PUBLIC POLICY

New telehealth legislation

PAGE 18

KEY CLINICAL QUESTION

Managing submassive pulmonary embolism

PAGE 20

SATYEN NICHANI, MD, FHM

Revised Core Competencies in HM

PAGE 41

The Hospitalist

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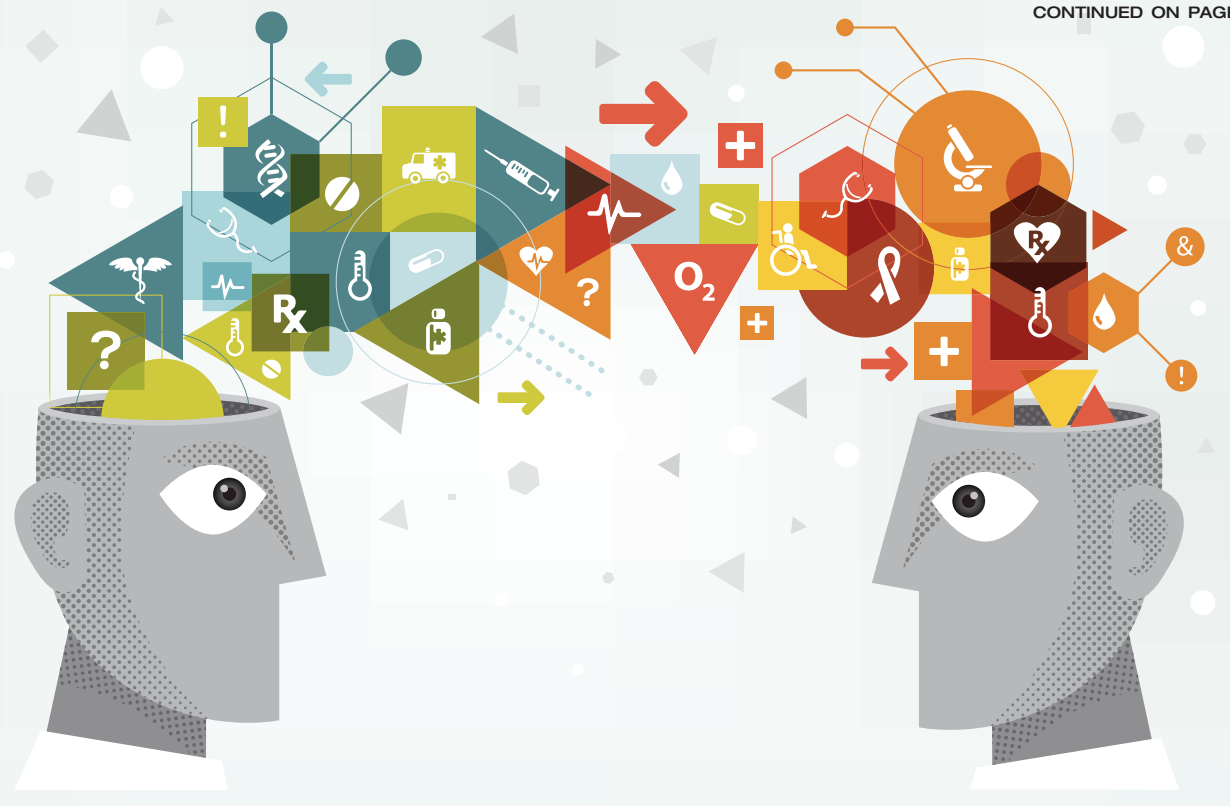
Communication tools improve patient experience and satisfaction

BY KAREN APPOLD

How hospitalists and other clinicians communicate with patients impacts a patient's overall experience and satisfaction. But according to the authors of "Communication the Cleveland Way,"[1] a book about how the clinic created and applied communication skills training, "in a culture prioritizing clinical outcomes above all, there can be a tendency to lose sight of one of the most critical aspects of providing effective care: the communication skills that build and foster physician-patient relationships."

"Studies[2,3] have shown that good communication between doctors and patients and among all caregivers who interface with patients directly results in better clinical outcomes, reduced costs, greater patient satisfaction, and lower rates of physician burnout," the authors wrote.

CONTINUED ON PAGE 16



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Managing hospital- and ventilator-associated pneumonia

Recommendations updated from IDSA and ATS

By Joseph A. Hippensteel, MD, and Jeffrey M. Sippel, MD, MPH

Background

Hospital-acquired pneumonia (HAP) is defined as pneumonia that develops 48 hours or more after admission and that was not present on admission. Ventilator-associated pneumonia (VAP) is pneumonia that develops 48 hours or more after endotracheal intubation.

Dr. Hippensteel

HAP and VAP are common afflictions in hospitalized patients, accounting for nearly one-quarter of all hospital-acquired infections. They confer mortality rates of 24%-50%, increasing to nearly 75% if caused by resistant organisms.[1,2] Given the high prevalence and significant mortality associated with these types of pneumonia, diagnosis and treatment are essential. Treatment must be balanced against potential unintended consequences of antibiotic use including *Clostridium difficile* infections and the promotion of resistant bacteria caused by poor antibiotic stewardship.

Given the frequency with which HAP and VAP occur, and the need for equipoise with antibiotic use, it is essential that all practicing clinicians have an evidence-based construct for the diagnosis and treatment of HAP and VAP.

CONTINUED ON PAGE 9

QI ENTHUSIAST TO QI LEADER

Luci Leykum, MD

SEE PAGE 7

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Immigration reforms:

Repercussions for hospitalists and the health care industry

By Venkatrao Medarametla, MD, and Mohan Ramkumar Pamerla, MD

International medical graduates (IMGs) have been playing a crucial role in clinician staffing needs for U.S. hospitals, especially in hospital medicine and internal medicine. According to a study, IMGs compose 25% of the total U.S. physician workforce and 36% of internists.[1,2] According to data from the 2008 Today's Hospitalist Compensation & Career Survey, 32% of practicing hospitalists are IMGs.[3]

Dr. Medarametla

Many IMGs come to work in the United States via one of three paths. Just like all roads lead to Rome, all visas lead to a permanent residency pathway, eventually based on the country of origin and number of years waiting. The first path is a green card – cases where IMGs were on a visa and within a certain amount of time they received a green card. The second path is J-1 visa waivers for physicians who trained in the United States under a J-1 Visa. Typically, physicians on J-1 Visa waivers need to provide their services for a minimum of 3 years working in underserved areas – where there's a shortage of health professionals – before they can apply for permanent residency.

The third and most popular path is the H-1B visa, which hospitalists traditionally use as a springboard to apply for permanent residency. Studies have shown that IMGs are more likely to practice medicine in rural and underserved areas. In many instances, physicians end up working in these areas for long periods of time.[4]

There has been an ongoing national debate on immigration reform and revamping the H-1B visa process since President Trump first issued an executive order directing the Secretary of Homeland Security to consider ways to "make the process of H-1B allocation more efficient and ensure the beneficiaries of the program are the best and the brightest" and also suggesting "extreme vetting." Congress set the current annual cap for the H-1B visa category at 85,000.[5] The majority (75%) of H-1B visas will go to technology, engineering, and computer-related occupations. Medicine and health-related H-1B applications are only 5% of total H-1B visas approved.[6] Most of the H-1B reforms are aimed at the technology industry, but hospitalists happen to be in the same candidate pool, and this might be a good time to consider whether hospitalists and other clinicians should be separated from this pool.

The Department of Homeland Security has considered creating another visa pathway for the technology industry, whereby an alien graduating from a U.S. university with an advanced degree in a STEM (Science, Technology, Engineering, and Math) course of study would receive a new visa and pathway to permanent residency. We believe hospitalists and other physicians should also have an expedited pathway to permanent residency. This step benefits both the U.S. health care system and hospitalists in many ways. It increases hospitalists' portability and flexibility with schedules. With a traditional H-1B visa, hospitalists are bound to work with the one hospital/system that sponsors the H-1B, and would not be able to work at any other hospital without another extension/addendum to current visa status, even in cases where a physician had time off and would like to offer services at another facility. It is a well-known fact that hospitalist teams are understaffed and try to bring on per-diem staff to fill holes in schedules. The majority of hospitalists are working week-on/week-off schedules, and with an expedited pathway to a green card, they would be able to work in different hospi-

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> With an expedited pathway to a green card, hospitalists would be able to work in different hospitals. They would also be able to move to remote places, or "doctor deserts," and offer their services, helping to ensure the quality and safety of patient care to which all Americans are entitled.

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Crossing the Personal Quality Chasm: QI enthusiast to QI leader

An early interest in finding solutions shapes a prosperous career in QI and research

By Claudia Stahl

Editor's Note: *This ongoing series highlights the professional pathways of quality improvement leaders. This month features the story of Luci Leykum, MD, division chief, general and hospital medicine at the University of Texas Health Science Center, San Antonio.*

"I was amazed at how things in the hospital system could work so well and so poorly at the same time and [at] how many [processes] weren't useful to clinicians or patients."

– Luci Leykum, MD

Luci Leykum, MD, MBA, MSc, FACP, SFHM, became familiar with inpatient medicine at age 9 years, when her grandfather contracted non-AB hepatitis from a postoperative blood transfusion. In the ensuing years, Dr. Leykum visited her grandfather during his frequent hospitalizations, keeping a close watch on the physicians charged with his care.

"It was when HIV and what we now think is hep C were just emerging, and there was a lot to figure out," Dr. Leykum recalled of these formative experiences. Her interests in problem solving, human relationships, and physiology led to enrollment years later as a medical student at Columbia University's College of Physicians and Surgeons, where her keen observation skills led to a life-changing, "how did we get here?" moment.

"I was amazed at how things in the hospital system could work so well and so poorly at the same time and [at] how many [processes] weren't useful to clinicians or patients," said Dr. Leykum, who began asking her attending physicians at Presbyterian Hospital what it would take to change the system. When the answers didn't come, Dr. Leykum decided to enroll in the MBA program at Columbia University's Graduate School of Business to add knowledge of operations and process management to her skillset.

Shortly before Dr. Leykum entered residency in 1999, New York Hospital and Columbia Presbyterian Hospital announced that they were merging. The timing was ideal for someone with Dr. Leykum's acumen in business and medicine, and, as a resident, she began working with the chief medical officer for quality at the new, combined health system to identify quality improvement opportunities.

From there, the projects began pouring in: tracking phone hold times for residents; updating policies to reduce staff exposure to blood-borne pathogens and other infectious diseases; and monitoring flow through the hospitalization process. "In the progression of a few years, I was able to see important aspects of how the system came together," said Dr. Leykum, "and how decisions were made around standards and metrics for the system as a whole and for its multiple individual hospital facilities."

In 2004, 2 years out of residency, Dr. Leykum relocated to San Antonio to accept a clinician investigator position with the South Texas Veterans Health Care System/University of Texas Health Science Center San Antonio (UTHSCSA). Research, she said, has allowed her to delve deeper into the underlying mechanisms that impact systems of health care. She sees the complementary sides of quality improvement and research.

"Through our quality improvement initiatives, we can evaluate and improve specific aspects of care, in specific contexts or systems," Dr. Leykum explained. "In our research projects, we look for new insights that can be more broadly applied across contexts. With funding, you are able to look at things with a scope, depth, or time horizon beyond what you typically have with a QI project."

Since joining the UTHSCSA/VA system, Dr. Leykum has participated in more than 15 externally funded studies, 6 as principal investigator. She joined SHM's research committee in 2009, serving as chair for 6 years, and is currently working with the committee to implement the Improving Hospital Outcomes Through Patient Engagement (i-HOPE) Study.

i-HOPE, funded through the Patient-Centered Outcomes Research Institute, is a project to develop a patient- and stakeholder-partnered research agenda to improve the care of hospitalized patients. Dr. Leykum is also involved in implementing a collaborative care model at University Health System, a patient-partnered, interprofessional model that "focuses on improving interconnections, relationships, and sense making," in the hospital system, she explained. "It was motivated strongly by our desire to improve our partnerships with patients and other providers in the hospital as a strategy to improve care."

In addition to the many professional responsibilities she manages as division chief of general and hospital medicine at UTHSCSA – a position she has held for hospital medicine since 2006 and for the combined division since 2016 – Dr. Leykum continues to play an integral role in multiple academic and research initiatives for SHM.

She encourages anyone considering a concentration in QI and research to seek opportunities to actively learn these skills and, more importantly, let other people know their interests.

"The value of talking with colleagues at other places is so high," she said. "When you actively reach out, you find that most people are happy to share their knowledge. Networking is one of the best parts of the SHM annual meeting – there's an energy and excitement in learning about what others are doing. Wander into the poster and special interest sessions and see what people are working on, get email addresses, and participate on committees." TH

Ms. Stahl is content manager at the Society of Hospital Medicine.

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tals. They would also be able to move to remote places, or "doctor deserts," and offer their services, helping to ensure the quality and safety of patient care to which all Americans are entitled.

In 2016 alone, around 1,500 H-1B visas were filed for hospitalist physicians.[7] Each hospitalist has an average of 15 patient encounters per day, and for 1,500 physicians that amounts to about 4 million patient encounters annually.[8] These data account for only new 2016 visa-holding physicians, and do not account for already approved or renewed visas. It would be very challenging to count the number of patient encounters by hospitalists who are on a visa, but 1 billion patient encounters is not overestimating. Recent studies show that quality of care provided by IMGs is not inferior to that of U.S. medical graduates. The study showed that patients cared for by IMGs have lesser mortality, compared with those cared by U.S. medical graduates.[9]

In this era of hospital medicine, hospitalists are focusing not only on clinical aspects of patient care but also on efficacy, quality of care, and patient safety and satisfaction, and they are working with the Centers for Medicare & Medicaid Services to develop cost-cutting programs to save billions of dollars in health care expenses. This is the primary reason a majority of hospitals are focused on developing a hospitalist track, and encouraging hospitalists to pursue leadership roles in managing hospitals effectively.

The U.S. health care system is starved for hospitalists and primary care physicians, and IMGs will continue to play a pivotal role. Yet IMGs must deal with shifting trends in immigration policy, and in some recent instances immigrant physicians have been asked to leave the U.S. because of immigration reforms.[10,11] We would like the Society of Hospital Medicine to take a stand on behalf of IMG hospitalists and ask the U.S. Department of Labor and Homeland Security for an expedited permanent residency pathway for IMG hospitalists. We are certain that our request will get a fair hearing, as the former U.S. surgeon general was a hospitalist and, indeed, an immigrant. TH

Dr. Medarametla is medical director, Intermediate Care Unit, Baystate Medical Center, Springfield, Mass., and assistant professor of medicine, University of Massachusetts Medical School. Dr. Pamerla is a hospitalist at Wilson (N.C.) Medical Center.

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Future Hospitalist:

Top 10 tips for carrying out a successful quality improvement project

By Maria Anaizza Aurora Reyna, MD, FHM; Alfred Burger, MD, FACP, SFHM; and Hyung J Cho, MD, FACP

Editor's Note: *This column is a quarterly feature written by members of the Physicians in Training Committee. It aims to encourage and educate students, residents, and early-career hospitalists.*

One of the biggest challenges early-career hospitalists, residents, and medical students face in launching their first quality improvement (QI) projects is knowing how and where to get started.

QI can be highly rewarding, but it can also take valuable time and resources without any guarantees of sustainable improvement. In this article, we outline 10 key factors that you should take into consideration when starting a new project.

1. Frame your project so that it aligns with your hospital's current goals

When choosing a project, keep your hospital's goals in mind. Securing resources such as health IT, financial, or staffing support will prove difficult unless you get buy-in from hospital leadership. If your project does not directly address hospital goals, frame the purpose to demonstrate that it still fits with leadership priorities. For example, though improving handoffs from daytime to nighttime providers may not be a specific goal, leadership should appreciate that this project is expected to improve patient safety.

2. Be SMART about goals

Many QI projects fail because the scope of the initial project is too large, unrealistic, or vague. Creating a clear and focused aim statement and keeping it "SMART" (Specific, Measurable, Achievable, Realistic, and Timely) will bring structure to the project.[1] "We will reduce Congestive Heart Failure readmissions on five medicine units at our hospital by 2.5% in 6 months" is an example of a SMART aim statement.

3. Involve the right people from the start

QI project disasters often start because team members were poorly chosen. Select members based on who is needed and not on who is available. It is critical to include representatives or "champions" from each area that will be affected. People will buy into a new methodology much more quickly if they are engaged in its development or if they know that respected members in their area are involved.

4. Use a simple, systematic approach to guide improvement work

Various QI models exist, and each offers a systematic approach for assessing and improving care services. The Model for Improvement developed by the Associates in Process Improvement is a simple and powerful framework for quality improvement that asks three questions[2]: (1) What are we trying to accomplish with this service? (2) How will we know a change is an improvement, rather rthan a setback? (3) What changes can we make that will result in further improvement? The model incorporates Plan-Do-Study-Act (PDSA) cycles to test changes on a small scale.

5. Start with good background data for good projects

As with patient care, you must gather baseline information before prescribing any solutions, in order to improve a service's "health status." Anecdotal information helps, but, to accurately assess baseline performance, you need details and data. Data will determine the need for improvement, as well as the scope of the project. Use QI tools, such as process mapping or a fishbone diagram, to identify potential causes of error in a new or ongoing project.[3]

6. Choose interventions that are high impact, low effort

People will more easily change if the change itself is easy. So consider the question, "Does this intervention add significant work?" The best interventions change a process without causing undue burden to the clinicians and staff involved.

