Dr. Merli and his team were architects of SHM’s FAST Mentored Implementation program.
For patients hospitalized with COVID-19,
HELP REDUCE DISEASE PROGRESSION AND SHORTEN RECOVERY TIME

**INDICATION**
VEKLURY is indicated for the treatment of COVID-19 in adults and pediatric patients (≥28 days old and weighing ≥3 kg) with positive results of SARS-CoV-2 viral testing, who are:

- Hospitalized, or
- Not hospitalized, have mild-to-moderate COVID-19, and are at high risk for progression to severe COVID-19, including hospitalization or death.

**IMPORTANT SAFETY INFORMATION**

**Contraindication**
- VEKLURY is contraindicated in patients with a history of clinically significant hypersensitivity reactions to VEKLURY or any of its components.

**Warnings and precautions**
- **Hypersensitivity, including infusion-related and anaphylactic reactions:** Hypersensitivity, including infusion-related and anaphylactic reactions, has been observed during and following administration of VEKLURY; most reactions occurred within 1 hour. Monitor patients during infusion and observe for at least 1 hour after infusion is complete for signs and symptoms of hypersensitivity as clinically appropriate. Symptoms may include hypotension, hypertension, tachycardia, bradycardia, hypoxia, fever, dyspnea, wheezing, angioedema, rash, nausea, diaphoresis, and shivering. Slower infusion rates (maximum infusion time of up to 120 minutes) can potentially prevent these reactions. If a severe infusion-related hypersensitivity reaction occurs, immediately discontinue VEKLURY and initiate appropriate treatment (see Contraindications).

- **Increased risk of transaminase elevations:** Transaminase elevations have been observed in healthy volunteers and in patients with COVID-19 who received VEKLURY; these elevations have also been reported as a clinical feature of COVID-19. Perform hepatic laboratory testing in all patients (see Dosage and administration). Consider discontinuing VEKLURY if ALT levels increase to >10x ULN. Discontinue VEKLURY if ALT elevation is accompanied by signs or symptoms of liver inflammation.

- **Risk of reduced antiviral activity when coadministered with chloroquine or hydroxychloroquine:** Coadministration of VEKLURY with chloroquine phosphate or hydroxychloroquine sulfate is not recommended based on data from cell culture experiments, demonstrating potential antagonism, which may lead to a decrease in the antiviral activity of VEKLURY.

**Adverse reactions**
- The most common adverse reaction (≥5% all grades) was nausea.
- The most common lab abnormalities (≥5% all grades) were increases in ALT and AST.

**Drug interactions**
- Drug interaction trials of VEKLURY and other concomitant medications have not been conducted in humans.

**Dosage and administration**

- **Dosage:**
  - For adults and pediatric patients weighing ≥40 kg: 200 mg on Day 1, followed by once-daily maintenance doses of 100 mg from Day 2, administered only via intravenous infusion.
  - For pediatric patients ≥28 days old and weighing ≥3 kg to <40 kg: 5 mg/kg on Day 1, followed by once-daily maintenance doses of 2.5 mg/kg from Day 2, administered only via intravenous infusion.

ECMO=extracorporeal membrane oxygenation.
In the ACTT-1 overall study population, patients experienced

**5 DAYS SHORTER RECOVERY TIME WITH VEKLURY**

Median 10 days with VEKLURY vs 15 days with placebo; recovery rate ratio: 1.29 (95% CI, 1.12 to 1.49), p<0.001

- Recovery was defined as patients who were no longer hospitalized or hospitalized but no longer required ongoing COVID-19 medical care

**Significantly greater likelihood of improvement in clinical status, a key secondary endpoint**

- Patients were 54% more likely to have improved clinical status on Day 15 vs placebo; odds ratio for improvement: 1.54 (95% CI, 1.25 to 1.91)

**Helped reduce progression to more severe disease, an additional secondary endpoint**

- 7% absolute reduction in incidence of new noninvasive ventilation or high-flow oxygen with VEKLURY (17%, n=307) vs placebo (24%, n=266) in patients who did not receive either at baseline (95% CI, -14 to -1)
- 10% absolute reduction in incidence of new mechanical ventilation or ECMO with VEKLURY (13%, n=402) vs placebo (23%, n=364) in patients who did not receive either at baseline (95% CI, -15 to -4)

**Adverse reaction frequency was comparable between VEKLURY and placebo**

- All adverse reactions (ARs), Grades ≥3: 41 (8%) with VEKLURY vs 46 (9%) with placebo; serious ARs: 2 (0.4%) vs 3 (0.6%); ARs leading to treatment discontinuation: 11 (2%) vs 15 (3%)

ACTT-1 was a randomized, double-blind, placebo-controlled, phase 3 clinical trial in hospitalized patients with confirmed SARS-CoV-2 infection and mild, moderate, or severe COVID-19. Patients received VEKLURY (n=541) or placebo (n=521) for up to 10 days. The primary endpoint was time to recovery within 29 days after randomization. Secondary endpoints included clinical status of patients on Day 15 as assessed on an 8-point ordinal scale and incidence of new high-flow oxygen requirement or new mechanical ventilation or ECMO.

*Seizure (n=3), infusion-related reaction (n=1). Transaminases increased (n=3), ALT increased and AST increased (n=1), GFR decreased (n=2), acute kidney injury (n=3).

**IMPORTANT SAFETY INFORMATION (cont’d)**

**Dosage and administration (cont’d)**

- **Treatment duration:**
  - For patients who are hospitalized and require invasive mechanical ventilation and/or ECMO, the recommended total treatment duration is 10 days. VEKLURY should be initiated as soon as possible after diagnosis of symptomatic COVID-19.
  - For patients who are hospitalized and do not require invasive mechanical ventilation and/or ECMO, the recommended treatment duration is 5 days. If a patient does not demonstrate clinical improvement, treatment may be extended up to 5 additional days, for a total treatment duration of up to 10 days.
  - For patients who are not hospitalized, diagnosed with mild-to-moderate COVID-19, and are at high risk for progression to severe COVID-19, including hospitalization or death, the recommended total treatment duration is 3 days. VEKLURY should be initiated as soon as possible after diagnosis of symptomatic COVID-19 and within 7 days of symptom onset.

- **Testing prior to and during treatment:** Perform eGFR, hepatic laboratory, and prothrombin time testing prior to initiating VEKLURY and during use as clinically appropriate.

- **Renal impairment:** VEKLURY is not recommended in individuals with eGFR <30 mL/min.

- **Dose preparation and administration:**
  - There are two different formulations of VEKLURY: VEKLURY for injection (supplied as 100 mg lyophilized powder in vial), the only approved dosage form of VEKLURY for pediatric patients weighing 3 kg to <40 kg; and VEKLURY injection (supplied as 100 mg/20 mL [5 mg/mL] solution in vial). See full Prescribing Information.
  - Administration should take place under conditions where management of severe hypersensitivity reactions, such as anaphylaxis, is possible.

**Pregnancy and lactation**

- **Pregnancy:** A pregnancy registry has been established. There are insufficient human data on the use of VEKLURY during pregnancy. COVID-19 is associated with adverse maternal and fetal outcomes, including preeclampsia, eclampsia, preterm birth, premature rupture of membranes, venous thromboembolic disease, and fetal death.

- **Lactation:** It is not known whether VEKLURY can pass into breast milk. Breastfeeding individuals with COVID-19 should follow practices according to clinical guidelines to avoid exposing the infant to COVID-19.

**Please see Brief Summary of full Prescribing Information on the following page.**

**References:**

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The safety of VEKLURY is based on data from three Phase 3 experiments, demonstrating potential antagonism which may lead to a decrease in the antiviral activity of VEKLURY.

**ADVERSE REACTIONS**

- **Hydroxychloroquine:** Risk of Reduced Antiviral Activity When Coadministered With Chloroquine or Hydroxychloroquine:

  - Discontinue VEKLURY if ALT elevation is accompanied by signs or symptoms of liver testing in all patients.

  - Transaminase elevations have been observed during and following administration of VEKLURY; most reactions occurred within 1 hour. Monitor patients during infusion and observe for at least 1 hour after receiving VEKLURY as clinically appropriate.

  - Observations during and following administration of VEKLURY must be monitored in all patients.

  - Treatment Duration:

  - For patients who are hospitalized and require invasive mechanical ventilation and/or ECMO, the recommended total treatment duration is 10 days. VEKLURY should be initiated as soon as possible after diagnosis of symptomatic COVID-19.

  - For patients who are hospitalized and do not require invasive mechanical ventilation and/or ECMO the recommended treatment duration is 5 days. If a patient does not demonstrate clinical improvement, treatment may be extended up to 5 additional days, for a total treatment duration of up to 10 days.

  - For patients who are not hospitalized, diagnosed with mild-to-moderate COVID-19, and at high risk for progression to severe COVID-19, including hospitalization and death, the recommended total treatment duration is 3 days. VEKLURY should be initiated as soon as possible after diagnosis of symptomatic COVID-19 and within 7 days of symptom onset.

**Renal Impairment:** VEKLURY is not recommended in patients with eGFR <30 mL/min.

**Dose Preparation and Administration** (See full Prescribing Information for complete instructions on dose preparation, administration, and storage):

- VEKLURY must be prepared and administered under supervision of a healthcare provider and must be administered via intravenous infusion only, over 30 to 120 minutes. Do not administer the prepared diluted solution simultaneously with any other medication.

- VEKLURY for injection (supplied as 100 mg lyophilized powder in vial) must be reconstituted with Sterile Water for Injection prior to diluting in a 100 mL or 250 mL 0.9% sodium chloride infusion bag.

- Care should be taken during admixture to prevent inadvertent microbial contamination; there is no preservative or bacteriostatic agent present in these products.

**Dosage Preparation and Administration in Pediatric Patients:** 28 Days of Age and Weighing ≥ 3 kg to <40 kg:

- The only approved dosage form of VEKLURY for pediatric patients ≥28 days of age and weighing ≥3 kg to <40 kg is VEKLURY for injection (supplied as 100 mg lyophilized powder in vial). Carefully follow the product-specific preparation instructions.

**CONTRAINDICATIONS** (Also see Warnings and Precautions):

- VEKLURY is contraindicated in patients with a history of clinically significant hypersensitivity reactions to VEKLURY or any of its components.

