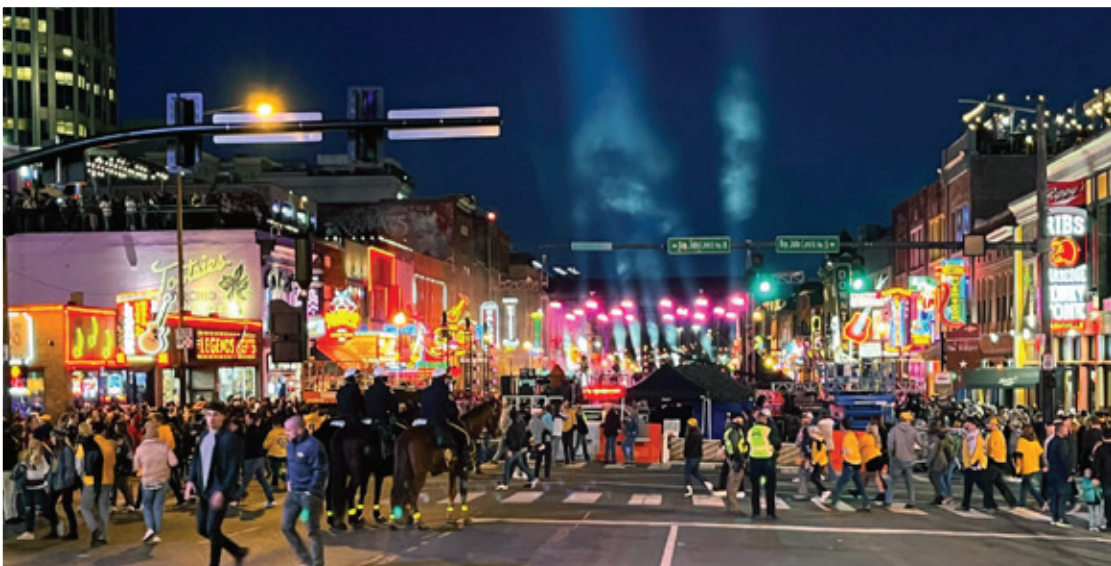
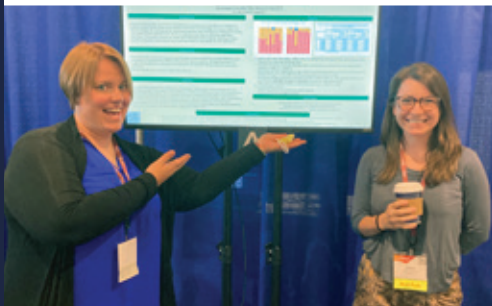
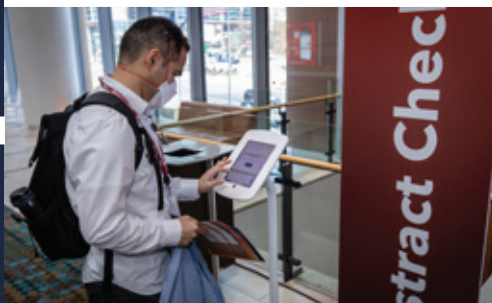


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IN THE NEXT ISSUE...

The evolution of procedural medicine, hospital at home how-to, and more

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Reunited and it feels so good. L to R: Dr. Samir Shah, Dr. Keely Dwyer-Matzky, Dr. Moises Auron, and Dr. Weijen Chang.

Editor's Note

By **Weijen Chang, MD, FAAP, SFHM**

Thank you for perusing and hopefully being intrigued and enlightened by our July 2022 issue of *The Hospitalist*, which covers highlights of SHM Converge 2022 in Nashville, Tenn.

None of us walking into Converge really knew what to expect, as this was the first in-person national conference many of us had attended in more than two years. But thanks to the meticulous and tireless planning of the SHM staff, who were “all hands on deck” in Nashville, the meeting went off smoothly.

This invisibly reliable behind-the-scenes work allowed Converge to do what it's supposed to—let SHM members and fellows shine as educators, mentors, and friends. We hope the session summaries capture the excitement and passion of presenters speaking on a wide range of topics, from treating substance use in the inpatient setting to microlearning on the wards, to mental health boarding, to being an ally for gender equity.

And we can't forget the all-important “Updates” talks, both in pediatric and adult hospital medicine, as summarized in this issue. With so many demands on our time as hospitalists, finding the high-value literature to inform and guide our care is invaluable. The summaries of the Updates talks given by Drs. Frank and Grant on the adult side, and by Drs. Shapiro and Sanyal on the pediatric side (written by the presenters themselves!) are a great jumping-off point for diving into



Dr. Chang, the physician editor of The Hospitalist, is a pediatric and adult hospitalist at Baystate Medical Center and Baystate Children's Hospital in Springfield, Mass., where he is an associate professor of pediatrics at the University of Massachusetts Medical School Baystate, chief of pediatric hospital medicine, and vice-chair for clinical affairs at Baystate Children's Hospital.

the past year's important literature.

