.3 years. One trial ($n = 5,438$) had a follow-up of five years, and another trial ($n = 2,882$) had a follow-up of four years. MACCE was lower in the clopidogrel group (929 events [2.61 per 100 patient-years] versus 1,062 events [2.99 per 100 patient-years]; HR, 0.86; 95% CI, 0.77 to 0.96). Major bleeding did not differ between the two groups (256 events [0.71 per 100 patient-years] versus 279 events [0.77 per 100 patient-years]; HR, 0.94; 95% CI, 0.74 to 1.21).

BOTTOM LINE: Evidence suggests that clopidogrel monotherapy is associated with greater efficacy than aspirin monotherapy for the long-term prevention of MACCE, with no associated excess risk of bleeding.

CITATION: Valgimigli M, et al. Clopidogrel versus aspirin for secondary prevention of coronary artery disease: a systematic review and individual patient data meta-analysis. *Lancet.* 2025;406(10508):1091-1102. doi: 10.1016/S0140-6736(25)01562-4.

Dr. Monteagudo is a hospitalist in the department of clinical medicine at Hospital Aleman and an instructor of internal medicine at the University of Salvador, both in Buenos Aires, Argentina.

By Gonzalo Grondona Fernández, MD

6 Optimal Timing of Anticoagulation Initiation After Ischemic Stroke in Patients with AF

CLINICAL QUESTION: In patients with atrial fibrillation (AF) and acute ischemic stroke, does early anticoagulation initiation (within four days) improve outcomes compared to delayed initiation?



Dr. Grondona

BACKGROUND: In patients with ischemic stroke and AF, early treatment with direct oral anticoagulants (DOACs) might reduce the risk of early ischemic stroke recurrence but might also increase hemorrhagic transformation of the acute infarct. Clinicians traditionally delayed anticoagulant initiation for one to two weeks after a stroke to prevent hemorrhagic transformation of the infarct.

SETTING: International collaboration involving data from four major trials (TIMING, ELAN, OPTIMAS, and START) conducted across multiple global centers

STUDY DESIGN: Systematic review and individual patient data meta-analysis

SYNOPSIS: The study included a total of 5,441 participants, comprising 2,691 patients with early DOAC initiation and 2,750 patients with later DOAC initiation. Early DOAC initiation was associated with a 30% reduction in the composite outcome of recurrent ischemic stroke, symptomatic intracerebral hemorrhage, or unclassified stroke at 30 days (OR, 0.70; 95% CI, 0.50 to 0.98). When analyzing recurrent ischemic stroke alone at 30 days, the risk was reduced by 34% (OR, 0.66; 95% CI, 0.45 to 0.96). According to the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach, the certainty of evidence for both outcomes was rated as moderate due to imprecision. In contrast, when analyzing the risk of symptomatic intracerebral hemorrhage alone, no significant difference was observed between the early and later initiation groups (OR, 1.02; 95% CI, 0.43 to 2.46), with low certainty of evidence due to serious imprecision.

BOTTOM LINE: Early initiation of DOACs after ischemic stroke in patients with AF may reduce the risk of recurrent ischemic events without a clear increase in symptomatic intracerebral hemorrhage, although the certainty of evidence is limited.

CITATION: Dehbi HM, et al. Collaboration on the optimal timing of anticoagulation after ischaemic stroke and atrial fibrillation: a systematic review and prospective individual participant data meta-analysis of randomised controlled trials (CATALYST). *Lancet*. 2025;406(10498):43-51. doi: 10.1016/S0140-6736(25)00439-8.

Dr. Grondona is a hospitalist at the clinical medicine department at Hospital Aleman and an instructor of internal medicine at the University of Salvador, both in Buenos Aires, Argentina.

By Patricio Agustín Vernengo, MD

7 Optimal Management of Febrile Neutropenia in Oncologic and Oncohematologic Patients

CLINICAL QUESTION: Is initial empiric antibiotic coverage important in patients with febrile neutropenia? How should the therapeutic strategy be defined?



Dr. Vernengo

BACKGROUND: Febrile neutropenia is defined as a single oral temperature greater than 38.3°C or a sustained temperature greater than 38°C for more than one hour in a patient with an absolute neutrophil count (ANC) of less than 500 cells/mL, or an ANC expected to decrease to less than 500 cells/mL within 48 hours. Prompt initiation of empiric broad-spectrum antibiotics has been shown to significantly reduce mortality. However, not all patients have the same risk of complications, and advances in supportive care have made outpatient management feasible for selected low-risk patients. Accurate risk stratification and appropriate antimicrobial selection are therefore critical.

STUDY DESIGN: Evidence-based clinical practice review

SETTING: Tertiary-care hospitals

SYNOPSIS: The cornerstone of management is the “one-hour rule”—administering empiric broad-spectrum intravenous antibiotics within 60 minutes of presentation. The treatment strategy is based on risk stratification using the MASCC Risk Index for Febrile Neutropenia. Low-risk patients (score at least 21) may be managed as outpatients with oral antibiotics such

as ciprofloxacin and amoxicillin-clavulanate. High-risk patients require hospital admission and broad-spectrum intravenous therapy, such as cefepime or piperacillin-tazobactam, to cover gram-negative pathogens, including *Pseudomonas*. Vancomycin should be added only in the presence of hemodynamic instability, skin or catheter infection, suspected methicillin-resistant *Staphylococcus aureus* pneumonia, severe mucositis, or blood cultures showing gram-positive cocci. In clinically stable patients with persistent fever after three to four days and no identified source, escalation of therapy is not necessary; fever alone does not justify modification of antimicrobial treatment. In neutropenic patients, untreated gram-negative bacteremia carries a mortality rate of up to 70%. With empiric antibiotic therapy, mortality is significantly reduced to a range of 4% to 20%.

BOTTOM LINE: Optimal management of febrile neutropenia requires urgent assessment and prompt initiation of empiric antibiotics targeting gram-negative pathogens, using the MASCC score and hemodynamic stability to safely determine whether hospital admission is required or outpatient management is appropriate.

CITATION: Zimmer AJ, Freifeld AG. Optimal management of neutropenic fever in patients with cancer. *J Oncol Pract*. 2019;15(1):19-24. doi: 10.1200/JOP.18.00269.

Dr. Vernengo is a clinical medicine PGY 3 in the department of clinical medicine at Hospital Aleman and an instructor of internal medicine at the University of Salvador, both in Buenos Aires, Argentina.

By Emilia de la Puente, MD

8 Low-Dose Glucocorticoids Reduce Mortality in CAP

CLINICAL QUESTION: Do glucocorticoids reduce mortality in hospitalized adults with community-acquired pneumonia in a resource-limited setting?



Dr. de la Puente

BACKGROUND: The use of glucocorticoids as adjunctive therapy in community-acquired pneumonia (CAP) has shown benefits in some trials conducted in high-income countries; however, their effects in resource-limited settings with a high burden of comorbidities are not well established.

STUDY DESIGN: Pragmatic, open-label, randomized controlled trial (the SONIA trial)

SETTING: 18 public hospitals in Kenya

SYNOPSIS: This randomized clinical trial enrolled 2,180 adults hospitalized with CAP across 18 public hospitals in Kenya and assigned them to receive either standard care or standard care plus low-dose oral glucocorticoids for 10 days, initiated within 48 hours after hospital admission. The median age was 53 years (interquartile range, 38 to 72 years), and 46% were women. At day 30, mortality was 22.6% in the glucocorticoid group compared with 26% in the standard care group (HR, 0.84; 95% CI, 0.73 to 0.97; $P=0.021$). There were no significant differences in total or serious adverse events between groups, and only 0.4% of patients experienced serious adverse events attributable to glucocorticoids. This trial provides evidence of clinical benefit from glucocorticoids in CAP outside the intensive care unit in a resource-limited setting, although heterogeneity in standard treatment and the lack of specific etiologic diagnosis should be considered.

BOTTOM LINE: The addition of low-dose glucocorticoids to standard care for community-acquired pneumonia reduced 30-day mortality in a resource-limited setting.

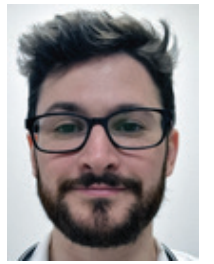
CITATION: Lucinde RK, et al. A pragmatic trial of glucocorticoids for community-acquired pneumonia. *N Engl J Med*. 2025;393(22):2187-2197. doi: 10.1056/NEJMoa2507100.

Dr. de la Puente is a hospitalist in the department of clinical medicine at Hospital Aleman and an instructor of internal medicine at the University of Salvador, both in Buenos Aires, Argentina.

By Juan Patricio Furlong, MD

9 Invasive Versus Conservative Strategy in Older Adults with NSTEMI-ACS: Fewer Infarctions Without a Mortality Benefit

CLINICAL QUESTION: In patients aged 70 years or older with non-ST-segment elevation acute coronary syndrome (NSTEMI-ACS), does an invasive strategy reduce mortality and cardiovascular events compared with conservative management?



Dr. Furlong

BACKGROUND: The optimal management of NSTEMI-ACS in older adults remains controversial. While invasive strategies have demonstrated benefit in younger populations, older adults are frequently underrepresented in randomized trials and often have a higher burden of comorbidities and frailty.