7. You can't improve it if you can't measure it

After implementation, collect enough data to know whether or not the changes made improved the process. Study outcome, process, and balancing measures. If possible, use data that are already being collected by your institution. While it is critical to have quantitative measures, qualitative data, such as surveys and observations, can also enrich understanding.

For example, your hospital wants to improve early discharge rates in a medical unit.

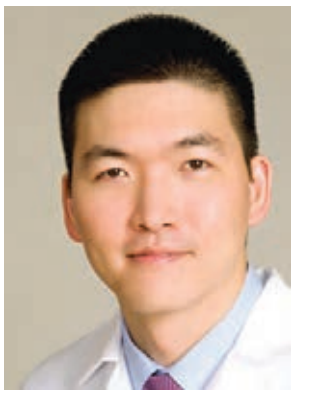
Outcome measure: This is the desired outcome that the project aims to improve. This may be the percentage of discharges before noon (DBN) or the average discharge time.

Process measure: This is a measure of a specific change made to improve the outcome metric. The discharge orders may need to be placed earlier in the electronic medical record to improve DBN. This average discharge order time is an example of a process measure.

Balance measure: This metric evaluates whether the intended outcome is leading to unintended consequences. For example, tracking the readmission rate is an important balance measure that allows you to assess whether improved DBN is associated with rushed discharges and possible unsafe transitions.

Dr. Reyna

Dr. Burger



Dr. Cho

Dr. Reyna is assistant professor in the division of hospital medicine and unit medical director at Mount Sinai Medical Center in New York City. She is a Certified Clinical Microsystems Coach. Dr. Burger is associate professor and associate program director, internal medicine residency, at Mount Sinai Beth Israel. He is on the faculty for the SGIM Annual Meeting Precourse on QI and is head of the high value care committee at the department of medicine at Mount Sinai Beth Israel. Dr. Cho is assistant professor and director of quality and safety in the division of hospital medicine at Mount Sinai. He is a senior fellow at the Lown Institute.

8. Communicate project goals and progress

Progress and changes need to be communicated effectively and repeatedly – do not assume that team members are all on the same page. Celebrate the achievement of intermediate goals and small successes to ensure the engagement and commitment of the team. Feedback and reminders help develop the momentum that is crucial for completing any long-term project.

9. Manage resistance to change

"People responsible for planning and implementing change often forget that, while the first task of change management is to understand the destination and how to get there, the first task of transition management is to convince people to leave home," according to William Bridges

Inertia is powerful. We may consider our continuous performance improvement initiatives as "the next big thing," but others may not share this enthusiasm. We, therefore, need to build a compelling reason for others to become engaged and accept major changes to work flow. Different strategies may be needed, depending on your audience. For some, data and a rational analysis will be persuasive. However, for others an emotional argument will be the most motivating. With this latter group, share personal anecdotes and use patient stories. In addition, let providers know "what's in it for them." Some may have a personal interest in your project or may need QI experience for career advancement. Others might be motivated by scholarship opportunities that may arise from this work.

10. Make the work count twice

Consider QI as a scholarly initiative from the start, so as to bring rigor to the project at all phases. Describe the project in an abstract or manuscript once improvements have been made. Publication is a great way to boost team morale and help make a business case for future improvement work. The Standards for Quality Improvement Reporting Excellence (SQUIRE) guidelines provide an excellent framework for designing and writing up an improvement project for publication.[4] The guidelines focus on why the project was started, what was done, what was found, and what the findings mean.

Driving change is challenging, and it is tempting to jump ahead to "fixing the problem." But, implementing a successful QI project requires intelligent direction, strategic planning, and skillful execution. It is our hope that following the above tips will help you develop the best possible ideas and approach implementation in a systematic way, ultimately leading to meaningful change. TH

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Digging deep brings empathy and sincere communication

By Greg Seymann, MD, SFHM

Editor's note: *"Everything We Say and Do" is an informational series developed by SHM's Patient Experience Committee to provide readers with thoughtful and actionable communication tactics that have great potential to positively impact patients' experience of care. Each article will focus on how the contributor applies one or more of the "key communication" tactics in practice to maintain provider accountability for "everything we say and do that affects our patients' thoughts, feelings, and well-being."*

> Recognizing that the encounter represents a meeting of two people who equally stand to gain from the interaction goes a long way toward strengthening trust.
>
> – Greg Seymann, MD, SFHM

What I say and do

I find a way to connect with my patients to express sincere appreciation.

A recent "Everything We Say and Do" column focused on an important element of high-impact physician-patient communication: closing the encounter by thanking the patient. Evidence suggests that patients feel more valued by their providers when expressions of gratitude are offered. However, it is not always easy to find a genuine and sincere way to incorporate a "thank you" at the end of a visit.

Why I do it

The physician-patient relationship is an inherently hierarchical one. Recognizing that the encounter represents a meeting of two people who equally stand to gain from the interaction goes a long way toward strengthening trust, improving communication, and enhancing the therapeutic effect.

How I do it

I don't mean to imply that this task is easy for me; it's not. I'm an introvert at heart who does not gravitate toward niceties and small talk – I don't feel comfortable saying something if it is not genuine. But with a little effort and introspection, we can channel motivation for a meaningful appreciation of the many things our patients offer. Breaking out of the traditional mindset that the therapeutic relationship is a one-way street, going from the physician to patient as part of a professional duty, is the first step. Opening our eyes to the ways our patients also serve us helps draw the motivation for gratitude.

Many who don't regularly experience serious illness firsthand take good health for granted. I appreciate my patients for reminding me to cherish my own good health. My patients offer me glimpses of hope as I watch them and their families rally through the trials that serious illness brings; in addition, they provide me inspiration and ideas for how I will handle these issues myself someday.

Some in other fields feel unfulfilled with their work as they contemplate their professional legacy. On the contrary, our patients validate our sense of purpose and strengthen our self-worth, as they allow us to participate in one of the noblest endeavors – caring for the sick. The unique insights physicians garner from patients via our intimate access to the private struggles and fears that all humans suffer, but rarely share, should strengthen our empathy for the greater human condition and enhance our own personal relationships.

Recalibrating my perspective makes it easier to harness and express sincere gratitude to patients, and enhances my ability to connect on a deeper level with those I serve. TH

Dr. Seymann is clinical professor and vice chief for academic affairs, UCSD Division of Hospital Medicine.

IDSA/ATS guidelines

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Guideline updates

In 2016, the Infectious Diseases Society of America (IDSA) and the American Thoracic Society (ATS) reconvened after 11 years to update their recommendations for the treatment of HAP and VAP.[2] The decision to update their recommendations was based on the availability of new evidence regarding the diagnosis and treatment of these conditions.

Notably, these new guidelines have completely removed the entity of health care–associated pneumonia (HCAP), as these patients are not necessarily at high risk for resistant organisms, and most will present with their illness directly from the community. This update alone significantly changes the scope of these guidelines. HCAP likely will be addressed in future guidelines for community-acquired pneumonia.

Included in this review are guideline updates on methods for diagnosis, initial antibiotic choice, and duration of therapy. The guidelines also have recommendations for pathogen-specific therapy and the role of inhaled antibiotics and pharmacokinetic optimization of antibiotic dosing, which will not be reviewed here.

Methods for Diagnosis: The use of semiquantitative, noninvasive sampling of respiratory cultures is preferred for HAP and VAP, rather than empiric treatment or quantitative cultures (i.e., bronchoalveolar lavage, protected-specimen brush, and blind bronchial sampling).

Initial antibiotic choice: For HAP and VAP, clinicians should include therapy targeting *Staphylococcus aureus*, *Pseudomonas aeruginosa*, and other gram-negative bacilli. Therapy for methicillin-resistant *S. aureus* should be included if patients are at high risk for death (i.e., septic shock or ventilated patients) or if local drug-resistant prevalence is greater than 10%-20%. Similarly, two antipseudomonal antibiotics should be used with empiric therapy only if the patient is at high risk for mortality or local drug-resistant prevalence is greater than 10%.

Duration of therapy: HAP and VAP should be treated for 7 days with regimens that are tailored to culture data when available, assuming there has been appropriate clinical response. Procalcitonin may be paired with clinical judgment when considering antibiotic discontinuation.

Guideline analysis

There are several notable differences between the 2016 IDSA/ATS guidelines and the 2005 guidelines.[3] The earlier guidelines recommended strong consideration of invasive respiratory cultures such as bronchoalveolar lavage or protected-specimen brush sampling for HAP/VAP. It is now recommended that only noninvasive cultures be performed in most clinical scenarios.

Regarding *Pseudomonas* infections, the previous guidelines recommended consideration of an aminoglycoside combined with a beta-lactam antibiotic. The new guidelines recommend against the use of aminoglycosides because of their poor lung penetration, risk of oto- and nephrotoxicity, and potential clinical inferiority when compared to nonaminoglycoside-containing regimens. In addition, a 14-day course of antibiotics had been recommended for the treatment of pseudomonal pneumonia, which has been changed to 7 days in the most recent guidelines.

Last, the updated guidelines recommend dual therapy for potential or documented *Pseudomonas* infection only for patients at high risk for mortality or in hospitals with a high prevalence of antibiotic resistance; previously, dual-antipseudomonal therapy was recommended for all cases of HAP and VAP, based upon the risk of developing resistant strains with monotherapy.[3]

Since 2005, several organizations have released guidelines addressing the management of HAP and VAP.[1,4,5,6] These are largely in keeping with the current version released by the IDSA/ATS. Across all guidelines, there is a focus on the importance of local antibiograms for appropriate and effective treatment, and the use of noninvasive culture data to guide therapy. Also, all groups recommend a short-course (7-8 days) of antibiotics for both HAP and VAP, assuming there has been an appropriate clinical response. The recent Canadian guidelines have one unique recommendation, which is to avoid the use of ceftazidime for suspected *Pseudomonas* pneumonia, based upon inferior outcomes when compared to alternative regimens.[5]

Takeaways

When considering the diagnosis of HAP and VAP, clinicians should be aware that the category of HCAP has been removed from current guidelines, and methods for microbiological diagnosis have been simplified.[7]

In addition, initial antibiotic selection should rely on institution-specific antibiograms and local resistance patterns when available. Recommended duration of therapy has been shortened, and should not include aminoglycosides.

Finally, antibiotic stewardship is the responsibility of each clinician and de-escalation of therapy for HAP and VAP should be guided by available respiratory cultures. TH

Dr. Hippensteel is a pulmonologist in Aurora, Colo. Dr. Sippel is visiting associate professor of clinical practice, medicine-pulmonary sciences & critical care at the University of Colorado School of Medicine.

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SNEAK PEEK

The Hospital Leader blog

The essentials of QI: It starts with leadership

By Jordan Messler, MD, SFHM

A Conversation with Eric Howell, MD

Quality improvement became a foundational theme for SHM early in the growth of hospitalists. It's not a coincidence that many of our leaders, such as Bob Wachter, Win Whitcomb, Greg Maynard, and Mark Williams are QI leaders as well. As hospitalists, we were and are best positioned to impact quality in the hospital.

Eric Howell, MD, of Johns Hopkins Bayview Medical Center in Baltimore serves as the senior physician adviser for SHM's Center for Quality Improvement, while Jenna Goldstein runs the day-to-day aspects at SHM headquarters. A few months ago, Dr. Howell and I discussed how he started in QI, the role of SHM's Center, and how hospitalists can receive effective QI training. The following Q&A is edited for conciseness and clarity.

You've been a leader in QI for many years; how did you get started in QI?

I trained as an electrical engineer before I went to medical school, which helped me when I went to residency.

When I was a chief at Hopkins Bayview in 1999, there were a number of systems-related issues, including throughput from the emergency department. I became involved with QI because I looked at these systems, thinking they could be better if I used the lens of an engineer. The hospital was very interested in reducing costs, and the physicians, including myself, were interested in making things safer. I was successful because I didn't just focus on QI but on both sides of the value equation. In the early 2000s, I started to do more and more re-engineering and system improvement projects, and I found them very rewarding. As I showed some success, I was asked to do more.

What you are describing is hands-on training, learning by doing. It seems a lot of your QI training was hands on, as opposed to structured coursework. Was there formal training or is getting your hands dirty in a project the best way to start learning QI?

There is no replacement for actually doing it.

My training was in leadership, which is an integral part of QI. It's pretty hard to get people to change for quality if you can't lead them through that change. Initially, I did a lot of work to improve my leadership potential. As faculty, we taught teaching skills, which is a part of leadership. I spent time teaching residents best practices. That's why I became involved early on with SHM's Leadership Academy from its start in 2005. I also read a lot of books and still read often to improve my weaknesses. I have my own physicians go through Lean Six Sigma training and get their green belt or black belt.

That said, there is no substitute for doing it and, as they say, "bruising your knuckles" in QI. TH

Read the full post at hospitalleader.org.

ALSO ON "THE HOSPITAL LEADER" BLOG

POST: From SXSW to SHM: Our Tour to Promote Value Conversations Between Doctors & Patients by Chris Moriates, MD

POST: It's Time for a Buzz Cut by Tracy Cardin, ACNP-NC, SFHM

POST: The Essentials of QI Leadership: A Conversation with Eric Howell, MD, Part 2 by Jordan Messler, MD, SFHM

Journal of Hospital Medicine

Eliciting hospitalized patients' perspectives on breakdowns in care

By Kimberly A. Fisher, MD, MSc, Kelly M. Smith, PhD, Thomas H. Gallagher, MD, Laura Burns, BS, Crystal Morales MS, BSN, RN, Kathleen M. Mazor, EdD

BACKGROUND: There is increasing recognition that patients have critical insights into care experiences, including about breakdowns in care. Harnessing patient perspectives for hospital improvement requires an in-depth understanding of the types of breakdowns patients identify and the impact of these events.

METHODS: We interviewed a broad sample of patients during hospitalization and post discharge to elicit patient perspectives on breakdowns in care. Through an iterative process, we developed a categorization of patient-perceived breakdowns called the Patient Experience Coding Tool.

RESULTS: Of 979 interviewees, 386 (39.4%) believed they had experienced at least one breakdown in care. The most common reported breakdowns involved information exchange (n = 158; 16.1%), medications (n = 120; 12.3%), delays in admission (n = 90; 9.2%), team communication (n = 65; 6.6%), providers' manner (n = 62; 6.3%), and discharge (n = 56; 5.7%).

Of the 386 interviewees who reported a breakdown, 140 (36.3%) perceived associated harm. Patient-perceived harms included physical (e.g., pain), emotional (e.g., distress, worry), damage to relationship with providers, need for additional care or prolonged hospital stay, and life disruption.

We found higher rates of reporting breakdowns among younger (less than 60 years old) patients (45.4% vs. 34.5%; *P* less than .001), those with at least some college education (46.8% vs 32.7%; *P* less than .001), and those with another person (family or friend) present during the interview or interviewed in lieu of the patient (53.4% vs 37.8%; *P* = .002).

CONCLUSIONS: When asked directly, almost 4 out of 10 hospitalized patients reported a breakdown in their care. Patient-perceived breakdowns in care are frequently associated with perceived harm, illustrating the importance of detecting and addressing these events. TH

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Use of postacute facility care in children hospitalized with acute respiratory illness

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A contemporary assessment of mechanical complication rates and trainee perceptions of central venous catheter insertion

AUTHORS: Lauren Heidemann, MD, Niket Nathani, MD, Rommel Sagana, MD, Vineet Chopra, MD, MSc, Michael Heung, MD, MS

NEWS & NOTES

Here's what's trending at SHM

The latest news about upcoming events, new programs, and SHM initiatives.

By Brett Radler

Awards of Excellence nominations now open

➤ SHM's prestigious Awards of Excellence recognize exceptional achievements in the field of hospital medicine. Nominate a colleague (or yourself) for exemplary contributions that deserve acknowledgment and respect in the following categories:

- Excellence in Research
- Management Excellence in Hospital Medicine
- Outstanding Service in Hospital Medicine
- Excellence in Teaching
- Clinical Excellence for Physicians
- Clinical Excellence for Nurse Practitioners and Physician Assistants
- Excellence in Humanitarian Services
- Excellence in Teamwork

Awards of Excellence nominations are due on Oct. 6, 2017. Nominate yourself or a colleague today at hospitalmedicine.org/awards.

Academic Hospitalist Academy

➤ The eighth annual Academic Hospitalist Academy (AHA) is filling up quickly! For the second year in a row, it will be held at the beautiful Lakeway Resort and Spa in Austin, Tex., Sept. 25-28, 2017.

The principal goals of the Academy are to develop junior academic hospitalists as the premier teachers and educational leaders at their institutions, help academic hospitalists develop scholarly work and increase scholarly output, and enhance awareness of the value of quality improvement and patient safety work.

Each full day of learning is facilitated by leading clinician-educators, hospitalist-researchers, and clinical administrators in a 1:10 faculty-to-student ratio. Don't miss out on this unique, hands-on experience. Visit academichospitalist.org to learn more.