For me, this issue also serves as a great reminder of what Converge 2022 felt like—a high school reunion, as SHM CEO Dr. Eric Howell put it. Seeing old friends, former colleagues, and the SHM staff stirred up great conversations and “catching up” in a way you can only do in person.

So let's not wait another three years—see you next year (March 26-29) in Austin, Texas! ■

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WILEY



With a Dynamic Past and Present, There's Little Doubt of a Dynamic Future

By Thomas R. Collins

In the late 1990s, when Robert Wachter, MD, found that his vision of and advocacy for the hospital medicine field was starting to get publicity, his father told him about a tennis game he'd played in Florida.

One of the players in his game was a doctor.

His father said he told the doctor who his son was, "and the doctor said he had heard of me," Dr. Wachter, chair of internal medicine at the University of California, San Francisco, recalled in a keynote address at SHM Converge.

"I sat there and I kind of puffed my chest out and said, 'That's pretty cool,'" he said. But then his dad added, "He hates you."

The very idea of a "hospitalist"—the word Dr. Wachter thought up to describe doctors who would care exclusively for hospitalized patients—brought fierce resistance from many primary care physicians, who were not eager to hand off care of their patients at their sickest moments, and who relied financially on caring for patients in the hospital.

In his plenary talk, Dr. Wachter retraced the history of hospital medicine's origins, not only to show how far the field has come, but also to show how these strides were made in response to the realities of medical care 25 years ago, and how hospital medicine will need to continue to respond to today's and tomorrow's realities to continue to thrive.

"If there's a system that hasn't changed in 20 years, it's got to be wrong," he said. "It's that way because of inertia."

Eventually, primary care physicians came to accept hospitalists. After all, Dr. Wachter said, increasingly short lengths of stay and care for more people in the outpatient setting meant that primary care physicians were no longer making the trip to the hospital for say, 10 patients, but maybe just a few. And the expertise of hospitalists to manage the often-complex care of people in the hospital made sense from an outcome and financial standpoint, resulting in even shorter stays and better bottom lines for hospitals.

The impact of hospitalists has been seen during the pandemic, he said.

"Let me thank all of you for what you've done over the past two years. It's remarkable how the folks here were at the front lines taking care of patients under the most extraordinary circumstanc-



Dr. Wachter talked about the past, present, and (bright) future of the specialty as HM enters its second quarter century.

es, and you've made an immense amount of difference," he said. "If anyone doubted our indispensability, COVID-19 should have silenced them, big time."

He predicted that less money will be spent on medicine in the U.S.—a fifth of the gross domestic product (GDP) is spent on health care now. He predicted this only with "some" confidence, though.

"Because I remember saying the same thing when it was 11, 12, 13, 14% of the GDP, and obviously I was wrong," he said.

Hospitals will function in much the same way airlines do, he said. Because of low profit margins and high fixed costs, nearly full capacity will be needed for them to be viable, and the goal of hospitals will be patients with more complex conditions will be filling the beds, he said.

"If a hospital is 100% full from an economic standpoint, and there's a complex surgical patient who could come in to get neurosurgery at a place like mine, or a liver transplant, and can't get in because my patient with pneumonia is taking up a bed, that's bad economically for the hospital, and the hospital is under considerable pressure to change that dynamic," he said.

This raises the prospect of an increasing role for hospital at home

care. Up until now, the complexities of arranging such care—lining up transportation, IV, medications, labs—have been a deterrent. This is why the concept didn't take off in the way that hospital medicine did, even though it was introduced at about the same time as the hospitalist concept, Dr. Wachter said.

"We have to create a system in which it is as easy to admit to hospital at home as it to the ward," he said. "That's going to require a turn-key solution," likely a company that takes care of all those tasks. Mayo Clinic and Kaiser Permanente recently made a \$110 million investment in the home acute care company, Medically Home.

"If it's ever going to hit a tipping point, it's going to be now," Dr. Wachter said. Who would provide this care is "up for grabs"—hospitalists, general internists, and geriatricians are all possibilities—and "I think it's going to be important to be strategic about that as a field."

He had a favorable outlook for the stability of the hospitalist field. While there might be pressure for increased efficiency, increasing patient censuses and hospitalist workload could lead to suboptimal care and longer lengths of stay, which would be a losing proposition for hospitals, he said.

Being replaced by less expensive health care professionals

also likely isn't a viable option, he said, because the knowledge of hospitalists will be needed to care properly for the more challenging patients who will be receiving care in the hospital rather than in the outpatient setting or at home.

"There are fewer stereotypical patients who are there under a protocol," Dr. Wachter said. "We need to be indispensable. We need to be in a position where the hospital says: 'Yeah they cost a lot of money, but they are really worth it. We could not run a hospital if not for them.'"

As for changes on the digital front, he said he doesn't see that as a threat to hospitalists, given the complex and dynamic nature of the work. But he does predict that artificial intelligence could lead to phenomena such as a voice-activated medical coach or a digital system that reads an ECG or a chest X-ray.