STUDY DESIGN: Systematic review and meta-analysis of randomized controlled trials conducted in Europe

SYNOPSIS: This meta-analysis included seven randomized controlled trials comprising 2,998 patients aged 70 years or older with NSTEMI-ACS, comparing an invasive strategy (coronary angiography with revascularization at the treating physician's discretion) with a conservative strategy. Conservative management was not protocolized and varied across studies, reflecting contemporaneous clinical practice and guideline recommendations at the time of each trial. Mean participant age ranged from 81 to 86 years, with follow-up of up to 4.1 years. No significant differences between strategies were observed in all-cause or cardiovascular mortality. The invasive strategy was associated with a significant reduction in myocardial infarction (relative risk [RR], 0.74; 95% CI, 0.57 to 0.96) and unplanned revascularization (RR, 0.29; 95% CI, 0.21 to 0.40), with moderate certainty of evidence due to study heterogeneity. A small reduction in stroke risk was observed (RR, 0.78; 95% CI, 0.53 to 1.15), with moderate certainty due to imprecision, without a significant increase in major bleeding. Very frail and institutionalized patients were excluded from the trials, limiting generalizability.

BOTTOM LINE: In older adults with NSTEMI-ACS, an invasive strategy likely reduces recurrent myocardial infarction, unplanned revascularization, and possibly stroke, but does not improve survival, underscoring the need for individualized, patient-centered decision making.

CITATION: Ahmed M, et al. Invasive versus conservative treatment strategy in older patients with non-ST segment elevation acute coronary syndromes: a meta-analysis of randomized controlled trials. *J Am Geriatr Soc*. 2025;73(7):2238-2246. doi: 10.1111/jgs.19447.

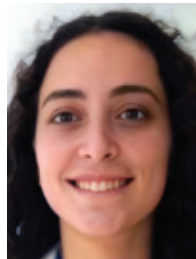
Dr. Furlong is a hospitalist at the clinical medicine

department at Hospital Aleman and an instructor of internal medicine at the University of Salvador, both in Buenos Aires, Argentina.

By Lara Arinovich, MD

10 The Apparent Increase in the Incidence of Early-Onset Cancer in the U.S. Population

CLINICAL QUESTION: Does the observed rise in cancer rates reflect a true increase in incidence, or is it primarily attributable to heightened diagnostic scrutiny?



Dr. Arinovich

BACKGROUND: In recent years, the rise in early-onset cancer rates has generated considerable media, scientific, and political attention, reinforcing the perception that cancer is emerging more frequently among young adults. It is crucial to determine whether the increase in early-onset cancer reflects a real increase in incidence or is primarily attributable to increased diagnostic detection.

STUDY DESIGN: Descriptive epidemiological analysis and critical commentary

SETTING: Nationwide epidemiological analysis using U.S. cancer-registry and mortality data

SYNOPSIS: This study examined population-based mortality trends for cancers with the fastest rising early-onset incidence during the past 30 years in the U.S. (which we defined as

those with more than 1% increase per year on average): cancers of the thyroid, anus, kidney, small intestine, colorectum, endometrium, and pancreas, and myeloma. The early-onset incidence for these eight cancers has approximately doubled, while their aggregate early mortality has remained remarkably stable, with the rate in 2022 identical to that in 1992 (5.9 deaths per 100,000 in both years). Colorectal mortality increased 0.5% per year, while incidence increased 2% per year; endometrial cancer mortality and incidence have risen in parallel (2% per year). Overdiagnosis of thyroid, small intestine, pancreas, and kidney cancers is well documented and likely explains the increase in incidence and stable mortality. This pattern can be explained by multiple factors, including early diagnosis; however, irrespective of the underlying cause, an increase in the number of diagnoses does not necessarily reflect a rise in clinically significant cancer.

BOTTOM LINE: The lack of a substantial rise in deaths, despite rising incidence, underscores the need to provide context to the early-onset cancer narrative. The challenge is to refine the diagnosis to detect and treat only the cancers that truly matter.

CITATION: Patel VR, et al. The rise in early-onset cancer in the US population—more apparent than real. *JAMA Intern Med.* 2025;185(11):1370-1374. doi: 10.1001/jamainternmed.2025.4917.

Dr. Arinovich is a hospitalist in the department of clinical medicine at Hospital Aleman and an instructor of internal medicine at the University of Salvador, both in Buenos Aires, Argentina. ■

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Getting an Advanced Degree—Why Bother?

Love of learning and career considerations drive these hospitalists

By Thomas R. Collins

An increasing number of doctors, including hospitalists, are pursuing advanced degrees beyond their medical degrees, driven by intellectual curiosity, the belief that such a degree is necessary for leadership positions or other roles, and by the ability to pursue these degrees mostly in an online format, giving them the flexibility to keep working as they do the coursework.

A 2021 study found a 434% increase in dual MD-MPH degrees from 2010 to 2018, even though the number of MDs increased only 16%, and the number of MPH degrees increased only 65% over that period.¹

In a JAMA publication, researchers reported that about 61% of medical schools in the U.S. offered an MD-MBA dual degree program, up from about 26% in 2002, reflecting an increase in physicians getting such degrees.²

Hospitalists who have completed advanced degrees—at an expense between \$30,000 and \$60,000, depending on the program—say they are happy with the decision, that the degree has been useful in their careers, and that they found the coursework manageable while continuing their usual work as a hospitalist.

Adding an MHSI

Leah Reid, MBBS, MHSI, a hospitalist at the Medical University of South Carolina (MUSC) in Charleston, S.C., had completed her medical degree in Barbados and worked as a general practitioner there before completing the medical licensing exam and then her residency in the U.S.



Dr. Reid

She began working as a hospitalist in rural Alabama in 2017, before moving to MUSC. Then she started to sense that she was still not fully prepared for what might lie ahead of her.

She thought she needed another degree. She was interested in the emerging importance of telemedicine and in making improvements to the electronic health record (EHR). So, she decided to get a Master of Science and Health Informatics (MHSI) through an online program at the University of Pittsburgh, while she continued working as a hospitalist at MUSC.

“For myself, I just saw a person who had time and a love of learning, and I just knew it was going to be the right decision for me,” Dr. Reid said.

Dr. Reid said that, while working in Alabama, hospitalists were dependent on telemedicine to get access to specialists because they were two hours away from the main campus in Birmingham. This piqued her interest in telemedicine and how to optimize its use.

Also, while there, she said, hospitalists found the EHR system to be cumbersome, and she was able to make modifications to it to make it faster to order COVID-19 panels and gastrointestinal-bleed panels. She also reduced the number of clicks needed to order morning labs from five or six clicks to one click.

It was her interest in these areas that guided her decision to get the Master of Science and Health Informatics, Dr. Reid said.

Some logistics also influenced her timing and choice of the program. Soon, a fellowship was going to be required before she could be board certified in clinical informatics. And the University of Pittsburgh allowed her to begin her coursework earlier, in the summer, helping her beat that deadline.

“Even a few months later, I knew I would not be eligible to do that exam,” she said.

She took two or three courses at a time, with two or three hours of classes per week. She would bring her laptop and log in for class after work between 7 and 8 p.m., she said. With her schedule of seven days on, and seven days off,

she was able to get the majority of her coursework done on the days off, she said.

"Sometimes I'd have a group meeting online on the weeks when I was on service, but I did most of my studying during my time off," she said. "I didn't have to request any special time off during my clinical duties to do classes or anything like that."

She said the degree has led to "a lot of good professional relationships."

One of the valuable parts of the degree is a deeper understanding of artificial intelligence, she said. Large language models burst into prominence when she was about halfway through the program, she said.

"I had built machine learning models and knew why I was using it," Dr. Reid said.

"As more AI tools become available, it helps me to understand, from the clinical and a bit of the technical side, why something works or why it would not work. Because I want something that's very usable, not something that's not validated and would not be accurate."

She said this understanding will help her assess models for bias.

"We want a healthcare system that's fair to all, to everyone," she said. "Knowing how a model is validated, how it's built, will help if I ever have to make those decisions."

Also, she said, she is a certified Epic builder and a go-to person for working on wrinkles in the EHR system, such as the time a certain smart phrase no longer pulled in the information that it previously had.

Now, with the degree, she feels she is more prepared for opportunities that might come her way.

"I didn't want the years to pass, and a leadership opportunity arose, and I did not have the full qualification," she said.

Adding an MBA

Alex Rankin, MD, MBA, associate chief medical officer at the University of New Mexico (UNM) in Albuquerque, N.M., finished his residency in 2010 and went to the University of New Mexico in 2014 as a teaching hospitalist and as a medical director for the hospital.



Dr. Rankin

He decided that he wanted to boost his knowledge of the business side of healthcare, so he enrolled

in an MBA program that focused on healthcare administration at the University of Colorado. The two-year program was mostly online, but there was on-campus coursework in Denver for one week each semester.

"I've always really enjoyed learning," he said. "And moving from a small community hospital to a large academic medical center really piqued my curiosity around all of the nuts and bolts that go into making this large healthcare system run. And so, almost out of curiosity, I wanted the degree as well as the benefit of it advancing my career. I think I just wanted to learn."

A year after he finished the MBA, he was hired as associate chief medical officer at UNM.

"I strongly feel that having completed my MBA degree helped me be a competitive applicant for that position," he said.

He said that, even though he had two young children at the time, completing the MBA while he continued his work as a hospitalist was "doable."

"It was a lot of nights and weekends," and he was helped by a lot of support from his wife, he said.

He said he spent quite a bit of time working on projects with fellow students after the kids went to bed. And, on weekends when he finished rounding in the hospital, instead of leaving, "I would stay and work and continue to run problem sets or papers or group projects."

As he was considering which advanced degree to pursue, one option was a Master of Health Administration. But he settled on the MBA.

"For me, it felt like the MBA would be the most general overarching knowledge that would help me in my career," he said.

"I think an advanced business degree definitely helps physicians and AAPs who want to go into healthcare leadership," Dr. Rankin said. "It's a strong foundation of general knowledge around economics and finances."

The University of Colorado program, with just one week per semester of in-person coursework, fit his schedule, which is a major consideration when choosing a program, he said. He did the on-campus week during the off-week of his work schedule. Getting an MBA at UNM, where he was working, was not particularly feasible because it involved regular in-class time, and "I was working almost every other weekend on service."

