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Dr. Kunal Bhagat

Hospitalists deal with patient discrimination

By Thomas R. Collins

In the fall of 2016, Hyma Polimera, MD, a hospitalist at Penn State Health in Hershey, Pa., approached the bedside of a patient with dementia and several other chronic conditions, and introduced

herself to him and his family.

The patient's daughter, who had power of attorney, took one look at Dr. Polimera and told her, "I'd like to see an American doctor." Dr. Polimera is originally from India, but moved to Europe in 2005 and did her residency in Pennsylvania. She

stayed calm and confident – she understood that she had done nothing wrong – but didn't really know what to do next. All of the other hospitalists on the ward at the time were nonwhite and were also rejected by the patient's daughter.

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THE HOSPITALIST
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By Matt Pesyna

Hyung (Harry) Cho, MD, SFHM; and Christopher Moriates, MD, SFHM, have been honored by Modern Healthcare as 2 of 25 emerging young executives in health care management.

Dr. Cho is chief value officer for NYC Health and Hospitals, where his focus is on eliminating unnecessary testing and treatments within the New York City public health system, which includes 11 hospitals and five post-acute care facilities. Before landing with NYC Health and Hospitals, Dr. Cho was director of quality, safety, and value at the Icahn School of Medicine at Mount Sinai, New York.

Dr. Moriates is assistant dean for health care and value at the University of Texas at Austin's Dell Medical School, where he has created the Discovering Value-Based Health Care online learning platform. In addition, Dr. Moriates has helped design a care model to enhance the treatment of patients who suffer from opioid use disorder. Prior to arriving at Dell, he helped create curriculum to educate students about costs and value at the University of California, San Francisco.

Trina Abila, DO, was appointed chief medical officer at Mercy Catholic Medical Center in Darby, Pa. A practicing hospitalist, Dr. Abila will be in charge of the hospital budget, the recruiting and training of physicians, and maintaining safety standards and quality care at the facility.

Prior to taking the position at Mercy Catholic, Dr. Abila was chief quality officer and associate CMO at Penn State Health St. Joseph in Reading, Pa.

Ghania El Akiki, MD, has been named to the board of advisers at Beth Israel Deaconess Hospital in Needham, Mass. Dr. Akiki is chief of hospitalist services at Beth Israel Deaconess, landing there after a fellowship in geriatrics at Beth Israel Deaconess Medical Center.

Dr. Akiki completed a physician leadership program at BID Medical

Center in 2018, and serves as instructor of medicine at Harvard Medical School, Boston.

Michael Schandorf-Lartey, MD, has been named the chief medical officer at Doctors Hospital in Sarasota, Fla. Dr. Schandorf-Lartey has been a hospitalist at Doctors Hospital for the past 12 years.

In his time at Doctors, Dr. Schandorf-Lartey also has been chief of medicine, president-elect, and president of the medical staff. A native of Ghana, he has had experience working in rural and urban hospitals in Africa before coming to the United States.

Michael Roberts, MD, was named chief of staff at East Alabama Medical Center in Opelika. He has been part of EAMC since 2008, when he became a hospitalist there through Internal Medicine Associates.

As chief of staff, Dr. Roberts will work with different components of the medical staff and serve as a liaison between the hospital board and its staff; assist in developing policies alongside the chief medical officer; and serve on many of the medical staff's committees.

Brian Dawson, MD, has been named chief medical officer for Ballard Health, Southwest Region, based in Johnson City, Tenn. Dr. Dawson will lead Ballard Health locations in Washington County, which include Franklin Woods Community Hospital, Johnson City Medical Center, Niswonger Children Hospital, and Woodridge Hospital.

Dr. Dawson comes to Ballard Health after serving as vice president at VEP Healthcare, where he focused on contract management for the emergency medicine and hospitalist firm. Previously, he was chief of staff and Northeast regional director for emergency medicine at Johnston Memorial Hospital, Abington, Va.

Eagle Telemedicine (Atlanta) recently agreed to begin a telehospitalist program at Jersey Community Hospital in Jerseyville, Ill. Eagle Telemedicine offers telehospitalist services to more than 150 hospitals nationwide.

A rural facility with fewer than 50 beds, JCH will use Eagle to make up for the lack of a full-time, onsite hospitalist program, taking strain off of physicians handling emergency calls. At JCH, telehospitalists work closely with onsite nurse practitioners to guide patients through their hospital stay.



Dr. Cho



Dr. Moriates

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The
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For everything there is a season

2020 *State of Hospital Medicine* survey ready to launch

By Leslie Flores, MHA, SFHM

Wow, the last 2 years have just flown by! I can't believe it's already time to launch the

Society of Hospital Medicine *State of Hospital Medicine* survey again! Right now is the season for you to roll up your sleeves and get to work helping SHM develop the nation's definitive resource on the current state of hospital medicine practice.

I'm really excited about this year's survey. SHM's Practice Analysis Committee has redesigned it to eliminate some out-of-date or little-used questions and to add a few new, more relevant questions. Even more exciting, we have a new survey platform that should massively improve your experience of submitting data for the survey and also make the back-end data tabulation and analysis much quicker and more accurate. Multisite groups will now have two options for submitting data – a redesigned, more user-friendly Excel tool, or a new pathway to submit data in the reporting platform by replicating responses.

In addition, our new survey platform should help us produce the final report a little more quickly and improve its usability.

New-for-2020 survey topics will include:

- Expanded information on nurse practitioner/physician assistant roles
- Diversity in hospital medicine physician leadership

- Specific questions for hospital medicine groups (HMGs) serving children that will better capture unique attributes of these hospital medicine practices

Why should you participate?

I can't emphasize enough that each and every survey submission



matters a lot. The *State of Hospital Medicine* report claims to be the authoritative resource for information about the specialty of hospital medicine. But the report can't fulfill this claim if the underlying data are skimpy because people were too busy, if they couldn't be bothered to participate, or if participation is not broadly representative of the amazing diversity of hospital medicine practices out there.

Your participation will help ensure that you are contributing to a robust hospital medicine database, and that your own group's information is represented in the survey results. By doing so you will be helping to ensure hospital medicine's place as perhaps the crucial specialty for U.S. health care in the coming decade.

In addition, participants will receive free access to the survey results, so there's a direct benefit to you and your HMG as well.

How can you participate?

Here's what you need to know:

1. The survey opens on Jan. 6, 2020, and closes on Feb. 14, 2020.
2. You can find general information about the survey at this link: <https://www.hospitalmedicine.org/practice-management/shms-state-of-hospital-medicine/>, and register to participate by using this link: <https://www.hospitalmedicine.org/practice-management/shms-state-of-hospital-medicine/sohm-survey/>.
3. To participate, you'll want to collect the following general types of information for your hospital medicine group:

- Basic group descriptive information (for example, types of patients seen, number of hospitals covered, teaching status, etc.)
- Scope of clinical services
- Nurse practitioners and physician assistants in the HMG
- Full-time equivalent (FTE) information
- Information about the physician leader(s)
- Staffing/scheduling arrangements, including backup plans, paid time off, unfilled positions, predominant scheduling pattern, night coverage arrangements, dedicated admits, unit-based assignments, etc.
- Compensation model (but not specific amounts)
- Value of employee benefits and CME
- Total work relative value units generated by the HMG, and number of times the following CPT codes were billed: 99221, 99222, 99223,



Ms. Flores is a partner at Nelson Flores Hospital Medicine Consultants in La Quinta, Calif. She serves on SHM's Practice Analysis and Annual Meeting Committees, and helps to coordinate SHM's biannual *State of Hospital Medicine* survey.

99231, 99232, 99233, 99238, 99239

- Information about financial support provided to the HMG
 - Specific questions for academic HMGs, including financial support for nonclinical work, and allocation of FTEs
 - Specific questions for HMGs serving children, including the hospital settings served, proportion of part-time staff, FTE definition, and information about board certification in pediatric hospital medicine
- I'm hoping that all of you will join me in working to make the 2020 *State of Hospital Medicine* survey and report the best one yet!

Accelerating the careers of future hospitalists

By Caitlin Cowan

When it comes to what future hospitalists should be doing to accelerate their careers, is there such a thing as a “no-brainer” opportunity? Aram Namavar, MD, MS, thinks so.

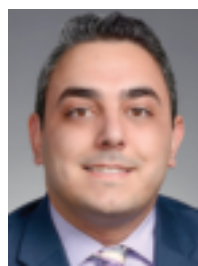
Dr. Namavar is a first-year internal medicine resident at UC San Diego pursuing a career as an academic hospitalist. He is passionate about building interdisciplinary platforms for patient care enhancement and serving disadvantaged and underserved communities.

Membership in SHM is free for medical students and offers resourc-

es specifically curated for the ever-expanding needs of the specialty and its aspiring leaders. An active member of SHM since 2015, Dr. Namavar has looked to the organization for leading career-enhancing opportunities and resources in hospital medicine to help him achieve his altruistic career goals.

For Dr. Namavar, a few of these professional development-focused opportunities include becoming an active member of the Physicians-in-Training Committee, a founding member of the Resident and Student Special Interest Group, and a recipient of the Student Hospitalist Scholar Grant.

“I applied for the Student Hospitalist Scholar Grant to have a dedicated summer of learning quality improvement through being in



Dr. Namavar

meetings with hospital medicine leaders and leading my research initiatives alongside my team,” Dr. Namavar said.

The key component to SHM's Student Hospitalist Scholar Grant opportunity is the ability for first- and second-year medical students to work alongside leading hospital

medicine professionals in scholarly projects to help interested students gain perspective on the specialty.