"The field continues to grow exceptional clinicians," he said. "I think the future is really bright." ■

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.



COVID-19 Has Shown the Power of HM

By Thomas R. Collins

Amid the unspeakable tragedies and hardships that the COVID-19 pandemic brought to the medical community are examples of stunning acts of innovation, compassion, and old-fashioned effort.

Nasim Afsar, MD, MBA, MHM—who has served on SHM’s board of directors and is now chief health officer at electronic health record company Cerner—doesn’t want people to forget those stories. Hospitalists should look to these bright spots for inspiration and motivation to continue improving health care, she said in a keynote speech at SHM Converge in Nashville, Tenn. in April.

“Never again do we have the right to say, ‘It can’t be done,’” she said. “Because you know what? We did it.”

She issued a challenge to the audience gathered for the plenary session.

“We’ve got one goal, and that’s to create the ‘Converge Effect,’” she said. “What’s the Converge Effect? It’s all of us, all nearly 3,000 of us, coming here together in one place, in Nashville, and looking at how we’re going to think differently, how we are going to do things differently, on behalf of our patients and communities back home, to change health care for the better.”

She asked the audience members to write down a new idea, connect with someone at the conference or back home, and commit

to doing something differently to improve care.

The achievements she pushed the crowd to build from were, of course, possible only because of desperate challenges posed by the pandemic. Personal protective equipment (PPE) was as vital as it was scarce, and sick patients flooded the hospital. In some settings, 80% of nurses were re-using their masks.

“Some organizations had to devise plans to assess the comorbidities of patients and try to figure out what the likelihood of survival was, because if it wasn’t high, maybe someone didn’t get an ICU bed,” Dr. Afsar said. “We had to do unthinkable things.”

But the medical field mounted a powerful response, she said. Public-private partnerships were formed to help supply PPE, non-biohazardous medical waste was recycled into PPE, and care at home became more common.

“We weren’t really comfortable with adopting that until the pandemic hit, and then all of a sudden across the board we figured out how to care for patients in a completely different setting,” she said.

Before March 2020, less than 10% of medical care was provided with telehealth, but a few months into the pandemic the vast majority of visits were performed by telehealth.

Telehealth, Dr. Afsar said, is here to stay, but “we have to think through how we’re going to appropriately embed these technologies in everything that we do, be it in the care of the hospitalized

patients, all the way to ambulatory care.”

This has to be done thoughtfully, she said, in a way that’s safe, doesn’t add to cost, and doesn’t lead to greater disparities in health care.

The pandemic has also drawn attention to health care equity, with social and structural factors affecting outcomes. For instance, not everyone can socially distance if they have to rely on public transportation or live in a multi-generational home. Infection rates and death rates were found to be closely related to household income, race, and rural versus urban living.

But health care workers rose to the occasion in this arena as well. In New York, mobile vaccine teams with expertise in various languages helped break down barriers to vaccination. In Philadelphia, 11 organizations joined forces to combat racial and social disparities affecting health outcomes.

Dashboards were created to help identify vulnerable populations, and mobile food markets were set up to help neighborhoods with at-risk families, Dr. Afsar said.

“Quality improvement without equity is really a hollow victory,” she said. “Make health equity a priority in everything you do.”

COVID-19 also led to a mental health pandemic, with anxiety and depression—and a general feeling of aimlessness and lack of motivation that has come to be known as “languishing.”

The Centers for Disease Control and Prevention found that the percentage of people with symptoms of anxiety and depression increased nationwide during the pandemic, and these psychological burdens led many health workers to leave the field.

In response to this problem, though, came more innovations and moving acts of goodwill, Dr. Afsar said.

Mobile apps were created to help address depression and anxiety and were found to bring sustained results. Medical professionals from Intermountain Healthcare in Utah went to New York to help overwhelmed health care workers. At Baystate Health hospitals in Massachusetts, workers created a mood of triumph and hope by playing the “Rocky” theme song whenever a COVID-19 patient was discharged.

Medical students, not yet able to provide care, helped nonetheless by taking on other tasks—child-care, pet services, and running errands for those working in hospitals. In San Antonio, after a wedding had been put off when the groom-to-be was hospitalized with severe COVID-19, health care workers performed a marriage ceremony at the hospital.

“There is a lot that we can do together to advance the health and care of our patients and our communities,” Dr. Afsar said. “We have to take an active role and make a difference in health care.” ■

Tom Collins is a medical writer in South Florida.

LIVE From Nashville!

No, this isn't your monthly copy of *Rolling Stone*, but this band of physicians did rock out in Nashville, Tenn. in April one evening after attending SHM Convergence.

You may recognize the faces even without their white coats: standing (L to R): Kevin Maguire, DO, FHM, John Nelson, MD, MHM, Robert Zipper, MD, MMM, SFHM, Thomas McIlraith, MD, CLHM, SFHM, and David Lake, MD; and kneeling (L to R): Winthrop F. Whitcomb, MD, MHM, and Christopher Whinney, MD, SFHM.