He said that physicians who like a program with more in-class coursework can complete the degree even if they are continuing their hospitalist work at the same time. It just might take

some cooperation from colleagues.

"Having a good work environment with colleagues who are going to schedule around your needs is important," he said.

Even though it wasn't his path, he said that a dual degree is something for future physicians to consider, since it will give them insight as they set out on their careers.

"The classical medical school curriculum does not create physicians who have good fundamental knowledge of the healthcare system as it relates to financial management or supply-chain management, the way that we operate in the world with insurance companies, and how the payment for healthcare works in this country.

"Going into a residency with an MBA will allow you to view everything through a different lens."

Multiple Advanced Degrees

Bonnie Gould Rothberg, MD, PhD, MPH, MMM, assistant scientist at the Sylvester Comprehensive Cancer Center at the University of Miami, and adjunct assistant professor in the department of chronic disease epidemiology at the Yale School of Public Health, said her assemblage of advanced degrees evolved as her interests evolved, and as her career circumstances took shape.



Dr. Rothberg

She got her MD in 1994, but a family consideration meant she had to pause her internal medicine residency. She then spent five years working in the biotech industry and returned to academia, getting an MPH in 2005, where she said she "fell in love" with the quantitative aspects of epidemiology, which prompted her to continue on to a PhD in epidemiology at Yale.

After joining the Yale faculty, she went back to residency in 2013, after which she began working as an oncology hospitalist, which was a bit of a novelty at the time. Her research moved to a focus on healthcare quality and safety. It was the best way, she determined, for her clinical work and her research to mesh and feed off one another.

But she needed to bolster her education even more, she decided.

"I felt that the field of healthcare quality and safety had a lot more background to it than I knew," Dr. Rothberg said, "and rather than try

Pursue Learning, Not Letters

Hospitalists who have gotten secondary advanced degrees have gone about it in a variety of ways. They have gotten it at the same time as their MD through a dual-degree program. They have gotten degrees well after they began their career as physicians. They have done online-only programs. They have done programs that include on-campus time.

But what these hospitalists all tend to say is this: Do not get an advanced degree just for the sake of having a degree.

"I think getting degrees just to collect letters at the end of your name is not a reason to do it," said Kathryn Haroldson, MD, MPH, a hospitalist at Cooper University Health Care and assistant professor of medicine at Cooper

Medical School of Rowan University. "I know there can be that kind of pressure."

"I think it would be important that people don't consider an MBA just to have a credential, but rather to really learn about healthcare systems," said Alex Rankin, MD, MBA, associate chief medical officer at the University of New Mexico.

Hospitalists say the degrees require too much time, effort, and money to do it for superficial reasons. That said, if you enjoy learning in a formal setting and have a passion for the subject matter, then consider it, they said.

"It's not a decision to be taken lightly, and it's something that people have to seriously

consider, but I think it's really worth it," said Bonnie Gould Rothberg, MD, PhD, MPH, MMM.

Leah Reid, MBBS, MHSA, a hospitalist at the Medical University of South Carolina, said that, very early in her career, her knee-jerk idea was that she would get an MPH. But after gathering some work experience, she realized a degree involving health informatics was best. So, she said, following a real passion is important.

"Choose a graduate degree that interests you, and not just one that you've heard of before," she said. "Spending time to research what the available degrees are out there that are in alignment with your goals will help you choose a topic that is a commitment that you want to sustain." ■

to blindly wind my way through it and stumble, that if I got some formal training by experts in the field, I would be able to hit the ground running and be a lot more efficient and a lot more effective with my science.”

She also had an interest in physician leadership.

So, after getting useful guidance from a mentor at Yale who was also pursuing a new advanced degree and after a lengthy phone conversation with a master’s program director, she has worked toward two additional degrees in quick succession. She finished her Master of Medical Management degree from Carnegie Mellon University in December of 2022 and started her Master of Science in Healthcare Quality and Safety (MS-HQS) from Thomas Jefferson University the next month. She is due to graduate in May 2026.

“These programs are very much catered toward people who want to pivot towards a leadership role in hospital medicine,” she said. “It doesn’t have to be somebody who wants to move to the C-suite, but somebody, for example, who wants to take a leadership role in ushering through healthcare quality projects.”

The MMM was a hybrid program with half of the courses administered in an online format and half administered in-person, with students traveling to Pittsburgh twice a year for a week of intensive, all-day classes. A group of her fellow students still has an active WhatsApp chat, a testament to the collegiality of the program, she said. The MS-HQS at Thomas Jefferson University involved no in-person coursework but a substantial amount of group work nonetheless, and she has formed friendships with classmates, she said. The work has involved many late nights and a lot of weekends, but it has been worth it,

she said.

She has produced scholarship on dedicated cancer urgent care centers and oncology hospitalists’ impact on hospital length of stay, discharge time of day, and on the utilization of hospice, and her newly acquired advanced degrees will only help her research efforts going forward, she said. She is currently preparing a manuscript from her MS-HQS capstone project.

“Now, when I need to talk to leadership on the finance side about wanting to design health-care quality and safety projects, if they want to understand the business impact, I can at least appreciate where they’re coming from and understand the business case for quality,” she said.

Dual Degrees

Kathryn Haroldson, MD, MPH, a hospitalist at Cooper University Health Care and assistant professor of medicine at Cooper Medical School of Rowan University, both in Camden, N.J., decided to get her secondary advanced degree early, enrolling in a dual MD-MPH program at Tulane. At the time, she had rough plans to go into global health, potentially working with Doctors Without Borders.



Dr. Haroldson

Doing the coursework for both at the same time could be “incredibly stressful” when there were tests in her MD coursework at the same time as MPH tests, but “day to day, it wasn’t horrible.”

Although she didn’t pursue the global health path, she said the MPH has been helpful in her

career.

She said the knowledge of the broader issues patients face has helped her in quality improvement work, involving collaboration with infectious disease, outpatient antibiotics, and transitions of care.

She said the degree has been particularly useful in caring for patients from underserved communities who need to navigate around more insurance hurdles and struggle with issues related to social determinants of health.

“I think it’s helped me a lot with that. You don’t learn about that stuff in medical school,” she said.

Also, she said, “I feel like you kind of have to have some kind of secondary degree to start climbing the administrative ladder.”

She said that even though she did a dual degree, that might not necessarily be the best choice for everyone.

“I don’t think it’s ever too late to do it. I think if you don’t know what you want to do, then maybe it is safer to wait and then kind of figure out what it is you’re more interested in,” she said. “I think there are a million ways to do it, and I don’t think there’s a right or wrong time, depending on your circumstances.” ■

Tom Collins is a medical writer based in South Florida.

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COVID-19 Experiences Impact Future Clinical Training for Medical Students and Residents

Hospitalists recount what they learned from the pandemic and what lessons they would follow if or when another pandemic occurs

by Vanessa Caceres

Many hospitalists remember what their work was like during the COVID-19 pandemic, especially during its initial days and before a COVID-19 vaccine was available.

Work habits and patient volumes weren't the only things that changed. Clinical training for medical students and residents also saw major changes. Some of those changes were scrapped post-pandemic, while others continue to be a part of today's clinical training and influence how training may take place during future pandemics.

"It had a pretty drastic impact, more than we had anticipated," said Rachna Rawal, MD, assistant professor with the Feinberg School of Medicine at Northwestern University in Chicago, who was working at the University of Pittsburgh Medical Center (UPMC) during the pandemic's earlier years.



Dr. Rawal

"That was partially because no one knew how it would impact training, and everyone wanted to protect the trainees."

Hospitals tried different plans to keep trainees safe from infection while also trying to expose them to as much hands-on training as possible. At UPMC, Dr. Rawal said trainees were mostly shielded from COVID-19 patients to protect them from the infection, or they would see COVID-19 patients only in a smaller group.

That had some unintended effects, however.

"It made rounding more disjointed and impacted the team dynamic. That said, there was more focus on bread-and-butter medicine for them," she said.

Because of smaller bedside rounds, constant masking, and infection-control precautions, it was harder to communicate effectively with patients and with each other, which ultimately negatively affected team camaraderie, said Timothy Kuchera, MD, clinical assistant professor of medicine and associate



Dr. Kuchera

program director for internal medicine residency education at Thomas Jefferson University (TJU) in Philadelphia.

"Schedules changed rapidly, institutional restrictions affected travel and daily life, and many of the end-of-year milestones that are usually a source of joy and closure, such as graduation and related celebrations, were significantly altered or lost. Those changes were emotionally hard for residents, and they shaped how trainees experienced that phase of training," Dr. Kuchera said.

At that time, Dr. Kuchera was initially a chief medical resident and eventually transitioned into hospital medicine as an attending within the Jefferson system.

On the administrative side, the back-up call "jeopardy" system at the University of Kentucky became complex because of the long quarantine periods for residents with COVID-19 infections, said Sarah E. Vick, MD, FACP, SFHM, associate professor



Dr. Vick

and associate program director of the internal medicine residency program at the University of Kentucky in Lexington.

Leadership there discussed safe patient care and called in replacements when staffing fell below those minimum standards. Ultimately, they had to increase the number of people on backup coverage, Dr. Vick said.

At the University of Colorado School of Medicine in Aurora, clinical rotations were paused or reduced to conserve personal protective equipment and reduce virus spread. Although students were temporarily removed from direct patient-care experiences, residents and fellows remained at the bedside. Students and trainees participated in virtual patient care, including telehealth and virtual rounding.

“They were instrumental in supporting our communities in other ways, including developing and providing educational materials, volunteering, and soliciting protective equipment donations,” said Amira del Pino-Jones, MD, associate dean for health opportunities and professional engagement, and associate professor in the division of hospital medicine at the University of Colorado in Aurora, Colo.

Of course, virtual training also became a mainstay during the pandemic.