Strengthen your skills with our Practice Administrator Mentor Program

➤ New to practice administration? SHM invites you to join the Practice Administrators' Committee Mentor/Mentee Program.

This structured program is geared toward hospitalist administrators seeking to strengthen their knowledge and skills. The program helps you develop relationships and serves as an outlet for you to pose questions to or share ideas with a seasoned administrator. There are two different ways you can participate. If you are a less experienced administrator looking for a mentor, or if you have more experience and are looking to be paired with a peer to learn from each other, you can choose the buddy system.

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Not a member? Join today at hospitalmedicine.org/join.

Distinguish yourself as a Class of 2018 Fellow in Hospital Medicine

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If you applied for early decision on or before Sept. 15, you will receive a response on or before Oct. 27, 2017. The regular decision application will remain open through Nov. 30, with a decision on or before Dec. 31, 2017. Apply now and learn how you can join other hospitalists who have earned this exclusive designation and recognition at hospitalmedicine.org/fellows.

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➤ Did you miss Hospital Medicine 2017? Are you looking to earn both CME credit and MOC points?

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HM17 On Demand is easily accessed through SHM's Learning Portal. Visit shmlearningportal.org/hm17-demand to get your copy.

Mr. Radler is communications specialist at the Society of Hospital Medicine.

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In an effort to improve communication among clinicians and patients, the Cleveland Clinic's Center for Excellence in Healthcare Communication (CEHC) created the Relationship Establishment, Development and Engagement (REDE) model. Vicente J. Velez, MD, FACP, FHM, a hospitalist who serves as the director of faculty enrichment for the leadership team of CEHC, said the model is based on decades of studies on health care communication.

Dr. Velez

"It places a special focus on empathy in relationships, and in our case, the provider-patient relationship rather than patient-centered care. The former acknowledges that the thoughts and feelings in both sides of a relationship are important. We know that clinicians, too, can suffer as a result of the care they provide," Dr. Velez wrote in "Communication the Cleveland Way."[1]

"Healthy relationships are based on balance and mutual respect," Dr Velez said. "Courses made a strong point to practice empathy in order to teach empathy. Clinician participants were gifted with a safe space, an opportunity to share their own

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Key skills for optimal patient communications

Core principles: active listening, body language, empathy

Key communication	Purpose
The introduction: Establish rapport and trust through courtesy, diligence, and explanations	
Knock and acknowledge patient by name	Shows courtesy and verifies identity of patient
Introduce yourself to patient and others in room	Shows respect for friends/family
Solicit patient's preferred name	Shows commitment to patient-centered communication; engages patient
Sit down/be at eye level	Patient sees you are committed to listening carefully
Explain hospitalist role	Patient understands why you are caring for him or her
Explain connection to primary care physician	Assures patient that primary care physician will be kept informed
Inform patient you have reviewed chart/familiar with diagnosis	Shows that you are engaged in the patient's care
Solicit patient/family goals for the visit/day	Shows commitment to patient-centered care
The care: Solidify trust by being present, confirming understanding, and answering questions	
Ask permission to examine patient/share exam findings	Shows courtesy and respect/part of explanation
Clearly explain diagnoses and care plan in plain terms	Patient understands illness and your treatment
Confirm understanding using teach-back method	Allows you to address patient uncertainty and clarify plan
Confirm acceptance and agreement with care plan	Shows commitment to patient-centered care and patient autonomy
Set expectations for tests/results (timing/duration/delays)	Manages expectations regarding test timing and sharing of results
Set expectation for anticipated discharge/next site of care	Patient/family can begin to anticipate progress beyond hospital stay
Ask patient/family about other concerns	Opens door for patient/family to share questions, concerns, confusion
The goodbye: Maintain trust by confirming your availability and intent to return	
Set expectation for return visit	Patient knows when you will return
Use team brochure/business card (if patient is new to you)	Shows confidence in role and comfort with accountability
Accountability statement, such as, "It's important to me that you get great care while you're here"	Patient knows you are concerned about quality of care and are accountable for it
Encourage patient to have nurse call if questions	Patient knows that you are available if he or she needs help
Endorse care team members (team, nurses, consultants, other dept.)	Builds patient confidence in care team, facility
Ask patient/family/nurse what other concerns/needs	Allows patient to voice any other needs

Source: SHM's Patient Experience Committee

Frontline Medical News

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skills and expertise, and a chance to be appreciated for what they already do effectively. Most of all, activities were designed to be fun and engaging." For example, CEHC encouraged and fostered an attitude of exploration, experimentation, and adventure. Various warm-up activities effectively helped the participants enter a more playful space and get into character portrayal.

Dr. Velez credits the CEHC model's sustainability and success to the early realization that an appreciative approach is effective. In a study[3] about the strategy, hospital-employed attending physicians participated in the 8-hour experiential communication skills training course on REDE. The study compared approximately 1,500 "intervention" physicians who attended and 1,900 "nonintervention" physicians who did not attend.

Following the course, scores for physician communication and respect were higher for intervention physicians. Furthermore, physicians showed significant improvement in self-perceptions of empathy and burnout. Some of these gains were sustained for at least 3 months. "This is especially important because in the current health care climate, physicians experience increased burnout," Dr. Velez notes.

How it works

Because a provider's connection with a patient occurs when a relationship is established, the REDE course focuses on the beginning of the conversation. "It's important for clinicians to exhibit value and respect through words and actions when welcoming patients," Dr. Velez said. "Further, instead of guiding the medical interview with a series of close-ended questions like an interrogator would, we invite the use of open-ended questions and setting an agenda for the visit early on, by asking the patient what they wish to discuss."

Another key component is empathy, which plays a huge role in patient satisfaction. "Learning how to express empathy is very important," Dr. Velez said. "A patient may not remember all of the medical details discussed, but human interactions, rapport, expressions of care, support, validation, and acknowledgment of emotions tend to be more indelible."

Dr. Velez notes that decades of literature regarding effective communication have demonstrated improved outcomes. "If trust in a therapeutic relationship is strong, a patient is more likely to follow instructions and have better engagement with their care plan," he said. "If a clinician ensures that the patient understands the diagnosis and recommendations, then compliance will increase, especially if the plan is tailored to the patient's goals and perspective."

One surprising effect of the REDE course was how it improved relationships among professionals. "Many participants have shared that having a day out of one's normal schedule, not only to learn, but also to share their own experiences, is quite therapeutic," Dr. Velez said. "We can extend the same communication strategies to team building, interprofessional interactions, and challenging encounters."

Study focuses on comportment and communication

In an effort to define optimal care in hospital medicine, a team from Johns Hopkins Health System set out to establish a metric that would comprehensively assess hospitalists' comportment (which includes behavior as well as general demeanor) and communication to establish norms and expectations when they saw patients at the bedside.

To perform the study,[4] chiefs of hospital medicine divisions at five independent hospitals located in Baltimore and Washington identified their most clinically excellent hospitalists. Then, an investigator observed each hospitalist during a routine clinical shift and recorded behaviors believed to be associated with excellent behavior and communication using the hospital medicine comportment and communication observation tool (HMCCOT), said Susrutha Kotwal, MD, assistant professor of medicine at Johns Hopkins University School of Medicine, Baltimore, and lead author. The investigators collected basic demographic information while observing hospitalists for an average of 280 minutes; 26 physicians were observed for 181 separate clinical encounters. Each provider's mean HMCCOT score was compared with patient satisfaction surveys such as Press Ganey (PG) scores.

Dr. Kotwal

The most frequently observed behaviors were physicians washing their hands after leaving the patient's room in 170 (94%) of the encounters and smiling (83%), according to the study's results. Behaviors that were observed with the least regularity included using an empathic statement (26% of encounters), and employing teach back (13% of encounters). "Teach back" refers to asking patients what they have learned during their visit. They use their own words to explain what they should know about their health, or what they need to do to get better. A common method of demonstrating interest in the patient as a person, seen in 41% of encounters, involved physicians asking about patients' personal histories and their interests.

Noteworthy is the fact that the distribution of HMCCOT scores were similar when analyzed by age, gender, race, amount of clinical experience, the hospitalist's clinical workload, hospital, or time spent observing the hospitalist. But the distribution of HMCCOT scores was quite different in new patient encounters, compared with follow-ups (68.1% versus 39.7%). Encounters with patients that generated HMCCOT scores above versus below the mean were longer (13 minutes versus 8.7 minutes). The physicians' HMCCOT scores were also associated with their PG scores. These findings suggest that improved bedside communication and comportment with patients might also translate into enhanced patient satisfaction.

As a result of the study, a comportment and communication tool was established and validated by following clinically excellent hospitalists at the bedside. "Even among clinically respected hospitalists, the results reveal that there is wide variability in behaviors and communication practices at the bedside," Dr. Kotwal said.

Employing the tool

Hospitalists can choose whether to perform behaviors in the HMCCOT themselves, while others may wish to watch other hospitalists to give them feedback tied to specific behaviors. "These simple behaviors are intimately linked to excellent communication and comportment, which can serve as the foundation for delivering patient-centered care," Dr. Kotwal said.

A positive correlation was found between spending more time with patients and higher HMCCOT scores. "Patients'

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Clinicians wary of course's worthiness

Before clinicians took Cleveland Clinic's Relationship Establishment, Development, and Engagement (REDE) course, only 20% strongly agreed that the course would be valuable, whereas afterward 58% strongly agreed that it was indeed valuable. Less than 1% said it wasn't valuable.[4] "Most likely clinicians had a preconceived notion about how communication courses go, but they were probably surprised at how much these sessions were equally about them as providers as they were about caring for patients," said Vicente J. Velez, MD, FACP, FHM, a hospitalist who serves as the director of faculty enrichment for the leadership team of CEHC. "This is the power of relationship-centered care, and also why I think the model has been sustainable."

Physicians also reported that, before taking the course, they had moderate levels of burnout and low levels of empathy. After taking it, burnout metrics (i.e., emotional exhaustion, depersonalization, and personal achievement) and empathy improved significantly. "I observed that most are surprised to find out that empathy is a discrete set of skills that can be learned, practiced, observed, measured, and improved upon," Dr. Velez said. "If taught in a safe and validating environment and if principles of adult learning are followed, improvement can be optimized and sustained."

Since the REDE course rolled out in 2012, all attending physicians and medical staff members have been trained in it.

New telehealth legislation would provide for testing, expansion

A bipartisan bill introduced in the U.S. Senate in late March 2017 would authorize the Center for Medicare & Medicaid Innovation (CMMI) to test expanded telehealth services provided to Medicare beneficiaries.

The Telehealth Innovation and Improvement Act (S.787), currently in the Senate Finance Committee, was introduced by Sen. Gary Peters (D-Mich.) and Sen. Cory Gardner (R-Colo.). A similar bill they introduced in 2015 was never enacted.

However, there are physicians hoping to see this bill or others like it granted consideration. Currently, the Centers for Medicare & Medicaid Services reimburses for certain telemedicine services provided only in rural or underserved geographic areas, but the new bill would apply in suburban and urban areas as well, based on pilot testing of models and evaluating them for cost, quality, and effectiveness. Successful models would be covered by Medicare.

"Medicare has made some provisions for specific rural sites and niche areas, but writ large, there's no prescribed way for people to just open a telemedicine shop and begin to bill," said Bradley Flansbaum, DO, MPH, MHM, a member of the SHM Public Policy Committee.

With the exception of telestroke and critical care, "evidence is needed for the type of setting and type of clinical problems addressed by telemedicine. It's not been tested enough," added Dr. Flansbaum, who holds a dual appointment in hospital medicine and population health at Geisinger Medical Center in Danville, Pa. "How does it work for routine inpatient problems and how do hospitalists use it? We haven't seen data there and that's where a pilot comes in."

Talbot McCormick, MD, or "Dr. Mac," is a hospitalist and CEO of Eagle Telemedicine in Atlanta, a physician group whose employees provide a variety of telehealth services to hospitals around the country, from 5-bed critical access facilities to larger, urban hospitals with 300-400 beds. At present, the company contracts with hospitals and compensates its physicians based on their level of experience, availability, hours worked, and the services they provide each hospital. Eagle's business model relies on the additional value it provides hospitals that may not be able to staff certain specialties or keep hospitalists on at night.

Dr. Mac believes it inconsistent that, in many circumstances, physicians providing services via telemedicine technology are not reimbursed by Medicare and other payers.

"The expansion and ability to provide care in more unique ways – more specialties and in more environments – has expanded more quickly than the systems of reimbursement for professional fees have and it really is a bit of a hodgepodge now," he said. "We certainly are pleased that this is getting attention and that we have leaders pushing for this in Congress. We don't know for sure how the final legislation (on this bill) may look but hopefully there will be some form of this that will come to fruition."

"We see things from coronary artery disease, COPD [chronic obstructive pulmonary disease] exacerbations, and diabetes-related conditions to drug overdoses and alcohol abuse."

– Jayne Lee, MD

Whether telemedicine can reduce costs while improving outcomes, or improve outcomes without increasing costs, remains unsettled. A study published in Health Affairs in March 2017 indicates that, while telehealth can improve access to care, it results in greater utilization, thereby increasing costs.[1]

The study relied on claims data for more than 300,000 patients in the California Public Employees' Retirement System during 2011-2013. It looked at utilization of direct-to-consumer telehealth and spending for acute respiratory illness, one of the most common reasons patients seek telehealth services. While, per episode, telehealth visits cost 50% less than did an outpatient visit and less than 5% of an emergency department visit, annual spending per individual for acute respiratory illness went up $45 because, as the authors estimated, 88% of direct-to-consumer telehealth visits represented new utilization.

Whether this would be the case for hospitalist patients remains to be tested.

"It gets back to whether or not you're adding a necessary service or substituting a less expensive one for a more expensive one," said Dr. Flansbaum. "Are physicians providing a needed service or adding unnecessary visits to the system?"

Jayne Lee, MD, has been a hospitalist with Eagle for nearly a decade. Before making the transition from an in-hospital physician to one treating patients from behind a robot – with assistance at the point of service from a nurse – she was working 10 shifts in a row at her home in the United States before traveling to her home in Paris. Dr. Mac offered her the opportunity to practice full time as a telehospitalist from overseas. Today, she is also the company's chief medical officer and estimates she's had more than 7,000 patient encounters using telemedicine technology.

"I was skeptical at first," she said, "but the more I worked in telemedicine, the more I liked it, and I found that working remotely was pretty similar to working on the ground. The physical exam is different, but given technology, we have easily been able to listen to the heart and lungs as easily as at the bedside."

Dr. Lee is licensed in multiple states – a barrier that plagues many would-be telehealth providers, but which Eagle has solved with its licensing and credentialing staff – and because she is often providing services at night to urban and rural areas, she sees a broad range of patients.

"We see things from coronary artery disease, COPD [chronic obstructive pulmonary disease] exacerbations, and diabetes-related conditions to drug overdoses and alcohol abuse," she said. "I enjoy seeing the variety of patients I encounter every night."

Dr. Lee has to navigate each health system's electronic medical records and triage systems but, she says, patient care has remained the same. And she's providing services for hospitals that may not have another hospitalist to assign.

"Our practices keep growing, a sign that hospitals are needing our services now more than ever, given that there is a physician shortage and given the financial constraints we're seeing in the healthcare system." she said. TH

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complaints about doctors often relate to feeling rushed, that their physicians did not listen to them, or that they did not convey information in a clear manner," Dr. Kotwal said. "When successfully achieved, patient-centered communication has been associated with improved clinical outcomes, including adherence to recommended treatment and better self-management of chronic disease. Many of the components of the HMCCOT described in our study are at the heart of patient-centered care."

Dr. Kotwal believes HMCCOT is a better strategy to improve patient satisfaction than patient satisfaction surveys because patients can't always recall which specific provider saw them. In addition, patients' recall about the provider may be poor because surveys are sent to patients days after they return home. In addition, patients' recovery and health outcomes are likely to influence their assessment of the doctor. Finally, feedback is known to be most valuable and transformative when it is specific and given in real time. Therefore, a tool that is able to provide feedback at the encounter level should be more helpful than a tool that offers assessment at the level of the admission, particularly when it can be also delivered immediately after the data are collected.[5]

The study authors conclude that "Future studies are necessary to determine whether hospitalists of all levels of experience and clinical skill can improve when given data and feedback using the HMCCOT. Larger studies are then needed to assess whether enhancing comportment and communication can truly improve patient satisfaction and clinical outcomes in the hospital. Because hospitalists spend only a small proportion of their clinical time in direct patient care, it is imperative that excellent comportment and communication be established as a goal for every encounter."

The effectiveness of care team rounds at the bedside

Investigators at the UMass Memorial Medical Center in Worcester studied the effectiveness of assembling the entire care team (i.e., physicians, including residents and attendings, nursing, and clinical pharmacy) to round at the patient's bedside each morning – in lieu of its traditionally separate rounding strategies – on one unit of its academic hospitalist service for an internal quality program, said Patricia Seymour, MD, FHM, FAAFP, assistant professor and family medicine hospitalist education director.

Additionally, academic presentations and discussions were all done in front of patients and their families (with a few exceptions) rather than traditional hallway rounds or sit rounds. Over the course of the project, the hospital also offered residents training around physician behaviors that improve patient satisfaction; provided incentives for nurses and residents to work as a team; and created a welcome visit template for the nursing manager and instruments for patients to enhance engagement. Through

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all of these cycles, the collaborative rounding strategy continued.