Though they've played together before acoustically, Nashville was their first electric jam session—and they loved it!

Don't be surprised if you see them at SHM Convergence in Austin, Texas, March 26-29, 2023. Stay tuned!



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SESSION SUMMARY

Pediatric Update

Top 10 Articles of 2021

Presenters and Summary authors: Matthew Shapiro, MD, MS, FAAP, Shuvani Sanyal, MD

As pediatric hospitalists, our organ is the hospital. We care for a wide variety of pathology in hospitalized children and work side-by-side with nearly every subspecialty, in both inpatient and outpatient settings. Through our clinical work and care coordination efforts, we directly feel the effects of our hospital systems and the societal powers that surround them. Thus, we are uniquely positioned to have strong connections to individual patients, the situations that brought them to us, and the care continuum they travel through.

In this article, we identify the top 10 publications of 2021, as presented at the Pediatric Update at SHM Converge 2022 in Nashville, Tenn., with summaries for five of those publications. We include clinical topics that may change how we practice as individuals, but also larger societal issues we can influence as hospital-based physicians.

Short-term Outcomes of the Study of Refeeding to Optimize Inpatient Gains for Patients with Anorexia Nervosa: A Multicenter Randomized Clinical Trial

Garber AK, et al. Short-term outcomes of the study of refeeding to optimize inpatient gains for patients with anorexia nervosa: a multicenter randomized clinical trial. JAMA Pediatr. 2021;175(1):19-27. doi:10.1001/jamapediatrics.2020.3359.

Background

Adolescents with anorexia nervosa and medical instability secondary to malnutrition are often hospitalized for short-term refeeding to restore vital sign stability.¹ The standard of care for inpatient refeeding has been lower-calorie refeeding (LCR), typically starting at 1200 kcal/d and increasing slowly.² LCR is generally considered safe and effective in avoiding refeeding syndrome but is associated with slow weight gain³ and long hospital stays.^{4,5} Higher-calorie refeeding (HCR), loosely defined to start at 1400 kcal/d, has been investigated in the past.⁶

Findings

This multicenter, randomized, controlled trial compared the safety, efficacy, and cost of LCR versus HCR. The LCR group started with 1400 kcal/d and increased by 200 kcal every other day. The HCR group started with 2000 kcal/d

and increased by 200 kcal every day. They excluded patients with 60% or lower minimum body mass index (mBMI). Medical stability, defined as restoration of vital sign stability and mBMI of 75% or more for age and sex, was restored significantly faster with HCR compared with LCR (hazard ratio 1.67). HCR restored medical stability three days earlier and restored heart rate among those with bradycardia four days earlier. The hospitalizations for the HCR group were four days shorter and significantly less costly (savings of \$5,518 per participant in cost and \$19,056 in hospital charges). There was no difference in safety outcomes, defined as the incidence of electrolyte disturbances or requirement of electrolyte supplementation.

Impact to Practice

This study shows that HCR in particular patients with anorexia nervosa and medical instability secondary to malnutrition is safe, more effective, and less costly. Pediatric hospitalists who care for this population and use LCR strategies should consider altering their treatment to provide more effective and patient-centered care without sacrificing safety. Of note, this group published a one-year follow-up article that showed that HCR and LCR led to similar remission rates, medical rehospitalization rates within one-year post-discharge, number of rehospitalizations, and total number of days re-hospitalized.⁷ This suggests HCR is equally effective from a more long-term view.

Hospital Outcomes for Children with Severe Sepsis in the USA by Race or Ethnicity and Insurance Status: A Population-Based, Retrospective Cohort Study

Mitchell HK, et al. Hospital outcomes for children with severe sepsis in the USA by race or ethnicity and insurance status: a population-based, retrospective cohort study. Lancet Child Adolesc Health. 2021;5(2):103-112. doi:10.1016/S2352-4642(20)30341-2.

Background

Sepsis is costly⁸ and is a leading cause of morbidity and mortality in children.⁹ There are disparities in the incidence and outcomes of sepsis in adults related to socioeconomic status, race, and ethnicity, even when controlling for confounders.¹⁰ Rates of sepsis in adults are higher in low-income areas¹¹ and in Black and Hispanic adults.^{11,12} There is an

increased risk of death from sepsis for Black patients^{11,13} and in those who are uninsured.¹⁴ Similar disparities have been described across a range of pediatric conditions, suggesting sepsis outcomes may be disparate in children as well.

Findings

In this large, population-based, retrospective cohort study using the Healthcare Cost and Utilization Project Kids' Inpatient Database, investigators examined patients 0-20 years old with severe sepsis with or without shock based on ICD-10 codes. When controlling for patient and hospital characteristics, they found that Black children had higher odds of death than did white children (aOR 1.19), driven by higher Black mortality in the south (aOR 1.30) and west (1.58). There was increased mortality for self-pay insurance or patients with no charge or "other" insurance status (aOR 1.30). They also found that there were longer hospital stays for Hispanic children (aHR 0.94) and Black children (aHR 0.88), particularly Black neonates (aHR 0.53).