**WARNINGS AND PRECAUTIONS** (Also see Contraindications, Dosage and Administration, Adverse Reactions, and Drug Interactions):

- **Hypersensitivity,** including **Infusion-related and Anaphylactic Reactions:** Hypersensitivity-related adverse reactions, including fever, chills, and pruritus, have been observed during and following administration of VEKLURY; most reactions occurred within 1 hour. Monitor patients during infusion and observe for at least 1 hour after infusion is complete for signs and symptoms of hypersensitivity as clinically appropriate.

- **Use in Specific Populations** (Also see Dosage and Administration and Warnings and Precautions):

  - Pregnancy:

    - Risk Summary: There are insufficient human data on the use of VEKLURY during pregnancy to inform a specific drug-related risk of major birth defects, miscarriage, or adverse maternal or fetal outcomes. COVID-19 is associated with adverse maternal and fetal outcomes, including preeclampsia, eclampsia, preterm birth, premature rupture of membranes, venous thromboembolic disease, and fetal death.

  - Lactation:

    - Risk Summary: There are no available data on the presence of remdesivir in human milk, the effects on the breastfed infant, or the effects on milk production. In animal studies, remdesivir and metabolites have been detected in the nursing pups of mothers given remdesivir, likely due to the presence of remdesivir in milk. The developmental and health benefits of breastfeeding should be considered along with the mother’s clinical need for VEKLURY and any potential adverse effects on the breastfed child from VEKLURY or from the underlying maternal condition. Breastfeeding individuals with COVID-19 should follow practices according to clinical guidelines to avoid exposing the infant to COVID-19.

**Geriatric Use**

- Dosage adjustment is not required in patients over the age of 65 years. Appropriate caution should be exercised in the administration of VEKLURY and monitoring of elderly patients, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of potential concomitant disease or other drug therapy.

**Renal Impairment**

- Patients must have an eGFR determined before starting VEKLURY and while receiving VEKLURY as clinically appropriate. VEKLURY is not recommended in patients with eGFR less than 30 mL/min.

**Hepatic Impairment**

- Perform hepatic laboratory testing in all patients before starting VEKLURY and while receiving VEKLURY as clinically appropriate.

**OVERDOSAGE**

- There is no known use of acute overdosage with VEKLURY. Treatment of overdose with VEKLURY should consist of general supportive measures and monitoring of vital signs and of monitoring the clinical status of the patient. There is no specific antidote for overdose with VEKLURY.

- **VEKLURY** is a trademark of Gilead Sciences, Inc., or its related companies. All other trademarks referenced herein are the property of their respective owners. © 2022 Gilead Sciences, Inc. All rights reserved.
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Movers and Shakers

Chase Coffey, MD, MS, FACP, SFHM, has been appointed chief quality officer at Los Angeles County+USC Medical Center in Los Angeles. Dr. Coffey will continue to serve as the associate chief medical officer for LAC- USC. He graduated from the University of Chicago Pritzker School of Medicine and completed his residency at the University of California, Los Angeles. He also completed the Academic Hospitalist Medicine Fellowship at the University of California, San Francisco.

Dr. Coffey is an associate professor of medicine at the University of Southern California Keck School of Medicine. Amira del Pino-Jones, MD, associate professor of medicine at the University of Colorado School of Medicine in Aurora, Colo., has been named the CU School of Medicine’s associate dean for diversity, equity, and inclusion (DEI).

In this role, Dr. del Pino-Jones will provide leadership in all aspects of the school’s DEI programs. She is also the director of DEI for the division of hospital medicine in the department of medicine. She’s a founding member of the University of Colorado Organizational Racism and Ethnic Support, a mentor for pre-health students through the Mile High Medical Society, and a recipient of SHM’s 2022 award of Excellence: Diversity, Equity, and Inclusion. She is also the inaugural chair of SHM’s DEI Committee.

Dr. del Pino-Jones earned her medical degree and completed her residency at the CU School of Medicine. Lee Dossett, MD, FHM, has been appointed the chief medical officer at Baptist Health Lexington, in Lexington, Ky. Dr. Dossett joined Baptist Health Lexington in 2009 and has served as a hospitalist and in many leadership roles including director of hospital medicine, chair of the department of medicine, president of the medical staff, chair of the credentials committee, and vice chair of the hospitalist service line.

He is also a Board of Health member for Lexington-Fayette County and president-elect of the Lexington Medical Society.

Dr. Dossett received both his undergraduate and medical degrees from the University of Kentucky, in Lexington, Ky., and completed his residency at Ohio State University, in Columbus, Ohio.

Sarah Johnson Conway, MD, has been recognized as a Rising Star by Becker’s Hospital Review and named as a 40 Under 40 in the Baltimore Business Journal. Dr. Conway is chief medical officer at Johns Hopkins Clinical Alliance, senior medical director, physician alignment and integration, Johns Hopkins Physicians, and an assistant professor of medicine at Johns Hopkins University School of Medicine in Baltimore.

Dr. Conway recently led the transition of one of the largest primary care sites to a federally qualified health center, bringing together resources and skills of Johns Hopkins Medicine and Baltimore Medical System to offer expanded health care access and services to the East Baltimore community.

She graduated Harvard University with a BA in economics and earned her medical degree from the Perelman School of Medicine at the University of Pennsylvania. Dr. Conway serves on SHM’s Public Policy Committee.

Mike Bohlin, MD, has been appointed as the chief medical officer at Franciscan Health Care in Indiana. Dr. Bohlin joined Franciscan Health in 2006 as a hospitalist at Franciscan Health Lafayette East, where he later served as chief of medicine and president of the medical staff. He most recently served as a medical director of Franciscan Health’s Accountable Care Organization in Lafayette, Ind.

Dr. Bohlin earned his medical degree at Indiana University School of Medicine in Indianapolis. He completed his residency at Ascension St. Vincent Hospital in Indianapolis and earned his MBA at the Indiana University Kelley School of Business in Indianapolis.

Dr. Bohlin is board-certified in internal medicine as well as health care quality and management.
Breaking news: X-waiver is eliminated

On January 12, 2023, the U.S. Drug Enforcement Administration (DEA) and the Substance Abuse and Mental Health Services Administration (SAMHSA) announced the immediate elimination of the X-waiver for prescribing buprenorphine, as required by the omnibus bill passed in December 2022. SHM celebrates this change as a major victory for our collective advocacy efforts and for improving the care of patients with opioid use disorder (OUD).

The removal of the X-waiver requirement has been one of SHM’s top policy priorities since 2018, as we viewed the X-waiver as an inappropriate and outdated barrier to treating OUD. Over the past five years, SHM’s Public Policy Committee educated congressional leaders on Capitol Hill about the safety and efficacy of buprenorphine, addressed their misconceptions and concerns about abuse and diversion, and encouraged them to support the passage of the Mainstreaming Addiction Treatment (MAT) Act to eliminate the X-waiver.

Hospitalists around the country joined us in that effort, sending messages to Congress through SHM’s Legislative Action Center. Together, we helped ensure the MAT Act’s inclusion in last year’s omnibus bill, leading to the DEA/SAMHSA announcement. Thank you for helping secure the passage of this lifesaving legislation.

What does this mean for hospitalists?

All clinicians with a current DEA registration that includes Schedule III authority (the ability to prescribe narcotics) can prescribe buprenorphine to treat OUD. The X-waiver is no longer required to prescribe buprenorphine for OUD treatment. Additionally, there are no caps or limitations on the number of patients a prescriber can treat at one time. This fundamentally shifts care strategies for patients with OUD. Over time, we hope the elimination of the X-waiver reduces stigma and call for the diagnosis of opioid use disorder and was not congruent with the tenets of modern addiction treatment. We are so grateful to have been able to contribute to this important policy achievement on behalf of our patients and SHM and look forward to continuing to advocate for this population and the work that remains to be done.

As the opioid epidemic continues to impact communities throughout the U.S., SHM remains committed to advocating for policies to help patients and providing education and resources to hospitalists as they implement this historic change to addiction treatment and bring this therapy into mainstream use.

Look for the full report on this issue, including how this will affect hospitalists, in the next issue of The Hospitalist.

SHM Converge 2023 keynote announced

Los Angeles-based comedian, musician, and U.S. military veteran and advocate Thom Tran started his career as a standup comic after a combat injury ended his career as a soldier.

Post-combat, Mr. Tran found standup comedy as the only real release. He created the GIs of Comedy tour in 2009, a group of combat veterans turned standup comedians who perform for soldiers all over the world. The group has raised more than $30,000 for the Special Operations Warrior Foundation, a charity that provides scholarships for children of fallen U.S. special operations personnel.

Mr. Tran’s SHM Converge 2023 keynote will be March 27, 1:45 p.m.

Save the date! Celebrate the future of hospital medicine on National Hospitalist Day

National Hospitalist Day is almost here! Add a reminder in your calendar now to celebrate this annual tradition with us on Thursday, March 2, 2023.

This year’s celebration is focused on The Future of Hospital Medicine, including:

- Mentorship in the field
- Medical students and residents invested in a career in hospital medicine
- Hospitalists advancing the ever-evolving specialty to meet the challenges and opportunities that lie ahead

Leading up to March 2, look for special National Hospitalist Day member spotlights in next month’s issue of The Hospitalist, downloadable graphics, and templates for use on social media or at your institution, and our annual #HowWeHospitalist social media photo contest.

We’re excited to introduce another component to this year’s celebration—a narrative and graphic medicine competition! Last year, The Hospitalist introduced an online-only section, “HM Voices.” This is meant to give members like you an outlet to share creative writing (“In Your Words”) and art related to hospital medicine (“In Your Eyes”).

Whether you want to recognize a mentee who represents the future of the field, a mentor who has given you invaluable advice as you advanced in your career, or an innovator in the field who is laying the foundation for the future, we invite you to mark this special occasion on Thursday, March 2. Ready to celebrate now? Learn more at hospitalmedicine.org/hospitalistday and show the world #HowWeHospitalist!

SHM’s UM and Clinical Documentation Program

Start 2023 with additional expertise in coding and documentation. Regardless of your level of experience, the addition of new standards and policies, in both number and complexity, calls for continued education.