Because Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey scores yielded low response rates for the singular test unit and service, the investigators used a validated patient satisfaction instrument and surveyed patients from the intervention group and patients on the same unit who did not experience this collaborative rounding on their day of discharge. The intervention group had higher satisfaction scores at most of the time points. The unit-based HCAHPS scores (not just study patients) improved during this time period.

"We think the strategy of collaborative rounding yielded positive results for obvious reasons – the entire team was on the same page and the information given to the patient was consistent," said Dr. Seymour, who notes that the study's findings weren't published and the project was completed for an internal quality program. "Doctors had an increased understanding about nursing concerns and the nursing staff expressed improved understanding of patients' care plans."

Certainly, face time with the patient was extended because much of the academic discussion occurred at the bedside instead of at another physical location without patient awareness, Dr. Seymour said. She believes the strategy boosted patient satisfaction because it was patient centered. "While this rounding strategy is not the most convenient rounding strategy for nurses or doctors, it consolidates the discussion about the patient's clinical condition and the plan for the day. The patient experiences a strong sense of being cared for by a unified team and receives consistent messaging," she said.

Also noteworthy is that job satisfaction for residents and nurses improved on the unit over the study time period because of the expected collaboration that was built into the work flow.

Although the facility is no longer using this communication strategy to the same degree, teaching attendings have seen the value of true bedside rounding and continue to teach this skill to learners. "We have had some challenges with geographic cohorting at our institution, which is essential for this type of team-based strategy," Dr. Seymour said. "Sustainability requires constant encouragement, oversight, and auditing from team leaders which is also challenging and fluctuates with competing demands."

The results of this study, and others, show that employing tools to improve communication can also result in improved patient satisfaction and experience. TH

Ms. Appold is a medical writer in Pennsylvania.

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Why empathy is preferred over patient-centered care

The Cleveland Clinic intentionally puts a focus on relationship-centered care.

"When there's an emphasis on patient-centered care, some physicians have a hard time figuring out what to do when the patient wants something that the physician doesn't feel is appropriate," said Katie Neuendorf, MD, director for the Center for Excellence in Healthcare Communication. "Patient-centered care implies that the patient is always right and that their opinion should win out over the physician's opinion. In that same scenario, relationship-centered care implies that the relationship should be prioritized, even when there's disagreement in the plan of care. I can tell my patients that I hear what they are saying, that I empathize with their struggles, that I care about the way the illness is affecting their lives, and that I am here to support them. I can do all of that and still not prescribe a treatment that I feel is inappropriate just because it happens to be what the patient wants."

Dr. Neuendorf

The development of a relationship between the patient and the physician has benefits for the physician, such as decreased rates of burnout, as well as better health outcomes for the patient, according to the results of several studies.[3,5] Given these benefits, in 2014, two physicians advocated for a Quadruple Aim to replace the standard Triple Aim.[6]

"The Quadruple Aim recognizes that improving health care providers' work life is imperative in keeping health care functioning," Dr. Neuendorf said.

The Cleveland Clinic's Relationship Establishment, Development and Engagement (REDE) course helps clinicians to see the individual that exists beyond a diagnosis. "Having empathy, or putting yourself in the other person's shoes, is a key step in that process," Dr. Neuendorf said. "Once a physician understands the patient's perspective, the treatment for the diagnosis is more meaningful to both the patient and physician. Finding meaning in their work addresses the Quadruple Aim."

KEY CLINICAL QUESTION

How to manage submassive pulmonary embolism

When to consider thrombolysis and inferior vena cava filter placement

By Elizabeth Wenqian Wang, MD, FACP, Deepak Vedamurthy, MD, and Haiyun Wang, MD

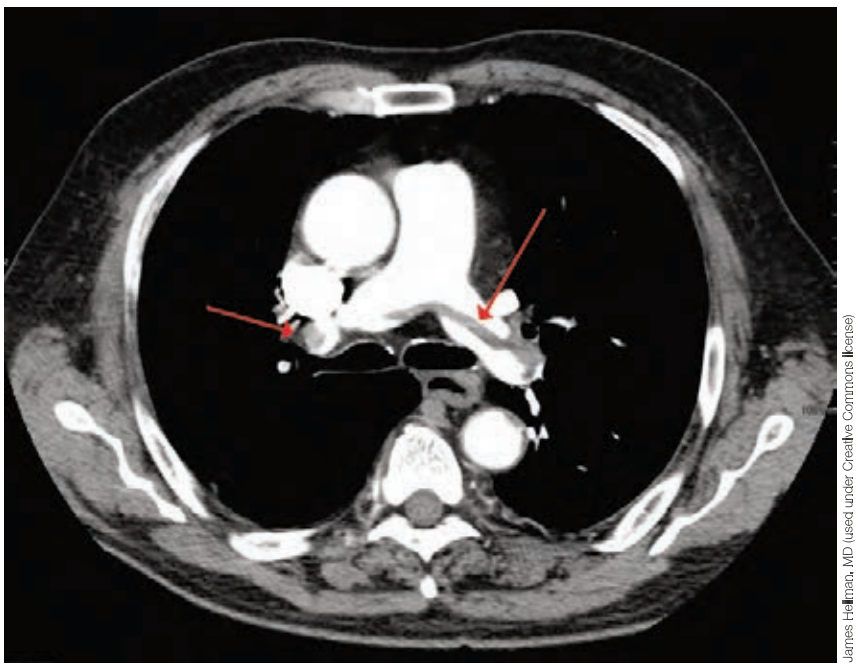
KEY POINTS

- Use pulmonary angiographic data, clinical stability, and analysis of other comorbid conditions to decide the best treatment modality.
- Our team prefers ultrasound-enhanced thrombolysis (EKOS) for submassive PE patients, massive PE patients, and as a rescue procedure for patients who fail systemic thrombolysis.
- Establishing multidisciplinary teams composed of interventional radiologists, intensivists, cardiologists, and vascular surgeons is prudent to make individualized decisions.
- It may be appropriate to place an IVC filter as an adjunct to anticoagulation in patients with severe PE.

The case

A 49-year-old morbidly obese woman presented to the emergency department with shortness of breath and abdominal distention. On presentation, her blood pressure was 100/60 mm Hg with a heart rate of 110, respiratory rate of 24, and a pulse oximetric saturation (SpO_2) of 86% on room air. Troponin T was elevated at 0.3 ng/mL. Computed tomography (CT) of the chest with intravenous contrast showed saddle pulmonary embolism (PE) with dilated right ventricle (RV). CT abdomen/pelvis revealed a very large uterine mass with diffuse lymphadenopathy.

Heparin infusion was started promptly. Echocardiogram demonstrated RV strain. Findings on duplex ultrasound of the lower extremities were consistent with acute deep vein thromboses (DVT) involving the left common femoral vein and the right popliteal vein. Biopsy of a supraclavicular lymph node showed high-grade undifferentiated carcinoma most likely of uterine origin.



James Heilman, MD (used under Creative Commons license)

A large pulmonary embolism at the bifurcation of the pulmonary artery (saddle embolism).

Clinical questions

What, if any, therapeutic options should be considered beyond standard systemic anticoagulation? Is there a role for:

1. Systemic thrombolysis?
2. Catheter-directed thrombolysis (CDT)?
3. Inferior vena cava (IVC) filter placement?

What is the appropriate management of "submassive" PE?

In the case of massive PE, where the thrombus is located in the central pulmonary vasculature and associated with hypotension due to impaired cardiac output, systemic thrombolysis, embolectomy, and CDT are indicated as potentially lifesaving measures. However, the evidence is less clear when the PE is large and has led to RV strain, but without overt hemodynamic instability. This is commonly known as an intermediate risk or "submassive" PE. Submassive PE based on American Heart Association (AHA) guidelines is[1]:

An acute PE without systemic hypotension (systolic blood pressure less than 90 mm Hg) but with either RV dysfunction or myocardial necrosis. RV dysfunction is defined by the presence of at least one of these following:

- RV dilation (apical 4-chamber RV diameter divided by LV diameter greater than 0.9) or RV systolic dysfunction on echocardiography;
- RV dilation on CT, elevation of BNP (greater than 90 pg/mL), elevation of N-terminal pro-BNP (greater than 500 pg/mL);
- Electrocardiographic changes (new complete or incomplete right bundle branch block, anteroseptal ST elevation or depression, or anteroseptal T-wave inversion).

Myocardial necrosis is defined as elevated troponin I (greater than 0.4 ng/mL) or elevated troponin T (greater than 0.1 ng/mL).

Why is submassive PE of clinical significance?

In 1999, analysis of the International Cooperative Pulmonary Embolism Registry (ICOPER) revealed that RV dysfunction in PE patients was associated with a near doubling of the 3-month mortality risk (hazard ratio, 2.0; 95% confidence interval, 1.3-2.9).[2] Given this increased risk, one could draw the logical conclusion that we need to treat submassive PE more aggressively than PE without RV strain. But will this necessarily result in a better outcome for the patient given the 3% risk of intracranial hemorrhage associated with thrombolytic therapy?

In the clinical scenario above, the patient did meet the definition of submassive PE. While the patient did not experience systemic hypotension, she did have RV dilation on CT and RV systolic dysfunction on echo, as well as an elevated troponin T level. In addition to starting anticoagulant therapy, what more should be done to increase her probability of a good outcome?

The AHA recommends that systemic thrombolysis and CDT be considered for patients with acute submassive PE if they have clinical evidence of adverse prognosis, including worsening respiratory failure, severe RV dysfunction, or major myocardial necrosis and low risk of bleeding complications (Class IIB; Level of Evidence C).[1]

The 2016 American College of Chest Physicians (CHEST) guidelines update[3] recommends systemically administered thrombolytic therapy over no therapy in selected patients with acute PE who deteriorate after starting anticoagulant therapy but have yet to develop hypotension and who have a low bleeding risk (Grade 2C recommendation).

Systemic thrombolysis

Systemic thrombolysis is administered as an intravenous thrombolytic infusion delivered over a period of time. The Food and Drug Administration–approved thrombolytic drugs currently include tissue plasminogen activator (tPA)/alteplase, streptokinase, and urokinase.

In the 2002 randomized, double-blind Pulmonary Embolism-3 Trial,[4] Konstantinides and colleagues compared heparin plus tPA versus heparin plus placebo in 256 patients with submassive PE. The primary clinical endpoint of death or in-hospital escalation of care was 11.0% in the tPA group versus 24.6% in the placebo group ($P = .006$); the difference was driven largely by the escalation of care, defined as use of vasopressors, rescue thrombolysis, mechanical

ventilation, cardiac arrest, and requirement of surgical embolectomy. Perhaps surprisingly, there were no cases of hemorrhagic stroke in either of these groups. The trial demonstrated that systemic thrombolysis in submassive PE was associated with a lower risk of death and treatment escalation.

Efficacy of low-dose thrombolysis was studied in MOPETT 2013,[5] a single-center, prospective, randomized, open-label study, in which 126 participants found to have submassive PE based on symptoms and CT angiographic or ventilation/perfusion scan data received either 50 mg tPA plus heparin or heparin anticoagulation alone. The composite endpoint of pulmonary hypertension and recurrent PE at 28 months was 16% in the tPA group compared to 63% in the control group (*P* less than .001). Systemic thrombolysis was associated with lower risk of pulmonary hypertension and recurrent PE, although no mortality benefit was seen in this small study.

In the randomized, double-blind PEITHO trial (n = 1,006) of 2014[6] comparing tenecteplase plus heparin versus heparin in the submassive PE patients, the primary outcomes of death and hemodynamic decompensation occurred in 2.6% of the tenecteplase group, compared to 5.6% in the placebo group (*P* = .02). Thrombolytic therapy was associated with 2% rate of hemorrhagic stroke, whereas hemorrhagic stroke in the placebo group was 0.2% (*P* = .03). In this case, systemic thrombolysis was associated with a 3% lower risk of death and hemodynamic instability, but also a 1.8% increased risk of hemorrhagic stroke.

Catheter-directed thrombolysis

CDT was originally developed to treat arterial, dialysis graft and deep vein thromboses, but is now approved by the FDA for the treatment of acute submassive or massive PE.

A wire is passed through the embolus and a multihole infusion catheter is placed, through which a thrombolytic drug is infused over 12-24 hours. The direct delivery of the drug into the thrombus is thought to be as effective as systemic therapy but with a lower risk of bleeding. If more rapid thrombus removal is indicated because of large clot burden and hemodynamic instability, mechanical therapies, such as fragmentation and aspiration, can be used as an adjunct to CDT. However, these mechanical techniques carry the risk of pulmonary artery injury, and therefore should be used only as a last resort. An ultrasound-emitting wire can be added to the multihole infusion catheter to expedite thrombolysis by ultrasonically disrupting the thrombus, a technique known as ultrasound-enhanced thrombolysis (EKOS).[7,8]

The ULTIMA 2014 trial,[9] a small, randomized, open-label study of Ultrasound-Assisted Catheter Directed Thrombolysis (USAT, the term can be used interchangeably with EKOS) versus heparin anticoagulation alone in 59 patients, was designed to study if the former strategy was better at improving the primary outcome measure of RV/LV ratio in submassive PE patients. The mean reduction in RV/LV ratio was 0.30 +/– 0.20 in the USAT group compared to 0.03 +/– 0.16 in the heparin group (*P* less than .001). However, no significant difference in mortality or bleeding was observed in the groups at 90-day follow-up.

The PERFECT 2015 Trial,[10] a multicenter registry-based study, prospectively enrolled 101 patients who received CDT as first-line therapy for massive and submassive PE. Among patients with submassive PE, 97.3% were found to have "clinical success" with this treatment, defined as stabilization of hemodynamics, improvement in pulmonary hypertension and right heart strain, and survival to hospital discharge. There was no major bleeding or intracranial hemorrhage. Subgroup analyses in this study comparing USAT against standard CDT did not reveal significant difference in average pulmonary pressure changes, average thrombolytic doses, or average infusion times.

A prospective single-arm multicenter trial, SEATTLE II 2015,[8] evaluated the efficacy of EKOS in a sample of 159 patients. Patients with both massive and submassive PE received approximately 24 mg tPA infused via a catheter over 12-24 hours. The primary efficacy outcome was the chest CT–measured RV/LV ratio decrease from the baseline compared to 48 hours post procedure. The pre- and postprocedure ratio was 1.55 versus 1.13, respectively (*P* less than .001), indicating that EKOS decreased RV dilation. No intracranial hemorrhage was observed and the investigators did not comment on long-term outcomes such as mortality or quality of life. The study was limited by the lack of a comparison group, such as anticoagulation with heparin as monotherapy, or systemic thrombolysis or standard CDT.

Treatment of submassive PE varies between different institutions. There simply are not adequate data comparing low-dose systemic thrombolysis, CDT, EKOS, and standard heparin anticoagulation to make firm recommendations. Some investigators feel low-dose systemic thrombolysis is probably as good as the expensive catheter-based thrombolytic therapies.[11,12] Low-dose thrombolytic therapy can be followed by use of oral direct factor Xa inhibitors for maintenance of antithrombotic activity.[13]

Bottom line

In our institution, the interventional radiology team screens patients who meet criteria for submassive PE on a case-by-case basis. We use pulmonary angiographic data (nature and extent of the thrombus), clinical stability, and analysis of other comorbid conditions to decide the best treatment modality for an individual patient. Our team prefers EKOS for submassive PE patients as well as for massive PE patients and as a rescue procedure for patients who have failed systemic thrombolysis.

Until more data are available to support firm guidelines, we feel establishing multidisciplinary teams composed of interventional radiologists, intensivists, cardiologists, and vascular surgeons is prudent to make individualized decisions and to achieve the best outcomes for our patients.[14]

IVC filter

Since the patient in this case already has a submassive PE, can she tolerate additional clot burden should her remaining DVT embolize again? Is there a role for IVC filter?

The implantation of IVC filters has increased significantly in the past 30 years, without quality evidence justifying their use.[15]

The 2016 Antithrombotic Therapy for VTE Disease: CHEST Guideline and Expert Panel Report states clearly: In patients with acute DVT of the leg or PE who are treated with anticoagulants, the use of an IVC filter is not recommended (Grade 1B).[3] This recommendation is based on findings of the Prevention du Risque d'Embolie Pulmonaire par Interruption Cave (PREPIC) randomized trial,[16] and the recently published PREPIC 2 randomized trial,[17] both showing that, in anticoagulated patients with PE and DVT, concurrent placement of an IVC filter for 3 months did not reduce recurrent PE, including fatal PE.

CHEST guidelines state that an IVC filter should not be routinely placed as an adjunct in patients with PE and DVT. However, what about in the subgroup of patients with submassive or massive PE in whom another PE would be catastrophic? Clinical data are lacking in this area.