Impact to Practice

This article provides evidence of the lack of equitable care in the U.S. It should help hospitalists acknowledge our individual implicit biases and encourage us to build more equitable care processes at our home institutions through introspective improvement of ourselves and our systems.

Hospital Consultation from Outpatient Clinicians for Medically Complex Children: A Randomized Clinical Trial

Mosquera RA, et al. Hospital consultation from outpatient clinicians for medically complex children: a randomized clinical trial. JAMA Pediatr. 2021;175(1):e205026. doi:10.1001/jamapediatrics.2020.5026

Background

Children with medical complexity (CMC) constitute only 0.4% of the total pediatric population,¹⁵ but they experience around 25% of all hospital days, more than 40% of inpatient deaths,¹⁶ and 53% of hospital charges.¹⁷ Continuity of care is particularly important for children with complex chronic conditions associated with technology dependence, multiple medications, and specialist care. Pediatric hospitalists, who may be unfamiliar with these patients or their outpatient management, face challenges in providing effective inpatient care



Dr. Shapiro



Dr. Sanyal

Dr. Shapiro is an assistant professor of pediatrics at the University of California Irvine School of Medicine and a fellowship-trained pediatric hospitalist at the Children's Hospital of Orange County, Irvine, Calif. Dr. Sanyal is a current fellow in pediatric hospital medicine and clinical instructor of internal medicine at Baylor College of Medicine, Texas Children's Hospital, Houston.

when CMC are hospitalized for exacerbations of chronic conditions or acute illnesses.¹⁸

Findings

This single-center, randomized, quality-improvement trial assessed the impact of a hospital consultation service for CMC provided by their outpatient comprehensive care clinicians. Three hundred and forty-two high-risk CMC were randomized to either hospital consultation (HC, n = 167) or usual hospital care (UHC, n = 175). For the HC group, comprehensive care clinicians worked in close collaboration with patient families, emergency department staff, and hospital physicians on decisions of admission, inpatient care, and discharge planning. The control group (UHC) received routine care from hospitalists and resident teams. In the intention-to-treat analyses, hospital consultation reduced total hospital days by a Bayesian probability of 91% to 98%, compared to usual hospitalist care (2.72 versus 6.01 per child-year). The study also showed that the hospital consultation intervention had a 98% probability of reducing hospitalizations (0.60 versus 0.93 per child-year), 89% probability of reducing pediatric intensive care unit days (0.77 versus 1.89 per child-year), and 94% probability of reducing total health system costs (\$24,928 versus \$42,276 per child-year), compared to usual hospitalist care.

Impact to Practice

This randomized, quality-improvement trial demonstrated that hospital consultation by outpatient comprehensive care clinicians improved health outcomes,

costs, and health care utilization for high-risk children with medical complexity. Hospitals caring for children (or perhaps, even adults) with medical complexity may consider adopting and studying similar models of inpatient care that promote continuity, avoid unnecessary admissions and duplicate tests, and better facilitate the transition back to outpatient care.

Predicting the Need for Phototherapy After Discharge

Kuzniewicz MW, et al. Predicting the need for phototherapy after discharge. *Pediatrics*. 2021;147(5):e2020019778. doi:10.1542/peds.2020-019778.

Background

To evaluate the risk for neonatal hyperbilirubinemia, newborns routinely have their bilirubin assessed prior to nursery discharge. Per the American Academy of Pediatrics (AAP) hyperbilirubinemia guidelines,^{19,20} follow-up timing is determined by using the age based Bhutani Nomogram,²¹ while a separate graph (based on neurotoxicity risk factors) informs decisions for phototherapy. The objective of this study was to develop and study predictive models—based on the difference between the pre-discharge total serum bilirubin (TSB) and AAP phototherapy thresholds (Δ -TSB)—to determine the likelihood that a post-discharge TSB will exceed phototherapy thresholds.²²

Findings

This large retrospective cohort study of 148,162 infants born at ≥ 35 weeks' gestation at 11 Kaiser Permanente Northern California facilities compared three predictive models—the Δ -TSB, Δ -TSB-Plus (which included additional factors), and the Bhutani Nomogram—for their discernment of infants at risk for clinically significant hyperbilirubinemia. Two thousand six hundred and twenty-three infants (1.8%) had a post-discharge bilirubin level above the phototherapy threshold. The receiver operating characteristic curves showed that all three models performed well in predicting infants at risk for exceeding the phototherapy threshold before age 30 days. The Δ -TSB-Plus model had the highest area under the curve (AUC 0.95), followed closely by the Δ -TSB model (AUC 0.93), and the Bhutani Nomogram (AUC 0.88). The Δ -TSB and Δ -TSB-Plus models better predicted the likelihood and timing of exceeding phototherapy thresholds for infants at moderate risk for developing hyperbilirubinemia.