SHM’s Utilization Management (UM) and Clinical Documentation program for adult and pediatric hospitalists can help keep you up to date. Due to the essential information contained in this program, some institutions have made the program a required part of their onboarding experience.

Frontline hospitalists, practice administrators, and residents/fellows will find the program useful for understanding how payors audit their notes, knowing common pitfalls to avoid, and

SHM News

X-Waiver, Converge 2023, National Hospitalist Day, UM Documentation Program, SoHm Survey, and JHM

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ensuring reimbursement is at the appropriate level for provided services. These series are developed by and for hospitalists and focus on what every hospitalist should know.

There’s one series for adult hospitalists and one for pediatric hospitalists. Both series include modules on the basics of UM and clinical documentation and case studies.

SHM members receive a discounted rate. To learn more, visit hospitalmedicine.org/umcd.

SHM’s 2023 SoHM survey open until Feb. 10

The State of Hospital Medicine Survey takes a snapshot of what is happening in hospital medicine groups around the country. The results provide critical information for groups to make informed decisions about practice structure, scheduling, compensation plans, and more in our State of Hospital Medicine Report. Your group’s data is critical to helping the entire field of hospital medicine.

Also new for the 2023 Survey, topics will include:

• Burnout and well-being questions
• Employee benefits and support

Benefits of completing the Survey:

• Representation of your group’s data in the premier resource in the field of hospital medicine nationwide
• Helping make the 2023 State of Hospital Medicine (SoHM) Report the most comprehensive and accurate snapshot of hospital medicine nationwide
• Complimentary and exclusive early access to the electronic version of the 2023 SoHM Report, making you the first to get the latest insights into the industry for 2023
• Discounts on print copies and/or additional electronic access to the Report


JHM’s January issue

The Hospitalist’s sister publication, the Journal of Hospital Medicine (JHM) is a peer-reviewed, monthly journal.

JHM publishes manuscripts that address the care of hospitalized adults or children. Areas of interest include: treatments for common inpatient conditions; ways to improve perioperative care; improving care for hospitalized patients with geriatric or pediatric vulnerabilities; evaluation of innovative health care delivery or educational models; ways to improve quality, safety, and value of health; care across continuum of care; and evaluation of policy and payment changes that affect hospital and post-acute care.

The January issue features:

• Trust in Healthcare: A new column that fosters discussion and investigation of the role that trust plays in medicine
• Implementation of the I-PASS handoff program in diverse clinical environments
• Bone marrow biopsies: A hospitalist bedside procedure service’s 5-year experience
• Impact of the COVID-19 pandemic on hospitalizations of children with neurologic impairment
• The intensity of anticoagulant dosing in hospitalized patients with COVID-19: An observational, comparative effectiveness study
• Financial outcomes of high-flow nasal cannula use for bronchiolitis on the general pediatric floor

And much, much more.

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SHM Converge 2023—Reconnect Again!

By Christopher Whinney, MD, FACP

Get ready for an exciting, dynamic inspiring event in the Lone Star State’s capital!

We’re truly excited to see you all again, following our grand collective reconnection in Nashville, Tenn, for a stellar SHM Converge 2022. What better place to do this in 2023 than in a city that boasts 300 days of sunshine a year, an average temperature of 71 degrees in November, amazing outdoor activities, and hundreds of live music venues? Yes—it’s Austin, Texas, the live music capital of the world!

The Annual Conference Committee has once again put in a tremendous amount of time and energy to bring you an outstanding collection of topics relevant to hospitalist practice in many domains. We appreciate all your feedback and have made substantive changes to the format of the meeting to ensure that we make this even more valuable and engaging going forward.

What to expect for Converge 2023

We’ll have 106 didactic sessions, 19 workshops, and four advanced learning courses, formerly known as pre-courses.

The meeting will be two and a half days with breakfast at 7:30 a.m. and content kicking off at 8:30 a.m., giving those of you reconnecting with your colleagues from across the globe late at night some wiggle room!

You asked for more networking, and we obliged. There will be dedicated times with hosted networking and social events that won’t conflict with clinical sessions, so you can reconnect with your friends and colleagues who share the passions, engagement, and challenges we all face in hospital-medicine circles.

The last day of Converge will end at 1 p.m. to accommodate those traveling long distances, which means you won’t miss out on any content if you need to leave.

The clinical content will be presented by some of the best in the field and will be just what any practicing hospitalist needs, spanning topics as diverse as emerging infections, ketamine use in hospitalized patients, blood product stewardship, inpatient sickle cell management, and management of patients with injection drug use-related infections.

We’re proud to offer a new curricular track on vulnerable populations, which will include sessions dealing with patients with medical complexity, social instability, language barriers, and nonbinary patients.

You can also join in engaging discussions on point-of-care ultrasound versus a physical exam, the perioperative “Great Debate,” which was a tremendous draw in past years, and Things We Do For No Reason in the perioperative milieu, as well as the value of the inpatient daily physical examination. We hope these sessions will challenge your perspectives on practice efficiencies and value-added care. The always dynamic “Medical Jeopardy” session will return this year as well, with stellar faculty who will be ready to answer challenging questions and expand our knowledge base.

We have an amazing academic Leadership Summit where hospital medicine leaders in academic venues will share ideas, network, and innovate solutions to continuing challenges in the spaces where we teach trainees and grow our fields of amazing clinicians.

New and experienced hospitalists alike will also benefit from our early- and mid-career speed mentorship sessions to provide you with an opportunity to develop, refine, or realign your careers.

Interested in innovation? Don’t miss the Shark Tank session, where candidates will present novel hospital-medicine-related proposals to senior research and innovation leaders in hospital medicine; this will help with generating new ideas as to how to deliver optimal care in hospital medicine!

If you have the bandwidth to join us before the main meeting, consider attending the excellent advanced learning courses where you can choose to learn from national experts about point-of-care ultrasound, critical care, ultrasound-based procedures, and a novel course on the spectrum of hospitalist finances and value entitled “From the Bedside to the C Suite.”

It’s impossible to sum up the unforgettable experience we have in store for you next month. We invite you to join us to learn some amazing content specifically for hospital medicine professionals, leverage great networking opportunities, contribute to your professional development, and improve selected skills in hospital-based care. You’ll make lifelong memories, optimize your course in your hospital medicine career, and enjoy a few tunes from an amazing musical city! Please visit shmconverge.org to register, if you haven’t already, and to view the most up-to-date conference schedule. We hope to see you in Austin, on March 26–29!
Status of Split Billing
How it could affect hospitalists

By Lisa Casinger

Last summer, the Centers for Medicare and Medicaid Services (CMS) proposed to extend the transition year from 2022 to 2024 for the split-billing rule. The delay was finalized in its November release of the calendar year (CY) 2023 Physician Fee Schedule.

While SHM’s director of government relations and chief legal officer, Josh Boswell, and director of policy and practice management, Josh Lapps, are pleased with the extension, they know SHM’s work on this issue isn’t done.

Before we get into that, let’s take a look at how we got here.

In 2022, CMS published the CY 2022 Physician Fee Schedule rule, which included a time-based policy for billing a split visit. CMS defined a split visit as an “E/M [evaluation and management] visit in the facility setting that is performed in part by both a physician and an NPP [non-physician practitioner] who are in the same group, in accordance with applicable laws and regulations.” Under the finalized policy, only the provider who performs a “substantive portion of the visit” would be able to bill for the entire visit, which, beginning in 2023, was defined as more than half of the total distinct and qualifying time associated with the visit. This split-billing rule caused concern among hospitalists and other health care professionals practicing inpatient medicine.

“There had been an existing rule that had been on the books for a couple of decades,” said Mr. Lapps. “CMS decided it had to update the rule for what they thought was happening on the ground and to try to address what they thought were current, modern-day issues with shared billing.”

With the new rule, 2022 and 2023—the transition years—CMS allowed time, MDM (medical decision making), or history and physical to be used to determine which provider performed the “substantive portion.” Unless there’s a subsequent change, that will now end in January 2024 when the mandated time-based billing takes effect.

In response, SHM submitted comments and letters that explained why split billing isn’t realistic for hospitalists and how it could affect the progress that’s been made in team-based care.

Mr. Boswell and Mr. Lapps, along with members of SHM’s Public Policy Committee and a small coalition of like-minded societies, have been working with CMS behind the scenes in meetings to discuss the repercussions this new rule will have. They’ve raised concerns about the implementation of the policy and shared on-the-ground perspectives from hospital medicine groups as they work to comply with the regulation.

While extending the transition year is a plus, it doesn’t change the problems the split-billing process will bring. The main issue is time.

“We’re obviously very supportive of the extension,” Mr. Lapps said. “But the time-based rule is already really disruptive [for those institutions that have started implementation].”

As SHM has pointed out in all its letters and comments, hospitalists generally don’t use time as a measure.

“[Their work is] too fluid,” said Mr. Boswell.

The split-billing policy risks drastically disrupting team-based care and interfering with the way care is delivered in the hospital setting.

Hospitalists are longstanding proponents of team-based care, working hand-in-hand with nurse practitioners (NPs) and physician assistants (PAs) to care for hospitalized patients. Physicians, NPs, and PAs have distinct training and skill sets. When working together, their skills complement each other, enabling hospital medicine teams to meet the needs of their patients efficiently and effectively. However, billing based on time will discourage the continuation of these care relationships.

CMS’s point is that time is easier to audit compared to other measures.

“But that makes a lot of sense in the outpatient setting,” said Mr. Boswell. “But not for hospitalists. We’re trying to work with CMS to give them something auditable that doesn’t force hospitalists and other hospital-based providers to rely only on time.”

Time is rarely used to bill for visits in an inpatient setting where the nature of care includes balancing multiple patients, working with different professionals across specialties and provider types, and seeing patients at multiple points throughout the day. And the time physicians and NPs/PAs spend on any given case shouldn’t be equally weighted, as they possess different skill sets, expertise, and training.

Lengths of visits can vary significantly based on the elements of the visit and the level of training and expertise of the physician and NP/PA. The medical decision making directing the management of the patient’s care determines the course of treatment for the patient, but it typically does not require the most time.