In addition to the program's mentorship benefits, grant recipients also receive complimentary registration to SHM's Annual Conference with the added perks of funding and research support, accommodation expenses, and acceptance into SHM's RIV Poster Competition.

Are you a first- or second-year medical student interested in taking the next step in your hospital medicine career? Apply to SHM's Student Hospitalist Scholar Grant program through late January 2020 at hospitalmedicine.org/scholargrant.

Quantifying the EHR connection to burnout

By Gregory Twachtman

MDedge News

While plenty of anecdotal and other evidence exists to connect the use of electronic health records to physician burnout, new research puts a more standard, quantifiable measure to it in an effort to help measure progress in improving the usability of EHRs.

Researchers used the System Usability Scale (SUS), “favored as an industry standard as a short, simple, and reliable measurement of technology usability with solid benchmarks to easily interpret its results, as the measure in this research, Edward Melnick, MD, of Yale University, New Haven, Conn., and colleagues wrote in Mayo Clinic Proceedings.

“The previous studies have definitely hinted at [the link between EHRs and burnout], but never really quantified it,” Dr. Melnick said in an interview.

Among the 870 physicians evaluating their EHRs’ usability, the mean score on a scale of 0-100 (higher be-

ing more usable) was 45.9. As a point of comparison, Microsoft Excel has an SUS score of 57, digital video recorders score 74, Amazon scores 82, microwave ovens score 87, and Google search scores 93.

“A score of 45.9 is in the bottom 9% of usability scores across studies in other industries and is categorized as in the ‘not acceptable’ range with a grade of F,” the authors wrote. “In aggregate, 733 of 870 (84.2%) of respondents rated their EHR less than 68 on the SUS, the average score across industries.”

In tying the SUS results to burnout, which was measured using the Maslach Burnout Inventory, the authors noted that the scores “were strongly and independently associated with physician burnout in a dose-response relationship. The odds of burnout were lower for each 1-point more favorable SUS score, a finding that persisted after adjusting for an extensive array of other personal and professional characteristics. The relationship between SUS score and burnout also persisted when emotional exhaustion and depersonalization were treated as

continuous variables.”

The authors did note that, despite the strong relationship, they could not determine a causation given the cross-sectional nature of the data.

“I’m hoping that this paper will spark conversation and drive change and be a way of tracking improvements,” Dr. Melnick said. “So, if you bring in something new and say this is going to be better, how do you know it is going to be better? Well maybe you measure it using the System Usability Scale” to give it a quantifiable measure of improvement. He said it is an advantage “of having a metric that has been standardized and used in other industries,” allowing EHR stakeholders to measure improvement. “Once you can measure it, you can manage it and make improvements faster.”

The findings “will not come as a surprise to anyone who practices medicine,” Patrice Harris, MD, president of the American Medical Association, said in a statement. “It is a national imperative to overhaul the design and use of EHRs and reframe the technology to focus primarily on its most critical function: helping



LEAH-ANNE THOMPSON/THINKSTOCK

physicians care for patients. Significantly enhancing EHR usability is key and the AMA is working to ensure a new generation of EHRs are designed to prioritize time with patients, rather than overload physicians with type-and-click tasks.”

Funding for the study was provided by the Stanford Medicine WebMD Center, AMA, and the Mayo Clinic Department of Medicine Program on Physician Well-Being. No conflicts of interest were reported by the authors.

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SHM Pediatric Core Competencies get fresh update

New core competencies reflect a decade of change

By Amanda Loudin

Over the past 10 years, much has changed in the world of pediatric hospital medicine. The annual national PHM conference sponsored by the Society of Hospital Medicine, the American Academy of Pediatrics (AAP), and the Academic Pediatric Association (APA) is robust; textbooks and journal articles in the field abound; and networks and training in research, quality improvement, and education are successful and ongoing.

Much of this did not exist or was in its infancy back in 2010. Since then, it has grown and greatly evolved. In parallel, medicine and society have changed. These influences on health care, along with the growth of the field over time, prompted a review and revision of the 2010 PHM Core Competencies published by SHM. With support

from the society, the Pediatric Hospital Medicine Special Interest Group launched the plan for revision of the PHM Core Competencies.

The selected editors included Sandra Gage, MD, PhD, SFHM, of Phoenix Children's Hospital; Erin Stucky Fisher, MD, MHM, of UCSD/Rady Children's Hospital in San Diego; Jennifer Maniscalco, MD, MPH, of Johns Hopkins All Children's Hospital in St. Petersburg, Fla.; and Sofia Teferi, MD, SFHM, a pediatric hospitalist based at Bon Secours St. Mary's Hospital in Richmond, Va. They began their work in 2017 along with six associate editors, meeting every 2 weeks via conference call, dividing the work accordingly.

Dr. Teferi served in a new and critical role as contributing editor. She described her role as a "sweeper" of sorts, bringing her unique perspective to the process. "The other three members are from academic settings, and I'm from a community



Dr. Gage

"There's a lot more attention on creating partnerships. While we may not always be the ones performing procedures, we will most likely take part in patient care, especially as surgeons step farther away from care outside of the OR."

setting, which is very different," Dr. Teferi said. "I went through all the chapters to ensure they were inclusive of the community setting."

According to Dr. Gage, "the purpose of the original PHM Core Competencies was to define the roles and responsibilities of a PHM practitioner. In the intervening 10 years, the field has changed and matured, and we have solidified our role since then."

Today's pediatric hospitalists, for instance, may coordinate care in EDs, provide inpatient consultations, engage or lead quality improvement programs, and teach. The demands for pediatric hospital care today go beyond the training provided in a standard pediatric residency. The core competencies need to provide the information necessary, therefore, to ensure pediatric hospital medicine is practiced at its most informed level.

A profession transformed

At the time of the first set of core competencies, there were over 2,500 members in three core societies in which pediatric hospitalists were members: the AAP, the APA, and SHM. As of 2017, those numbers have swelled as the care for children in the hospital setting has shifted away from these patients' primary care providers.

The original core competencies included 54 chapters, designed to be used independent of the others. They provided a foundation for the creation of pediatric hospital medicine and served to standardize and improve inpatient training practices.

For the new core competencies, every single chapter was reviewed line by line, Dr. Gage said. Many chapters had content modified, and new chapters were added to reflect the evolution of the field and of medicine. "We added about 14 new chapters, adjusted the titles

of others, and significantly changed the content of over half," Dr. Gage explained. "They are fairly broad changes, related to the breadth of the practice today."

Dr. Teferi noted that practitioners can use the updated competencies with additions to the service lines that have arisen since the last version. "These include areas like step down and newborn nursery, things that weren't part of our portfolio 10 years ago," she said. "This reflects the fact that often you'll see a hospital leader who might want to add to a hospitalist's portfolio of services because there is no one else to do it. Or maybe community pediatrics no longer want to treat babies, so we add that. The settings vary widely today and we need the competencies to address that."

Practices within these settings can also vary widely. Teaching, palliative care, airway management, critical care, and anesthesia may all come into play, among other factors. Research opportunities throughout the field also continue to expand.

Dr. Fisher said that the editors and associate editors kept in mind the fact that not every hospital would have all the resources necessary at its fingertips. "The competencies must reflect the realities of the variety of community settings," she said. "Also, on a national level, the majority of pediatric patients are not seen in a children's hospital. Community sites are where pediatric hospitalists are not only advocates for care, but can be working with limited resources – the 'lone soldiers.' We wanted to make sure the competencies reflect that reality and environment community site or not; academic site or not; tertiary care site or not; rural or not – these are overlapping but independent considerations for all who practice pediatric hospital medicine – a Venn diagram, and the PHM Core Compe-

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tencies try to attend to all of those.”

This made Dr. Teferi's perspective all the more important. “While many, including other editors and associate editors, work in community sites, Dr. Teferi has this as her unique and sole focus. She brought a unique viewpoint to the table,” Dr. Fisher said.

A goal of the core competencies is to make it possible for a pediatric hospitalist to move to a different practice environment and still provide the same level of high-quality care. “It's difficult but important to grasp the concepts and competencies of various settings,” Dr. Fisher said. “In this way, our competencies are a parallel model to the adult hospitalist competencies.”

The editors surveyed practitioners across the country to gather their input on content, and brought on topic experts to write the new chapters. “If we didn't have an author for a specific chapter or area from the last set of competencies, we came to a consensus on who the new one should be,” Dr. Gage explained. “We looked for known and accepted experts in the field by reviewing the literature and conference lecturers at all major PHM meetings.”

Once the editors and associate editors worked with authors to refine their chapter(s), the chapters were sent to multiple external reviewers including subgroups of SHM, AAP, and APA, as well as a variety of other associations. They provided input that the editors and associate editors collated, reviewed, and incorporated according to consensus and discussion with the authors.

Competencies previewed

As far as the actual changes go, some of new chapters include four common clinical, two core skills, three specialized services, and five health care systems, with many others undergoing content changes, according to Dr. Gage.

Major considerations in developing the new competencies include the national trend of rising mental health issues among young patients. According to the AAP, over the last decade the number of young people aged 6-17 years requiring mental health care has risen from 9% to more than 14%. In outpatient settings, many pediatricians report that half or more of their visits are dedicated to these issues, a number that may spill out into the hospital setting as well.

According to Dr. Fisher, pediatric hospitalists today see increasing numbers of chronic and acute dis-

eases accompanied by mental and behavioral health issues. “We wanted to underscore this complexity in the competencies,” she explained. “We needed to focus new attention on how to identify and treat children with behavioral or psychiatric diagnoses or needs.”

Other new areas of focus include infection care and antimicrobial stewardship. “We see kids on antibiotics in hospital settings and we need to focus on narrowing choices, decreasing use, and shortening duration,” Dr. Gage said.