Impact to Practice

The two Δ -TSB models incorporate the total serum bilirubin level and timing of the initial test along with neurotoxicity risk factors of gestational age and isoimmune hemolytic disease. Therefore, only

the AAP phototherapy threshold chart is needed to apply these predictive models. Pediatricians can use the Δ -TSB models to accurately determine the timing of follow-up testing and phototherapy based directly on the probability of exceeding phototherapy thresholds in 24 hours, 48 hours, or 30 days.

Clinical Practice Guideline: Evaluation and Management of Well-Appearing Febrile Infants 8 to 60 Days Old

Pantell RH, et al. Evaluation and management of well-appearing febrile infants 8 to 60 days old [published correction appears in *Pediatrics*. 2021;148(5):]. *Pediatrics*. 2021;148(2):e2021052228. doi:10.1542/peds.2021-052228.

Background

Since the 1970s when neonatal group B streptococcus infections were first recognized, there have been numerous attempts to determine appropriate workup and management for the young febrile infant. Many different approaches evolved, often leading to extensive evaluations, hospitalizations, and empiric antimicrobial treatments. There has long been a need for a consensus guideline that is current and evidence based.²³

Findings

A meticulous review of the literature by a committee of epidemiologists, general pediatricians, and pediatric subspecialists resulted in 21 action statements to guide the evaluation and management of well-appearing full-term febrile infants ages 8 to 60 days. The recommendations are summarized in three age-based algorithms—for infants 8 to 21 days of age, 22 to 28 days of age, and 29 to 60 days of age. Important considerations which shaped the new recommendations include the changing epidemiology of neonatal bacterial infections, from gram-positive to gram-negative predominance; increasing access to rapid and precise identification methods for bacterial and viral pathogens; and growing evidence elucidating how age impacts the risk and etiology of invasive bacterial infections in the first weeks of life. These key considerations inform new recommendations on obtaining inflammatory markers for the initial evaluation, deferring cerebrospinal fluid studies in certain older infants, and allowing home management when infants are determined to be at very low risk for a bacterial infection and families have received adequate education on return precautions.

Impact to Practice

This guideline offers step-by-step approaches to the evaluation and management of the well-appearing febrile infant. The authors note, however, that these recommen-

dations are not to be viewed as an exclusive course of action, and that variability is appropriate given the availability of resources and shared decision-making with families. Clinicians should review the quality of evidence, benefit-harm relationship, and value judgments implicit in the recommendations with families before choosing the best course of action.

The remaining articles that comprised the top 10 include:

- 1. **Gender Distribution in Pediatric Hospital Medicine Leadership.** Allan JM, et al. Gender distribution in pediatric hospital medicine leadership. *J Hosp Med*. 2021;16(1):31-3. doi:10.12788/jhm.3555.
- 2. **Quality Initiative to Reduce High-Flow Nasal Cannula Duration and Length of Stay in Bronchiolitis.** Charvat C, et al. Quality initiative to reduce high-flow nasal cannula duration and length of stay in bronchiolitis. *Hosp Pediatr*. 2021;11(4):309-18. doi:10.1542/hpeds.2020-005306.
- 3. **Treatment of UTIs in Infants <2 Months: A Living Systematic Review.** Nama N, et al. Treatment of UTIs in infants <2 months: a living systematic review. *Hosp Pediatr*. 2021;11(9):1017-30. doi:10.1542/hpeds.2021-005877.
- 4. **Multisystem Inflammatory Syndrome in Children—Initial Therapy and Outcomes.** Son MBE, et al. Multisystem inflammatory syndrome in children—initial therapy and outcomes. *N Engl J Med*. 2021;385(1):23-34. doi:10.1056/NEJMoa2102605.
- 5. **Risk Factors and Outcomes After a Brief Resolved Unexplained Event: A Multicenter Study.** Tieder JS, et al. Risk factors and outcomes after a brief resolved unexplained event: a multicenter study. *Pediatrics*. 2021;148(1):e2020036095. doi:10.1542/peds.2020-036095. ■

References

1. Shamim T, et al. Resolution of vital sign instability: an objective measure of medical stability in anorexia nervosa. *J Adolesc Health*. 2003;32(1):73-7. doi:10.1016/S1054-139X(02)00533-5.

2. American Dietetic Association. Position of the American Dietetic Association: Nutrition intervention in the treatment of anorexia nervosa, bulimia nervosa, and other eating disorders. *J Am Diet Assoc*. 2006;106(12):2073-82. doi:10.1016/j.jada.2006.09.007.

3. Garber AK, et al. Higher calorie diets increase rate of weight gain and shorten hospital stay in hospitalized adolescents with anorexia nervosa. *J Adolesc Health*. 2013;53(5):579-84. doi:10.1016/j.jadohealth.2013.07.014.