The alternative? Possibly an attestation process. CMS has a long history of auditing evaluation and management services based on documentation in the medical record substantiating appropriate billing based on history, exam, and medical decision making.

There’s a precedent for not using time-based billing, as emergency medicine doesn’t use it and CMS recognizes that. And hospital medicine is a similar environment in that hospitalists go where and when they’re needed.

As hospitalist groups have begun to implement the split-billing policy this year, these three issues have emerged:

• NPs/PAs become increasingly delegated to non-revenue producing roles or are limited to performing scribe-like functions, not working at the top of their license.

• Shift towards greater, fully independent practice for NPs/PAs (where possible), limiting the amount of collaborative, team-based work with physicians.

• Shift away from the use of NPs/PAs to focus instead on physician-level care.

These outcomes adversely alter the team-based approach hospitalists and NPs/PAs have worked years to develop and will negatively affect patient care.

Early efforts at implementation are varied but many have led to drastic changes in team-based care, upended physician/NP/PA relationships, and contributed to significant new administrative burdens, all of which are to the detriment of care for hospitalized patients.

While SHM supports the extra year of transition, it urges CMS to use this time to work with stakeholders to develop a more appropriate and improved solution that reflects the reality of team-based care in the hospital.

A time-based definition dramatically disrupts team-based care in the hospital, upends long-established billing and documentation systems, and creates significant new administrative burdens.
Medical simulation has come a long way in recent years, providing a safe and controlled environment in which health care professionals can practice and improve their skills. Gone are the days of simple mannequin simulations. Today’s medical simulations are highly realistic and interactive, using advanced technology such as virtual reality and high-fidelity mannequins that can mimic real human physiology including bleeding and crying.

Medical simulations allow health care professionals to practice and hone their skills in a low-risk environment, enabling them to better handle real-life emergencies. They are also a great way to test and evaluate new protocols and procedures before implementing them in a real-life setting.

Escape rooms have become a popular form of entertainment in recent years, challenging players to solve puzzles and riddles to “escape” a themed room. But did you know that escape rooms can also be a valuable tool in medical education? Escape-room-style medical simulations are becoming increasingly popular in medical schools and hospitals as a training tool, and for good reason. Not only are they fun and engaging way to learn, but they also provide a safe, controlled environment for team-building exercises and improving clinical skills.

At Texas Health Harris Methodist in Fort Worth, Texas, we designed and implemented escape-room-style simulations to teach and test clinical skills in a high-stakes, time-sensitive environment.

In these simulations, internal-medicine residents are placed in simulated medical scenarios and must work together to diagnose and treat the patient, all while being timed and facing various challenges and obstacles. Working under pressure and in a high-stakes environment can help residents learn to think on their feet and make quick, accurate decisions.

The combination of escape-room-style simulations and traditional high-fidelity simulations at our facility is intended to facilitate learning using realism, reflection, practice, and feedback. A vast majority of medical errors occur due to a lack of communication and teamwork. Our overarching goal is to bring about improvements in patient-care safety and reduce medical errors after internal medicine residents practice critical skills in a controlled environment.

How it works

Our residents participate in these escape room sessions and are asked to complete a survey and knowledge assessment test before and after each session. The survey consists of Likert-scale and open-text-style questions that address the Accreditation Council for Graduate Medical Education (ACGME) core competencies including patient care, medical knowledge, professionalism, interpersonal and communication skills, practice-based learning and improvement, and system-based practice.

Pre-work for the escape room session is provided via email to the internal medicine residents one week before the session. Pre-work contains reading material including evidence-based review articles and current guidelines about the topics covered in the simulations.

A pre-brief is given before beginning the simulation sessions. The pre-brief includes a description of the event and escape-room activities. Goals, objectives, roles, and responsibilities are discussed during the pre-brief. Each escape-room session is followed by a post-brief that includes a review of the event and the effectiveness of the simulation session. During the post-brief, residents identify challenges and unexpected events and discuss areas for improvement based on the outcomes of the simulation.

Board-style questions relevant
to the escape-room scenarios (from The Medical Knowledge Self-Assessment Program developed by the American College of Physicians) were used for pre- and post-tests to assess improvement in knowledge and understanding of a specific medical topic acquired during these sessions. All internal medicine residents agreed that the questions asked were appropriate for the setting. This testing was used to evaluate the effectiveness of our sessions and determine if the physician gained new knowledge and skills.

Rating our success

Our objective was to shorten learning curves and improve competency. Based on our Likert survey, which was used to assess residents’ knowledge, skills, and behavior, 90% of the residents felt they learned from their peers during simulation sessions. Most residents said they would recommend this simulation session to others. All residents had participated in traditional simulation sessions during medical school, however, none of them had participated in escape rooms during simulation sessions.

Our survey also showed that 81% of residents preferred visual or kinesthetic tools for learning, and 92% of residents identified that simulation scenarios were able to successfully test their ability to communicate effectively as a team. Most of the residents felt that escape rooms on critical-care scenarios helped them identify knowledge gaps, and 81% of residents strongly agreed that escape rooms appropriately reinforced their knowledge and were an appropriate medium for teaching new information.

Simulation is a valuable tool to help trainees acquire the skills to provide high-value care. Team-based learning is evidence-based and multiphasic and requires active engagement and participation of the learner. These sessions encourage interprofessional learning and emphasize team-based learning to learn core concepts related to patient safety.

Escape-room-style medical simulations are also a great way to foster teamwork and communication. In a real-life medical emergency, it’s essential for health care professionals to work together and communicate effectively to provide the best possible care for the patient.

While the Institute of Medicine recognizes that patient care is a “team sport,” medical training still focuses on individual performance. Integration of simulation can help prepare residents to function as a team in complex situations. Escape rooms can be used as a tool to assess trainees’ competency and knowledge, and they can help identify areas that need improvement.

Several scales can be used to assess the effectiveness of simulation for medical residents. One commonly used scale, the Objective Structured Clinical Examination, can help assess communication and interpersonal skills. It provides a standardized, objective assessment of clinical skills. Global rating scales have also been used as assessment tools in different specialties. One study used scenario-specific checklist items based on individual milestones for emergency-medicine residents, chosen and reviewed by experienced emergency-medicine physicians.

Medical simulation is an essential part of modern health care and will continue to play a vital role in the training and development of health care professionals. Integrating escape rooms and traditional high-fidelity simulations has the potential to enhance learning while achieving ACGME competencies. Overall, escape-room-style medical simulation is a valuable addition to medical education, providing a unique and engaging way to teach and test clinical skills.

References
4. American College of Physicians. MKSAP: Medical Knowledge Self-Assessment Program VIII. https://www.acponline.org/

The combination of escape-room and traditional simulations at Texas Health Harris Methodist improves patient care.
Our 2023 Must-attend SHM Converge 2023 Sessions

Recommendations from The Hospitalist's editorial board

Our 2023 Must-attend SHM Converge 2023 Sessions

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HM Converge 2023 offers world-class education for hospitalists, led by renowned experts. Engage with your global hospitalist community March 26-29, 2023, in Austin, Texas.

With more than 150 learning and networking opportunities—ranging from sessions, workshops, advanced learning courses, and special interest forums—spread across two and a half days, there's a lot to be excited about at this year's annual meeting.

Members of The Hospitalist's editorial board share some of their top picks for must-attend sessions.

### Amanda Green, MD, FACP, HMDC, CPPS, FHM

Clinical updates are always favorite SHM sessions for me. Two updates in which I have particular interest include Dr. Dawn Sears’ session, “Updates in Gastroenterology,” March 29, 10:30 a.m. I’ve been entertained, educate, and impressed by her talks in the past—she is clear and engaging while covering gastrointestinal topics important and relevant to hospitalists. I’m also excited for Dr. Lillian Liu’s review of diabetes on March 27, 2:40 p.m. She’s a friend from Duke residency, she is covering a topic that applies to most of our admissions, and the title of the talk is fun—“Sweet Tea: Inpatient Diabetes Management.” I’ll have a hard time deciding between the sessions dedicated to communication, utilization, quality equity, and leadership. “Are You In or Out?: Demystifying Hospital Admission Status, Navigating Medical Necessity and Winning Insurance Peer-to-Peers,” March 29, 12:15 p.m. POCUS can provide more detailed and specific information in some cases. Reviewing real-time images of a patient’s internal structures can provide valuable information. Having said that, ultimately the best approach depends on the situation and the provider’s assessment. This debate raises questions about the accuracy and efficacy of point-of-care ultrasound as compared to traditional physical examination while taking care of patients.

Another session I am particularly interested in attending is “Great Debate: POCUS Versus the Physical Exam: The Volume Volume,” presented by Ria Dancel and Michael Janjigian, March 28, 4:30 p.m. POCUS can provide more detailed and specific information in some cases. Reviewing real-time images of a patient’s internal structures can provide valuable information. Having said that, ultimately the best approach depends on the situation and the provider’s assessment. This debate raises questions about the accuracy and efficacy of point-of-care ultrasound as compared to traditional physical examination while taking care of patients.

“Don’t Get L-Austin (Lost in the Crowd): Faculty Development for Hospitalists” presented by Gopi Astik, Reena Hamrajani, Annie Massart, and Aditi Puri, March 28, 5:00 p.m. will be an interesting session as well. Faculty development includes important topics like medical education teaching, leadership development, and research mentoring. Faculty needs to stay up to date with evidence-based medicine to provide and teach high-value care.

### James Kim, MD

We’re facing a national blood crisis due to shortage of blood products and hematologic stewardship is critical in this environment. The pandemic-related shortage of blood products is still going on. As hospitalists we need to use blood products judiciously, especially when there’s a critical nationwide shortage. Learning about latest guidelines related to blood product transfusion can help us deal with these difficult times. I am elated to see this topic presented at Converge 2023.

“Monkeys and Bats and Bugs and Drugs: ID Update,” presented by Christopher Whinney, Andrew Dunn, Stephanie Mueller and Jessica Dekhtyar, March 27 at 2:40 p.m.

### Anika Kumar, MD

During residency and while working as a hospitalist, I’ve worked with colleagues from all over the world and I have really enjoyed learning about other cultures. Also, I was immensely supported by my coworkers and friends during difficult times thus I am elated to see this topic presented at Converge 2023.