Deshpande et al. reported on a series of six patients with massive PE and cardiopulmonary instability; patients all received an IVC filter with anticoagulation. The short-term outcome was excellent, but long-term follow-up was not done.[18] Kucher and colleagues reported that from the ICOPER in 2006, out of the 108 massive PE patients with systolic arterial pressure under 90 mm Hg, 11 patients received adjunctive IVC filter placement. None of these 11 patients developed recurrent PE in 90 days and 10 of them survived at least 90 days; IVC filter placement was associated with a reduction in 90-day mortality. In this study, the placement of an IVC filter was entirely decided by the physicians at different sites.[19] In a 2012 study examining case fatality rates in 3,770 patients with acute PE who received pulmonary embolectomy, the data showed that, in both unstable and stable patients, case fatality rates were lower in those who received an IVC filter.[20]

Although the above data are favorable for adjunctive IVC filter placement in massive PE patients, at least in short-term outcomes, the small size and lack of randomization preclude establishment of evidence-based guidelines. The 2016 CHEST guidelines point out that as it is uncertain if there is benefit to place an IVC filter adjunctively in anticoagulated patients with severe PE, in this specific subgroup of patients, the recommendation against insertion of an IVC filter in patients with acute PE who are anticoagulated may not apply.[3]

Bottom line

There is no evidence-based guideline as to whether IVC filters should be placed adjunctively in patients with submassive or massive PE; however, based on expert

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IN THE LITERATURE

Physician reviews of HM-centric research

By Alan Hall, MD; Adam Gray, MD; Prerna Dogra, MD; Rebecca Helfrich, MD; Saurav Suman, MD, MPH; James A. Troy, MD, MHS; Joseph R. Sweigart, MD, FACP

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IN THIS ISSUE

By Alan Hall, MD

1 Epidemiology of meningitis and encephalitis in the United States

CLINICAL QUESTION: What is the epidemiology of meningitis and encephalitis in adults in the United States?

BACKGROUND: Previous epidemiologic studies have been smaller with less clinical information available and without steroid usage rates.

STUDY DESIGN: A retrospective database review.

SETTING: The Premier HealthCare Database, including hospitals of all types and sizes.

SYNOPSIS: Of patients aged 18 or older, 26,429 were included with a primary or secondary discharge diagnosis of meningitis or encephalitis from 2011 to 2014. Enterovirus was the most common infectious cause (51%), followed by unknown etiology (19%), bacterial (14%), herpetic (8%), fungal (3%), and arboviruses (1%). Of patients, 4.2% had HIV.

Steroids were given on the first day of antibiotics in 25.9%. The only statistical mortality benefit was found with steroid use in pneumococcal meningitis (6.7% vs. 12.5%; $P = .0245$), with a trend toward increased mortality for steroids in fungal meningitis.

Of patients, 87.2% were admitted through the ED, though 22.5% of lumbar punctures were done after admission and 77.4% were discharged home.

BOTTOM LINE: Enterovirus was the most common cause of adult meningoencephalitis, and patients with pneumococcal meningitis who received steroids had decreased mortality.

CITATION: Hasbun R, Ning R, Balada-Llasat JM, Chung J, Duff S, Bozzette S, et al. Meningitis and encephalitis in the United States from 2011-2014. Published online, Apr 17, 2017. *Clin Infect Dis.* 2017. doi: 10.1093/cid/cix319.

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By Adam Gray, MD

2 Even short-term steroids can be problematic

CLINICAL QUESTION: What is the frequency of short-term corticosteroid prescriptions and adverse events associated with their use?

BACKGROUND: Long-term corticosteroid use is usually avoided given risks of complications. Less is known about the risk and frequency of short-term corticosteroid use.

STUDY DESIGN: Retrospective cohort study and self-controlled case series.

SETTING: National U.S. dataset of private insurance claims.

SYNOPSIS: Data from 1,548,945 adults (aged 18-64 years) showed that 21.1% of adults received a prescription for short-term corticosteroids. Within 30 days of filling corticosteroids, incident rate ratios (IRR) were increased for sepsis (5.3; 95% confidence interval, 3.8-7.4), venous thromboembolism (3.3; 95% CI, 2.78-3.99), and fracture (1.87; 95% CI, 1.69-2.07).

Short-term corticosteroids were frequently prescribed for indications with little evidence of benefit, such as upper respiratory conditions, spinal conditions, and allergies. For these conditions, patients should be educated about the risks of short-term corticosteroid use and alternative treatments should be considered. This study only evaluated for these three adverse reactions and excluded the elderly, so these findings likely underestimate the adverse effects of short-term corticosteroids.

BOTTOM LINE: Corticosteroids are frequently prescribed for short courses and were associated with increased rates of sepsis, venous thromboembolism, and fracture.

CITATION: Waljee AK, Rogers MA, Lin P, et al. Short term use of oral corticosteroids and related harms among adults in the United States: Population based cohort study. BMJ. 2017;357:j1415.

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consensus, it may be appropriate to place an IVC filter as an adjunct to anticoagulation in patients with severe PE. The decision should be individualized based on each patient's characteristics, preferences, and institutional expertise.

In our case, in hope of preventing further embolic burden, the patient received an IVC filter the day after presentation. Despite the initiation of anticoagulation with heparin, she remained tachycardic and tachypneic, prompting referral for CDT. The interventional radiology team did not feel that she was a good candidate, given her persistent vaginal bleeding and widely metastatic uterine carcinoma. She was switched to therapeutic enoxaparin after no further invasive intervention was deemed appropriate. Her respiratory status did not improve and bilevel positive airway pressure was initiated. Taking into consideration the terminal nature of her cancer, she ultimately elected to pursue comfort care and died shortly afterward.

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By Prerna Dogra, MD

3 Rapid AMI rule out

CLINICAL QUESTION: Can a single high-sensitivity cardiac troponin-T (hs-cTnT) reliably rule-out acute myocardial infarction (AMI) to safely enable earlier discharge?

BACKGROUND: Current practice includes serial measures of hs-cTnT to rule out AMI.

STUDY DESIGN: A meta-analysis of 11 prospective cohorts at various international locations

SETTING: Patients presenting to emergency departments with chest pain.

SYNOPSIS: Of 9,241, a total of 2,825 patients were classified as low risk with a single negative hs-cTnT and nonischemic EKG. The primary outcome was AMI during initial hospitalization. Of low-risk patients, 14 (0.5%) had AMI. Pooled estimated sensitivity was 98.7% and pooled negative predictive value was 99.3%. For the secondary outcome of 30-day major adverse cardiac events, pooled sensitivity was 98%. Limitations include a small number of studies, high statistical heterogeneity, variation in troponin assays, and variable prevalence of AMI across studies.

BOTTOM LINE: A single negative hs-cTnT and nonischemic EKG after 3 hours of chest pain can reliably rule out AMI. Further research is, however, required to validate the unequivocal use of this early rule-out strategy.

CITATION: Pickering J, Than M, Cullen L, et al. Rapid rule-out of acute myocardial infarction with a single high-sensitivity cardiac troponin T measurement below the limit of detection: A collaborative meta-analysis. Ann Intern Med. 2017 May 16;166(10):715-24.

Dr. Dogra is clinical instructor of medicine in the University of Kentucky division of hospital medicine.

By Rebecca Helfrich, MD

4 Simplified HOSPITAL score predicts 30-day readmissions

CLINICAL QUESTION: Will a simplified HOSPITAL score accurately predict 30-day readmissions?

BACKGROUND: Hospital readmissions stress patients and health care systems. Interventions to prevent avoidable readmissions are complex and expensive. The HOSPITAL score predicts 30-day readmissions which may help direct resources toward high-risk patients.

STUDY DESIGN: A retrospective study.

SETTING: Nine hospitals in four countries.

SYNOPSIS: The HOSPITAL score was simplified by removing the procedure variable, expanding the oncology criteria to include a diagnosis of cancer, and dividing patients into high- and low-risk groups. The simplified HOSPITAL score was used to predict avoidable readmissions of 117,065 patients from nine hospitals. Readmission rates predicted by the simplified HOSPITAL score matched observed outcomes with a sensitivity of 94% and specificity of 73%. Its discriminatory power was comparable with the original HOSPITAL score.

This was a robust study of medical patients but may not be generalizable to surgical patients. The score does not include patients' socioeconomic status or support systems. It also cannot indicate what type of intervention may prevent readmissions.

BOTTOM LINE: The simplified HOSPITAL score accurately predicts avoidable 30-day readmission rates.

CITATION: Aubert CE, Schnipper JL, Williams MV, et al. Simplification of the HOSPITAL score for predicting 30-day readmissions. *BMJ Qual Saf.* Published online first. 17 Apr 2017. doi: 10.1136/bmjqs-2016-006239.

CONTINUED ON PAGE 25

SHORT TAKES

Hospitalized-patient one-year mortality risk (HOMR) score an excellent prognostic tool

The HOMR score, derived from administrative data, accurately predicts mortality. This study derived the score from medical records which providers can access and found it still accurately determines 1-year mortality.

CITATION: Casey G, van Walraven C. Prognosticating with the hospitalized-patient one-year mortality risk score using information abstracted from the medical record. J Hosp Med. 2017 April;12(4):224-30.

New drug for *C. difficile* recurrence

Bezlotoxumab is now approved to reduce recurrence of *Clostridium difficile*. This is an injectable human monoclonal antibody to *C. difficile* toxin and must be used in conjunction with antibiotics.

CITATION: U.S. Food and Drug Administration. Drug Label. Available online at https://www.accessdata.fda.gov/drugsatfda_docs/label/2016/761046s000lbl.pdf. Accessed 7 May 2017.

The Hospitalist

CONTINUED FROM PAGE 23

5 HERDOO2 may guide duration of treatment for unprovoked VTE

CLINICAL QUESTION: Can HERDOO2 guide anticoagulation cessation in women with unprovoked venous thromboembolism (VTE)?

BACKGROUND: Patients with unprovoked VTE have increased recurrence rates after stopping anticoagulation, but no tools have been validated to identify low-risk patients.

STUDY DESIGN: A prospective cohort study.

SETTING: A selection of 44 referral centers in seven countries.

SYNOPSIS: Of patients with unprovoked, symptomatic VTE, 2,747 were evaluated after receiving anticoagulation for 5-12 months. HERDOO2 was used to classify women as low (0-1 points) or high (equal to or greater than 2 points) risk categories. Men were considered high-risk. Anticoagulation was stopped for low-risk patients. Treatment of high-risk patients was left to physician choice.

Overall, high-risk patients who continued anticoagulation had a 1.6% recurrence rate. Low-risk women who stopped anticoagulation had a 3% recurrence rate per patient year, but postmenopausal women aged 50 years or older had a rate of 5.7%. High-risk patients who stopped anticoagulation had a 7.4% recurrence rate. This study included multiple sites, but only 44% of participants were women. HERDOO2 should be used cautiously in postmenopausal women aged 50 years or older and in nonwhite women.

BOTTOM LINE: HERDOO2 may help guide the decision to stop anticoagulation in select low-risk women with unprovoked VTE.

CITATION: Rodger MA, Gregoire LG, Anderson DR, et al. Validating the HERDOO2 rule to guide treatment duration for women with unprovoked venous thrombosis: Multinational prospective cohort management study. BMJ. 2017 March;356:j1065.

Dr. Helfrich is an assistant professor in the University of Kentucky division of hospital medicine.

By Saurav Suman, MD, MPH

6 VIP services linked to unnecessary care

CLINICAL QUESTION: Does "very important person" (VIP) status impact physician decision making and lead to unnecessary care?

BACKGROUND: In many centers, VIP patients avail VIP services, which involve extra services beyond the standard of care. No prior studies assess the impact of such VIP services on these patients.

STUDY DESIGN: A qualitative multisite case study.

SETTING: Centers associated with the Hospital Medicine Reengineering Network (HOMERuN).

SYNOPSIS: Of the 160 hospitalists across eight sites, 45% felt that VIP services were present at their hospital. These patients often had personal ties with the hospital. The majority of hospitalists (78%) felt VIP patients received similar medical care, compared with non-VIP patients. However, 63% felt pressured by VIP patients or families to order unnecessary tests. Moreover, 36% perceived pressure from hospital administration to comply with VIP patient wishes. Most hospitalists (56%) reported being more likely to comply with requests from VIP patients than from other patients.

The survey questions were not validated, so the responses might not reflect actual perceptions of hospitalists. These results are purely qualitative, so the burden of unnecessary care cannot be quantified.

BOTTOM LINE: Most hospitalists perceive VIP services to lead to pressure to deliver unnecessary care.

CITATION: Allen-Dicker J, Auerbach A, Herzig SJ. Perceived Safety and Value of Inpatient "Very Important Person" Services. J Hosp Med. 2017 Mar;12(3):177-9.

7 Prediction tool for mortality after respiratory compromise

CLINICAL QUESTION: Can we predict in-hospital mortality of initial survivors of acute respiratory compromise (ARC)?

BACKGROUND: Scoring systems exist to predict outcomes following cardiac arrest. There is currently no reliable model to predict outcome of patients who have survived ARC.

STUDY DESIGN: A retrospective cohort study.

SETTING: Get with the Guidelines Resuscitation (GWTG-R) is an online medical registry that tracks ARC data from more than 300 hospitals.

SYNOPSIS: Using the GWTG-R database of ARC, researchers identified 13,193 cases of ARC to study the variables affecting prognosis. They randomized the group into derivation (75% of patients) and validation (25% of patients) cohorts and used c-statistics to create the prognostic scoring system. The greatest predictors of in-hospital mortality were age greater than 80 years, hypotension in the 4 hours preceding the ARC event, and the need for intubation.

This scoring system did not take into account any comorbidities (such as organ failure) that occurred shortly after the ARC event, although these likely affect mortality.

BOTTOM LINE: Predicting in-hospital mortality for survivors of ARC events may help clinical prognostication. Such tools could also facilitate comparisons between hospitals and guide quality improvement projects.

CITATION: Moskowitz A, Anderson LW, Karlsson M, et. al. Predicting in-hospital mortality for initial survivors of acute respiratory compromise (ARC) events: Development and validation of the ARC score. Resuscitation. 2017 Jun;115:5-10.

Dr. Suman is clinical instructor of medicine in the University of Kentucky division of hospital medicine.

By James A. Troy, MD, MHS

8 HEART score can safely identify low-risk chest pain

CLINICAL QUESTION: Can the HEART score risk stratify emergency department patients with chest pain?

BACKGROUND: Many patients with chest pain are subjected to unnecessary admission and testing. The HEART (History, Electrocardiogram, Age, Risk factors, and initial Troponin) score can accurately predict outcomes in chest pain patients, though it has undergone limited evaluation in real-world settings.

STUDY DESIGN: A cluster randomized trial.

SETTING: Nine emergency departments in the Netherlands.

SYNOPSIS: All sites started by providing usual care, then sequentially switched over to use of the HEART score to guide treatment. HEART care recommended early discharge if low risk (HEART score, 0-3), admission and further testing if intermediate risk (4-6), and early invasive testing if high risk (7-10).

The study included 3,648 adults presenting with chest pain. The HEART score was noninferior to usual care for the safety outcome of major adverse cardiovascular events (MACE) within 6 weeks. Only 2.0% of low-risk patients experienced MACE, though 41% of these patients were still admitted or sent for further testing, and reduction in health care cost was minimal.

BOTTOM LINE: The HEART score accurately predicted risk in patients with chest pain, but a significant portion of low-risk patients underwent further testing anyway.

CITATION: Poldervaart JM, Reitsma JB, Backus BE, et al. Effect of using the HEART score in patients with chest pain in the emergency department. Ann Intern Med. 2017 May 16;166(10):689-97.

9 Triple therapy reduces exacerbations in patients with symptomatic COPD

CLINICAL QUESTION: Does triple therapy (long-acting beta$_2$-agonist, long-acting muscarinic antagonist, and inhaled corticosteroid) reduce exacerbations in patients with symptomatic chronic obstructive pulmonary disease (COPD)?

BACKGROUND: Guidelines from GOLD and NICE recommend considering a step-up to triple therapy for patients with refractory COPD symptoms or exacerbations. However, it is unknown if this reduces the long-term risk of exacerbations.

STUDY DESIGN: A randomized controlled trial.

SETTING: Facilities consisting of 224 primary and specialty care sites in 15 countries.

SYNOPSIS: This study enrolled 2,691 patients with COPD, severe airflow restriction (forced expiratory volume less than 50%), significant symptoms (CAT score greater than or equal to 10), and at least one exacerbation in the past year. Participants were randomized to a novel three-agent inhaler (containing an extrafine formulation of beclomethasone, formoterol, and glycopyrronium), an "open triple" regimen including beclomethasone/formoterol plus tiotropium, or to tiotropium alone.

During 52 weeks of treatment, the triple-therapy regimens significantly reduced moderate to severe COPD exacerbations, compared with tiotropium alone, with annualized exacerbation rates of 0.46 (95% confidence interval, 0.41-0.51), 0.45 (95% CI, 0.39-0.52), and 0.57 (95% CI, 0.52-0.63), respectively. Rates of adverse events were similar between all three groups.

BOTTOM LINE: Triple therapy was superior to tiotropium alone for reducing exacerbations in patients with symptomatic COPD. The two triple-therapy regimens studied did not significantly differ in efficacy.

CITATION: Vestbo J, Papi A, Corradi M, et al. Single inhaler extrafine triple therapy versus long-acting muscarinic antagonist therapy for chronic obstructive pulmonary disease (TRINITY): A double-blind, parallel group, randomized controlled trial. Lancet. 2017;389(10082):1919-29.