4. Garber AK, et al. A prospective examination of weight gain in hospitalized adolescents with anorexia nervosa on a recommended refeeding protocol. *J Adolesc Health*. 2012 Jan;50(1):24-9. doi:10.1016/j.jadohealth.2011.06.011

5. Golden NH, et al. Higher caloric intake in hospitalized adolescents with anorexia nervosa is associated with reduced length of stay and no increased rate of refeeding syndrome. *J Adolesc Health*. 2013;53(5):573-8. doi:10.1016/j.jadohealth.2013.05.014.

6. Garber AK, et al. A systematic review of approaches to refeeding in patients with anorexia nervosa. *Int J Eat Disord*. 2016;49(3):293-310. doi:10.1002/eat.22482.

7. Golden NH, et al. Higher-Calorie refeeding in anorexia nervosa: 1-year outcomes from a randomized controlled trial. *Pediatrics*. 2021;147(4):e2020037135. doi:10.1542/peds.2020-037135.

8. Carlton EF, et al. Cost of pediatric severe sepsis hospitalizations. *JAMA Pediatr*. 2019;173(10):986-7. doi:10.1001/jamapediatrics.2019.2570.

9. de Souza DC, Machado FR. Epidemiology of pediatric septic shock. *J Pediatr Intensive Care*. 2019;8(1):3-10. doi:10.1055/s-0038-1676634.

10. Jones, J. M., et al. Racial disparities in sepsis-related in-hospital mortality: using a broad case capture method and multivariate controls for clinical and hospital variables, 2004-2013. *Crit Care Med*. 2017;45(12):e1209–e1217. https://doi.org/10.1097/CCM.0000000000002699.

11. Barnato AE, et al. Racial variation in the incidence, care, and outcomes of severe sepsis: analysis of population, patient, and hospital characteristics. *Am J Respir Crit Care Med*. 2008;177(3):279-84. doi:10.1164/rccm.200703-480OC.

12. Dombrovskiy VY, et al. Occurrence and outcomes of sepsis: influence of race [Erratum in *Crit Care Med*. 2008 May;36(5):1699-700]. *Crit Care Med*. 2007;35(3):763-68. doi:10.1097/01.CCM.0000256726.80998.BF.

13. Mayr FB, et al. Infection rate and acute organ dysfunction risk as explanations for racial differences in severe sepsis. *JAMA*. 2010;303(24):2495-503. doi:10.1001/jama.2010.851.

14. Kumar G, et al. The association of lacking insurance with outcomes of severe sepsis: retrospective analysis of an administrative database. *Crit Care Med*. 2014;42(3):583-91. doi:10.1097/01.ccm.0000435667.15070.9c

15. Kuo DZ, et al. A national profile of caregiver challenges among more medically complex children with special health care needs. *Arch Pediatr Adolesc Med*. 2011;165(11):1020-6. doi:10.1001/archpediatrics.2011.172.

16. Simon TD, et al. Children with complex chronic conditions in inpatient hospital settings in the United States. *Pediatrics*. 2010;126(4):647-55. doi:10.1542/peds.2009-3266.

17. Berry JG, et al. Inpatient growth and resource use in 28 children's hospitals: a longitudinal, multi-institutional study. *JAMA Pediatr*. 2013;167(2):170-7. doi:10.1001/jamapediatrics.2013.432.

18. Mosquera RA, et al. Hospital consultation from outpatient clinicians for medically complex children: a randomized clinical trial. *JAMA Pediatr*. 2021;175(1):e205026. doi:10.1001/jamapediatrics.2020.5026.

19. American Academy of Pediatrics Subcommittee on Hyperbilirubinemia. Management of hyperbilirubinemia in the newborn infant 35 or more weeks of gestation [Erratum in *Pediatrics*. 2004 Oct;114(4):1138]. *Pediatrics*. 2004;114(1):297-316. doi:10.1542/peds.114.1.297.

20. Maisels MJ, et al. Hyperbilirubinemia in the newborn infant > or =35 weeks' gestation: an update with clarifications. *Pediatrics*. 2009;124(4):1193-8. doi:10.1542/peds.2009-0329.

21. Bhutani VK, et al. Predictive ability of a predischARGE hour-specific serum bilirubin for subsequent significant hyperbilirubinemia in healthy term and near-term newborns. *Pediatrics*. 1999;103(1):6-14. doi:10.1542/peds.103.1.6.

22. Kuzniewicz MW, et al. Predicting the need for phototherapy after discharge. *Pediatrics*. 2021;147(5):e2020019778. doi:10.1542/peds.2020-019778.

23. Pantell RH, et al. Evaluation and management of well-appearing febrile infants 8 to 60 days old [Erratum in *Pediatrics*. 2021;148(5):]. *Pediatrics*. 2021;148(2):e2021052228. doi:10.1542/peds.2021-052228.

SESSION SUMMARY

Rethinking Hospitalist Work

Reimagining Workforce Goals

Presenters: Marisha Burden, MD, FACP, SFHM, University of Colorado School of Medicine, Aurora, Colo., and Angela Keniston, MSPH, University of Colorado

Summary author: Joanna Bonsall MD, PhD, SFHM

The speakers at this Converge session focused on the inadequacies of current measures of hospitalist workload and how these inadequacies can lead to worsened outcomes. They then proposed a new model for assessing workload that could be used for staffing strategies.