For instance, “in-person didactics such as morning report transitioned to Zoom, which allowed for sustained resident attendance but reduced the in-person camaraderie that conference typically fosters,” said Maria Theodorou, MD, FACP, FHM, associate program director for the internal medicine residency program, and assistant professor in the division of hospital medicine at Feinberg School of Medicine at Northwestern University in Chicago.

Ultimately, that led to a higher rate of burnout and an increased need for accessible mental health resources. On the plus side, leaders were able to integrate telemedicine, which had not previously been used, into training experiences for the ambulatory rotation.

Lessons Learned

With the COVID-19 pandemic years behind them, many hospitalists are now considering how the events of the pandemic may impact future pandemics. Here are some of the lessons these clinicians learned and are adding to their training toolkits.

Switching to virtual platforms more easily.

Although virtual learning has its downsides, it could be needed in certain situations, Dr. Kuchera said. “During the initial pandemic response, that transition was rocky but ultimately succeeded. Now we have a much stronger foundation for virtual learning, including broader institutional resources across the university enterprise. We have built in flexibility so that if another pandemic scenario arises, we can transition more seamlessly,” he said. He added that a hybrid model that combines in-person and virtual sessions can make remote participation in medical education easier to follow.



Dr. del Pino Jones



Dr. Theodorou

Maintaining virtual possibilities for activities like career planning and resident counseling.

While Jillian Zavodnick, MD, associate professor of medicine, medicine clerkship director, and associate program director for internal medicine at Thomas Jefferson University, loves in-person advising meetings, she said it's obvious that virtual meetings allow students to schedule with much less disruption to their rotations.



Dr. Zavodnick

Finding a better balance of hands-off and hands-on learning.

Dr. Rawal's institution was cautious about limiting residents' exposure to COVID-19 during the pandemic, but she said that came with some learning drawbacks. If another pandemic occurs, she believes that hospital leaders wouldn't be opposed to a more hands-on approach while maintaining caution about spreading any infection. “Also, maybe we wouldn't exclude the younger trainees as much. Hopefully, there's a safer way we can make things happen,” she said.

Being ready to pivot to a different way of training and provide more protection.

Dr. del Pino-Jones said her hospital now essentially has a “playbook” on how to make remote learning as educational and interactive as possible. Educators who taught during the pandemic and who are still there have adapted their curricula so they can be provided both in person and virtually. Her hospital system also uses protective equipment responsibly to help build up the supplies that may be needed for continued patient care and education during pandemics.

Keeping resident wellness in the forefront.

Future pandemics will require hospitals to maintain workplace flexibility while also prioritizing the wellness, education, and clinical experience of resident physicians, Dr. Kuchera said. “Residents are in a unique position as both learners and essential contributors to patient care, and preparedness planning should be mindful of both realities,” he said. Once restrictions were lifted during the COVID-19 pandemic, the University of Kentucky prioritized opportunities for residents to spend time together both inside and outside the hospital to foster connection—another important component of resident wellness, Dr. Vick said.

Looking at scheduling differently.

To shrink the size of medical teams during the pandemic, Dr. Zavodnick said her hospital began to introduce a night experience for sub-interns. The motivation was to have fewer people assigned to any given team; it's an experience that continues now in a modified form. Dr. Theodorou's hospital had the same results by testing different rotation lengths. “We learned that shorter rotation lengths did not have an adverse impact on learning or patient care, as we had previously feared they might,” she said.

Encouraging trainees to stay home when they're sick.

“Prior to COVID-19, it was very common and almost a point of pride for many to come to work sick and push through illness,” Dr. Zavodnick said. “During the early days of COVID-19, there had to be an intentional culture shift framed not as self-care but as patient care—you can't come to work if you're sick because you might infect others and your co-residents, and who will be

there to care for patients?” She's seen a shift in more willingness to call out of work sick, to the point that the residency program has needed to change the way it provides illness coverage. She perceives this as a positive change, however, both for now and in the future.

Preparing to rely more on electronic records versus face-to-face interaction with other care team members.

“A senior nurse who has known me since I was a trainee noted that she no longer recognizes many of the residents. She feels it's because they are on the units less frequently and rely more heavily on electronic systems,” Dr. Kuchera said. This is a change that happened during the pandemic that remains and will continue, but it's a more challenging phenomenon—not necessarily a positive one, he said.

Maintaining clinical variety.

“When pandemics concentrate disease into specific areas, such as COVID-19 and respiratory illness, we monitor clinical volumes and adjust assignments to maintain variety,” Dr. Vick said. “I would anticipate the same response if something like this occurred again.

Moving clinical rotations more frequently.

“In recognition of the risk of burnout during stressful times, resident rotations were changed from the traditional four weeks to a shorter two-week block, a change that continues,” Dr. Zavodnick said.

Involving family as much as possible.

One major downside Dr. Vick observed during the COVID-19 pandemic was the lack of family input due to efforts to limit infection exposure. Not having family members at the bedside also affected residents' learning and interactions. This type of family interaction is something that she hopes can be incorporated more if other similar situations occur in the future.

Applying lessons learned from the pandemic to other scenarios.

There are often crossover lessons. In addition to pandemic planning, Dr. Theodorou said residency leaders participate in hospital-wide planning and tabletop exercises for mass casualty events or surge planning for excessive patient volumes.

Changes That Won't Stick Around

Just like there were pandemic-era changes that will likely remain in place for the future, such as virtual learning when appropriate, there were some initiatives that are better left behind. These include:

- The use of Zoom for highly interactive sessions. That's because engagement was lower and educational outcomes suffered, Dr. Vick said. “Additionally, facilitators found it challenging to engage both in-person and online participants equally,” Dr. Zavodnick paints a vivid picture of online training at that time. “Students were crouched in stairwells and noisy cafeterias trying to squint at a slide on a phone screen, probably retaining nothing from the lecture,” she said. In fact, everyone interviewed by *The Hospitalist* for this article said that virtual platforms have their place in education, but they would be used less by their institution if or when another pandemic occurs.
- Sticking to only virtual conferences. In-person conference attendance has helped to restore social connection, Dr. Vick said.
- Continuing mid-month ICU team switches.

This was no longer needed as COVID-19 census volumes decreased, Dr. Vick said.

- Teaching telemedicine as a part of the curriculum, but only because of the lack of sustained insurance funding for telehealth services, Dr. Theodorou said.

Incorporating Resident Feedback

As hospitalist education leaders plan future training, they consider student and resident feedback. The pros and cons of virtual training are something that comes up often.

“While some students were happy with virtual learning and had improved attendance and increased flexibility in schedules, many missed interacting with their classmates and experienced fatigue from video conferencing and online learning,” Dr. del Pino-Jones said.

At the University of Kentucky, the hospital prioritized cohorting COVID-19 patients to specific units to try to limit exposure and the spread of COVID-19. This meant that one resident ICU team cared almost exclusively for COVID-19 patients, and it limited their contact with other etiologies of critical illnesses.

“Based on feedback, we implemented mid-month team switches to ensure residents had adequate exposure to a variety of conditions

and not only acute respiratory distress syndrome,” Dr. Vick said.

Still, residents said that they enjoyed feeling a shared sense of caring for patients in need, especially before the COVID-19 vaccine was available.

Although Dr. Kuchera occasionally heard expressions of frustration over the risk involved with treating COVID-19, he more frequently felt and heard a sense of resilience and bravery. “Many trainees rose to the occasion, supported their colleagues, and displayed extraordinary dedication to patient care and to one another,” he said.

Dr. Rawal observed many residents having a hard time discerning which information to trust, as they would hear about different COVID-19 protocols from peers at other institutions. This led to confusion and unpredictability.

At the same time, she saw residents become more comfortable with sicker patients who were part of the mainstay of care at that time. “Now I think people feel calmer, as if that’s something they can handle. It raised people’s confidence,” she said.

Some Final Lessons

Although in-person connections can be a chal-

lenge during a pandemic, Dr. Kuchera hopes they will be something that can be done more often if another pandemic scenario arises.

“The overarching lesson the pandemic reinforced for me is the irreplaceable value of in-person, face-to-face interaction in medicine. In internal medicine, especially, much of our work is not procedural. It’s about being at the bedside, reading subtle cues, and building trust through direct conversation,” he said. Although clinicians can use technology and virtual tools when needed, they don’t fully replace the nuance and shared understanding that comes from physical presence, he said.

Despite the many challenges hospitalists faced as clinicians and educators during the COVID-19 pandemic, they adapted and forged ahead, bringing with them lessons learned and best practices to help them better weather whatever comes next.

“The COVID-19 pandemic was challenging as a hospitalist and educator. It taught us the importance of rapid adaptation and flexibility in the face of limited precedents. It also emphasized the importance of family at bedside to enhance our understanding of that patient and improve the care we provide,” Dr. Vick said. ■

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Commentary

The Wellness Paradox: Reconciling Care and Cost in Hospital Medicine

By Arnold Facklam, NP, FHM

The hospital’s hum never really stops, regardless of the hour. Whether you’re rounding on days or doing admissions on nights, the demands are constant, and the line between doing good work and burning out grows thinner each year. Many of us entered this field out of deep purpose, yet find ourselves running on fumes. There is a tension at the heart of hospital medicine: we spend our careers promoting patient wellness while neglecting our own. This is what I have come to think of as the wellness paradox.

Defining the Paradox

Hospital medicine is designed for continuity of care, but rarely continuity of self. Our schedules, documentation load, and emotional demands often exceed what is sustainable for any human being. Paradoxically, the very traits that make us excellent hospitalists—responsiveness, persistence, and empathy—also make us vulnerable to depletion. We stay late, skip meals, and defer vacations because the system rewards endurance more than balance.