Dr. Maniscalco said that, overall, the changes represent the evolution of the field. “Pediatric hospitalists are taking on far more patients with acute and complex issues,” she explained. “Our skill set is coming into focus.”

Dr. Gage added that there is an increased need for pediatric hospitalists to be adept at “managing acute psychiatric care and navigating the mental health care arena.”

There's also the growing need for an understanding of neonatal abstinence and opioid withdrawal syndrome. “This is definitely a hot topic and one that most hospitalists must address today,” Dr. Gage said. “That wasn't the case a decade ago.”

Hospital care for pediatrics today often means a team effort, including pediatric hospitalists, surgeons, mental health professionals, and others. Often missing from the picture today are primary care physicians, who instead refer a growing percentage of their patients to hospitalists. The pediatric hospitalist's role has evolved and grown from what it was 10 years ago, as reflected in the competencies.

“We are very much coordinating

care and collaborating today in ways we weren't 10 years ago,” said Dr. Gage. “There's a lot more attention on creating partnerships. While we may not always be the ones performing procedures, we will most likely take part in patient care, especially as surgeons step farther away from care outside of the OR.”

The field has also become more family centered, said Dr. Gage. “All of health care today is more astute about the participation of families in care,” she said. “We kept that in mind in developing the competencies.”

Also important in this set of competencies was the concept of high-value care using evidence-based medicine.

Competencies implemented

How exactly the core competencies will be utilized from one hospital or setting to the next will vary, said Dr. Fisher. “For some sites, they can aid existing teaching programs, and they will most likely adapt their curriculum to address the new competencies, informing how they teach.”

Even in centers where there isn't a formal academic role, teaching still occurs. “Pediatric hospitalists have roles on committees and projects, and giving a talk to respiratory therapists, having group meetings – these all involve teaching in some form,” Dr. Fisher said. “Most physicians will determine how they wish to insert the competencies into their own education, as well as use them to educate others.”

Regardless of how they may be used locally, Dr. Fisher anticipates that the entire pediatric hospitalist community will appreciate the updates. “The competencies address our rapidly changing health care en-

vironment,” she said. “We believe the field will benefit from the additions and changes.”

Indeed, the core competencies will help standardize and improve consistency of care across the board. Improved efficiencies, economics, and practices are all desired and expected outcomes from the release of the revised competencies.

To ensure that the changes to the competencies are highlighted in settings nationwide, the editors and associate editors hope to present about them at upcoming conferences, including at the SHM 2020 Annual Conference, the Pediatric Hospital Medicine conference, the Pediatric Academic Societies conference, and the American Pediatric Association.

“We want to present to as many venues as possible to bring people up to speed and ensure they are aware of the changes,” Dr. Teferi said. “We'll be including workshops with visual aids, along with our presentations.”

While this update represents a 10-year evolution, the editors and the SHM Pediatric Special Interest Group do not have an exact time frame for when the core competencies will need another revision. As quickly as the profession is developing, it may be as few as 5 years, but may also be another full decade.

“Like most fields, we will continue to evolve as our roles become better defined and we gain more knowledge,” Dr. Maniscalco said. “The core competencies represent the field whether a senior pediatric hospitalist, a fellow, or an educator. They bring the field together and provide education for everyone. That's their role.”

DRP/NCHP/THINKSTOCK



Discrimination

Continued from page 1

"I was wondering what was going to happen, and who would provide care to this patient" she said.

Dr. Polimera is far from alone. Nonwhite physicians, nurses, and other health care providers say they increasingly encounter patients who demand that only "white" health professionals take care of them. The number of these reassignment requests has ticked upward in the last few years, they say, coinciding with the 2016 U.S. presidential campaign and the subsequent election of Donald J. Trump.

The requests often come at medical centers with no policy in place for how to deal with them. And the unpleasant encounters find providers unprepared for how to respond, not knowing whether or how to



Dr. Polimera

Clinicians sometimes wonder whether they are allowed to care for a patient even if they are willing to do so, and how to go about reassigning a patient to another clinician if that is the choice that the family makes.

several in the last year or two.

Sabrina Chaklos, MD, a hospitalist at Burlington, Mass.-based Lahey Hospital & Medical Center and clinical assistant professor at Tufts University, said she has had a similar experience.

"It was blatantly bad behavior for 2018," she said. Dr. Chaklos said she and other clinicians of color have been told, "I want an American doc-

tor," and that some patients see her darker complexion and conclude, "You must not be an American."

Given the charged political environment since 2016, some medical facilities have been adapting how they respond to these comments and requests.

"The policy of the organization prior to 2016 was to give patients a new doctor," Dr. Chaklos said. "Within the past year or so, they're finally allowing people to say, 'Look, you cannot just pick and choose your doctor,' based on arbitrary reasons that are discriminatory in nature."

Emily Whitgob, MD, MEd, a developmental-behavioral pediatrician at Santa Clara Valley Medical Center in San Jose, Calif., said that, several years ago, a scenario unfolded that led her to study the issue. An intern she was overseeing told her that the father of a pediatric patient had scrutinized the intern's name tag and said, "Is that a Jewish last name? I don't want a Jewish doctor."

"I didn't know what to do," Dr. Whitgob said. Later, she brought up the situation at a meeting of 30 staff members. It led to an outpouring of sharing about similar incidents that other clinicians had experienced but

had never talked about with their colleagues.

"Half the room, by the end, was in tears talking about their experiences," Dr. Whitgob said. Since then, she has led research into how physicians typically handle such situations, performing semi-structured interviews to survey pediatricians about their experiences with patients who discriminate on racial and ethnic grounds.

One important step, she said, is assessing the acuity of the illness involved to help determine whether the transfer of a patient from one provider to another should even be considered. In a dire situation, or when the physician involved is the foremost expert on a given condition, it might not be realistic.

Dr. Whitgob said some clinicians advocated cultivating a kind of alliance with the parents of pediatric patients, informing them that they're part of a team that interacts with many types of providers, and redirecting them to focus on their child's care.

"This takes time, and in a busy setting, that might not happen," she acknowledged. Physicians surveyed also said they try to depersonalize an uncomfortable encounter with a patient or a patient's family member, remembering that discrimination is often motivated by a patient's fears and a lack of control.

An important consideration, researchers found, was ensuring a safe learning environment for trainees, telling patients they would trust the physician with the care of their own

children, escalating a complaint to hospital administration when appropriate, and empowering trainees to choose the next step in a situation.

Dr. Whitgob said that handling a reassignment request based on discriminatory sentiments is not as easy as "calling out 'Code Bigotry.'"

"It's not that simple," Dr. Whitgob said. "There's not going to be a one-size-fits-all or even a one-size-fits-most solution. Each case is an individual case."

Taking action

Dr. Polimera's encounter with her patient's daughter led to changes in the way Penn State Health handles encounters like hers.

When Dr. Polimera explained the situation to physician leadership, she was asked whether she was still comfortable taking care of the patient. She responded that she remained comfortable providing care. The physician leaders then informed the patient's family that they could not change providers simply because of ethnicity. But that was just the first step taken by Penn State Health.

Ultimately, the health system initiated a survey of all its health care providers, to determine whether others had similar experiences with patients or families, and had to deal with rude comments or were rejected as caregivers based on their race, gender, or religion.



Dr. Whitgob

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resolve the situation with patients and their families. Clinicians sometimes wonder whether they are allowed to care for a patient even if they are willing to do so, and how to go about reassigning a patient to another clinician if that is the choice that the family makes.

To many hospitalists working in the field, it seems obvious that such situations are encouraged by a political environment in which discriminatory beliefs – once considered shameful to express publicly – are now deemed acceptable, even in health care encounters. Indeed, the health care encounter is perhaps the only time some patients will find themselves involved in intimate interactions with people of other ethnicities.

Responding to discrimination

A workshop at the 2019 Society of Hospital Medicine Annual Conference offered hospitalists an opportunity to discuss encounters with patients who expressed discriminatory attitudes. One physician, of South Asian descent, said that she had encountered no reassignment requests rooted in racial intolerance over more than a decade of work, but has encountered

several in the last year or two.

Given the charged political environment since 2016, some medical facilities have been adapting how they respond to these comments and requests.

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Dr. McGillen

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An important consideration, researchers found, was ensuring a safe learning environment for trainees, telling patients they would trust the physician with the care of their own

"The feedback we received was massive and detailed," Dr. Polimera said.

Brian McGillen, MD, section chief of hospital medicine and associate professor in the department of medicine at Penn State Health, said physician leaders took the survey results to the dean's executive council, a who's-who of medical leadership at the health system.

"I read aloud to the executive council what our folks were facing out on the floors," Dr. McGillen said.

"And I was halfway through my third story when the dean threw his hands up in the air and said, 'We have to do something.'"

As a result, the health system's policy on patient responsibility was changed to protect all health care providers from threats, violence, disrespectful communication, or harassment by patients, families, and other visitors. Before the change, the policy covered discriminatory acts only by patients themselves.

Penn State Health is now embarking on a training program for faculty, residents, and students that uses simulations of common hospital encounters. The health system also is engaging its patient relations staff to help mediate patient reassignment requests, and is trying to increase real-time debriefing of these events to further improve awareness and training.

Dr. McGillen noted that researchers at the University of North Texas, using data from the Anti-Defamation League, found that counties in which President Trump held campaign rallies – such as Dauphin County, Pa., where Hershey is located – had a 226% increase in hate crimes in the months after the rallies.

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"This isn't to say that every county and every person in these counties that voted for Mr. Trump is racist, but we surely know that his campaign unlocked an undercurrent of political incorrectness that has existed for ages," he said. "We had to do something as an organization."