“Making Choices: Hematologic Stewardship for Hospitalists,” presented by Moises Auron, March 29 at 1:10 a.m.

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### Ethan Cumbler’s session “Out of My Head: Delirium Updates,” March 29, 8:30 a.m. Delirium is a problem that all hospitalists have dealt with. Having heard Dr. Cumbler speak a few years ago, I’m sure this will have high-yield information and will be a fun show.

### Isha Puri, MD, MPH, FHM

One of my favorite sessions is “High Reliability in Healthcare: From Zero-Harm to High-Value Care,” presented by Daniel Steinberg and Elham Yousef, March 29, 11:30 a.m. Health care is evolving from causing “no harm” to providing our patients the best possible care. High-value care aims at improving overall quality of health care and reduced health care cost. The goal is to minimize waste and complications and improve patient outcomes and satisfaction.

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### Tanveer Singh, MD, MBBS

“Use of Machine Learning to Predict Patient Deterioration,” presented by Nidhi Goel and Mangla Gulati, March 27, at 10:00 a.m.

“I am looking forward to attending SHM Converge 2023. It’s full of exciting topics but I feel this particular topic is unique to Converge this time around. Machine learning is going to be the future, and I’m very excited about that. There have been multiple machine-learning models that are being developed and the application of this technology ranges from early detection of cancers, like in lung nodules, to early detection of biomarkers for sepsis, and so on. The machine-learning models are also being used to facilitate early and safe patient discharge from the hospital. I am looking forward to learning from Drs. Goel and Gulati from the University of Maryland.”
ensuring continuous medical follow up. Some patients will remain in the U.S. while others will continue to commute periodically between countries. In addition, gaining access to resources is certainly a challenge.

“Dark Side of the Moon: Combating the Health Effects of Night Shift”, presented by Kathleen Atlas, Jessica Chambers, Rita Pandya, and Jennifer Post, March 28, 3:30 p.m.

Nocturnal hospitalists are typically strong, competent leaders supporting multiple departments. Varying from day shift to night shift impacts one’s physical health. I’m interested in exploring the health effects identified on nocturnists. Hospitals rely heavily on their night shift teams. Presenters will provide guidance in prioritizing and ensuring the wellness of these teams.

Dileep Kumar, MD, MBA, FACP, FAAPL, CPE, hospitalist, East Michigan Hospitalists, Port Huron, Mich.

Hospitalists are natural leaders. Understanding the basics of leadership and an interdisciplinary focus are necessary for the success of hospitalists in the future. There are a few sessions at Converge 2023 that will focus on these topics.

Two interesting sessions on the first day, March 27, are Evolution of Interdisciplinary Teams: Changing from Silo Mentality to High Reliable Teams, presented by Tulay Aksoy, Maura Porrico, and Olena Slinchenkova at 10:10 a.m. and Building Financial Fluency: How to Develop Your Business Case, presented by Tulay Aksoy and Maura Porrico at 10:30 a.m.

There are two sessions on March 28, both at 3:30 p.m.—What to Do When It’s Not Working: Strategies for Dysfunctional Teams and Groups, presented by Justin Boer and Christopher Russo and The Five Approaches to Change Management: A Primer on Leading Quality Initiatives, presented by Aziz Ansari and Thomas McIlraith. If you suspect your group is dysfunctional, you probably should attend the first session!

Two interesting topics on the last day, March 29, are Choose Your Own Adventure: How to Be an Advocate for Well-being in Your Organization, presented by Sarah Patel and Viaje Molitch-Hou, Ethan Molitch-Hou, Bruno Alvarez Conceso, and You Mee Shin, March 27, 11:10 a.m. After successive pandemics, we’re all reassessing our priorities in life and work. I have no idea what ikigai means, but I hope to find out!

“Lover or Liver? Inpatient Management of Decompensated Cirrhosis,” presented by Suchita Sata, March 27, 4:40 p.m. Okay, this has to be the best session title ever, and makes my list for this reason alone.

“Things We Do For No Reason—Periop,” presented by Sanjay Patel, presented by Manpreet Malik, Ethan Molitch-Hou, Bruno Alvarez Conceso, and You Mee Shin, March 27, 11:10 a.m. I’m looking forward to sharing my talk, “Rounding While Black”, on March 27 at 2:30 p.m, which will examine evidence of structural racism in everyday clinical practice. I’m also looking forward to: “Hospitalists on the Hill: Learnings from a Year Spent Working on Capitol Hill”, presented by Ann Sheehy and Sarguni Singh, March 28 at 10:30 a.m. and “Beantown to Texas: CKD Update for the Hospitalist”, presented by Samira Faruq, March 29 at 12:30 p.m.
FAST Program Implementation Guide Success

By Larry Beresford

Hospital clinicians know well that managing anticoagulation therapy for their patients with venous thromboembolism (VTE) and other thrombotic conditions can be a balancing act between preventing further life-threatening blood clots and avoiding dangerous bleeds—both high-risk adverse events leading to diminished quality of life, and worse, for patients.

These challenges are intensified at the time of hospital discharge, when poorly executed handoffs and transitions can lead to a variety of negative outcomes. Meanwhile, the disruptions and additional clotting concerns imposed by the COVID-19 pandemic have further complicated this tightrope walk.

But hospitalists can now turn to the lessons from SHM’s Facilitation of Anticoagulation for Safer Transitions (FAST) quality-improvement program, which ran for 20 months from 2019 to 2021. Seven hospitals of diverse sizes and settings were enrolled in FAST’s Mentored Implementation program, receiving guidance from clinician experts in VTE and anticoagulation. The bundle of interventions implemented by the hospitals to improve transitions of care for VTE patients is summarized in the implementation guide and then discharged back to the community.

Jeff FAST employed evidence-based guidelines to determine which patients could be safely discharged, rather than admitted to the hospital, with comprehensive patient education about the condition.

Based on its positive outcomes, such as 100% of enrolled patients getting follow-up visits scheduled with their outpatient doctors and none reporting significant bleeds, the team was approached by SHM’s Center for Quality Improvement to adapt its ED-based FAST intervention to hospital medicine and the needs of hospitalists. Pfizer, Inc., provided financial support for SHM FAST but did not have editorial control over development of implementation resources.

The project used SHM’s Mentored Implementation approach for helping hospitalists improve the quality of hospital care. Prior Mentored Implementation programs have focused on transitions of care, glycemic control for inpatients, medication reconciliation, handoffs of care, and opioid safety.

Key components of the Mentored Implementation model for improving hospital quality and safety include training physician expert mentors and pairing them with interdisciplinary hospital-based teams, often led by hospitalists. The mentor and team typically meet monthly via Zoom to review implementation strategies, impediments to improvement, and process and outcome data. The role of the four SHM FAST mentors, Drs. Anthony Macchiavelli, Andrew Miller, Catriona Harrop, and Chris Whitney, was cited as a mechanism for fostering accountabili-
ty and keeping the teams on track.

**SHM FAST approaches**

"With the anticoagulants, you will still have bleeding events and clotting events, but you can avoid inappropriate follow-up calls," Dr. Thomson said. "Part of the challenge with care transitions is that important details often aren’t communicated, patient education is not effective, patients don’t understand or follow up on their discharge instructions, or they take their medications incorrectly," she said. That’s why it’s important to try to ensure that VTE patients get the right treatment from the outset and feel empowered to participate in their own care.

The SHM FAST core teams at participating sites typically included a lead hospitalist, a pharmacist, a nurse, an outpatient clinician, and an information technology specialist. The program followed a comprehensive, stepwise, quality-improvement approach to transitions of care for patients newly diagnosed with primary acute VTE, using evidence-based transitions incorporated into one of two bundles—either the standard SHM FAST bundle or a more comprehensive bundle with additional interventions for coordinating transitions. A standardized order set was entered into the electronic medical record (EMR) to cue clinicians for the recommended course of action.

Other priorities for improvement included appropriate patient selection and enrollment, verification of the drug’s availability and affordability, list of medications to avoid, assessment of the patient’s readiness for discharge, identification of the outpatient provider who will see the patient next, and confirmation of the patient’s comprehension of the education—using teach-back techniques for patients to demonstrate that they comprehend what they’ve been taught.

One of the important components of SHM FAST is to place a follow-up telephone call, guided by a written script, to the patient within two days of discharge from the hospital to reinforce education received in the hospital. Another is to establish a support appointment with an outpatient provider is scheduled within a week. “All of that closes the loop in their transition of care and gets them safely plugged in to what they need from the next provider,” Dr. Thomson said.

Making sure that the medication gets into patients’ hands before they go home was found to be so important that many of the sites opted to fill the prescription and deliver it by hand to the patient in the hospital prior to discharge.

**Outcomes from SHM FAST**

Of a total of 1,995 referred VTE patients at the SHM FAST sites during the course of the project, 1,322 were identified as meeting criteria for admission and enrolled. Although this was not a randomized controlled trial but rather a multi-center, non-randomized, descriptive study, it generated important data on outcomes. The project evaluated both rates of 30-day hospital readmissions for thrombotic events or major bleeds following discharge, and the utilization of anticoagulant care.

The readmission rate was only 3.8%, despite the fact that patients admitted to the hospital for VTE are by definition high-risk. A slightly higher proportion, 4.8%, visited ED for recurrent VTE or bleeds.

Three main SHM FAST process measures were rates of medication reconciliation, documented provision of patient education, and completion of follow-up phone calls within 48 hours of discharge. Medication reconciliation was successfully completed most often, at 89% for all of the sites, while 77% provided patient/family education, and 61% completed the post-discharge follow-up call within 48 hours.

The follow-up phone call from the SHM FAST team was described by some participants as tedious and difficult to complete, often because of the inability to reach the discharged patient by phone. Sufficient staffing for making these calls in the midst of the pandemic was also cited as a barrier, although the calls could be performed by a variety of staff including medical students or non-professional staff.

Some programs found that patients couldn’t be reached because they lived in shelters or group homes or just didn’t pick up their phones. But the data showed that failure to complete these calls was associated with higher rates of bleeds and ED visits.

**Standardized process**

For Geno Merli, MD, division director of vascular medicine and associate chief medical officer at TJUH, the SHM FAST Mentored Implementation process helped standardize anticoagulant management.