Dr. Troy is assistant professor in the University of Kentucky division of hospital medicine.

By Joseph R. Sweigart, MD, FACP

10 Heart failure guidelines updated

CLINICAL QUESTION: What new evidence is available to guide heart failure (HF) management?

BACKGROUND: New data have become available since the 2013 HF guidelines.

STUDY DESIGN: A focused update.

SETTING: Ongoing review of HF literature.

SYNOPSIS: Beta-natriuretic peptide (BNP) is recommended to screen at-risk patients (IIaB), on admission (IA), and prior to discharge (IIaB). The combination of ARB and neprilysin inhibitor (ARB-NI) is recommended in symptomatic patients with HF with reduced ejection fraction (HFrEF) who are tolerant of ACE inhibition (IB). For these patients, transitioning from ACE-inhibitor to the ARB-NI combination, valsartan-sacubitril, significantly reduced hospitalization and mortality. Optimal dose and titration strategies remain unclear. ARB-NIs should not be used in patients with a history of angioedema (IIIC) or within 36 hours of receiving ACE-inhibitors (IIIB). Ivabradine, a selective inhibitor of the If current in the sinoatrial node, is recommended to reduce hospitalizations for patients with HFrEF with stable symptoms with resting sinus heart rate greater than or equal to 70 despite maximally tolerated beta-blockade (IIaB). Intravenous iron replacement is recommended to improve function and quality of life for patients with symptomatic HF and iron deficiency (IIbB).

BOTTOM LINE: Updates support use of BNP, ARB-NIs, ivabradine, and IV iron for HFrEF.

CITATION: Yancy CW, Jessup M, Bozkurt B, et al. 2017 ACC/AHA/HFSA focused update of the 2013 ACCF/AHA guideline for the management of heart failure: A report of the American College of Cardiology/American Heart Association task force on clinical practice guidelines and the heart failure society of America. Published online, 2017 Apr 28. *Circulation.* doi: 10.1161/CIR.0000000000000509. TH

Dr. Sweigart is an assistant professor in the University of Kentucky division of hospital medicine and Lexington VA Medical Center.

IN THE LITERATURE

From *Clostridium difficile* to VTE

By Leslie M. Martin, MD; William James Frederick III, MD, PhD; Vineet Gupta, MD, FACP, FHM
Division of Hospital Medicine, Department of Medicine, University of California San Diego

By Leslie M. Martin, MD

1 Use of probiotics in hospitalized adults to prevent Clostridium difficile infection

CLINICAL QUESTION: Does the use and timing of probiotics in hospitalized adult patients with *Clostridium difficile* infection (CDI) improve clinical outcomes?

BACKGROUND: The incidence of CDI in hospitalized patients has increased significantly over the past years, resulting in significant morbidity and mortality. Improved prevention of CDI could have substantial public health benefits.

STUDY DESIGN: Systematic review and metaregression analysis.

SETTING: A selection of nineteen studies meeting inclusion criteria.

SYNOPSIS: Computerized bibliography databases were searched for randomized controlled trials (RCTs) evaluating probiotic effects on CDI in hospitalized adults taking antibiotics.

Comprising 6,261 subjects, 19 RCTs were analyzed. The incidence of CDI was lower in the probiotic cohort than in the control group (1.6% vs. 3.9%; *P* less than .001). The pooled relative risk of CDI in probiotic users was 0.42 (95% confidence interval, 0.30-0.57).

Metaregression analysis demonstrated that probiotics were significantly more effective if given closer to the first antibiotic dose, with a decrease in efficacy for every day of delay in starting probiotics (*P* = .04).

Probiotics given within 2 days of antibiotic initiation produced a greater reduction of risk for CDI (RR, 0.32; 95% CI, 0.22-0.48) than did later administration (RR, 0.70; 95% CI, 0.40-1.23; *P* = .02). There was no increased risk for adverse events among patients receiving probiotics.

Limitations included high risk of bias because of missing data, attrition, restricted patient population, lack of placebo, and conflict of interest.

BOTTOM LINE: Administration of probiotics soon after the first dose of antibiotic reduces the risk of CDI by more than 50% in hospitalized adults without any increased risk of adverse events.

REFERENCE: Shen NT, Maw A, Tmanova LL et al. Timely use of probiotics in hospitalized adults prevents *Clostridium difficile* infection: A systematic review with meta-regression analysis. *Gastroenterology*. Published on 9 Feb 2017. doi: 10.1053/j.gastro.2017.02.003.

Dr. Martin is clinical professor in the division of hospital medicine, department of medicine, University of California, San Diego.

By William James Frederick III, MD, PhD

2 Application of the MASCC and CISNE risk-stratification scores to identify low-risk febrile neutropenic patients in the emergency department

CLINICAL QUESTION: Does the Multinational Association for Supportive Care in Cancer (MASCC) or Clinical Index of Stable Febrile Neutropenia (CISNE) risk-stratification score better predict patient outcomes in patients presenting to emergency departments with febrile neutropenia?

BACKGROUND: Risk-stratification metrics such as the MASCC and CISNE identify subsets of relatively low-risk patients with febrile neutropenia after chemotherapy for treatment at home with empiric oral anti-

biotic therapy and close follow-up while awaiting results of infectious work-up. Prior studies have validated these tools for admitted, but not for ED, patients.

STUDY DESIGN: Retrospective cohort study.

SETTING: Two academic EDs at National Institutes of Health–designated cancer centers.

SYNOPSIS: Included patients (n = 230) were at least 16 years old with a documented fever of 38° C or greater related to chemotherapy and an absolute neutrophil count less than 1,000 cells/mcL. MASCC and CISNE risk-stratification scores were calculated based on the documentation from the ED and recent oncology clinic visits. Outcome measures included length of stay, upgrade in level of care, positive blood cultures, clinical deterioration, and death and were assessed for up to 30 days following discharge. Low-risk patients were defined as those who experienced no negative endpoints. The CISNE score was more specific than the MASCC in identifying low-risk patients (98.1% vs. 54.2%), suggesting that the CISNE may be useful for hospitalists in identifying patients who may be safely discharged with oral antibiotics and close follow-up.

Limitations include possible misclassification bias from indirect assessment of symptom severity, lack of recent ECOG scores for six patients in the CISNE arm, and possible undocumented symptoms during ED evaluation required for subsequent score calculation. In addition, most patients in this study reported mild symptoms that weighted their MASCC classification toward low-risk.

BOTTOM LINE: The CISNE score may aid in risk-stratification of patients with chemotherapy-related febrile neutropenia presenting to the ED.

REFERENCE: Coyne CJ, Le V, Brennan JJ, et al. Application of the MASCC and CISNE risk-stratification scores to identify low-risk febrile neutropenic patients in the emergency department. *Ann Emerg Med*. Published online 29 Dec 2016. doi: 10.1016/j.annemergmed.2016.11.007.

3 Assessing the risks associated with MRI patients with a pacemaker or defibrillator

CLINICAL QUESTION: What are the risks of nonthoracic MRI in patients with pacemakers or implantable cardioverter-defibrillators (ICDs) that are not preapproved by the Food and Drug Administration for MRI scanning?

BACKGROUND: Implantable cardiovascular devices could suffer heating in MRI magnetic fields leading to cardiac thermal injury and changes in pacing properties. The FDA approves "MRI-conditional devices" deemed safe for MRI, but up to six million patients worldwide (and two million in the United States) have non–MRI conditional devices.

STUDY DESIGN: A prospective, multicenter registry of patients with non–MRI conditional pacemakers or ICDs.

SETTING: U.S. Centers participating in the MagnaSafe registry.

SYNOPSIS: Adults with non–MRI conditional pacemakers (1,000 cases) or ICDs (500 cases) implanted in the thorax after 2001 were scanned with nonthoracic MRI at 1.5 Tesla. Patients with abandoned or inactive leads, other implantable devices, and low batteries and pacing-dependent patients with ICDs were excluded.

Devices were interrogated before each MRI and set to either no pacing or asynchronous pacing with all tachycardia and bradycardia therapies deactivated. Primary endpoints included immediate death, generator or lead failure, loss of capture in paced patients, new arrhythmia, and generator reset.

No patients suffered death or device or lead failure. Six patients developed self-terminating atrial arrhythmias, while an additional six had partial pacemaker electrical reset. Several devices had detectable changes in battery voltage, lead impedance, pacing threshold, and P- or R-wave amplitude without evident clinical significance. Multiple MRIs caused no increase in adverse outcomes. This study suggests that patients with non–MRI conditional devices may be at low risk from nonthoracic imaging if appropriately screened with temporary pacemaker function modification before MRI.

BOTTOM LINE: Appropriately screened and prepared patients with non–MRI conditional thoracic pacemakers or ICDs may be at low risk for complications from nonthoracic MRI at 1.5 Tesla.

REFERENCE: Russo RJ, Costa HS, Silva PD, et al. Assessing the risks associated with MRI in patients with a pacemaker or defibrillator. *N Engl J Med*. 2017;376:755-64.

Dr. Frederick is assistant clinical professor in the division of hospital Medicine, department of medicine, University of California, San Diego.

By Vineet Gupta, MD, FACP, FHM

4 Sodium bicarbonate versus sodium chloride for preventing contrast-associated acute kidney injury in critically ill patients

CLINICAL QUESTION: Is sodium bicarbonate superior to isotonic sodium chloride for preventing contrast-associated acute kidney injury in critically ill patients?

BACKGROUND: Intravenous hydration remains the mainstay for prevention of contrast-associated acute kidney injury (CA-AKI). While conflicting results favoring bicarbonate hydration over isotonic sodium chloride have been reported in the non-ICU setting, no study has compared the two strategies in the ICU setting.

STUDY DESIGN: Prospective, double-blind, multicenter, randomized controlled study.

SETTING: Three medical/surgical ICUs in France.

SYNOPSIS: 307 consecutive ICU patients with stable renal function who received IV contrast were randomized to either 0.9% sodium chloride (n = 156) or 1.4% sodium bicarbonate (n = 151) hydration. Infusion protocol comprising 3 mL/kg given 1 hour before and 1 mL/kg per hour given for 6 hours after contrast exposure. The study excluded patients with unstable renal function, patients on renal replacement therapy, patients unable to tolerate volume expansion, patients who were pregnant, and those with life expectancy of less than 5 days.

> ICU patients with stable renal function had no significant benefit of using sodium bicarbonate hydration over isotonic sodium chloride for preventing contrast-associated acute kidney injury.

The frequency of CA-AKI was similar in both groups: 52 patients (33.3%) in the saline group and 53 patients (35.1%) in the bicarbonate group (absolute risk difference,1.8%; 95% confidence interval,12.3%-8.9%; P = .81). The need for renal replacement therapy (3.2% vs 3.9%; P = .77), ICU length of stay (24.7 ± 22.9 vs. 23 ± 23.8 days; P = .52), and mortality (16.0% vs 15.9% ; P greater than .99) were also similar between the two groups.

Limitations of the study include study sites in a single country, no blinding to the measurements of urinary pH, and multifactorial etiology of AKI in critically ill patients affecting attribution to CA-AKI alone.

BOTTOM LINE: ICU patients with stable renal function had no significant benefit of using sodium bicarbonate hydration over isotonic sodium chloride for preventing contrast-associated acute kidney injury.

REFERENCE: Valette X, Desmeulles I, Savary B, et al. Sodium Bicarbonate Versus Sodium Chloride for Preventing Contrast-Associated Acute Kidney Injury in Critically Ill Patients: A Randomized Controlled Trial. *Crit Care Med*. 2017;45(4):637-644.

5 Recurrence and mortality after first venous thromboembolism in a large population-based cohort

CLINICAL QUESTION: What are the rates of recurrence and mortality after a first venous thromboembolism (VTE) in patients recruited from a large population-based cohort?

BACKGROUND: Recurrence and mortality rates after initial VTE have been variably reported. The authors assessed the cumulative incidence of recurrence and mortality after a first VTE by using cases derived from a general population cohort between 1994 and 2012.

STUDY DESIGN: Retrospective, population-based cohort study.

SETTING: Hospital and outpatient setting in Tromso, Norway.

SYNOPSIS: Patients (n = 710) with the first lifetime occurrence of objectively confirmed VTE were included. VTE diagnosis was validated by reviewing the hospital discharge registry, the autopsy registry, and the radiology procedure registry. The mean age of the patients was 68 years (range, 28-102 years), and 166 (23.4%) had cancer at the time of first VTE.

There were 114 VTE recurrences and 333 deaths during a median study period of 7.7 years (range, 0.04-18.2 years). The risk of recurrence was highest during the first year. The overall 1-year recurrence rate was 7.8 (95% CI, 5.8-10.6) per 100 person-years (PY), whereas the recurrence rate in the remaining follow-up period (1-18 years) was 3.0 (95% CI, 2.4-3.8) per 100 PY. The overall 1-year all-cause mortality rate was 29.9 (95% confidence interval, 25.7-34.8) per 100 PY, and, in those without cancer, the corresponding rate was 23.6 (95% CI, 17.8-31.3) per 100 PY.

The study was limited by insufficient information on causes of death, lack of the duration of anticoagulant treatment, retrospective nature, and small study population.

BOTTOM LINE: Despite advances in VTE management, the rates of adverse events remained fairly high, particularly in the initial year following a first lifetime VTE.

REFERENCE: Arshad N, Bjøri E, Hindberg K, Isaksen T, Hansen JB, Braekkan SK. Recurrence and mortality after first venous thromboembolism in a large population-based cohort. *J Thromb Haemost*. 2017;15(2):295-303. TH

Dr. Gupta is assistant clinical professor in the division of hospital medicine, department of medicine, University of California, San Diego.

SHORT TAKES

Caregiver integration in discharge planning decreases readmissions

Meta-analysis of 15 randomized controlled trials in older adults showed that integration of caregivers in interdisciplinary discharge planning decreased 90- and 180- day readmission rates by approximately 25%.

CITATION: Rodakowski J, Rocco PB, Ortiz M, et al. Caregiver integration during discharge planning for older adults to reduce resource use: A metaanalysis. Published online, Apr 3, 2017. *J Am Geriatr Soc.* 2017. doi: 10.1111/jgs.14873.

Do not treat subclinical hypothyroidism

A randomized controlled trial involving 737 elderly adults (older than 65 years) with subclinical hypothyroidism compared levothyroxine to placebo. Levothyroxine provided no benefit in thyroid-related symptoms or any secondary outcomes.

CITATION: Stott DJ, Rodondi N, Kearney PM, et al. Thyroid hormone therapy for older adults with subclinical hypothyroidism. *N Engl J Med*. 2017 Apr 3. doi: 10.1056/NEJMoa1603825.

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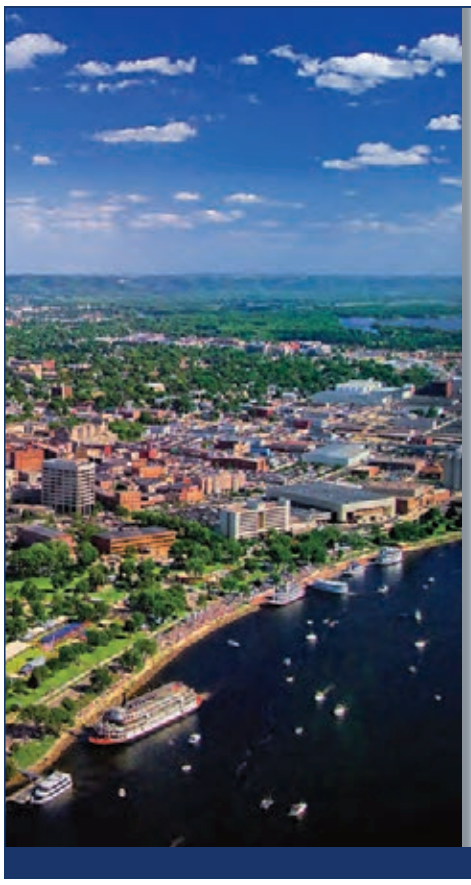