Adapting to change

While some health systems are acting to limit the harm caused by discrimination, there is still much awareness to be raised and work to be done on this issue nationally. Some hospitalists at the 2019 SHM Annual Conference said they sus-

pect that discriminatory incidents involving patients are still so underreported that the C-suite leaders at their hospitals do not recognize how serious a problem it is. Attendees at the HM19 workshop said discriminatory behavior by patients could affect hospitalist turnover and lead to provider burnout.

Multiple hospitalists at the workshop said that if a transfer of a patient is going to take place – if the patient requests a "white" doctor and there is not one available where the patient is admitted – they are unsure whether it is their responsibility to make the necessary phone calls. Some hospitalists say that if that job does fall to them, it interrupts work flow.

Susan Hakes, MHA, director of hospital administration at the Guthrie Clinic in Ithaca, N.Y., said that, when a patient recently asked for a "white" doctor and there was not one available at the time of the request, the patient changed her mind when costs were considered.

"I was willing to have this patient transferred to another one of our hospitals that did have a white doctor, but it would have been at her expense since insurance wouldn't cover the ambulance ride,"

Ms. Hakes said. "She had second thoughts after learning that."

Ms. Hakes said that the broader community in her region – which is predominantly white – needs to adapt to a changing health care scene.

"We're recruiting international nurses now, due to the nursing shortage," she said. "It will serve our community well to be receptive and welcome this additional resource."

Kunal Bhagat, MD, chief of hospital medicine at Christiana Care Health System in Newark, Del., said that medical centers should set parameters for action when a patient discriminates, but that clinicians should not expect to fundamentally change a patient's mindset.

"I think it is important to set limits," Dr. Bhagat said. "It's like with your kids. Your children may behave in certain ways, at certain times, that you don't like. You can tell them, 'You know, you may not like behaving the way I want you to behave, but the way you're behaving now is not acceptable.' If our goal is to try to completely change their world-view at that moment, I think we're going to be set up for failure. That's more of a long-term issue for society to address."

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Creating best practices for APPs

A holistic approach to integration adapted

Hospital medicine groups (HMGs) nationally are confronted with a host of challenging issues: increased patient volume/complexities, resident duty-hour restrictions, and a rise in provider burnout. Many are turning to advanced practice providers (APPs) to help lighten these burdens.

But no practical guidelines exist around how to successfully incorporate APPs in a way that meets the needs of the patients, the providers, the HMG, and the health system, according to Kasey Bowden, MSN, FNP, AG-ACNP, lead author of a HM19 abstract on that subject.

“Much of the recent literature around APP utilization involves descriptive anecdotes on how individual HMGs have utilized APPs, and what metrics this helped them to achieve,” she said. “While these stories are often compelling, they provide no tangible value to HMGs looking to incorporate APPs into practice, as they do not address unique elements that limit suc-

cessful APP integration, including diverse educational backgrounds of APPs and exceedingly high turnover rates (12.6% nationally).”

Ms. Bowden and coauthors created a conceptual framework, which recognizes that, without taking a holistic approach, many HMGs will fail to successfully integrate APPs. “Our hope is that by utilizing this framework to define APP-physician best practices, we will be able to create a useful tool for all HMGs that will promote successful APP-physician collaborative practice models.”

She thinks that hospitalists could also use this framework to examine their current practice models and to see where there may be opportunity for improvement. For example, a group may look at their own APP turnover rate. “If turnover rate is high in the first year, it may suggest inadequate onboarding/training, if it is high after 3 years, this may suggest minimal opportunities for professional growth and advancement,” Ms. Bowden said.



CECILIE ARCUS/GETTY IMAGES

“I would love to see a consensus group form within SHM of physician and APP leaders to utilize this framework to establish ‘APP-Physician best practices,’ and create a guideline available to all HMGs so that they can successfully incorpo-

rate APPs into their practice,” she said.

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Reducing alarm fatigue in the hospital

Noise increases patient anxiety

Researchers are exploring ways to make alarms and monitors less irritating and more informative.

“Hospitals today can be sonic hellscapes, which studies have shown regularly exceed levels set by the World Health Organization: droning IV pumps, ding-donging nurse call buttons, voices crackling on loudspeakers, ringing telephones, beeping elevators, buzzing ID scanners, clattering carts, coughing, screaming, vomiting,” according to a recent article in the New York Times.

And that’s not to mention all the alarms that blare regularly, day and night. “A single patient might trigger hundreds each day, challenging caregivers to figure out which machine is beeping, and what is wrong with the patient, if anything,” according to the article.

All this noise contributes to patient anxiety and delirium and to

staff burnout too. Alarm fatigue is a serious problem, related to the high rate of false alarms, the lack of alarm standardization, and the number of medical devices that emit an alarm. Its effect is to make caregivers less responsive.

A group of researchers is developing new sounds that could replace current alarms. These new signals might mimic electronic dance music or the sounds of a heartbeat; they may combine audible alarms with visual cues such as interactive screens; they will certainly be quieter. Testing remains to be done around how quickly clinicians will be able to learn the sounds and how loud they need to be. The researchers say a new standard is likely to go into effect in 2020.

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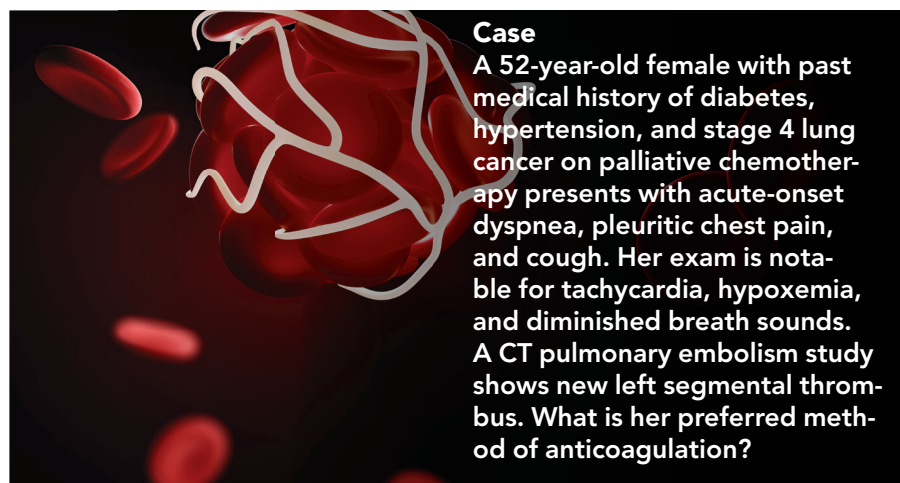
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Key Clinical Question

DOACs for treatment of cancer-associated venous thromboembolism

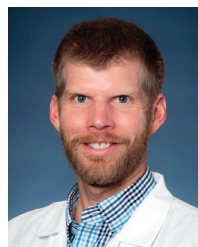
Bleeding risk may determine best option

By Jeffrey Spence, MD; Marshall Miller, MD; Jia Liu, MD



Case

A 52-year-old female with past medical history of diabetes, hypertension, and stage 4 lung cancer on palliative chemotherapy presents with acute-onset dyspnea, pleuritic chest pain, and cough. Her exam is notable for tachycardia, hypoxemia, and diminished breath sounds. A CT pulmonary embolism study shows new left segmental thrombus. What is her preferred method of anticoagulation?



Dr. Spence



Dr. Miller



Dr. Liu

Dr. Spence is a hospitalist and palliative care physician at Denver Health, and an assistant professor of medicine at the University of Colorado at Denver, Aurora. Dr. Miller and Dr. Liu are hospitalists at Denver Health, and assistant professors of medicine at the University of Colorado at Denver.

Brief overview of the issue

Venous thromboembolism (VTE) including deep vein thrombosis (DVT) and pulmonary embolism (PE), is a significant concern in the context of malignancy and is associated with higher rates of mortality at 1 year.

The standard of care in the recent past has relied on low-molecular-weight heparin (LMWH) after several trials showed decreased VTE recurrence in cancer patients, compared with vitamin K antagonist (VKA) treatment.^{1,2} LMWH has been recommended as a first-line treatment by clinical guidelines for cancer-related VTE given lower drug-drug interactions between LMWH and chemotherapy regimens, as compared with traditional VKAs, and it does not rely on intestinal absorption.³

In more recent years, the focus has shifted to direct oral anticoagulants (DOACs) as potential treatment options for cancer-related VTE given their ease of administration, low side-effect profile, and decreased cost. Until recently, studies have mainly been small and largely retrospective; however, several larger randomized control studies have recently been published.

Overview of the data

Several retrospective trials have investigated the use of DOACs in cancer-associated VTE. One study looking at VTE recurrence rates showed a trend toward lower rates with rivaroxaban, compared with

LMWH at 6 months (13% vs. 17%) that was significantly lower at 12 months (16.5% vs. 22%). Similar results were found when comparing rivaroxaban to warfarin. Major bleeding rates were similar among cohorts.⁴

Several other retrospective cohort studies looking at treatment of cancer-associated VTE with LMWH vs. DOACs found that overall patients treated with DOACs had cancers with lower risk for VTE and had lower burden of metastatic disease. When this was adjusted for, there was no significant difference in the rate of recurrent cancer-associated thrombosis or major bleeding.^{5,6}

Recently several prospective studies have corroborated the noninferiority or slight superiority of DOACs when compared with

LMWH in treatment of cancer-associated VTE, while showing similar rates of bleeding. These are summarized as follows: a prospective, open-label, randomized controlled (RCT), noninferiority trial of 1,046 patients with malignancy-related VTE assigned to either LMWH for at least 5 days, followed by oral edoxaban vs. subcutaneous dalteparin for at least 6 months and up to 12 months. Investigators found no significant difference in the rate of recurrent VTE in the edoxaban group (12.8%), as compared to the dalteparin group (13.5%, $P = .006$ for noninferiority). Risk of major bleeding was not significantly different between the groups.⁷

A small RCT of 203 patients comparing recurrent VTE rates with rivaroxaban vs. dalteparin found significantly fewer recurrent clots

in the rivaroxaban group compared to the dalteparin group (11% vs 4%) with no significant difference in the 6-month cumulative rate of major bleeding, 4% in the dalteparin group and 6% for the rivaroxaban group.⁸ Preliminary results from the ADAM VTE trial comparing apixaban to dalteparin found significantly fewer recurrent VTE in the apixaban group (3.4% vs. 14.1%) with no significant difference in major bleeding events (0% vs 2.1%).⁹ The Caravaggio study is a large multinational randomized, controlled, open-label, noninferiority trial looking at apixaban vs. dalteparin with endpoints being 6-month recurrent VTE and bleeding risk that will likely report results soon.