I began to recognize this in subtle but telling ways. The system newsletter would come out quarterly, often highlighting

clinicians who “stayed late to help” or “stepped in when the schedule was short.” While well-intentioned, these recognitions often reinforced a culture where overextension was quietly normalized. Like most of us, I appreciate being acknowledged—but over time, it became clear that what was being celebrated was not sustainability. Saying yes was rewarded; saying no came with good-natured ribbing that did not always feel good-natured. Endurance had become a proxy for commitment, even when it clearly was not sustainable.

“Provider well-being” has become a familiar phrase in staff meetings, committees, and mission statements. Institutions promote wellness initiatives with commendable intent—mindfulness sessions, appreciation weeks, and free coffee in the lounge. Too often, however, these efforts address symptoms rather than causes. The underlying issue is not a lack of resilience among clinicians; it is that healthcare systems continue to operate on the assumption that resilience alone can compensate for structural fatigue. Studies consistently show that physicians’ and advanced practice practitioners’ burnout rates exceed those of the general population and are driven primarily by systemic inefficiencies rather than individual shortcomings.¹

The Realities of the Nocturnist Lens

Practicing as a nocturnist offers a different vantage point. The hospital at night runs lean—fewer hands, faster decisions, and greater autonomy. It is rewarding work but demanding in ways that are often unseen. Nights place clinicians into a feedback loop of emergency and recovery. There is no gradual ramp-up as there is during the day; it is intensity, then silence.

There are nights when that silence arrives abruptly. Around 3 a.m., cross-coverage calls slow as nurses pause routine rounding and the emergency department briefly quiets while the next wave of admissions is being worked up. I may find myself sitting in the dictation area, feeling as though I’ve had too much coffee—my body primed for action, heart rate elevated, attention scanning for the next interruption. The lull should feel restorative, yet instead it feels like bracing for the next onslaught. The system pauses, but my physiology does not. Over time, that rhythm can distort sleep, recovery, relationships, and even identity.

The night shift, however, offers clarity. Without the noise of daytime operations, patterns become more visible: how small staffing gaps amplify fatigue, how delayed labs cascade into morning rounds, and how simple acts of collegial



Mr. Facklam

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support—a shared patient load or a brief debrief—can meaningfully shift morale. The nocturnist experience distills the wellness paradox to its essence: finite humans managing infinite need.

Shifting from Preservation to Sustainability

Meaningful wellness in hospital medicine has less to do with perks



and more to do with structural design. We cannot “initiate” our way to wellness; it must be engineered into the fabric of care delivery.

I am reminded of this repeatedly during busy nights of cross-coverage while simultaneously managing new admissions. Calls and messages come in rapid succession: restless patients, bed alarms, “patient won’t sleep,” “keeps getting out of bed.” It is expedient to place an order and move on, but you pause to ask whether this behavior is new or part of an ongoing diagnosis of dementia or delirium. The clarifying questions often change the clinical trajectory—and sometimes have brought me to the bedside despite the competing demands on my time. These moments reinforced how thin the margin becomes when cognitive load is high. Judgment does not disappear with fatigue, but it becomes more fragile.

If we are serious about sustainability, several structural shifts are necessary:

- Treat fatigue as a safety metric. Fatigue degrades cognitive performance as predictably as hypoglycemia or hypoxia. Burnout is not only a wellness issue; it is a safety and performance issue that affects patient outcomes as

well as clinician retention.²

- Normalize structured debriefing. Brief peer-to-peer check-ins after critical events can mitigate moral distress and reinforce team connection.
- Protect time, not just pay. Consistent, predictable, off-duty periods are a stronger determinant of well-being than isolated financial incentives.
- Increase autonomy in scheduling and process. Meaningful operational input improves satisfaction and fosters shared accountability between clinicians and systems.

Personal Lessons from the Night

For me, recognizing the wellness paradox began with an honest self-assessment. I noticed how easily I rationalized fatigue as “part of the job.” When rest, nutrition, and emotional bandwidth are treated as professional necessities rather than personal luxuries, decision making improves. One becomes more patient, less reactive, and—ironically—more efficient.

I have also come to view mentorship differently. Teaching new clinicians is not only about

imparting clinical knowledge; it is about modeling what sustainable practice looks like. That lesson became particularly clear while mentoring a nurse practitioner student who had come to the U.S. from Japan and sought out additional clinical exposure through her program. She approached each shift as though she needed to absorb everything at once, trying to compress learning into every available moment. When I encouraged her to pause—“take a second,” “take a break”—she reacted as if she had failed. This may not have been unique to her experience, but it was clear that rest and reflection had been framed as weakness rather than as tools to keep an already capable mind sharp. It reinforced for me that mentorship includes teaching when to slow down, not just how to move faster.

Reframing the Conversation

True wellness requires cultural alignment as much as individual discipline. Hospitalists work under relentless cognitive and emotional load, and that responsibility deserves systemic respect. Fatigue management, psychological safety, and workload equity are not “soft” concepts; they are core metrics of patient safety and workforce

stability. Research shows that organizations and programs addressing burnout through structural reform rather than individual-level interventions see improvements not only in clinician satisfaction but in patient outcomes as well.^{3,4}

I have witnessed hospital medicine mature dramatically over the past two decades. Its next evolution must be inward—creating models that sustain the humans at its core. Recognizing the wellness paradox does not mean surrendering to it. It means naming the problem honestly so we can design systems that heal both patients and those who care for them.

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Shining Light on the Nocturnist Experience to Lay the Groundwork for Sustainable Overnight Care

By Alexandra Kilinsky, DO, MS, Lauren Anderson, MD, Justin Lockwood, MD, MSCS, Kyle Pronko, MD, Jennifer Reese, MD, Jennifer Sedler, MD, and Sonja I. Ziniel, PhD, MA

Pediatric hospital medicine (PHM) programs with nocturnists have more than doubled in recent years.¹ Consequently, more hospitalists face the hazards of overnight work, including sleep-related health risks, burnout, and attrition.²⁻¹¹ Sleep impairment is closely linked to burnout, lower fulfillment, and increased self-reported errors, threatening workforce sustainability.⁵ In 2024, an American Academy of Pediatrics section on hospital medicine survey identified overnight coverage as the second most common concern in PHM.¹

Our PHM division at the University of Colorado School of Medicine in Aurora, now with more than 170 faculty, has doubled in size due to increasing patient complexity, economic pressures, regionalization, residency changes, and workforce shortages.¹²⁻¹⁶ Since implementing a nocturnist model in 2018, our institution has relied on nocturnists to admit and cross-cover multiple teams, manage escalations, teach learners, and triage transfers—essential to sustaining overnight care. Although occupational risks are well described, mitigation strategies and data on pediatric nocturnist burnout, retention, and sustainability remain limited.^{3,17,18}

Solution Overview

To understand the experiences of faculty working overnight, we developed a mixed-methods

evaluation with four objectives: (1) assess morale and mediators of job satisfaction and professional fulfillment; (2) measure cognitive load; (3) identify factors influencing sustainability; and (4) understand the lived experience of nocturnists.

Nocturnists were the primary participants, providing direct input that shaped both the process and outcomes of this project. Hospitalists and hospital leadership were key partners, supporting implementation and aligning findings with institutional goals. Hospital administrators and departmental leaders had vested interests given the financial and operational impact of staffing and turnover.¹⁹ Any changes made as a result of the information we obtained might also have implications for workload equity for other faculty, supervision of trainees, and overall patient care for nursing staff and patients.

Key Strategies

- Developed a mixed-methods needs assessment, combining validated survey instruments (Professional Fulfillment Index,²⁰ Physician Task Load (adapted from the NASA Task Load Index²² as a measure of cognitive load),²¹ and Hospitalist Morale Index²³) with demographic data.
- Conducted semi-structured interviews guided by SHM's pillars of career satisfaction²⁴ and triangulated findings with survey data to generate actionable insights.
- Convened a multidisciplinary staffing workgroup that used results to identify threats and opportunities in the staffing model, prioritize interventions, and specifically address nocturnist cognitive load.

- Partnered with divisional and financial leadership to share results and advocate successfully for additional full-time equivalents (FTEs).

This approach ultimately provided a robust, data-driven needs assessment that directly informed divisional planning and laid the foundation for interventions aimed at improving nocturnist sustainability and well-being.

Implementation Process

Planning for this initiative began in early 2024, with support from PHM leadership to ensure alignment with divisional priorities and institutional goals. From May through July, we administered an electronic survey to all nocturnists at our quaternary care children's hospital using REDCap software. Survey items were adapted from validated instruments, including the Professional Fulfillment Index, Physician Task Load, and Hospitalist Morale Index, and were created and analyzed by our divisional survey methodologist.^{20,21,23} To enrich these findings, we conducted five semi-structured interviews. Interviews were recorded, transcribed, and analyzed using rapid qualitative methods, allowing triangulation with survey results and identification of themes not captured quantitatively.^{25,26}

The project was led by the nocturnist lead and included hospitalists, PHM leadership, and a survey methodologist. The nocturnist lead coordinated the project, synthesized preliminary findings, and managed communications, while other participants contributed to survey design, dissemination, and methodological oversight. The group examined nocturnist cognitive load to inform actionable strategies for supporting well-being and workforce sustainability.

Key Takeaways

- Nocturnists are an essential but vulnerable subset of the PHM workforce, facing high cognitive load and burnout.
- A mixed-methods needs assessment revealed significant risks to sustainability, with most nocturnists likely to reduce night work if given the option.
- Transparent, ongoing conversations about shift equity and role expectations are critical, as workload adjustments affect the broader team.
- Combining validated survey tools with interviews created a robust picture of nocturnist challenges and built leadership engagement.
- Findings led to the creation of an additional swing shift, aimed at reducing cognitive load by separating admissions from cross-coverage.
- Ongoing evaluation of this intervention will guide long-term workforce planning and support sustainable nocturnist models.