“I listened in on most of the meetings with the mentors, who also reported back to the SHM FAST project leadership team. He added that the commitment of participating hospitals’ senior leadership was essential to the implementation of the SHM FAST program at each site. “The C-Suite has to be part of the team and to look at what resources need to be applied, despite resource limitations from other competing demands,” Dr. Merli said.

“All our sites have continued to implement the SHM FAST bundle during the pandemic, despite surges, and after the Mentored Implementation ended,” said Jenna Goldstein, SHM’s chief of staff and director of the Center for Quality Improvement. “Through the implementation of new interventions, they modified their practice in a sustained way. It is a solid modality for supporting implementation teams. We’re now asking the sites to do a deeper dive into the data, and in particular how COVID-19 impacted their work.”

**Good but not perfect**

One of the participating sites, the University of Virginia (UVA) Charlottesville, found that its involvement in SHM FAST was strengthened by a broadly diverse interdisciplinary team of quality experts. “I was really excited by the group we were able to put together, with participation from pharmacy, care management, nursing, patient education, and multiple medical specialties,” said Dr. Larry Beresford. "It was discovered that UVA Health already had a substantial library of patient education materials that many clinicians were not aware of, including for VTE. Use of an order set accessed through the EMR offered guidance on loading doses and duration and maintenance doses for the top five anticoagulants used at the institution. “With these resources we saw our rates of providing the needed patient education increased dramatically,” Dr. Morvant said.

Another key to success, said George Hoke, MD, a hospitalist and quality-improvement expert at UVA, was not to let the goal of perfection become the enemy of the good. “We could agree that best practice for patient education would be to have dedicated pharmacists with a sufficient amount of time to sit with the patient prior to discharge, regardless of the hour or day of the week, using a methodology to make sure the patient understood all of the components of the education.” That was not always possible to achieve during the pandemic, he said, but it doesn’t mean the program hasn’t made a big difference in quality outcomes.

“I am very happy we participated in this quality-improvement project. I think we made our care processes safer for anticoagulant treatment,” Dr. Hoke said. “We saw very low rates of readmissions. We benefitted patients, and we learned things that we can apply to other disease areas.”

Larry Beresford is an Oakland, Calif.-based freelance medical journalist.

**References**

Doctors Should Play a Role in Preventing Climate-change-related Health Matters

By Thomas R. Collins

A 5-year-old with second-degree burns on his hands and thighs after playing on a playground with a metal structure in direct sunlight. A 7-year-old child presenting with altered mental status and a body temperature of 104 degrees, whose family tried to get to an air-conditioned library but couldn’t because the power cables for the bus had melted. A 17-year-old receiving follow-up, gender-affirming care who is struggling to keep their estrogen patch on because it’s been sweating off in a heat wave.

Presenters from Seattle Children’s Hospital at Pediatric Hospital Medicine 2022 offered these examples of how climate-change-driven heat—which has generated record-breaking temperatures in the Northwest and across the U.S. recently—has made everyday life a struggle for children. And they described the need for change in a country where, too often, the effects of climate change are disproportionately harsh for Black people, indigenous people, and people of color.

“Climate change is real, and it causes global morbidity and mortality particularly for children who are much more vulnerable than adults,” said Julia Hadley, MD, a third-year resident at the hospital, who presented with Sruti Pisharody, MD, also a third-year resident, and Dr. Pisharody, MD, also a third-year resident at the hospital, who presented with Dr. Pisharody, MD, also a third-year resident at the hospital.

The effects of climate change are wide-ranging. Drs. Hadley and Pisharody pointed out. Rising sea levels lead to changes in water quality that can help spread waterborne illnesses. Extreme weather events influence the ecology of vectors that can boost levels of malaria and dengue. Severe weather results in injuries and mental health problems. And all these threats have led to the forced migration of vulnerable populations.

“Climate change has even altered the nutritional content of our food, with decreased magnesium, iron, and zinc from crops grown in environments with higher carbon dioxide,” Dr. Pisharody said.

“No other category of hazardous weather events in the U.S. States has caused more fatalities in the last decade than extreme heat,” Dr. Hadley said. And heat is the leading cause of morbidity in the summer, she said.

Audience members cited problems for their patients that include a lack of air conditioning, heat stroke, and canceled school activities.

Even within the same city, heat can affect people very differently depending on where they live in that city, they said. In King County in Seattle, it can be 96 degrees in one neighborhood and 76 in another. These “heat islands” are wrought by an abundance of concrete that absorbs and retains heat in ways that green areas with tree cover do not. Heat-island neighborhoods tend to have higher populations of Black, indigenous, and people of color, Dr. Hadley said.

“These disparities come at a high cost. In a 2008 study, researchers showed that an increase of 10 degrees is associated with increased mortality for infants less than a year old, adults over 65, and Black people. Part of this mortality risk for Black people is due to underlying illness but is also due to less access to air conditioning, she said. In 2010, the same researchers found that an 8.6% increase in preterm delivery was associated with a 10-degree increase in weekly temperatures.4,5

There is no validated tool for screening patients for climate change vulnerabilities, but a 2021 paper put forward a guide to providing primary care that considers climate change-related conditions. Drs. Hadley and Pisharody are hoping to work with others at Seattle Children’s and community members to develop an easy-to-use screening tool that can be used in both the inpatient and outpatient settings.6

Clinicians can ask questions that include: Are there trees or areas of shade in the neighborhood? Do you have air conditioning, filters, or fans? In the past 12 months, have you had trouble paying your utility bills? Do you know how to identify heat-related illnesses? How do you store medications? These questions will help screen families who are vulnerable to extreme heat by evaluating energy insecurity, housing conditions, complex medical history, and familiarity with local climate patterns.

Doctors can also review how to use weather forecasts and indicators of air quality, identify places where families can stay cool, and spend extra time with families new to the area.

Children, they said, should be taught about climate change, since it is a source of anxiety and uncertainty for them.

“It’s important that we talk to kids directly about climate change,” Dr. Hadley said.

Changes at the institutional level are important as well, they said, given that health care contributes 10% of the greenhouse gas emissions in the United States, and that hospitals are the second most energy-intensive facilities. Institutions should take steps to reduce single-use plastics, reduce food waste, and restore native plantings in their landscaping, among other steps. Dr. Pisharody said. Hospitals should also push for policy change, she said.

“Our institutions have a lot of power, and we should use this to guide legislators to prioritize climate-justice-centered legislation.”

Tom Collins is a medical writer in South Florida, who has written about everything from lethal infections to thorny ethical dilemmas, runaway tumors to tornado-chasing doctors. He gathers health news from around the globe and lives in West Palm Beach, Fla.

References
The Power of Emotional Intelligence for Hospitalists

By Farzana Hoque, MD, MRCP (UK), FACP

Emotions drive people, people drive performance. This oft-quoted expression provides a simplified explanation of emotional intelligence, but let’s dive a little deeper and consider its importance to hospitalists.

It’s a typical workday as a hospitalist. As you’re talking with a sick patient and frustrated family members, your pager goes off, your employer-provided phone just gifted you a new admission in the emergency department, and secure chat messages are piling up in the electronic medical record as you struggle to keep up with the real world.

How do you control your emotions and stay composed during your super busy days?

As hospitalists, we treat a variety of patients in terms of disease processes, socioeconomic aspects, and health literacy. Although consultants are seeing patients, hospitalists are responsible for the holistic aspect of patient care. All hospitalists are leaders, irrespective of our formal roles and responsibilities, due to our remarkable impact on every aspect of inpatient care.

For human beings, emotions are inevitable. Our emotions have a significant impact on almost everything we say and do. Due to mirror neurons, our emotions are highly contagious. Both our positive and negative emotions have a profound impact on us and those around us. Some people are energy givers, and some are energy killers. As hospitalists, every day we take care of complex, sick patients and make crucial decisions that can be lifesaving or life-ending if not done correctly. For this reason, emotional intelligence is a powerful tool for hospitalists.

What is emotional intelligence?

Emotional intelligence is our ability to identify, logically reason, and manage our emotions as well as those of others, rather than acting impulsively because of how we feel about a situation. Emotional intelligence is also known as emotional quotient or EQ.

EQ affects our ability to positively influence a negative situation toward a better outcome rather than making it worse. Sometimes, when we’re emotional, our emotions can overpower our intelligence. We can say or do things we may forget, but others may remember that one incident for a lifetime, negatively affecting our potential and professional image. We cannot eliminate our emotions but we can use emotional intelligence to regulate them.

Emotional intelligence is associated with higher job satisfaction and lower burnout rates among interns. It’s also associated with a higher rate of recovery from stress among medical students on surgical rotations. And research by a respected psychologist, Daniel Goleman, found that 90% of top performers in any field are high in emotional intelligence.

EQ competencies

There are four competencies of emotional intelligence or our emotional quotient.

1. Self-awareness

“Knowing yourself is the beginning of all wisdom.”—Aristotle

Self-awareness empowers us to self-reflect by identifying our strengths and weaknesses, while being aware and looking for our biases. Every one of us has some sort of bias. Not only external biases but many times our internal biases can also hold us back. It’s important to understand how we’re affected by a situation, how a stressful situation affects our tone, body language, and decision-making capacity, and how we’re impacting others and ultimately the whole environment. Self-awareness is critical for making the right decisions because it enables us to learn from our experiences.

Self-awareness is the main pillar of emotional intelligence, as the other competencies depend on it. Self-awareness continuously reminds us to have a fine balance of confidence and humility. Our self-awareness pushes us to hone our skills and knowledge to ensure high-quality patient care. It also reminds us of what is beyond our scope of training and when to call for specialist input. While it’s often quite easy to find other people’s faults, it’s sometimes challenging to be aware of and acknowledge our own shortcomings, and to improve upon them. Self-awareness is an asset that allows us to excel both personally and professionally.

2. Self-management

Self-management is our ability to maintain our effectiveness by keeping our disruptive emotions in check during high-pressure situations. Self-management often differentiates outstanding hospitalists from those for whom work gives them nightmares.