Risk of bleeding is also a major consideration in VTE treatment as

Table 1. Summary of relevant studies on DOAC use in treatment of cancer-associated VTE

Trial	Type	N	Months to outcome	VTE recurrence rate		P value/hazard ratio	Major bleeding rate		P value/hazard ratio
				LMWH arm	DOAC arm		LMWH arm	DOAC arm	
Strieff 2018	Retrospective cohort	2,428	6	17.1%	13.2%	$P = .06$	4.1%	6.7%	$P = .917$
Phelps 2018	Retrospective cohort	480	6	7.2%	6.3%	$P = .71$	7.6%	2.6%	$P = .08$
Simmons 2018	Retrospective cohort	266	3	4.2%	1.0%	$P = .15$	3.6%	5.1%	$P = .55$
Raskob 2018 (Hokusai VTE)	Prospective RCT	1,046	12	13.5%	12.8%	HR, 0.97 (0.70-1.36)	4.0%	6.9%	HR, 1.77 (1.03-3.04)
Young 2018 (SELECT-D)	Prospective RCT	203	6	11%	4%	HR, 0.43 (0.19-0.99)	4%	6%	HR, 1.83 (0.68-4.96)

Source: Dr. Spence, Dr. Miller, Dr. Liu

studies suggest that patients with metastatic cancer are at sixfold higher risk for anticoagulant-associated bleeding.³ Subgroup analysis of Hokusai VTE cancer study found that major bleeding occurred in 32 of 522 patients given edoxaban and 16 of 524 patients treated with dalteparin. Excess of major bleeding with edoxaban was confined to patients with GI cancer. However, rates of severe major bleeding at presentation were similar.¹⁰

Overall, the existing data suggest that DOACs may be a viable option in the treatment of malignancy-associated VTE given its similar efficacy in preventing recurrent VTE without significant increased risk of major bleeding. The 2018 International Society on Thrombosis and Haemostasis VTE in cancer guidelines have been updated to include rivaroxaban and edoxaban for use in patients at low risk of bleeding, but recommend an informed discussion between patients and clinicians in deciding between DOAC and LMWH.¹¹ The Chest VTE guidelines have not been updated since 2016, prior to when the above mentioned DOAC studies were published.

Application of data to our patient

Compared with patients without cancer, anticoagulation in cancer patients with acute VTE is challenging because of higher rates of VTE recurrence and bleeding, as well as the potential for drug interactions with anticancer agents. Our

patient is not at increased risk for gastrointestinal bleeding, and no drug interactions exist between her current chemotherapy regimen and the available DOACs; therefore she is a candidate for treatment with a DOAC.

After an informed discussion, she chose to start rivaroxaban for treatment of her pulmonary embolism. While more studies are needed to definitively determine the best treatment for cancer-associated VTE, DOACs appear to be an attractive alternative to LMWH. Patient preferences of taking oral medications over injections as well as the significant cost savings of DOACs over LMWH will likely play into many patients' and providers' anticoagulant choices.

Bottom line

Direct oral anticoagulants are a treatment option for cancer-associated VTE in patients at low risk of bleeding complications. Patients at increased risk of bleeding (especially patients with GI malignancies) should continue to be treated with LMWH.

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- Ay C et al. Treatment of cancer-associated venous thromboembolism in the age of direct oral anticoagulants. *Ann Oncol.* 2019 Mar 27 [epub].

Key Points

- DOACs are a reasonable treatment option for malignancy-associated VTE in patients without GI tract malignancies and at low risk for bleeding complications.
- In patients with gastrointestinal malignancies or increased risk of bleeding, DOACs may have an increased bleeding risk and therefore LMWH is recommended.
- An informed discussion should occur between providers and patients to determine the best treatment option for cancer patients with VTE.

Quiz

Which of the following is the recommended treatment of VTE in a patient with brain metastases?

- A. Unfractionated heparin
- B. Low-molecular-weight heparin
- C. Direct oral anticoagulant
- D. Vitamin K antagonist

The answer is B. Although there are very few data, LMWH is the recommended agent in patients with VTE and brain metastases.

A. LMWH has been shown to decrease mortality in patients with VTE and cancer, compared with unfractionated heparin (risk ratio, 0.66).

C. The safety of DOACs is not yet well established in patients with brain tumors. Antidotes and/or specific reversal agents for some DOACs are not available.

D. Vitamin K antagonists such as warfarin are not recommended in cancer patients because LMWH has a reduced risk of recurrent VTE without increased risk of bleeding.

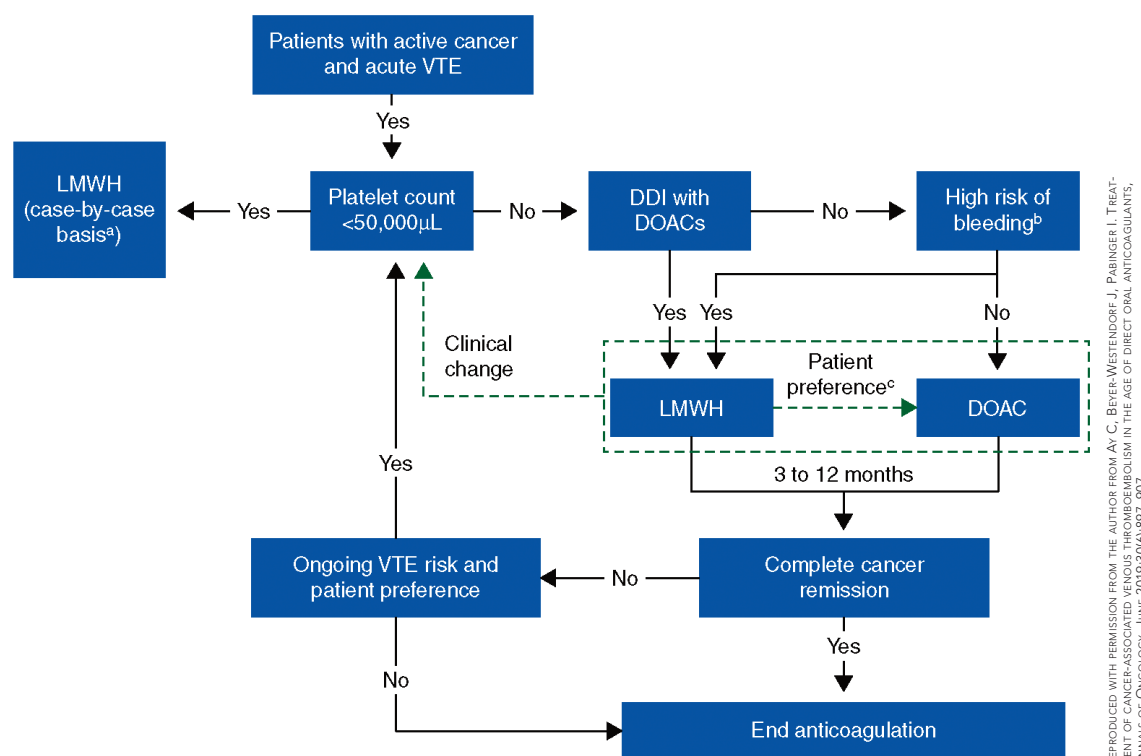


FIGURE 1: Practical algorithm for anticoagulation in cancer-associated VTE

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Clinician reviews of HM-centric research

By Andrew Berry, MD; Jacob Blount, MD; Elizabeth Breitbach, MD; Samuel Porter, MD; Emily Waner, MD

Rocky Mountain Veterans Administration Regional Medical Center, Aurora, Colo.

IN THIS ISSUE

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4. DAPT increases bleeding without decreasing mortality in patients with coronary disease and diabetes
5. Complete PCI beats culprit-lesion-only PCI in STEMI patients with multivessel CAD
6. Regular medical masks no different than N95 respirator masks in preventing flu transmission
7. Poor sensitivity for blood cultures drawn after antibiotics

By Andrew Berry, MD

1 Anticoagulation and antiplatelet therapy after GI bleed cut mortality, ischemic events

CLINICAL QUESTION: In patients who present with a gastrointestinal bleed (GIB) while on an anticoagulants (AC) or antiplatelets (AP), what are the risks and benefits to resuming these medications?

BACKGROUND: Resumption of AC or AP therapy for patients following a GIB represents a common clinical challenge. Interruption of these medications following a GIB is associated with increased risk of macrovascular events, thrombosis, morbidity, and death. Prior studies have found inconsistent risk of rebleeding and death with resumption of these therapies following GIB. Little evidence exists for long-term outcomes and optimal timing of AC and AP resumption.

STUDY DESIGN: Retrospective observational cohort study.

SETTING: Two general hospitals in Spain.