Based on survey and interview data, we convened a multidisciplinary staffing workgroup to review findings, identify potential threats and opportunities in the staffing model, and prioritize interventions.

Obstacles and Solutions

Four major obstacles emerged during implementation. First, survey response fatigue was a challenge, as faculty receive multiple



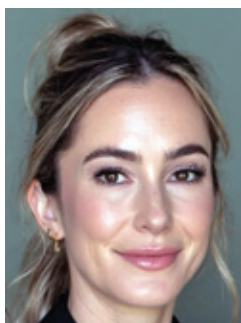
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institutional surveys annually. We addressed this by framing the survey as a targeted needs assessment tied to programmatic change and leadership action.

Second, concerns about morale arose, with some fearing that discussions of workload and burnout could worsen well-being. We maintained a solutions-focused approach, validated experiences, and communicated transparently about next steps to build trust and encourage participation.

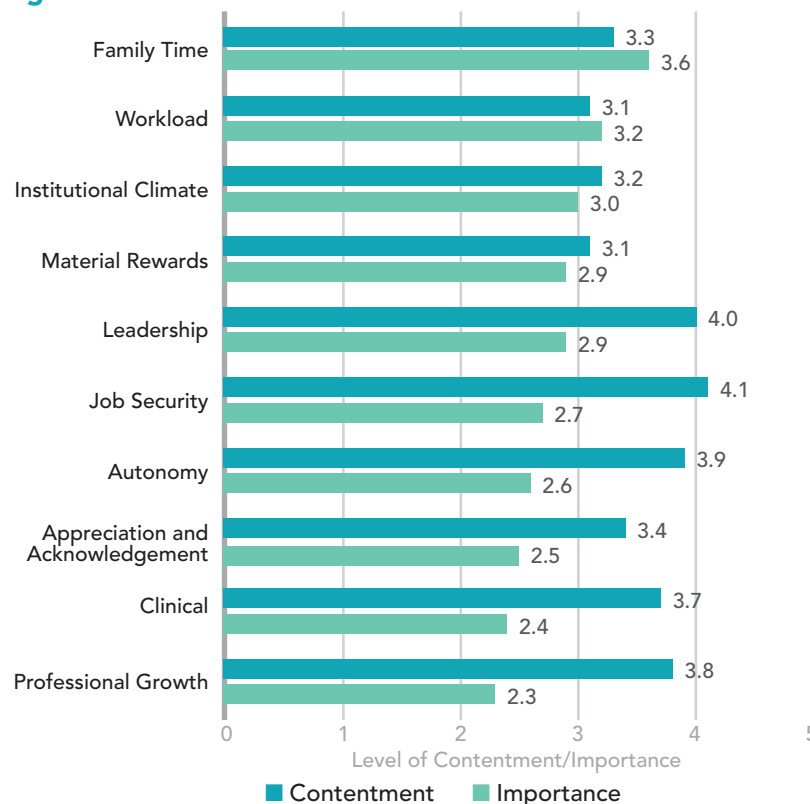
Third, advocating for additional FTE in a constrained financial environment was difficult. We combined survey and interview data with operational metrics, national benchmarks, and literature to demonstrate a clear link between nocturnist workload, sustainability, and institutional priorities.

Lastly, discussions about workload and support for nocturnists, who represent a small fraction of our large section, expanded into broader conversations about workforce equity across diverse roles and scopes of practice. A key challenge was that interventions aimed at improving the experience of nocturnists were sometimes met with resistance, particularly when they implied an added burden for daytime staff. While many daytime faculty expressed genuine appreciation for nocturnists, they also defended a status quo in which the personal and professional benefits of daytime schedules are more favorable. This dynamic underscored the importance of “shift equity,” the principle that fairness in staffing requires acknowledging and balancing the relative burden of work, including timing, duration, workload, and personal disruption, across providers. The literature reflects this imbalance: day shift employees report better well-being, career satisfaction, and work-life balance compared to their night shift counterparts.^{27,28} Daytime schedules may also allow greater participation in leadership, teaching, and committees, offering professional visibility and advancement less accessible to nocturnists.^{2,29,30} While many of these issues extend beyond the scope of this project, maintaining transparency and open dialogue has been essential to progress.

Outcomes and Impact

Survey findings highlighted substantial vulnerabilities in nocturnist well-being. Seventy percent of nocturnists reported being “pretty likely” or “very likely” to reduce their night work if given the opportunity, placing overnight coverage in a precarious position. Cognitive load was high, with a mean Physician Task Load (PTL) Index score of 339 out of 400; for context, a national study of over 4,000 physicians reported a mean

Figure 1:



PTL of 260, with pediatricians averaging approximately 253.²¹ Most nocturnists (75%) rated their shifts as mentally demanding, yet only 30% felt successful, and just 10% felt accomplished at the end of a typical shift. Burnout was prevalent, with 70% reporting persistent or definite symptoms. Satisfaction was mixed—40% reported being satisfied with their role, yet 90% indicated they would decrease nocturnist effort if given the opportunity. Nearly all nocturnists (89%) reported adequate career mentorship.

The Hospitalist Morale Index revealed the lowest satisfaction in institutional climate, family time, and workload (see Figure 1).²³ Semi-structured interviews reinforced these findings, emphasizing the importance of shift equity, connection with colleagues, and transparency in decision-making. Participants identified opportunities to reduce cognitive load, including clarifying team member expectations, minimizing interruptions, and pacing admissions more evenly throughout the night. To support interpretation and guide planning, we created a figure modeling nocturnist sustainability, which has since informed division-wide well-being initiatives (see Figure 2).

Previously, nocturnists managed both admissions and cross-coverage, with only one swing shift provider available. Survey and interview data, combined with staffing workgroup discussions, supported adding a second swing shift provider to absorb evening admissions (see Figure 3). Hospital leadership approved this change and allocated additional FTEs, representing a tangible financial investment to support nocturnist well-being and workforce sustainability. Informally, nocturnists reported that winter months with extra swing coverage were well-re-

ceived. Early operational data also suggest better alignment of staffing to peak patient volumes.

Beyond staffing, this initiative strengthened communication between nocturnists and the leadership of the section, department, and hospital. It also fostered a culture of transparency and created a framework for ongoing monitoring and improvement. By quantifying cognitive load, burnout, and morale while integrating faculty experiences, the project provides a robust evidence base to guide sustainable overnight coverage and prioritize physician well-being in PHM.

Lessons Learned

Several lessons emerged that may inform other hospitalist programs considering similar efforts. Early leadership engagement was critical for building trust with faculty and securing institutional support to translate findings into actionable change, including funding for additional FTEs. Involving division and departmental leaders from the outset facilitated alignment with operational priorities and strengthened advocacy.

Using a mixed-methods approach—combining validated survey instruments with qualitative interviews—proved highly effective. Quantitative data provided rigor and credibility, while qualitative insights added nuance, highlighting experiences and concerns that numbers alone could not capture. Framing the project as a needs assessment rather than an evaluation of individual performance encouraged participation, candid feedback, and transparency.

The initiative also highlighted the importance of regular conversations about shift equity and role expectations, particularly in a rapidly growing division. Adjust-

ments to the nocturnist workload cannot occur in isolation—reducing responsibilities for one group affects others. Engaging faculty early, validating these impacts, and collaboratively reaching consensus about what is most equitable is essential for morale, fairness, and long-term sustainability.

Finally, sustainable improvements require structural solutions rather than relying solely on individual resilience. Adjustments such as redistributing admissions to a swing shift and clarifying expectations can reduce cognitive load and support retention. Pairing faculty experience data with operational metrics also strengthens the case for resource allocation, helping programs address workload, well-being, and workforce sustainability.

Overall, this project highlights the value of integrating faculty perspectives, data-driven analysis, and leadership engagement to create pragmatic, actionable, and sustainable interventions in PHM.

Future Directions

The immediate next step was to evaluate how the additional swing shift affects the nocturnist’s well-being. The results of this needs assessment informed a grant application to study the impact of the additional shift on physician task load, burnout, and job satisfaction in our nocturnists. Using repeated surveys, we will determine whether adding FTE for admission support meaningfully reduces overnight burden and improves well-being, guiding decisions about maintaining or expanding the intervention.

In parallel, we plan to track longitudinal trends in nocturnist experience—monitoring changes in fulfillment, morale, and workload demands to ensure interventions have a lasting effect.