When we face distressing emotions like anger, our brain’s limbic system immediately generates a reaction. For example, you receive an email you don’t agree with from your chief medical officer and that frustrates you. Your immediate reaction could be to send an email expressing your frustration. Or you could use your prefrontal cortex, the logical part of your brain providing emotional intelligence, to generate a response. Instead of reacting by writing a quick, angry reply, your response could be taking a brief pause that allows you to appreciate the long-term impact of a disruption in your professional relationship with your chief medical officer and other executive leadership.

Our reactions based on our emotions are usually shortsighted. On the other hand, our responses based on our knowledge and logical reasoning along with our emotions, help us to see the big picture. Our goal is to be proactive, not reactive. One of the most effective ways to self-manage, in my experience, is taking a pause even for a few seconds to recollect ourselves.

Otherwise, we may say or do something that can destroy our reputation. As Warren Buffet said, “It takes 20 years to build a reputation and five minutes to ruin it.” The physician community is closely connected in this modern digital era. It is a hard reality that stressful moments will come along the way. Self-management will be your essential tool to build and keep your reputation as a poised and collected hospitalist.

3. Social awareness

Social gatherings can trigger various emotions depending on each person’s relationships and perceptions. To be fully socially aware, you must have answers to the following two crucial questions:

• How do people experience you?
• How do people experience themselves when they are with you?

Social awareness equips us to read the room or the situation and understand what’s going on beneath the surface. For example: don’t make requests when you know your boss is running late for a meeting. We need to be vigilant about others’ tone and body language along with our own.

“There are three sides to every story: your side, my side, and the truth. And no one is lying.”—Robert Evans

While it’s crucial to speak the truth, we need to remember that our truth may not be the truth and that doesn’t make others’ statements false, because we all see life from our own perspectives. Rightly or wrongly, people’s perceptions are their reality. There could be a huge discrepancy between our true intention and our impact on others without our even noticing a visible difference. Honing social awareness skills will give us a unique perspective to make decisions with more positive results.

4. Relationship management

“I suppose leadership at one time meant muscles, but today it means getting along with...
Nearly 100 years ago, Dale Carnegie published his book “How to Win Friends and Influence People”, that a person’s name is the sweetest and most important sound in any language. This statement is still true 100 years later. For this compelling reason, Starbucks calls its customers by their names to create a sense of belonging, which drives its revenue and brand. In his bestselling health care leadership book “If Disney Ran Your Hospital: 9 ½ Things You Would Do Differently” Fred Lee says patients value courtesy along with efficiency.

Our workforce is more diverse than ever. The cultural norms in the U.S. may not be acceptable in many parts of Asia. It is a myth that only one person can do it all. As hospitalists, we take care of our patients through a multidisciplinary approach. Having a good professional relationship with the other specialties, care-coordination teams, nurses, and other ancillary staff can optimize our efficiency and quality of patient care.

Is emotional intelligence a learnable skill?

Unlike our intelligence quotient (IQ) which is our inborn ability our emotional intelligence has remarkable growth capabilities. Emotional intelligence can be learned and polished through active practice like any other skill. Many reputable organizations like Google, the United Nations, and the U.S. Air Force have implemented emotional-intelligence learning modules for their employees.

Emotional intelligence is our core skill set to manage ourselves and our relationships effectively. In today’s fast-paced world, many aspects of our lives are beyond our direct control. So cultivating our emotional intelligence increases our ability to be the best version of ourselves while creating a safe, engaging environment for our patients and colleagues.

References

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![HMX Ad]
Austin is also home to the LBJ Presidential Library, where you can learn about the 36th President, Lyndon Johnson. It includes a replica of the Oval Office and one of the current exhibitions is Lady Bird: Beyond the Wildflowers, a look at the life of Lady Bird Johnson.

The Texas Capitol is widely recognized as one of the nation’s most distinguished state capitols. It was placed on the National Register of Historic Places in 1970 and designated a National Historic Landmark in 1986. The 22-acre grounds include the Capitol Extension, myriad monuments and memorials (including a mini-Statue of Liberty), a rose garden, and more.

The Museum of Ice Cream promises to help you rediscover the kid in you by bringing the universal power of ice cream to life. It’s an experiential museum where you can learn about ice cream and its history across 12 multi-sensory installations, ride an animal cookie, or take a dip in a pool of sprinkles. Think Willy Wonka but with all things ice cream. You can eat unlimited ice cream treats with global tastes, textures, and toppings.

Food
Whether you’re looking for Tex-Mex, BBQ, breakfast tacos (the debate is whether these tasty treats originated in Austin or San Antonio), food trucks, or something else, you’re sure to find just the thing to tempt your taste buds in Austin. Don’t leave Austin without trying a breakfast taco and kolaches (buttery, hole-less donuts topped with fruit and cream cheese).

There are food-truck parks throughout the city—East Cesar Chavez park, The Picnic Food Trail Park, South Austin Trailer Park & Eatery, South First Food Court, and Thicket Food Truck Park. You can sample everything from gourmet donuts (Gourdough’s) and Filipino-American food (Tito Adobo) to comfort food (Revolution Vegan Kitchen) and Thai food (Coat & Thai).

There are tons of top-rated restaurants as well:
- **Koriente**—offers vegan-friendly, Pan-Asian fare, run by a mother-daughter duo.
- **Lamberts**—barbecue, smoked meats, craft cocktails, live music—all in a refurbished general store.
- **Moonshine Patio Bar & Grill**—southern comfort food and yes, moonshine.
- **24 Diner**—all-night diner serving nostalgic brunch fare and American classics.
- **Vince Young Steakhouse**—sources its ingredients from farms and ranches in Austin or as local as possible.
- **Franklin Barbecue**—people travel from all over the country for pitmaster Aaron Franklin’s wood-smoked fare.
- **Eddie V’s**—prime seafood and steak dishes, a raw bar and top-tier kitchen.
- **Curra’s Grill**—known for its authentic, traditional Mexican cuisine and signature avocado margarita.
- **Emmer & Rye**—upscale contemporary farm-to-table restaurant.
- **La Condesa**—posh dining with the largest collection of 100% blue agave tequila and mezcal in the city; regional Mexican dishes and vegan or vegetarian options.
- **The Backspace**—rustic, Neapolitan-style pizza and seasonal antipasti, behind Parkside restaurant.
- **Tacodeli**—chef-driven, hand-crafted taco concept that blends Mexican flavors and Texan hospitality.

SHM Converge 2023 offers lots of opportunities to learn, engage, and network. Austin offers lots of opportunities for food, fun, and entertainment. Make sure to soak up all you can when you’re in Texas next month.
SIG Spotlight: Interdisciplinary Rounding

By Richard Quinn

Sarah Horman, MD, helped lead the launch of interdisciplinary rounding at the University of California San Diego in 2017. But it wasn’t until two years later that she found herself at the annual SHM national meeting, in a session with others who seemed as interested in the systematic approach to workflow as she was.

Toss in support from SHM and the Special Interest Group (SIG) on Interdisciplinary Rounding (IR) was born.

“Interdisciplinary rounding enforces a standard workflow around synchronized communication from multidisciplinary team members involved in the patient’s care—in a reliable way,” said Dr. Horman. And it’s really a vehicle for anything you design it for: patient safety, care utilization, patient experience, discharge planning, and readmission risk mitigation. Groups can customize it to fit their patient populations and organizational priorities.

To Dr. Horman, IR is a tool to streamline “a very chaotic and often inefficient care environment.” And who better to take a leading role in that system than a hospitalist, the proverbial quarterback of the inpatient medical team?

“Hospitalists are subject-matter experts on how to get a patient in the hospital treated in the hospital, and then discharged to a safe plan and follow up,” Dr. Horman said. “And the ability to communicate with a lot of different team members—while keeping the patient in the loop—is very natural rhythm for the hospitalist to fall into. These rounding models are really the car we drive. We understand the parts and the relationship between these parts.”

Dr. Horman says having a SIG for practitioners to discuss the pearls and pitfalls of IR serves as a valuable resource, given the adage that anyone who has seen one hospitalist group has seen another hospitalist group.

“We have lots of different care environments that make up the membership for SHM,” she said. “We have academic teaching hospitals, we have community hospitals, and we have critical-access hospitals. The one thing all those places have in common is chaotic communication pathways. IR streamlines this. But it can be daunting to get things started wherever you are and we all end up asking the same questions.

“How do you get leadership support? How do you recruit buy-in from hospitalists? How do you keep other disciplines engaged? How do you maintain fidelity over time? How can we measure success?”

Having a SIG dedicated to the topic gives its members a chance to talk to like-minded folk—and usually like-minded folk who have already solved similar problems.

“Of the biggest barriers that people talk about at the national level is the resource allocation toward dedicated care management and dedicated pharmacy support,” Dr. Horman said. “We also talk about the role of geographic co-horting to maintain IR efficiency. We have had forums discussing how to negotiate with hospital leadership to advocate for IR. More recently we have shared ways to leverage the electronic medical record to monitor and track IR metrics and prove success.

“Our SIG helps members interested in IR forge this unity. The power comes when we’re all doing IR the same way and collectively can say we found the same result. When things have so many different flavors, it becomes hard to compare and translate outcomes across the board. Standardizing processes and metrics helps us speak the same language, compare outcomes, and actually combine data toward a more powerful story.”

Dr. Horman says she saw the heightened value of the SIG during COVID-19, which caused a lot of disruption in many IR programs.

“When care became more remote, especially in the early part of the pandemic, it was a little bit of an identity crisis for IR programs that prided themselves on bedside contact and in-person, multi-team-member participation in small patient rooms,” she said. “The pandemic challenged this mantra, and some programs went to operating in a remote form or just pausing for a while.

“There was a lot of camaraderie in our SIG during that time, where we would meet on a regular basis and share, ‘How are you adapting your rounding model infection control policies and social distancing?’ Comparing notes during that time was a real-life example of how you can lean on the SIG outside your organization to develop ideas and come back to your own work and improve it.”

Dr. Horman says a unique feature of the IR SIG is that it serves as a mix of seasoned hands looking for solutions to complex problems—and IR rookies looking for a basic introduction.

“For example, this year we’re planning a session on the taxonomy of IR and the definitions,” she said. “We also offer content toward more advanced interdisciplinary-rounding leaders who already have their programs up and running. A hot topic this year is going to be how to leverage IR for improving length of stay and reducing readmissions. A lot of hospitals are experiencing census surges due to the pandemic and flu season, so implementing a team-rounding model to improve bed capacity can be impactful, and this is the time to do it.”