SYNOPSIS: Overall 871 patients (mean age, 79 years) presenting with GIB on AC or AP therapy were followed for a median of 25 months. A total of 63% of patients experienced one of the following: thrombotic events, recurrent bleeding, or death during follow-up. Resumption of therapy was associated with a two-fold risk of rebleeding, but lower rates of ischemic events (hazard ratio, 0.62; 95% confidence interval,

0.4-0.9) and death (HR, 0.60; 95% CI, 0.45-0.80). Early resumption (7 days or less) was associated with more rebleeding (30.6% vs. 23.1%; $P = .04$), fewer ischemic events (13.6% vs. 20.4%; $P = .02$), and no difference in death. Bleeding was more frequent with AC agents, compared with AP agents.

Although resumption of AC or AP following a GIB increased bleeding risk, this may be outweighed by reductions in ischemic events and death if these agents are continued. For hospitalist clinicians, this remains a nuanced and patient-centered decision.

Interpretation is limited by variability in GIB location, agents used, and timing of resumption. Also, the study population included a limited number of elderly patients with multiple comorbidities and high overall death rate.

BOTTOM LINE: Resuming AC and AP medications following gastrointestinal bleeding doubled the rebleeding risk but lowered the risk of ischemic events and death, compared with the discontinuation of these medications.

CITATION: Sostres C et al. Risk of rebleeding, vascular events and death after gastrointestinal bleeding in anticoagulant and/or antiplatelet users. *Aliment Pharmacol Ther.* 2019 Oct;50:919-29.



Dr. Berry

2 Antipsychotic administration fails to treat delirium in hospitalized adults

CLINICAL QUESTION: Is there benefit to antipsychotic administration to treat delirium in adult inpatients?

BACKGROUND: Delirium is a common disorder in hospitalized adults and is associated with poor outcomes. Antipsychotics are used clinically to treat delirium, but benefits and harms remain unclear.

STUDY DESIGN: A systematic review evaluating treatment of delirium in 16 randomized, controlled trials (RCTs) of antipsychotics vs. placebo or other antipsychotics, as well as 10 prospective observational studies reporting harm.

SETTING: Data obtained from PubMed, Embase, CENTRAL, CINAHL, and PsycINFO from inception to July 2019 without language restrictions.

SYNOPSIS: For 5,607 adult inpatients, treatment of delirium with haloperidol showed no difference in sedation status, duration of delirium, hospital length of stay, or mortality when compared with second-generation antipsychotics or placebo (low and moderate strength of evidence). Regarding second-generation antipsychotics versus haloperidol, no difference was found in delirium severity and cognitive function (low strength of evidence). Direct comparisons between second-generation antipsychotics showed no difference in mortality.

Limitations include heterogeneous use of agents, routes, dose, and measurement tools, which limits generalization of evidence. Multiple RCTs excluded patients with underlying cardiac and neurologic conditions that likely led to underrepresentation of harm in routine use. Insufficient evidence still exists for multiple clinically relevant outcomes including long-term cognitive function.

BOTTOM LINE: Evidence from several studies does not support the use of haloperidol or newer antipsychotics to treat delirium.

CITATION: Nikoos R et al. Antipsychotics for delirium treatment in

adults: A systematic review. *Ann Intern Med.* 2019 Oct 1;171(7):485-95.

Dr. Berry is assistant professor of medicine, hospital medicine, at the Rocky Mountain Veterans Affairs Regional Medical Center, Aurora, Colo.

By Jacob Blount, MD

3 New updates for Choosing Wisely in hospitalized patients with infection

CLINICAL QUESTION: Which new Choosing Wisely recommendations should hospitalists incorporate into their practice to avoid unnecessary testing, reduce harm, and lower cost?

BACKGROUND: A new update to the Choosing Wisely Campaign was released September 2019.

STUDY DESIGN: Expert consensus recommendations from the American Society for Clinical Pathology. **SYNOPSIS:** Eleven of the 30 Choosing Wisely recommendations directly affect hospital medicine. Half of these recommendations are related to infectious diseases. Highlights include:

- Not routinely using broad respiratory viral testing and instead using more targeted approaches to respiratory pathogen tests (e.g., respiratory syncytial virus, influenza A/B, or group A pharyngitis) unless the results will lead to changes to or discontinuations of antimicrobial therapy or isolation.
- Not routinely testing for community gastrointestinal pathogens in patients that develop diarrhea 3 days after hospitalization and to primarily test for *Clostridioides difficile* in these patients, unless they are immunocompromised or older adults.
- Not checking procalcitonin unless a specific evidence-based guideline is used for antibiotic stewardship, as it is often used incorrectly without benefit to the patient.



Dr. Blount

- Not ordering serology for *Helicobacter pylori* and instead ordering the stool antigen or breath test to test for active infection given higher sensitivity and specificity.
- Not repeating antibody tests for patients with history of hepatitis C and instead ordering a viral load if there is concern for reinfection.

BOTTOM LINE: Only order infectious disease tests that will guide changes in clinical management.

CITATION: ASCP Effective Test Utilization Steering Committee. Thirty things patients and physicians should question. 2019 Sep 9. Choosewisely.org.

Dr. Blount is clinical instructor of medicine, hospital medicine, at the Rocky Mountain Veterans Affairs Regional Medical Center, Aurora, Colo.

By Elizabeth Breitbach, MD

4 DAPT increases bleeding without decreasing mortality in patients with coronary disease and diabetes

CLINICAL QUESTION: In patients who have diabetes with known coronary disease but without prior MI or stroke, what is the effect of dual-antiplatelet therapy (DAPT) with aspirin and ticagrelor on cardiovascular outcomes and bleeding events?



BACKGROUND: Dr. Breitbach The PARTHENON clinical development program has conducted several clinical trials to assess the effectiveness of ticagrelor in multiple cardiovascular diseases. A prior study revealed the addition of ticagrelor to aspirin in patients with history of MI showed a small benefit in cardiovascular outcomes but with increased bleeding risk. While this effect was seen in both patients with and without diabetes, the absolute benefit for those with diabetes was considered large because of their higher baseline risk. Given this, investigators wanted to know if addition of ticagrelor to aspirin could also be beneficial in diabetics with known coronary disease but without history of MI or stroke.

STUDY DESIGN: Randomized, double-blind trial, intention-to-treat analysis.

SETTING: Multicenter, 950 centers across 35 countries.

Same efficacy, less bleeding with apixaban, compared with rivaroxaban for VTE

A database and registry meta-analysis of 24,041 patients revealed no significant difference in recurrence of venous thromboembolism at 6 months. However, apixaban had statistically significant lower rates of both major (0.74% vs. 10.3%; risk ratio, 0.73) and minor bleeding (4.95% vs 8.77%; RR 0.59), compared with rivaroxaban.

CITATION: Aryal MR et al. Systematic review and meta-analysis of the efficacy and safety of apixaban compared to rivaroxaban in acute

VTE in the real world. *Blood Adv.* 2019 Aug 13;3(15):2381-7.

Lefamulin: A novel antibiotic approved by the FDA for CAP

Two multisite randomized controlled trials (n = 1,289 patients) have shown noninferiority in clinical response rates for lefamulin (Xenleta) vs. moxifloxacin for patients with community-acquired bacterial pneumonia (CABP). Oral lefamulin did have higher rates of gastrointestinal side effects (18% vs. 8%, respectively). Lefamulin has preferable resistance patterns and in vitro activity against typical

CABP organisms and methicillin-resistant *Staphylococcus aureus*, although few patients with MRSA were included in these studies.

CITATIONS: File TM et al. Efficacy and safety of IV-to-oral lefamulin, a pleuromutilin antibiotic, for treatment of community-acquired bacterial pneumonia: The phase 3 LEAP 1 trial. *Clin Infect Dis.* 2019 Dec 1;69(11):1856-67; Alexander E et al. Oral lefamulin vs moxifloxacin for early clinical response among adults with community-acquired bacterial pneumonia: The LEAP 2 randomized clinical trial. *JAMA.* 2019 Sep 27;322(17):1661-71.

SYNOPSIS: In this AstraZeneca-funded trial, 19,000 patients with diabetes and coronary disease without prior MI or stroke received either aspirin or DAPT (aspirin + ticagrelor). The composite outcome including cardiovascular death, MI, stroke, or death from any cause at 36 months was reduced in the DAPT arm (6.9% vs. 7.6%; hazard ratio, 0.90; 95% confidence interval, 0.81-0.99; *P* = .04) with a number needed to treat of 138. This composite outcome was driven by MI and stroke without differences in cardiovascular death or death from any cause. However, the primary safety outcome of major bleeding was higher with DAPT (2.2% vs. 1.0%; HR, 2.32; 95% CI, 1.82-2.94; *P* less than .001) with a number needed to treat of 93. Intracranial bleeding was higher with DAPT. Incidence of irreversible harm measured by death, MI, stroke, fatal bleeding, or intracranial hemorrhage showed no difference.

Further studies into risk stratification based on prothrombotic versus bleeding risk could be beneficial in identifying specific groups that could benefit from DAPT. Conclusions from this study suggest the benefit of DAPT in diabetics does not outweigh its risk.

BOTTOM LINE: Addition of ticagrelor to aspirin in diabetic patients with stable coronary disease and no prior MI or stroke is not recommended.

CITATION: Steg PG et al. Ticagrelor in patients with stable coronary disease and diabetes. *N Eng J Med.* 2019 Oct 3;381(14):1309-20.

Dr. Breitbach is assistant professor of medicine, hospital medicine, at the Rocky Mountain Veterans Affairs Regional Medical Center, Aurora, Colo.