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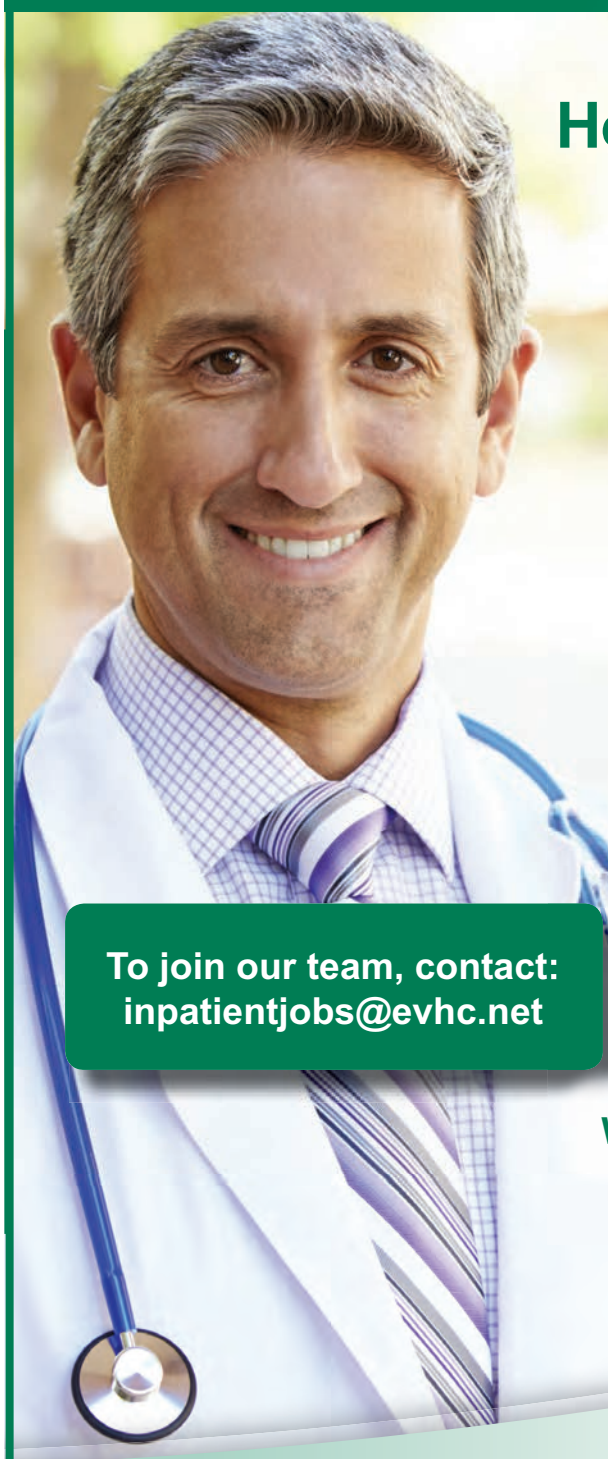

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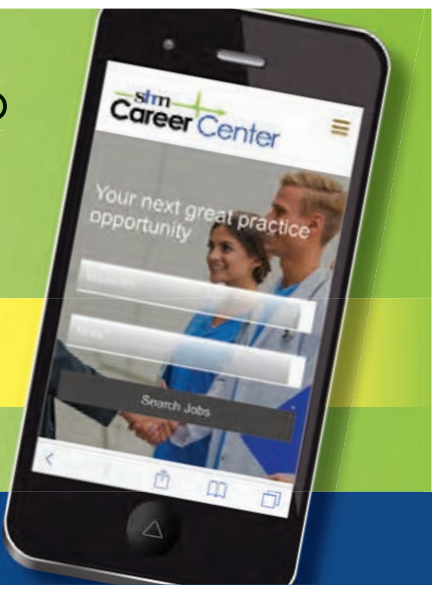

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Health First Medical Group, Central Coastal Florida's only fully integrated health system, is a mission driven organization aiming to create the ultimate whole person health care experience. We are actively seeking a Lead Hospitalist. Here are a few details:

- Monday - Friday, 8am - 5pm opportunity (no call)
- BC in IM (ABIM) or BC in FM (ABFM) with hospitalist experience
- 80% clinical time and 20% protected administrative time and only 8-12 patients and 1-3 admissions/day
- The ideal candidate will have 10 years of clinical experience, including a 3+ year clinical leadership/administrative background

Our largest facility has 514 beds and is a premier tertiary referral hospital, while our community facilities include 152-bed, 150-bed and 100-bed hospitals. We are also home to the only state-accredited Level II trauma center in Brevard and Indian River Counties.

At Health First Medical Group, we provide our patients with outstanding services and state-of-the-art care provided by internists and supported by a wide array of specialists. All service lines are represented with the exception of transplant surgery.

When you join our team, you can expect a very competitive base salary plus bonus plan, full benefits offered to the physician and family, CME, retirement benefits, sign-on bonus, relocation allowance and much more.

Our location is just a few miles from beautiful beaches, close to major airports, shopping and all Florida attractions. Brevard County is known for excellent public and private schools along with great housing locations/options.

To learn more about our opportunity, please email your CV to HFMG Senior Provider Recruiter, Mary Weerts, at: Mary.Weerts@Health-First.org or call 321-725-4500, ext 7607 to discuss the details.

Health First
www.health-first.org

Bridgton Hospital

The Central Maine Medical Family

Hospitalist Position in Picturesque Bridgton, Maine: Bridgton Hospital, part of the Central Maine Medical Family, seeks BE/BC Internist to join its well-established Hospitalist program. Candidates may choose part-time (7-8 shifts/month) to full-time (15 shifts/month) position. Located 45 miles west of Portland, Bridgton Hospital is located in the beautiful Lakes Region of Maine and boasts a wide array of outdoor activities including boating, kayaking, fishing, and skiing.

Benefits include medical student loan assistance, competitive salary, highly qualified colleagues and excellent quality of life.

For more information visit our website at
www.bridgtonhospital.org
Interested candidates should contact
Julia Lauver, CMMC Physician Recruitment
300 Main Street, Lewiston, ME 04240
email: **LauverJu@cmhc.org**
call: 800/445-7431 fax: 207/755-5854

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JOHNSTON MEMORIAL HOSPITAL

Mountain States Health Alliance

HOSPITALISTS & NOCTURNISTS

Johnston Memorial Hospital, located in Historic Abingdon, Virginia, is currently seeking Full Time BE/BC, Day Shift Hospitalists & Nocturnists to join their team. These are Full Time positions with the following incentives:

- Hospital Employed (earning potential up to $300k per year)
- Day Shift (7 days on -7 days off) (7am - 7pm)
- Nocturnist (7 days on - 7 days off) (7pm - 7am)
- Competitive Annual Salary
- Performance Bonus & Production Bonus
- Excellent Benefits
- Generous Sign On Bonus
- Relocation and Educational Loan Assistance
- Teaching and Faculty opportunities with the JMH FM/IM Residency Training Programs
- Critical Care Physician Coverage in CCU/PCU

Please view our online job tour:
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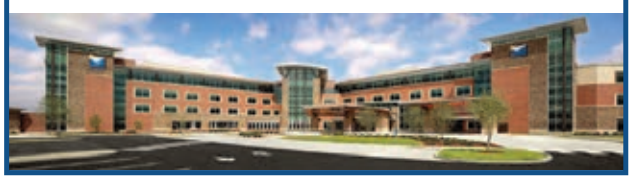
Please Contact:
Tina McLaughlin, CMSR, Johnston Memorial Hospital
Office (276) 258-4580, mclaughlint@msha.com



Cooper University Hospital

Cooper Medical School of Rowan University

Division of Hospital Medicine of Cooper University Hospital
Board Certified/Eligible Internal Medicine and Family Medicine Hospitalists and Nocturnists

The Division of Hospital Medicine of Cooper University Hospital seeks motivated physicians to join a dynamic team of 80 physicians and 20 nurse practitioners at more than ten locations in Southern New Jersey.

Highlights:
- Full-time or part-time Hospitalist positions
- Day or night shifts available
- Flexible scheduling
- Teaching opportunities with residents and medical students
- Emphasis on patient experience, quality and safety
- Average encounter number of 14-18/day
- Secure employment with low physician turnover
- Potential for career advancement in administrative, quality or educational roles

Cooper University Hospital is a 635 bed teaching hospital. We are the only tertiary care center and the first Advanced Certified Comprehensive Stroke Center in Southern New Jersey. We employ more than 900 physicians and 325 trainees in all medical and surgical specialties. Cooper University Hospital has its own on-campus medical school, the Cooper Medical School of Rowan University. The Cooper Health System maintains multiple partnerships with local and national institutions, including the MD Anderson Cancer Center.

Employment Eligibility:
Must be Board Certified/Eligible in Internal or Family Medicine

Contact Information:
Lauren Simon, Administrative Supervisor, 856-342-3150
Simon-Lauren@cooperhealth.edu www.cooperhealth.org

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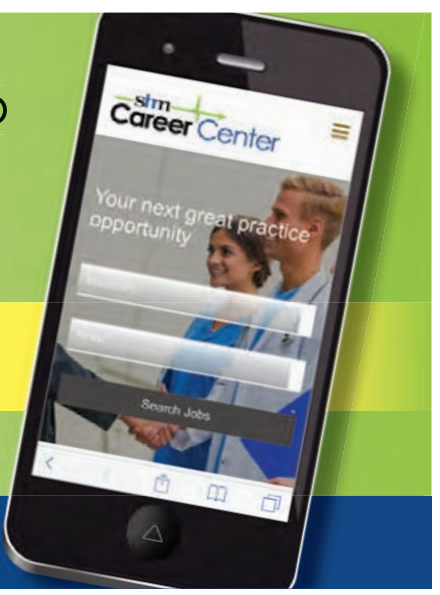

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Hospitalist/Nocturnist Opportunities in PA Starting Bonus and Loan Repayment

St Luke's University Health Network (SLUHN) has hospitalist/nocturnist opportunities in eastern Pennsylvania. We are recruiting for BC/BE Nocturnists at our Bethlehem/Anderson Campuses Hospitalist positions at other campuses in PA including our newest hospital in Monroe County that opened in October of 2016. This group focuses on outstanding quality and enjoys a collegial atmosphere.

We offer:

- Starting bonus and up to $100,000 in loan repayment
- 7 on/7 off schedules
- Additional stipend for nights
- Attractive base compensation with incentive
- Excellent benefits, including malpractice, moving expenses

SLUHN is a non-profit network comprised of more than 450 physicians, 200 advanced practitioners and 7 hospitals, providing care in eastern Pennsylvania and western NJ. St. Luke's currently has more than 180 physicians enrolled in internship, residency and fellowship programs and is a regional campus for the Temple/St. Luke's School of Medicine. Visit **www.slhn.org**.

Our campuses offer easy access to major cities like NYC and Philadelphia. Cost of living is low coupled with minimal congestion; choose among a variety of charming urban, semi-urban and rural communities your family will enjoy calling home. For more information visit **www.discoverlehighvalley.com**

Please email your CV to Drea Rosko at **physicianrecruitment@sluhn.org**

Hospital Medicine Faculty Positions

The Section of Hospital Medicine at Vanderbilt University seeks talented BC/BE Internal Medicine physicians to join the full time faculty at the level of Assistant, Associate, or full Professor, on a clinical, academic, or research track.

Clinical positions, including daytime, nocturnist, extensivist or mixed roles, are available for well-trained physicians who wish to focus on direct patient care and medical consultation. We offer flexible scheduling, access to top specialists, and opportunities to engage in teaching, quality improvement, and scholarship. An academic clinician-educator track position is 80% clinical, with additional responsibilities in teaching, scholarship, quality improvement, and administration for qualified candidates. A physician-scientist track provides 80% time for research in collaboration with established investigators in health services research, quality improvement, patient safety, behavioral sciences, and biomedical informatics.

Vanderbilt University Medical Center is a leader in providing high-quality, cost-effective care. With robust programs in quality improvement and clinical research, a highly-developed electronic health record, Magnet Recognition for nursing care, competitive salaries and benefits, and a highly supportive environment for faculty, Vanderbilt is a great place to work. With a booming economy and friendly environment, Nashville, TN is a top place to live.

Please electronically submit a letter of interest and CV to:
anne.n.axon@vanderbilt.edu

UNM HEALTH SCIENCES CENTER

Internal Medicine Division: Hospital Medicine

Job Title: Hospitalist

The University of New Mexico, Health Sciences Center, Department of Internal Medicine, seeks faculty members to join the Division of Hospital Medicine. This position is open rank and open track with the opportunity of full time or part time faculty positions. Salary and rank will be commensurate with experience and education. Minimum Requirements: 1.) Must be board certified or board eligible in Internal Medicine by date of hire; 2.) Must be eligible to work in US (not a J-1 opportunity); and 3.) Minimal teaching experience requirements: candidate must have attended a US Medical school as a third and fourth year medical student OR served at least two years in a residency that provides education to US medical students during their core clerkship in internal medicine OR served on the faculty of a medical school. Preferred Qualifications: 1.) Experience/interest in hospital medicine; 2.) Experience/interest in medical education; 3.) Experience/interest in quality improvement activities; and 4.) Preference will be given to current and former New Mexico Residents. Applicants will be required to obtain New Mexico licensure and be eligible for DEA licensure and NM State Board of Pharmacy narcotics license. This position may be subject to a criminal records screening in accordance with New Mexico law.

The positions are open until filled.

For complete description and application requirements for Posting Req555

Please see the UNM jobs application system at: **https://unmjobs.unm.edu**

Inquiries may be directed to John Rush Pierce, MD, Professor, Division of Hospital Medicine, Department of Internal Medicine, University of New Mexico, MSC 10 5550, 1 University of New Mexico, Albuquerque, NM 87131, Attn: (**JRPierce@salud.unm.edu**).

UNM's confidential policy ("Disclosure of Information about Candidates for Employment," UNM Board of Regents' Policy Manual 6.7), which includes information about public disclosure of documents submitted by applicants, is located at **http://policy.unm.edu/regents-policies/section-6/6-7.html**

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Central Maine Medical Center

Central Maine Medical Center

NOCTURNIST and Staff Opportunities

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Culture of Caring:
Central Maine Medical Center has served the people of Maine for more than 125 years. We are a 250 bed tertiary care facility that attracts regional referrals and offers a comprehensive array of the highest level healthcare services to approximately 400,000 people in central and western Maine. Our experienced and collegial hospitalist group cares for over half of the inpatient population and is proud of our high retention rate and professionalism.

The Opportunity:
Nocturnist and staff positions: We are seeking BC/BE IM or FM physicians to work in a team environment with NP and PA providers.

Nocturnists are supported by physician and NP/PA swing shift staff, **full-time hours are reduced and compensation is highly incented.** We also offer:

- The opportunity to expand your professional interests in areas such as our nationally recognized Palliative Care team and award-winning Quality Improvement initiatives.
- Encouragement of innovation and career growth at all stages starting with mentoring for early hospitalists, and progressing to leadership training and opportunities.
- The only Hospital Medicine Fellowship in northern New England with active roles in fellow, resident and medical student education.

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Welcome you to a motivated, highly engaged, outstanding group that offers a competitive compensation package with **moving expense reimbursement, student loan assistance and generous sign-on bonus.**

We also value your time outside of work, to enjoy the abundance of outdoor and cultural opportunities that are found in our family-friendly state. Check out our website: **www.cmmc.org**. And, for more information, contact Gina Mallozzi, CMMC Medical Staff Recruitment at **MallozGi@cmhc.org**; 800/445-7431 or 207/344-0696 (fax).

Regional Health

Hospitalist – Internal Medicine

Rapid City Regional Hospital is a subsidiary of Regional Health, Inc., a not-for-profit, community-based organization dedicated to promoting and providing healthcare excellence in partnership with the communities it serves. We currently have a full-time opening available in Rapid City, South Dakota for a Hospitalist – Internal Medicine to provide general medical care for hospitalized patients and to lead the coordination, quality and efficiency of hospital care for our patients. This position requires a Doctor of Medicine (M.D.), Doctor of Osteopathy (D.O.), or foreign equivalent from an accredited school of medicine plus three years of internal medicine experience, which may be obtained during a physician residency program. Must have a current, unrestricted license to practice medicine in South Dakota. Requires Board certification or Board eligibility in Internal Medicine. All experience may have been gained concurrently. Full-time work schedule is 10 hour shifts, 7 days on (70 hours), 7 days off (0 hours), 1820 hours per year, modified as necessary to accommodate patient and physician needs without altering the overall number of hours worked per year.

To apply, send CV to: Carla Stark, Rapid City Regional Hospital, 353 Fairmont Blvd, Rapid City, SD 57701, **cstark@regionalhealth.com**; or fax to (605) 755-9075. No phone calls please. EOE.

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CEP America

HOSPITALISTS DAY AND NOCTURNIST POSITIONS

White Plains Hospital has a reputation for both clinical excellence and outstanding personalized care. The state-of-the-art hospital is a twelve-time winner of the Consumer Choice Award, an honor given to the nation's top hospitals by the National Research Corporation, and received Magnet re-designation in 2016 from the the American Nurses Credentialing Center (ANCC). It is also the only hospital in New York State to be included by Soliant Health in its 20 Most Beautiful Hospitals in the United States for 2016. Our expanding Adult Hospitalist Program is seeking exceptional candidates interested in **Full Time Day and Night positions**. Candidates must be BC/BE in Internal Medicine and have the ability to work well in a professional, collegial atmosphere.