Richard Quinn is a freelance writer in New Jersey.
Chapter Spotlight: Central Texas

By Richard Quinn

They say everything is bigger in Texas—and it appears SHM chapters are no exception.

Take the Central Texas group, which stretches from Waco to San Antonio (anchored by Austin roughly halfway between). That’s nearly 200 miles apart, or, put another way, roughly the length of New Jersey end to end. “It’s both challenging and fun,” said chapter president Hameed Ali, DO, SFHM. “It’s a real combination of urban, suburban, and even rural medicine.”

At its most recent count, this collection of hospitalists treating everything from cowboys to CEOs had 367 members. Dr. Ali, a veteran hospitalist with Baylor, Scott & White Health, says that increasing membership is always a focal point of the chapter. In that regard, he’s thankful for the Texas-sized academic institutions or health systems he can partner with, including Texas A&M University and Baylor University.

“We plug into those up and coming in hospital medicine,” Dr. Ali said. “The chapter held a meeting in March (2022) with those residents in internal medicine who were interested in going into hospital medicine. It was a very fruitful consortium…and we had quite a few residents who came who were interested, and some medical students who were rotating with some of my colleagues.

“We had a panel discussion talking about our experiences from training all the way to being staff physicians and how things are changing in medicine. We got some new chapter members out of that particular meeting. It’s been a goal of ours to foster that interest. There’s certainly always that subgroup of residents who will want to go specialize in cardiology, hematology, whatever it is. But there certainly are those that stay, especially in my institution. We have a good retention rate for those residents who are training in internal medicine, who want to stay on as hospitalists.”

Dr. Ali recalls that during his residency training at Baylor Scott & White Medical Center in Dallas—where he’s still practicing some 16 years later—there weren’t a lot of hospitalists for medical students or residents to view as leaders or mentors.

“Back in the nineties, we had [so] few hospitalists who had that designation, and now we’re seeing probably over 100,000 hospitalists nationwide,” he said. “It’s been a huge shift, and I think that speaks to the financial aspect of medicine.”

Dr. Ali sees SHM’s growth as something on which to build, not rest. So, the chapter is working hard to promote its regional meeting in August in San Antonio—the chapter’s first in two years because of COVID-19 restrictions. The chapter also regularly meets with local residents—local is relative in Texas, where multi-hour drives are routine—with the long-term aim of building the next generation of both Central Texas chapter leaders and SHM members.

“We have a pretty good recruiting system for those students,” Dr. Ali said. “They have a good meal, have a good speaker. [One recent Thursday] we had a nephrologist speaking on advances in chronic kidney disease. We try to change up topics and try not to keep them too monotone.

“We have a lot of good speakers who come in. If you have that reach, you can engage speakers to come in and that keeps these things interesting.”

To that end, the Central Texas chapter kept active during the COVID-19 crisis with virtual meetings. But Dr. Ali says that those meetings—particularly after workdays filled with more Zooms, FaceTimes, and other digital faces—can end up fighting themselves.

“People were doing too many things on the computer while they were listening to a meeting, attending one of these meetings,” he said. “The face-to-face, we’re so happy to be back to doing that. It definitely was a challenge during COVID-19, but we’re happy to be back doing live events and that we have the ability to read the room. To see if practitioners have questions if they’re in the room when we’re doing lectures with our great speakers.”

Another advantage of a post-COVID-19 world for the Central Texas chapter? SHM Convergence, which is set for March 26 through March 29, 2023, in Austin (roughly the midpoint of the chapter’s geographic diaspora).

Dr. Ali is looking forward to taking advantage of having SHM’s leaders—as well as much of its national membership—in town.

“I’ve always been impressed with the meetings SHM puts on,” he said. “I know some of the lecturers who have been speaking at the national meetings, and having it here locally is going to be amazing for the chapter.”

As anyone who’s ever attended an SHM annual meeting knows, though, it’s not just hearing the speakers. It’s meeting them and setting up future meetings with them.

“The networking piece is a huge part of it,” Dr. Ali said. “It’s the mingling, networking aspect that is such a big part of SHM, and just making connections here locally and regionally, nationally as well.”

Richard Quinn is a freelance writer in New Jersey.
How Does Thiamine Deficiency Result in an Elevated Lactate?

By Paula K. Skarda, MD and Lillian Meierhoff

Case
A 50-year-old male with a medical history of severe alcohol use disorder and type 2 diabetes mellitus presented to the emergency department with shortness of breath and dry cough. Initial venous blood gases showed a pH of 7.06, anion gap of 41, and lactate of 5.19 mmol/L. After fluid resuscitation, glycemic control, and standard thiamine replacement, the patient’s lactate remained elevated.

Overview
Elevated lactate is a common finding in hospitalized patients.1 Hyperlactatemia is defined as a serum lactate level greater than 2 mmol/L. Lactic acidosis is elevated lactate in the setting of pH under 7.35.2 The differential diagnosis can be difficult, especially in patients with complex medical histories. Generally, high lactate levels can be grouped into two categories: hypoxia, and underlying disease (which can include sepsis, malignancy, thiamine deficiency, liver failure, diabetic ketoacidosis, and alcoholic ketoacidosis). Toxicities from a variety of substances and inborn errors of metabolism should also be considered.1 In this case, the patient presented with lactic acidosis secondary to a variety of potential causes.

While the underlying cause of lactic acidosis affects the progression greatly, elevated lactate levels are associated with a poor prognosis. In one study, an initial lactate of 4 mmol/L or higher was associated with a 28% in-hospital mortality rate.3 There is no specific timeframe or percentage decrease for normalizing lactate, but decreasing lactate concentrations are associated with improved mortality.2 The definitive treatment for lactic acidosis is resolving the underlying cause. Volume resuscitation and adequate oxygenation are also important.4 One cause of elevated lactate is thiamine deficiency. Thiamine is an essential cofactor in the conversion of pyruvate to acetyl-CoA.5 In the setting of thiamine deficiency, the pathway is instead shunted toward lactate.9

Thiamine is an essential cofactor to the tricarboxylic acid (TCA) cycle, aiding in the conversion of pyruvate to acetyl CoA as thiamine pyrophosphate.4 In the setting of thiamine deficiency, cells are unable to enter the TCA cycle and thus are shunted toward anaerobic metabolism, which produces excess lactate.6 In the U.S., thiamine deficiency is primarily caused by chronic alcohol use or chronic illness. There are several mechanisms by which chronic alcohol use leads to thiamine deficiency, including inadequate nutritional uptake and impaired absorption of thiamine within the small intestine.10

Unfortunately, there is no definitive diagnosis of thiamine deficiency and laboratory testing of thiamine levels is not widely available.7 Treatment of thiamine deficiency involves supplementation. Typically, 100 mg is considered a standard treatment dose, however, in the setting of persistent hyperlactatemia, high-dose thiamine (250 to 500 mg) may be appropriate.8

Back to the case
In the setting of multifactorial acidosis, it can be difficult to differentiate the main drivers of elevated lactate. In this case, the patient’s fluid resuscitation, glycemic correction, and bicarbonate administration were not sufficient to lower the patient’s lactate level. The patient’s alcohol abuse disorder led him to be chronically thiamine deficient. His thiamine deficiency hindered metabolism through the TCA cycle (See Figure) leading to regular production of lactate, perpetuating hyperlactatemia and an acidic state. While the patient was treated with a standard dose of thiamine 100 mg on admission, this proved insufficient to fulfill this patient’s metabolic needs. High-dose thiamine, while not indicated in every patient with chronic alcohol use, should be considered as a treatment for persistent hyperlactatemia.3 After a 500-mg dose of thiamine, the patient’s lactate began to trend lower.

Key Points
• Elevated lactate is associated with a higher mortality rate in hospitalized patients. Potential underlying causes of hyperlactatemia are numerous and can be difficult to determine in complex medical cases.
• Thiamine is necessary for aerobic metabolism of cells. In the setting of thiamine deficiency, cells undergo anaerobic metabolism which produces excess lactate.
• In the setting of severe alcohol use disorder, high-dose thiamine (500 mg daily) can help normalize lactate levels if standard thiamine dosing is not sufficient.

Figure 1: Thiamine is an essential cofactor in the conversion of pyruvate to acetyl-CoA. In the setting of thiamine deficiency, the pathway is instead shunted toward lactate.9 Abbreviations: Co-A, Co-factor A; TCA, Tricarboxylic acid cycle; TPP, Thiamine pyrophosphate

Quiz:
A 76-year-old female with alcohol use disorder is admitted to the hospital for urosepsis with symptoms of confusion. Labs demonstrate positive urine cultures, lactate of 4.1 mmol/L, and venous blood gases showing pH of 7.35, PaCO2 of 39 mm Hg, and HCO3- of 24 mEq/L. In addition to appropriate antibiotics and alcohol withdrawal protocol, what additional therapies should be started?

a. Haloperidol
b. 100 mg thiamine orally daily
c. 500 mg thiamine, high-dose protocol three times daily
d. Sodium bicarbonate

Correct option: B. While high-dose thiamine may be indicated for persistently elevated lactate levels, a standard dose of thiamine (100 mg daily) is recommended for a starting dose. Haloperidol and other antipsychotics may be indicated in the setting of agitation and aggression but are not used as first-line therapy for confusion or delirium. Sodium bicarbonate may be indicated in the setting of severe acidosis but is not necessary in this case, as the pH is within normal limits.
High-dose thiamine replacement metabolism. In some situations, production of lactate by shunt-Thiamine deficiency can cause mia eventually resolving. downward, with the hyperlactate-

**Bottom line**
Thoracic acidosis is a lesser known side effect of thia-
lactic-acidosis-a-less-

**References**


3. Shapiro NL, et al. Serum lactate as a predictor of mortality in emergency depart-


9. Thota V, et al. Treatment of refractory lactic acidosis with thiamine administra-

**Additional Reading**

lactic-acidosis-a-less-

• Amrein K, et al. Severe lactic acidosis with thiamine administra-


• Thota V, et al. Treatment of refractory lactic acidosis with thiamine administra-

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