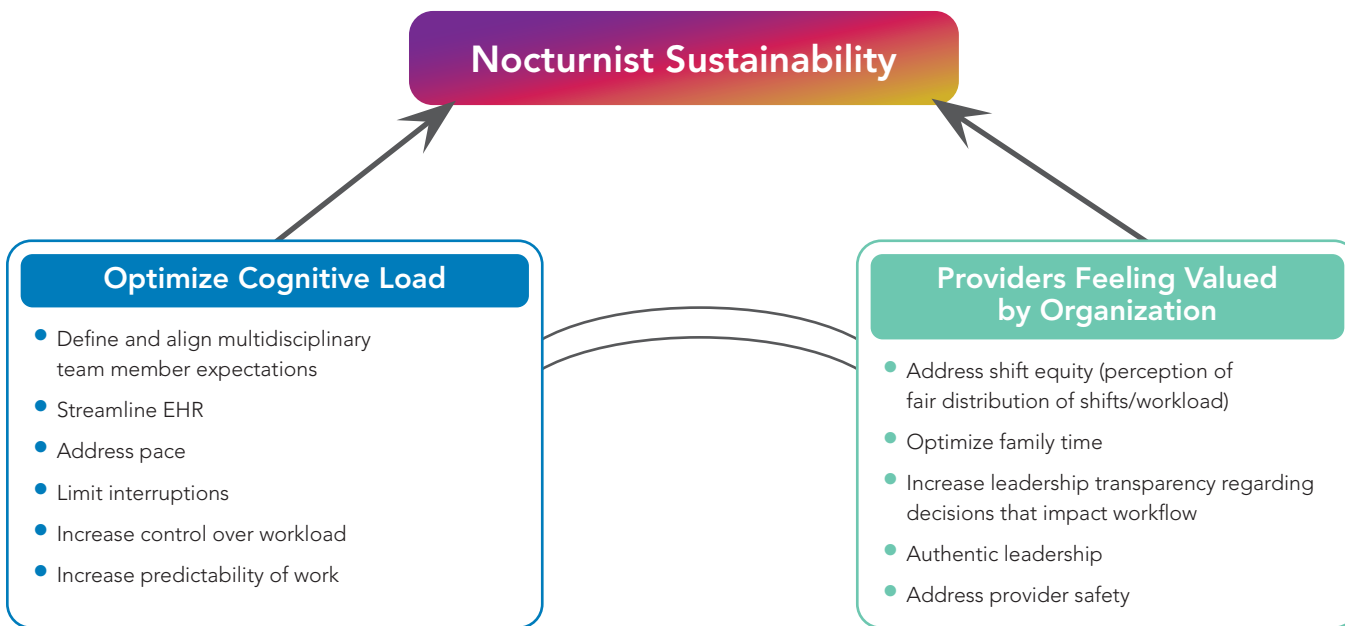
Future work will also focus on clarifying expectations, streamlining overnight workflows, tracking interruptions, and enhancing professional development to support clinicians in their roles. Understanding how workload and well-being interact may provide insights that inform future planning.

Ultimately, this initiative will continue to inform divisional planning, guide resource allocation, and serve as a model for similar efforts in PHM divisions seeking to optimize overnight coverage while supporting faculty well-being. ■

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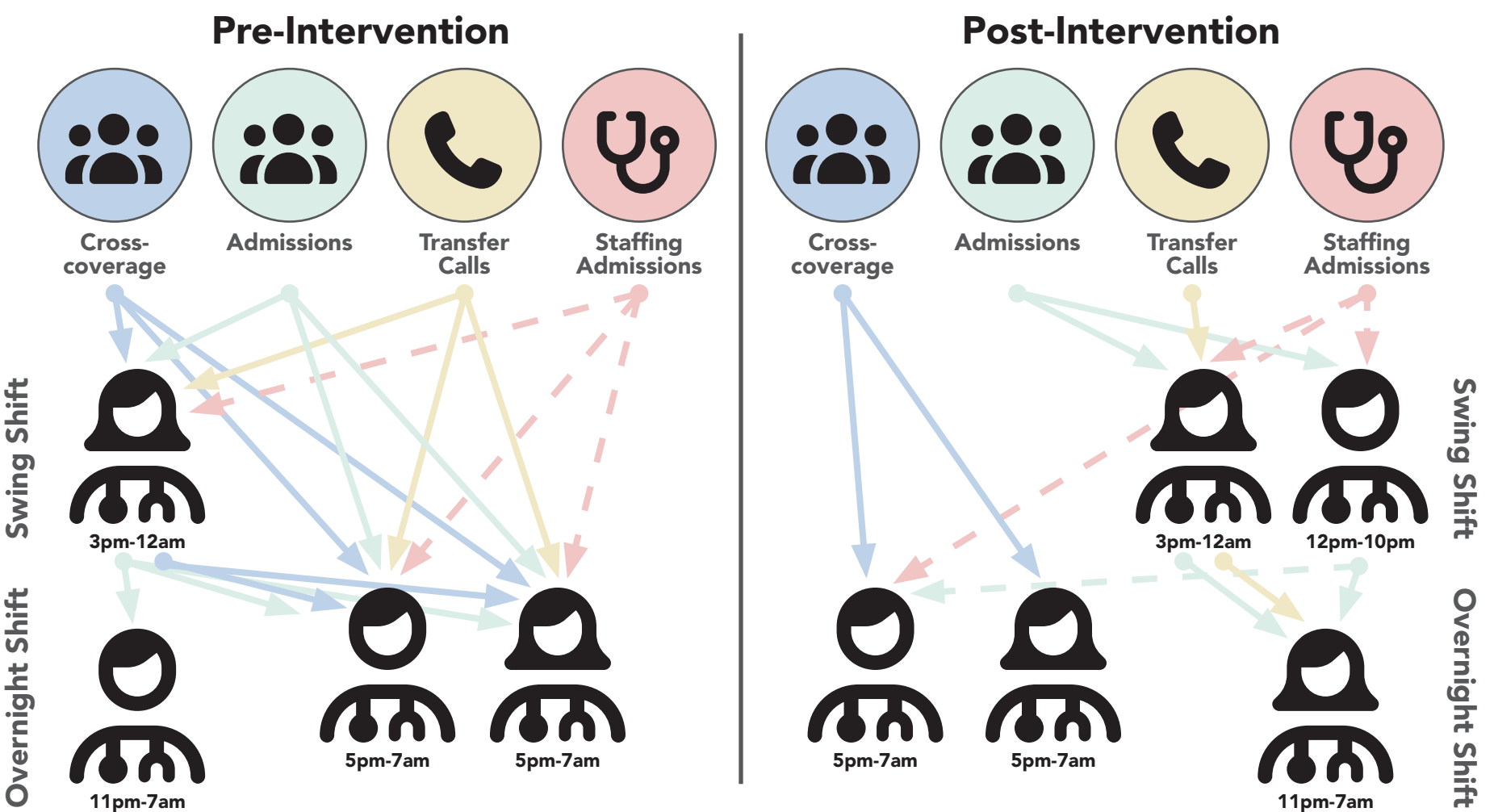
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Figure 3:



What's New in the 2025 IDSA Updates for Complicated UTIs?

By Ali Farkhondehpour, MD, FACP, SFHM, and Annie Cowell, MD, MPH, FIDSA

Case

An 80-year-old man with Alzheimer's dementia presents with fever, worsening suprapubic discomfort, and new right flank pain. He began ciprofloxacin the day before for a presumed urinary tract infection (UTI), but his symptoms have progressed. Four months ago, he had a UTI caused by an extended-spectrum β -lactamase-producing (ESBL) *Escherichia coli*, susceptible to fluoroquinolones and carbapenems. He has a positive urinalysis and meets sepsis criteria. You are asked to assess him for admission. How do the updated 2025 Infectious Diseases Society of America (IDSA) guidelines inform your management?

The 2025 IDSA guidelines are the first major update since 2010.¹ The earlier guidance focused exclusively on uncomplicated infections in healthy, premenopausal women, leaving limited direction for men, older adults, and hospitalized patients. Since that time, a growing body of clinical studies on complicated urinary tract infection (cUTI) has expanded the evidence base, prompting a more practical and inclusive approach. The updated guideline refines key definitions, introduces a four-step framework for empiric therapy, and clarifies IV-to-oral transitions and treatment duration. The Society of Hospital Medicine also contributed to these recommendations, ensuring their applicability to current inpatient practice.

Uncomplicated Versus Complicated UTI: New Classification

The updated classification helps hospitalists quickly determine whether a urinary infection is confined to the bladder or has progressed beyond it:

- **Uncomplicated UTI:** A bladder-limited infection without systemic features, presenting with lower urinary tract symptoms such as dysuria, urgency or frequency, and suprapubic discomfort. Importantly, both men and women can now meet the criteria for uncomplicated infection.
- **Complicated UTI (cUTI):** Evidence that the infection has extended beyond the bladder—such as fever, systemic signs, bacteremia, flank pain, or the presence of a urinary catheter, stent, intermittent catheterization, or percutaneous nephrostomy tube—classifies the episode as complicated. Conditions like diabetes, immunocompromise,

male gender, or urologic abnormalities no longer automatically make a UTI complicated. These factors may still influence treatment decisions, but they do not define the classification. As a result, both men and women can have uncomplicated UTIs.

These guidelines exclude bacterial prostatitis, epididymitis, and orchitis, which require separate diagnostic and therapeutic approaches.

Four-Step Method for Empiric Antibiotic Selection

The 2025 IDSA guidelines introduce a four-step approach to guide empiric antibiotic selection for suspected cUTI: 1) assess severity of illness (sepsis versus no sepsis), 2) review patient-specific risk factors for resistant uropathogens, 3) consider allergies and meaningful drug interactions, and 4) use a relevant local antibiogram when the patient is septic. Applying these steps together helps clinicians select among the recommended agents (see Table 1), supporting effective early coverage while promoting individualized care and stewardship.

Step 1: Assess Severity—Is the Patient Septic?

When approaching empiric therapy for suspected cUTI, including pyelonephritis, the 2025 IDSA guidelines emphasize beginning with the severity of illness—specifically, whether the patient meets criteria for sepsis.

The guidelines utilize the Sepsis-3 Task Force definition of sepsis as life-threatening organ dysfunction from a dysregulated host response to infection and correspond to a ≥ 2 -point rise in SOFA, or sequential organ failure assessment, score, reflecting an in-hospital mortality greater than 10% (often approximated with qSOFA or Systemic Inflammatory Response Syndrome, or SIRS, in clinical screening).

Suspected cUTI with sepsis

In patients with sepsis attributed to cUTI, initial empiric therapy should prioritize broad-spectrum agents. The guidelines suggest considering a third- or fourth-generation cephalosporin, piperacillin-tazobactam, a carbapenem, or a fluoroquinolone rather than reaching first for the newer β -lactam/ β -lactamase-inhibitor combinations, cefiderocol, or aminoglycosides.

Suspected cUTI without sepsis

For clinically stable, non-septic patients, empiric therapy generally mirrors options used in sepsis, including third- or fourth-generation cephalosporins, piperacillin-tazobactam, or fluoroquinolones, while carbapenems and newer agents are reserved for patients with a history of resistant organisms.