- **Ranked by CNN Money as one of the best cities to live in**
- **Only 25 minutes north of New York City**
- **Hospitalists are employed by the hospital/ICU covered by Intensivists**
- **Competitive salary including employment and incentive bonus programs, paid vacation & paid CME**
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Attn: David Bigham, H.R. Director
E-mail: hospitalist@wphospital.org
White Plains Hospital, 41 East Post Road, White Plains, NY 10601
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HOSPITALISTS - Sacramento, CA

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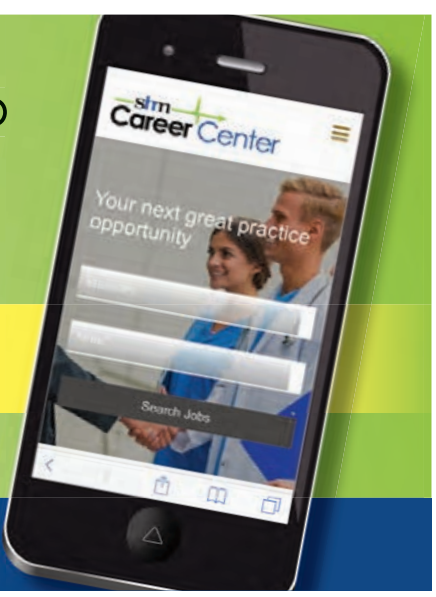

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- Emphasis on patient experience, quality, and safety
- Average encounter number of 14/day
- Potential for career advancement in administrative, quality or educational

**Must be Board Certified/Eligible in Internal or Family Medicine.

Contact: Courtney Foster
Phone: 609 605 2061
E-mail: tricountyhospitalists@gmail.com

Hospitalists

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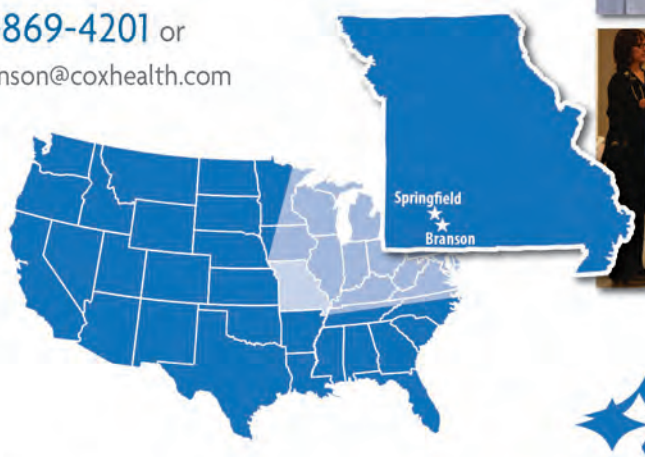
Paula.Johnson@coxhealth.com



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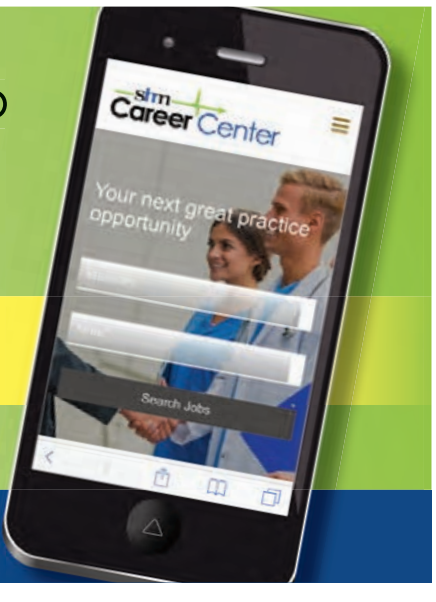

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HOSPITALIST

The Division of Internal Medicine at Penn State Hershey Medical Center, The Pennsylvania State University College of Medicine, is accepting applications for **HOSPITALIST** positions. Successful candidates will hold a faculty appointment to Penn State College of Medicine and will be responsible for the care in patients at Penn State Hershey Medical Center. Individuals should have experience in hospital medicine and be comfortable managing patients in a sub- acute care setting. Hospitalists will be part of the post-acute care program and will work in collaboration with advanced practice clinicians, residents, and staff. In addition, the candidate will supervise physicians-in-training, both graduate and undergraduate level, as well as participate in other educational initiatives. The candidate will be encouraged to develop quality improvement projects in transitions of care and other scholarly pursuits around caring for this population. This opportunity has potential for growth into a leadership role as a medical director and/or other leadership roles.

Competitive salary and benefits among highly qualified, friendly colleagues foster networking opportunities. Relocation assistance, CME funds, Penn State University tuition discount for employees and dependents, LTD and Life insurance, and so much more!

Known for home of the Hershey chocolate bar, Hershey, PA is rich in history and offers a diverse culture. Our local neighborhoods boast a reasonable cost of living whether you prefer a more suburban setting or thriving city rich in theater, arts, and culture. Hershey, PA is home to the Hershey Bears hockey team and close to the Harrisburg Senators baseball team. The Susquehanna River, various ski slopes and the Appalachian Trail are in our backyard, offering many outdoor activities for all seasons.

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- Board eligible/certified in Internal Medicine
- No J1 visa waiver sponsorships available

For further consideration, please send your CV to:

Brian McGillen, MD – Director, Hospital Medicine
Penn State Milton S. Hershey Medical Center
c/o Heather Peffley, PHR FASPR – Physician Recruiter
hpeffley@hmc.psu.edu

Bassett Healthcare Network
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EOE

For confidential consideration, please contact:
Debra Ferrari, Manager, Medical Staff Recruitment
Bassett Healthcare Network
phone: 607-547-6982; fax: 607-547-3651 or email:
debra.ferrari@bassett.org
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http://go.osu.edu/hospitalmedicine
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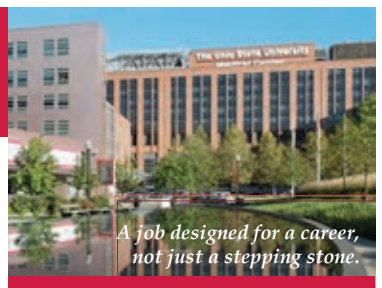

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For more information, please contact:

Joan Humphries | Manager, Physician Recruitment
p 314.364.3840 | f 314.364.2597 | Joan.Humphries@mercy.net

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Hospitalist or Nocturnist

Montgomery County, PA

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Einstein HEALTHCARE NETWORK

EOE

Portland, Oregon and Southwest Washington

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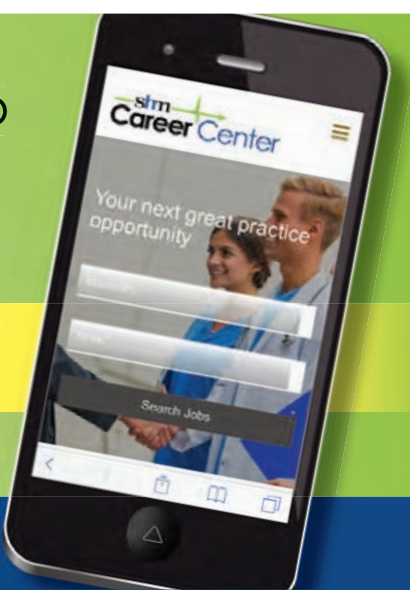

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The Department of Medicine at the University of Rochester—Strong Memorial Hospital is currently seeking a new Division Chief for our Hospital Medicine Division. This Division comprises 35 full and part-time faculty members who not only assist with the care of a large inpatient medical service but also play a key role in the department's educational programs. This position reports directly to the Chairman of the Department of Medicine. Ideal candidates will have leadership experience, excellent interpersonal skills, expertise in quality improvement and a strong interest in medical education. The Hospital Medicine Division is noted for providing high quality education to a broad array of learners including outstanding residents in our Internal Medicine and Medicine-Pediatrics residency programs. Several members of the division have been recognized at the national level for their academic educational contributions and scholarship. The University of Rochester Medical Center is the premier academic health center in upstate New York. Visit our web site to learn more about our innovative Department and our regional health system. Appropriate candidates must possess an MD or DO or foreign equivalent; be Board Certified in Internal Medicine; and meet NY state licensing requirements. Applicants should have achieved an academic rank of Associate Professor or higher; possess excellent communication and organizational skills and a strong work ethic.

Please forward a letter of interest along with a copy of your curriculum vitae to:

Robert McCann MD
Robert_McCann@urmc.rochester.edu

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The Core Competencies in Hospital Medicine – 2017 revision

Time again to improve, invigorate, and innovate.

Dr. Nichani is assistant professor of medicine and director of education for the division of hospital medicine at Michigan Medicine, University of Michigan, Ann Arbor. He serves as the chair of the SHM Education Committee.

The 2017 revision of the Core Competencies seeks to maintain its relevance and value and, more importantly, highlight areas for future growth and innovation.

"You must be the change you wish to see in the world." This famous quote from Mahatma Gandhi has inspired many to transform their work and personal space into an eternal quest for improvement. We hospitalists are now well-recognized agents of change in our work environment, improving the quality and safety of inpatient care, striving to create increased value, and promoting the delivery of cost-effective care.

When first published in 2006 by the Society of Hospital Medicine (SHM), the Core Competencies in Hospital Medicine was pivotal in laying the foundation for the then-evolving field of hospital medicine that was growing rapidly. It gave hospitalists common ground to focus their collective energies to improve, invigorate, and innovate across a variety of domains. Attributes like these set the field apart, such that the American Board of Internal Medicine (ABIM) created a separate certification path for a focused practice in Hospital Medicine in 2009. To recognize it as a unique discipline, the ABIM used the Core Competencies to describe the characteristics of this new field.

Much has changed in the U.S. health care and hospital practice environment over the past decade. The 2017 revision of the Core Competencies seeks to maintain its relevance and value and, more importantly, highlight areas for future growth and innovation.

What does the "Core Competencies" represent and who should use it?

It comprises a set of competency-based learning objectives that present a shared understanding of the knowledge, skills, and attitudes expected of physicians practicing hospital medicine in the United States.

A common misconception is that every hospitalist can be expected to demonstrate proficiency in all topics in the Core Competencies. While every item in the compendium is highly relevant to the field as a whole, its significance for individual hospitalists will vary depending on their practice pattern, leadership role, and local culture.

It also is noteworthy to indicate that it is not a set of practice guidelines that provide recommendations based on the latest scientific evidence, nor does it represent any legal standard of care. Rather, the Core Competencies offers an agenda for curricular training and to broadly influence the direction of the field. It also is important to realize that the Core Competencies is not an all-inclusive list that restricts a hospitalist's scope of practice. Instead, hospitalists should use the Core Competencies as an educational and professional benchmark with the ultimate goal of providing safe, efficient, and high-value care using interdisciplinary collaboration when necessary.

As a core set of attributes, all hospitalists can use it to reflect on their knowledge, skills, and attitudes, as well as those of their group or practice collectively. The Core Competencies highlights areas within the field that are prime for further research and quality improvement initiatives on a national, regional, and local level. Thus, they also should be of interest to health care administrators and a variety of stakeholders looking to support and fund such efforts in enhancing health care value and quality for all.

It is also a framework for the development of curricula for both education and professional development purposes for use by hospitalists, hospital medicine programs, and health care institutions. Course Directors of Continuing Medical Education programs can use the Core Competencies to identify learning objectives that fulfill the goal of the educational program. Similarly, residency and fellowship program directors and medical school clerkship directors can use it to develop course syllabi targeted to the needs of their learner groups.

The structure and format of the Core Competencies in Hospital Medicine

The 53 chapters in the 2017 revision are divided into three sections – Clinical Conditions, Procedures, and Healthcare Systems, all integral to the practice of hospital medicine. Each chapter starts with an introductory paragraph that discusses the relevance and importance of the subject. Each competency-based learning objective describes a particular concept coupled with an action verb that specifies an expected level of proficiency.

For example, the action verb "explain" that requires a mere description of a subject denotes a lower competency level, compared with the verb "evaluate," which implies not only an understanding of the matter but also the ability to assess its value for a particular purpose. These learning objectives are further categorized into knowledge, skills, and attitudes subsections to reflect the cognitive, psychomotor, and affective domains of learning.

Because hospitalists are the experts in complex hospital systems, the clinical and procedural sections have an additional subsection, "System Organization and Improvement." The objectives in this paragraph emphasize the critical role that hospitalists can play as leaders of multidisciplinary teams to improve the quality of care of all patients with a similar condition or undergoing the same procedure.

Examples of everyday use of the Core Competencies for practicing hospitalists

A hospitalist looking to improve her performance of bedside thoracentesis reviews the chapter on Thoracentesis. She then decides to enhance her skills by attending an educational workshop on the use of point-of-care ultrasonography.

A hospital medicine group interested in improving the rate of common hospital-acquired infections reviews the Urinary Tract Infection, Hospital-Acquired and Healthcare-Associated Pneumonia, and Prevention of Healthcare-Associated Infections and Antimicrobial Resistance chapters to identify possible gaps in practice patterns. The group also goes through the chapters on Quality Improvement, Practice-based Learning and Improvement, and Hospitalist as Educator, to further reflect upon the characteristics of their practice environment. The group then adopts a separate strategy to address identified gaps by finding suitable evidence-based content in a format that best fits their need.

An attending physician leading a team of medical residents and students reviews the chapter on Syncope to identify the teaching objectives for each learner. He decides that the medical student should be able to "define syncope" and "explain the physiologic mechanisms that lead to reflex or neurally mediated syncope." He determines that the intern on the team should be able to "differentiate syncope from other causes of loss of consciousness," and the senior resident should be able to "formulate a logical diagnostic plan to determine the cause of syncope while avoiding rarely indicated diagnostic tests."

New chapters in the 2017 revision

SHM's Core Competencies Task Force (CCTF) considered several topics as potential new chapters for the 2017 Revision. The SHM Education Committee judged each for its value as a "core" subject by its relevance, intersection with other specialties, and its scope as a stand-alone chapter.

There are two new clinical conditions – hyponatremia and syncope – mainly chosen because of their clinical importance, the risk of complications, and management inconsistencies that offer hospitalists great opportunities for quality improvement initiatives. The CCTF also identified the use of point-of-care ultrasonography as a notable advancement in the field. A separate task force is working to evaluate best practices and develop a practice guideline that hospitalists can use. The CCTF expects to add more chapters as the field of hospital medicine continues to advance and transform the delivery of health care globally.

The 2017 Revision of the Core Competencies in Hospital Medicine is located online at www.journalofhospitalmedicine.com or using the URL shortener bit.ly/corecomp17. TH

The impact of the 2016 election

Will it change where we were heading?

Dr. Greeno is president of the Society of Hospital Medicine and senior adviser for medical affairs at TeamHealth.

Because of the health care policy work I have done over the years, I often get asked about what to expect from Capitol Hill and from federal policy makers in D.C. Since the surprise election results in November, the most common questions revolve around what impact the Trump administration is likely to have on the delivery system reform work done since the passage of the Affordable Care Act (ACA).

Will the ACA get repealed? And if so, what will that mean? Will the movement away from fee for service and toward payment for quality and satisfaction slow down or stop? Will Accountable Care Organizations (ACOs), bundled payments, and the testing of other new payment models all come to a halt, just as we were gaining confidence that this might be the answer to lower health care costs? Will the move toward population health (that we hoped would improve our health care system) stall or evaporate?

While much uncertainty remains, events since the election have given us some clues to answer these and other questions.

Let's address the ACA. It's important to recognize that the ACA cannot be repealed completely for at least two reasons. First, it does not exist as it was passed, having undergone several changes, including adjustments and exemptions. Second, parts of the bill would require 60 votes in the Senate to repeal, and those votes are not available to the party seeking repeal.

Yes, parts of the bill could be changed significantly with only Republican votes.

The clearest sign that delivery system reform will continue was the strong bipartisan support shown in the passage of the Medicare Access and CHIP Reauthorization Act.

However, the reality is that many changes would have occurred even if Hillary Clinton had won the election; there are elements of the current law that are not working and that both sides acknowledge need to be fixed, such as state individual insurance exchanges.

There also are parts of the ACA that neither party would like to see rescinded, which are unlikely to be removed in a new law – for example, loss of insurance for preexisting conditions.

From the standpoint of providers, the most notable aspect of the current discussion is that proposed changes have largely been limited to addressing areas of insurance reform. This has potential impact on anyone who is covered under a revised plan. In the meantime, the important work of delivery system reform – the elements of the ACA that providers care the most about (and that will have the most impact on their careers) – have been left untouched. There are strong signs that this will remain the case and that this important work will continue.

What are those signs? First of all, neither the "repeal" bill passed by the House nor any of the bills considered by the Senate made any mention of interrupting any of the important work being done by the Center for Medicare & Medicaid Innovation (CMMI), the part of the Centers for Medicare & Medicaid Services created by the ACA to develop and test alternative payment models (APMs), such as accountable care organizations and bundled payments. If successful, this work will improve quality while lowering the growth of health care costs and may save a health care system that, if unchecked, will create a crushing financial burden that threatens the Medicare Trust Fund. It also is a strong and clear sign that the CMMI continues its work today under the same effective leadership that first created excitement about its potential to improve the delivery system.

But, probably the clearest sign that delivery system reform will continue was the strong bipartisan support shown in the passage of the Medicare Access and CHIP Reauthorization Act (MACRA) in April of 2015. This landmark piece of legislation creates a pathway that moves the entire health care system away from fee for service and toward payment models that will reward providers for innovations that will lower the cost of care, eliminate waste, improve safety, and achieve better outcomes. It puts in place a plan that will use APMs to offer providers the incentives to create care models that may be the salvation of our health care system. In the long run, isn't this what matters the most?

Politicians in Washington can't save our system. They can create or remove entitlements or support one segment of the population at the expense of another. But, in the end, they are only moving dollars around from one pocket to another, rearranging deck chairs on the Titanic of the American health care system.

The reality is that the only thing that can save our health care system is to lower the cost of care. And we all know that, as providers, only we can do that. SHM will be helping its members lead the way, providing educational content, training, advocacy, and policy leadership.

It will be up to the nation's caregivers to reform the delivery system in a way that is sustainable for our generation and generations to come. We continue that work today, and I see no evidence that anyone on Capitol Hill wants us to stop. TH

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