By Samuel Porter, MD

5 Complete PCI beats culprit-lesion-only PCI in STEMI patients with multivessel CAD

CLINICAL QUESTION: In patients who have a STEMI (ST elevation myocardial infarction) and are found to have multivessel coronary artery disease, does staged percutaneous coronary intervention (PCI) of nonculprit lesions improve cardiovascular death or MI?



Dr. Porter

BACKGROUND: Previous trials have shown a reduction in composite outcomes if STEMI patients undergo staged PCI of nonculprit lesions discovered incidentally at the time of primary PCI for STEMI. However, no randomized trial has had the power to assess if staged PCI of nonculprit lesions reduces cardiovascular death or MI.

STUDY DESIGN: Prospective randomized clinical trial.

SETTING: PCI-capable centers in 31 countries.

SYNOPSIS: In this study, if multivessel disease was identified during primary PCI for STEMI, patients were randomized to either culprit-lesion-only PCI or complete revascularization with staged PCI of all suitable nonculprit lesions (either during the index hospitalization or up to 45 days after randomization).

Overall, 4,041 patients from 140 centers were randomized with median 3-year follow-up. The complete revascularization group had lower rates of the primary composite

outcome of death from cardiovascular disease or new MI (absolute reduction, 2.7%; 7.8% vs. 10.5%; number needed to treat, 37; hazard ratio, 0.74; 95% confidence interval, 0.60-0.91; *P* = .004). This finding was driven by lower incidence of new MI in the complete revascularization group – the incidence of death was similar between the groups. A coprimary composite outcome of death from cardiovascular causes, new MI, or ischemia-driven revascularization also favored complete revascularization, with an absolute risk reduction of 7.8% (8.9% vs. 16.7%; NNT, 13; HR, 0.51; 95% CI, 0.43-0.61; *P* less than .001). No statistically significant differences between groups were noted for the safety outcomes of major bleeding, stroke, stent thrombosis, or contrast-induced kidney injury.

BOTTOM LINE: Patients with STEMI who have multivessel disease incidentally discovered during primary PCI have a lower incidence of new MI and ischemia-driven revascularization when they undergo complete revascularization of all suitable lesions, as opposed to PCI of only their culprit lesion.

CITATION: Mehta SR et al. Complete revascularization with multivessel PCI for myocardial infarction. *N Engl J Med.* 2019 Oct 10;381:1411-21.

6 Regular medical masks no different than N95 respirator masks in preventing flu transmission

CLINICAL QUESTION: Are N95 respirator masks better than regular medical masks in preventing the transmission of influenza and other respiratory infections among

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health care providers?

BACKGROUND: While it is recognized that N95 respirator masks are better than regular medical masks at preventing the inhalation of aerosols, the question of whether they are better at preventing the transmission of infectious viral micro-organisms has never been studied in a robust randomized trial. Prior studies have shown mixed results, from noninferiority of medical masks to superiority of N95 masks, but these studies were stopped early or calibrated to detect outcomes of questionable clinical significance.

STUDY DESIGN: Cluster randomized, investigator-blinded pragmatic effectiveness study.

SETTING: Seven outpatient health systems throughout the United States.

SYNOPSIS: Data from 2,862 participants from 137 sites were gathered during the 12 weeks of peak influenza season during 2011-2015. Following analysis, there was no difference in objective laboratory evidence (by polymerase chain reaction or serum influenza seroconversion not attributable to vaccination) between the groups randomized to N95 masks and the groups randomized to regular medical masks. No significant difference in self-reported "flu-like illness" or self-reported adherence to the intervention was noted between groups. Participants self-reported "never" adhering to the intervention about 10% of the time in both groups and adhering only "sometimes" about 25% of the time.

The study limitations included: most testing for infection occurred for self-reported symptoms with only a minor component of testing occurring at random; the self-reporting of secondary outcomes; and the somewhat high rate of non-adherence to either intervention. Although these are likely necessary trade-offs in a pragmatic trial.

BOTTOM LINE: N95 respirator masks are no better than regular medical masks at preventing the transmission of influenza and other viral respiratory illnesses.

CITATION: Radonovich LJ et al. N95 respirators vs. medical masks for preventing influenza among health care personnel: A randomized clinical trial. *JAMA*. 2019 Sep 3;322(9):824-33.

Dr. Porter is chief quality and safety resident at the Rocky Mountain Veterans Affairs Regional Medical Center, Aurora, Colo.

By Emily Waner, MD

7 Poor sensitivity for blood cultures drawn after antibiotics

CLINICAL QUESTION: In patients with severe sepsis, what is the sensitivity of blood cultures drawn shortly after antibiotic initiation?

BACKGROUND: Early antibiotic administration reduces mortality in patients with severe sepsis.

Administering antibiotics before blood cultures could potentially decrease time to treatment and improve outcomes,

but the diagnostic yield of blood cultures drawn shortly after antibiotics is unknown.

STUDY DESIGN: Prospective, patient-level, pre- and post-study.

SETTING: Multicenter study in USA & Canada.

SYNOPSIS: During 2013-2018, 330 adult patients were recruited from seven urban EDs. Patients with severe manifestations of sepsis (spontaneous bacterial peritonitis [SBP] less than 90 mm Hg and lactic acid of 4 or more) had blood cultures drawn before and after empiric antibiotic administration. Blood cultures were positive for one or more microbial pathogens in 31.4% of patients when drawn before antibiotics and in 19.4% of patients when drawn after antibiotics (absolute difference of 12.0% (95% confidence interval, 5.4%-18.6%; *P* less than .001). The sensitivity of blood cultures after antibiotic administration was 52.9% (95% CI, 43%-63%).

There were several study limitations including: lack of sequential recruitment, lower than expected proportion of bacteremic patients, and variation in blood culture collection. Despite this, the magnitude of the findings are convincing and support current practice.

BOTTOM LINE: Continue to obtain blood cultures before antibiotics.

CITATION: Cheng MP et al. Blood culture results before and after antimicrobial administration in patients with severe manifestations of sepsis. *Ann Intern Med*. 2019 Oct 15;171(8):547-54.



Dr. Waner

Dr. Waner is clinical instructor of medicine, hospital medicine, at the Rocky Mountain Veterans Affairs Regional Medical Center, Aurora, Colo.

HF trial data presage guideline revisions

By Mitchel L. Zoler
MDedge News

PHILADELPHIA – The definition and treatment of heart failure with reduced ejection fraction should change based on recent findings and analyses from major trials, said a key heart failure leader at the American Heart Association scientific sessions.

The people charged with writing U.S. guidelines for heart failure management already have enough evidence to change the recommended way of using sacubitril/valsartan (Entresto) in patients with heart failure with reduced ejection fraction (HFrEF), said Clyde W. Yancy, MD, professor of medicine and chief of cardiology at Northwestern University, Chicago. Accumulated evidence from studies and more than 5 years of experience in routine practice with the angiotensin receptor neprilysin inhibitor (ARNI) combination sacubitril/valsartan for treating HFrEF patients justifies striking the existing recommendation to first start patients on an ACE inhibitor or angiotensin receptor blocker and only after that switching to sacubitril/valsartan,

a sequence that has rankled some clinicians as an unnecessary delay and barrier to starting patients on the ARNI regimen.



Dr. Yancy

U.S. guidelines should now suggest that ARNI treatment start immediately, said Dr. Yancy, who chaired the AHA/American College of Cardiology panel that updated U.S. guidelines for heart failure management in 2013 (Circulation. 2013 Oct 15;128[16]:e240-327), 2016 (J Am Coll Cardiol. 2016 Sep;68[13]:1476-88), and 2017 (Circulation. 2017 Aug 8;136[6]:e137-61).

Expanding the heart failure group for sacubitril/valsartan

Dr. Yancy also proposed a second major and immediate change to the existing heart failure guideline based on a new appreciation of a heart failure population that could benefit from ARNI treatment: patients with “mid-range” heart failure, defined by a left ventricular ejection fraction (LVEF)

of 41%-49% that places them between patients with HFrEF with an ejection fraction of 40% or less, and those with heart failure with preserved ejection fraction (HFpEF) of 50% or more. As yet unchanged in the 2013 AHA/ACC heart failure guideline is the proposition that patients with heart failure and an ejection fraction of 41%-49% have “borderline” heart failure with characteristics, treatment patterns, and outcomes “similar to patients with HFpEF.”

That premise should now go out the window, urged Dr. Yancy, based on a new analysis of data collected from both the recent PARAGON-HF trial of sacubitril/valsartan in patients with HFpEF and ejection fractions of 45% or higher (N Engl J Med. 2019 Oct 24;381[17]:1609-20) and the landmark PARADIGM-HF trial that established sacubitril/valsartan as a treatment for patients with HFrEF (N Engl J Med. 2014 Sep 11;371[11]:993-1004).

Bringing SGLT2 inhibitors into heart failure management

Dr. Yancy also cited recently reported data from another landmark trial, DAPA-HF (Dapagliflozin and

Prevention of Adverse Outcomes in Heart Failure), as an impetus for both another immediate change to the guideline and for a potential second change pending a report of confirmatory evidence that may arrive in 2020.

The DAPA-HF results showed that the sodium-glucose cotransporter 2 (SGLT2) inhibitor dapagliflozin (Farxiga) was just as effective for preventing all-cause death and heart failure hospitalizations and urgent visits in patients without type 2 diabetes as it is in patients with type 2 diabetes (N Engl J Med. 2019 Nov 21;381[21]:1995-2008), a remarkable finding for an agent that came onto the U.S. market as a diabetes drug specifically aimed at reducing levels of glycosylated hemoglobin.