Oral empiric options, particularly for outpatient management, include fluoroquinolones and trimethoprim-sulfamethoxazole (TMP-SMX) as preferred agents. Oral β -lactams are listed as alternative options given more limit-



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ed evidence, with preference for agents that achieve higher oral bioavailability and urinary concentrations, such as third-generation oral cephalosporins (e.g., cefpodoxime) (see IDSA guidelines for recommended antibiotics and dosing). Earlier-generation cephalosporins and other oral β -lactams, such as amoxicillin-clavulanate, have more variable supporting data and should be used empirically only when necessary and with optimized dosing. While some non-septic patients with cUTI may be managed entirely with oral therapy as outpatients, most hospitalists will encounter patients who are ill enough to require admission and parenteral antibiotics.

Step 2: Assess Patient-Specific Risk for Resistant Uropathogens

Incorporate Recent Urine Culture Data (three to six months)

Prior microbiology can meaningfully inform empiric antibiotic selection. The IDSA review found that when empiric antibiotics for a current UTI aligned with a patient's previous urine culture results, the likelihood of providing active coverage increased by at least sevenfold. More recent cultures, typically within the past three to six months, are most informative. The guidelines recommend avoiding antibiotics to which the patient has previously had a resistant urinary pathogen isolated within this time frame.

Avoid Empiric Fluoroquinolones if Recently Given

Among the various patient-related risk factors evaluated, prior fluoroquinolone exposure within the past 12 months stood out as a strong predictor of resistance to that class. This may

reflect both the high background prevalence of fluoroquinolone resistance and the frequency with which fluoroquinolone exposure was assessed across studies. The guideline panel, therefore, advises avoiding empiric fluoroquinolones in patients with recent exposure, with shorter intervals (e.g., less than three months) likely representing an even higher risk for resistance.

Step 3: Evaluate Additional Patient-Specific Considerations

After accounting for severity and resistance risk, therapy should be refined by individual safety considerations—drug allergies, contraindications, renal or hepatic impairment, and clinically meaningful drug-drug interactions. For example, QT-prolonging agents, nephrotoxic combinations, or interactions with anticoagulants should be recognized early to prevent avoidable harm.

Step 4: Use the Local Antibigram (for Septic Patients)

For patients with sepsis or septic shock from suspected cUTI, the guidelines recommend using a local, recent (up to 12 months) antibiogram that reflects a similar patient population. When applying the antibiogram to refine empiric therapy:

- **Septic shock:** Choose an antibiotic with at least 90% susceptibility.
- **Sepsis without shock:** Choose an antibiotic with at least 80% susceptibility.

These thresholds are based on modeling demonstrating increased mortality when initial therapy lacks activity.

For patients without sepsis, the IDSA makes no recommendation on using antibiograms to guide empiric therapy, underscoring a current evidence gap.

Timing of IV-to-Oral Antibiotic Transition for Definitive Therapy

The guidelines note that increasing evidence supports transitioning from intravenous to oral antibiotics earlier in the treatment course for many infections, as effectiveness depends on achieving therapeutic drug levels rather than the route of administration. For cUTI with or without bacteremia, a switch to oral therapy is generally appropriate once three criteria are met:

- Clinical improvement (afebrile, hemodynamically stable, achieved source control)
- Ability to take and absorb oral medication
- Availability of an oral regimen active against the target pathogen and capable of achieving therapeutic levels in the urine, tissue, and bloodstream

Duration of Therapy for cUTI

For patients with complicated UTI who demonstrate clinical improvement on appropriate antibiotics, the updated IDSA guidelines support shorter treatment courses. In most cases, this corresponds to five to seven days of a fluoroquinolone or seven days of a non-fluoroquinolone agent, counted from the first day of active therapy, rather than traditional 10- to 14-day courses. However, treatment duration should be individualized, as some patients may still require 10 to 14 days of therapy, particularly because studies supporting shorter durations excluded individuals with indwelling urinary catheters, severe sepsis, significant immunocompromise, urinary tract abscesses, chronic kidney disease, complete urinary obstruction, or recent urologic procedures.

Table 1. Potential Empiric Antibiotic Options for Complicated Urinary Tract Infections

SEVERITY OF ILLNESS	PREFERRED	ALTERNATIVE
Sepsis (with or without shock)	Third- or fourth-generation cephalosporins, carbapenems, piperacillin–tazobactam, fluoroquinolones	Novel β -lactam–beta-lactamase inhibitors, cefiderocol, plazomicin, or older aminoglycosides
No sepsis—IV route of therapy	Third or fourth generation cephalosporins, piperacillin–tazobactam, or fluoroquinolones	Carbapenems, novel beta-lactams–beta-lactamase inhibitors, cefiderocol, plazomicin, or older aminoglycosides
No sepsis—oral route of therapy	Fluoroquinolones or trimethoprim-sulfamethoxazole	Amoxicillin-clavulanate or oral cephalosporins*

For select multidrug-resistant organisms, therapy may need to include agents outside this list. Third and fourth generation IV cephalosporins include: ceftriaxone, ceftazidime, cefotaxime, and cefepime. Fluoroquinolones approved for UTI currently include ciprofloxacin and levofloxacin. Carbapenems include imipenem & cilastatin, doripenem, meropenem, and ertapenem. The novel beta lactams-beta-lactamase inhibitors include ceftolozane-tazobactam, ceftazidime-avibactam, meropenem-vaborbactam, and imipenem-cilastatin-relebactam. Older aminoglycosides include gentamicin, amikacin, and tobramycin.

* See IDSA guidelines for recommended antibiotics and dosing.

The guideline's conditional recommendation for a seven-day non-fluoroquinolone regimen is based on "very low–certainty evidence." In this context, TMP-SMX is preferred based on available data, whereas oral β -lactams may be considered when fluoroquinolones and TMP-SMX cannot be used.² Evidence supporting oral β -lactams for cUTI remains limited, with preference for antibiotics that achieve higher oral bioavailability and urinary concentrations, such as third-generation oral cephalosporins (e.g., cefpodoxime). Earlier-generation cephalosporins and other oral β -lactams, including amoxicillin-clavulanate, have more variable supporting data and should be reserved for situations in which other options are less suitable and used with optimized dosing (see IDSA guidelines for recommended antibiotics and dosing). When oral β -lactams are used, treatment duration should be individualized, as most studies evaluating these agents in cUTI have used 10 to 14 days of therapy.^{3,4}

Regardless of regimen, clinicians should reassess patients who fail to improve as expected and evaluate for a persistent nidus of infection or a source-control issue, such as urinary obstruction, infected stone, or catheter-related complications.

Duration of Therapy for cUTI with Gram-Negative Bacteremia

For patients with gram-negative bacteremia from a urinary source who are clinically improving on appropriate therapy, the guidelines similarly support a seven-day treatment course instead of the traditional 14 days. Additional evidence comes from the BALANCE trial, which randomized 3,608 hospitalized patients with bacteremia to seven versus 14 days of antibiotics.⁵ Most infections were caused by gram-negative organisms, and 42% had a urinary source. The seven-day strategy was non-inferior to 14 days for 90-day mortality, both overall and within the urinary-source subgroup. Importantly, the trial used a pragmatic design, allowing treating clinicians to select antibiotics, dosing, and timing of oral step-down, reflecting real-world practice.

Oral step-down therapy for cUTI with gram-negative bacteremia follows the same duration and antibiotic-selection principles described earlier in the nonbacteremic cUTI section. Fluoroquinolones and TMP-SMX remain the most studied oral step-down options and offer high bioavailability. Evidence supporting oral β -lactams is more limited, but they may be used selectively when fluoroquinolones and TMP-

SMX cannot be used, provided the antibiotic is active and achieves adequate serum and urinary concentrations (see IDSA guidelines for recommended antibiotics and dosing). As with non-bacteremic cUTI, treatment duration should be individualized, and some patients may require 10 to 14 days of therapy when stepping down to an oral β -lactam.^{3,6-9}

Back to the Case

Under the updated classification, this patient meets criteria for a cUTI with sepsis but no shock. Using the 4-step framework, his prior urine culture from four months earlier showed ESBL *E. coli*. The local antibiogram showed acceptable (over 80%) susceptibility to carbapenems for septic patients without shock, supporting IV ertapenem as an appropriate starting agent. By hospital day three, he improved rapidly, and both urine and blood cultures again grew ESBL *E. coli*, resistant to fluoroquinolones but susceptible to carbapenems and TMP-SMX. With clear clinical response and organism-directed susceptibilities in hand, the guidelines supported an early transition to oral TMP-SMX for a total treatment duration of seven days.

Bottom Line

The 2025 IDSA guidelines simplify UTI classification: bladder-limited infections are uncomplicated, and systemic or upper-tract involvement

Key Takeaways

- Simplified UTI classification: UTIs now classified as uncomplicated if limited to the bladder without systemic symptoms, and complicated if there is systemic involvement; applicable to men and women.
- Empiric therapy framework: A four-step approach assess severity, review recent urine culture, consider patient-specific risks, use local antibiogram data when sepsis is present.
- Severity assessment guides therapy: Patients with sepsis require broad-spectrum IV antibiotics, and stable, non-septic patients who are clinically improving on an active regimen can transition early to oral therapy.
- Importance of recent urine cultures: Prior urine culture results within three to six months significantly improve empiric antibiotic selection.

KEY CLINICAL QUESTION

defines cUTI—in both men and women.

Empiric therapy for cUTI follows a 4-step approach: assess severity, review recent urine cultures (three to six months), account for patient-specific risks, and incorporate the local antibiogram when appropriate.

Patients who are clinically improving on an active regimen can transition early to oral therapy.

For most patients, including those with improving gram-negative bacteremia, a seven-day total course is generally appropriate. ■

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