Dr. Yancy proposed an immediate guideline change to acknowledge the proven protection against incident heart failure that treatment with a SGLT2 inhibitor gives patients with type 2 diabetes. There is now “a strong opportunity to use an SGLT2 inhibitor in patients with type 2 diabetes to reduce the incidence of heart failure,” he said.

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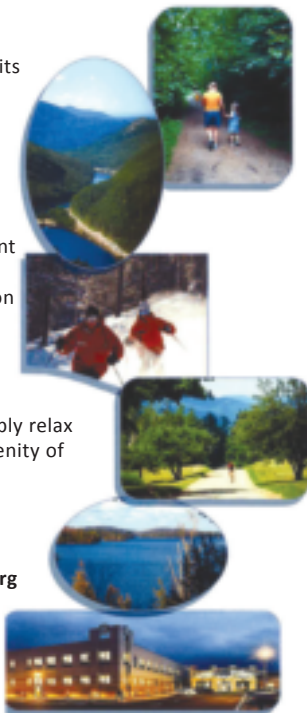
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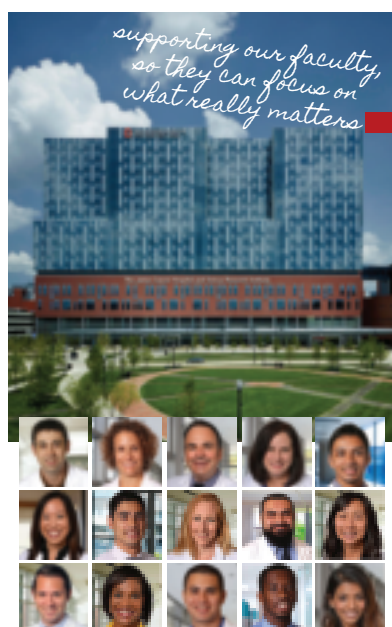


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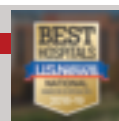
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Introduction to population management

Defining the key terms

By Marina S. Farah, MD, MHA

Traditionally, U.S. health care has operated under a fee-for-service payment model, in which health care providers (such as physicians, hospitals, and health care systems) receive a fee for services such as office visits, hospital stays, procedures, and tests. However, reimbursement discussions are increasingly moving from fee-for-service to value-based, in which payments are tied to managing population health and total cost of care.

Because these changes will impact the entire system all the way down to individual providers, in the upcoming Population Management article series in *The Hospitalist*, we will discuss the nuances and implications that physicians, executives, and hospitals should be aware of. In this first article, we will examine the impetus for the shift toward population management and introduce common terminology to lay the foundation for the future content.

The traditional model: Fee for service

Under the traditional **fee-for-service** payment system, health care providers are paid per unit of service. For example, hospitals receive diagnosis-related group (DRG) payments for inpatient stays, and physicians are paid per patient visit. The more services that hospitals or physicians provide, the more money both get paid, without financial consequences for quality outcomes or total cost of care. **Total cost of care** includes clinic visits, outpatient procedures and tests, hospital and ED visits, home health, skilled nursing facilities, durable medical equipment, and sometimes drugs during an episode of care (for example, a hospital stay plus 90 days after discharge) or over a period of time (for example, a month or a year).

As a result of the fee-for-service payment system, the United States spends more money on health care than other wealthy countries, yet it lags behind other countries on many quality measures, such as disease burden, overall mortality, premature death, and preventable death.

In 2007, the Institute for Healthcare Improvement (IHI) developed the Triple Aim framework that focused on the following:

- Improving the patient experience of care (including quality and satisfaction).
- Improving the health of populations.
- Reducing per capita cost of care.

Both public payers like Medicare and Medicaid, as well as private payers, embraced the Triple Aim to reform how health care is delivered and paid for. As such, health care delivery focus and financial incentives are shifting from managing discrete patient encounters for acute illness to managing population health and total cost of care.

A new approach: Population management

Before diving into population management, one should first understand the terms “population” and “population health.” A **population** can be defined geographically or may include employees of an organization, members of a health plan, or patients receiving care from a specific physician group or health care system. David A. Kindig, MD, PhD, professor emeritus of population health sciences at the University of Wisconsin–Madison, defined **population health** as “the health outcomes of a group of individuals, including the distribution of such outcomes within the group.” Dr. Kindig noted that population health outcomes have many determinants, such as the following:

- Health care (access, cost, quantity, and quality of health care services).
- Individual behavior (including diet, exercise, and substance abuse).
- Genetics.
- The social environment (education, income, occupation, class, and social support).
- Physical environment (air and water quality, lead exposure, and the design of neighborhoods).

IHI operationally defines population health by measures such as life expectancy, mortality rates, health and functional status, the incidence and/or prevalence of chronic disease, and behavioral and physiological factors such as smoking, physical activity, diet, blood pressure, body mass index, and cholesterol.

On the other hand, **population management** is primarily concerned with health care determinants of health and, according to IHI, should

be clearly distinguished from population health, which focuses on the broader determinants of health.

According to Ron Greeno, MD, MHM, one of the founding members and a past-president of the Society of Hospital Medicine, population management is a “global approach of caring for an entire patient population to deliver safe and equitable care and to more intelligently allocate resources to keep people well.”

Population management requires understanding the patient population, which includes risk stratification and redesigning and delivering services that are guided by integrated clinical and administrative data and enabled by information technology.

Cost-sharing payment models

The cornerstone of population management is provider accountability for the cost of care, which can be accomplished through shared-risk models or population-based payments. Let’s take a closer look at each.

Under **shared-risk models**, providers receive payment based on their performance against cost targets. The goal is to generate cost savings by improving care coordination, engaging patients in shared decision making based on their health goals, and reducing utilization of care that provides little to no value for patients (for example, preventable hospital admissions or unnecessary imaging or procedures).

Cost targets and actual spending are reconciled retrospectively. If providers beat cost targets, they are eligible to keep a share of generated savings based on their performance on selected quality measures. However, if providers’ actual spending exceeds cost targets, they will compensate payers for a portion of the losses. Under **one-sided risk models**, providers are eligible for shared savings but not financially responsible for losses. Under **two-sided risk models**, providers are accountable for both savings and losses.

With prospective **population-based payments**, also known as capitation, providers receive in advance a fixed amount of money per patient per unit of time (for example, per month) that creates a budget to cover the cost of agreed-upon health care services. The prospective payments are risk adjusted and typically tied to performance on selected



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quality, effectiveness, and patient experience measures.

Professional services capitation arrangements between physician groups and payers cover the cost of physician services including primary care, specialty care, and related laboratory and radiology services. Under **global capitation** or **global payment** arrangements, health care systems receive payments that cover the **total cost of care** for the patient population for a defined period.

Population-based payments create incentives to provide high-quality and efficient care within a set budget. If actual cost of delivering services to the defined patient population comes under the budget, the providers will realize savings, but otherwise will encounter losses.

Next steps

Now that we have explained the impetus for population management and the terminology, in the next article in this series we will discuss the current state of population management. We will also delve into a hospitalist’s role and participation so you can be aware of impending changes and ensure you are set up for success, no matter how the payment models evolve.

References

To see the complete list of references for this article, please read the online version at www.the-hospitalist.org.

Mitigating the harm we cause learners in medical education

By Erin King, MD, FAAP

Session summary

Benjamin Kinnear, MD; Andrew Olson, MD; and Matthew Kelleher, MD, expertly led this TED Talk–style session at Pediatric Hospital Medicine 2019, convincing the audience that medical educators persistently harm the learners under their supervision.

Dr. Kinnear, of Cincinnati Children's Hospital, opened the session noting that the path through medical school presently has a perverse focus on grades as a necessary achievement. As an expert in competency-based assessment, he asserted that the current learner-assessment strategy is neither valid nor robust enough to indicate actual competence. He also noted that structurally many rotations create both team and patient discontinuity, leaving learners with a feeling of detachment and limited ownership of the human patients under their care.

Dr. Olson of the University of Minnesota, Minneapolis, next described the need for the USMLE STEP 1 exam to be transitioned to a pass/fail endeavor. He cited the error of measurement of 24 points (for example, the same test taker could have a 220 one day and a 244 the next) and the potential loss of valuable rotation experiences during the several-month period of intense study. He also cited medical pedagogy as failing to meet the known needs of adult learners to engage in deliberate progressive practice, reflective practice, or to use concepts such as spacing or interleaving to reinforce knowledge.

Dr. Kelleher, also of Cincinnati Children's Hospital, ended the session by taking those in attendance on an imagined "what-if" journey in which each of the wrongs currently done to early learners in medical education were corrected. This included engagement in daily reflection, reporting system issues on rounds that had failed the patient, presenting learners with a CV of attending failures to reinforce the imperfection that is a reality in medicine, praising learners when they admit "they don't know the answer" to a question posed on rounds, completing assessments in real time in the learner's presence, rounding until specific feedback can be identified



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for each learner on the team, and by encouraging the attending to care for patients or complete tasks independently, showing the value of education over service.

One might wonder: If all of the above were accomplished at the request of our talented presenters, would a pass/fail USMLE world in which medical education was learner centered and filled with longitudinal relationships with teams and patients, and outcomes were connected to education, would it produce more engaged, knowledgeable, and holistic physicians? According to this team of presenters, yes.

Key takeaways

- Current processes in medical education are harming today's adult learner.
- Harms include reliance on numerical rather than competency-based assessment, fragmented learning environments, focus on perfection rather than improvement, ignorance of updates in cognitive science for instructional methodology, and individual- rather than team-based learning.
- Reforms are needed to remedy harms in health professional education, including making USMLE pass/fail, creating a learning-centered rather than service-centered residency environment, encouraging longitudinal relationships between teacher and learner, and connecting education to clinical outcomes.

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