As evidenced by audience input, most health care systems measure workload through productivity (wRVUs—work relative value units), number of patient encounters, or financial measures (dollars spent/cFTE [clinical full-time equivalent], collections). However, these measures don't consider other important factors that play into the workload, such as patient complexity or work environment. They also fail to tie other outcomes into the workload, such as hospitalist well-being, patient safety/safety culture, job performance, institutional outcomes (length of stay, readmissions), or academic productivity.

We know from the nursing literature that high nurse-to-patient staffing ratios affect patient mortality as well as nurse burnout and job satisfaction. We also know that increasing hospitalists' workloads negatively impacts hospitalists and their job performance, and negatively impacts hospital operational and financial outcomes.¹ For each increase in RVU and census, quality and efficiency of care decrease, and costs and length of stay increase. Focusing solely on productivity and financial measures without considering other pressures can negatively affect hospitalist well-being and burnout as well as work efficiency and patient safety. A high census can also hinder quality-improvement efforts, and a rushed clinician is less likely to consider their biases.

In addition to the ideal caseload, groups must also try to forecast capacity. Capacity strain is difficult to predict, which leads to insufficient resourcing/staffing. When a capacity strain occurs, low-yield tactics are typically employed, like telling people to "discharge faster." This causes significant stress and is unsafe for patient care.

The speakers also emphasized that task load—the subjective mental workload—should be considered when making staffing decisions. Task load is affected by patient complexity, work environ-



Key Takeaways

- There are various ways to measure workload. Most institutions focus on productivity or financial measures, which may neglect other important measures such as well-being or patient safety.
- Increases in census impact efficiency, patient safety measures, and hospitalists' well-being.
- Task load is an often neglected but important aspect of workload that reflects patient complexity, interruptions, and other factors that affect attention.
- The speakers are currently designing a tool that can measure multiple aspects of workload and link workload to outcomes. The tool will eventually be used to develop data-driven staffing strategies.

ment, interruptions, and anything that can lead to fractured attention.² Task load can be measured by tools such as the National Aeronautics and Space Administration task load index (NASA-TLX), which can be used to conduct a subjective mental workload assessment. Increased task load leads to increased processing time on complex tasks and impaired work-

ing memory, as well as increased bias. Task load can be improved by taking measures such as prioritizing quality of communication, designing physical spaces to foster attention, evaluating the effects of proposed changes on workforce roles and duties, and optimizing electronic health records. The speakers are currently developing an easy-to-use tool to



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track total work that can be used to define and measure inpatient clinician workload. The tool will then be used to pair workload to key outcomes. Tool inputs include the institution and worker characteristics (type/size of hospital, number of units, years since training, years with group) as well as workplace conditions (type and length of shift, presence of learners, presence of APPs, number of steps taken). Job demands are also incorporated, such as the patient-to-clinician ratio, the NASA-TLX, and patients' severity of illness. Outputs include both short- and long-term outcomes. In addition to patient and institutional outcomes (length of stay, mortality, etc.), they also included worker outcomes such as burnout, work experience, and attrition/intent to leave. Ultimately, the tool will be combined with the electronic health record to tie workload to other tasks, such as when and for how long clinicians are doing documentation work, or how many secure chats are sent and when. The plan is to use this tool to collect data in real-time, which will enable the development of data-driven staffing strategies that can be standardized across processes and outcomes. ■

References

1. Elliott, D.J., et al. Effect of hospitalist workload on the quality and efficiency of care. *JAMA Intern Med.* 2014;174(5):786.
2. Kissler, M.J., et al. Toward a medical "ecology of attention". *N Engl J Med.* 2021;384(4):299-301.

Steroid Dosing and Surgery Outcomes for COVID-19 Patients Highlight the Year's Research

By Thomas R. Collins

Whether to use a standard or a personalized dose of corticosteroids in hospitalized patients with flares of chronic obstructive pulmonary disease (COPD), and outcomes of COVID-19 patients undergoing surgery were among the highlights in hospital medicine-related research over the past year, according to an expert review at SHM Converge.

The plenary speakers—Gaby Frank, MD, associate professor of medicine at the University of Colorado School of Medicine, Aurora, Colo., and Paul Grant, MD, clinical associate professor of medicine at the University of Michigan, Ann Arbor, Mich.—summarized literature in 11 relevant journals for the year.

Here are some of the presented summaries:

Is personalized-dose corticosteroid administered according to a dosing scale more effective than fixed-dose corticosteroid administration in hospitalized patients with acute exacerbations of chronic obstructive pulmonary disease (COPD)?

Li L, et al. *Personalized Variable vs Fixed-Dose Systemic Corticosteroid Therapy in Hospitalized Patients With Acute Exacerbations of COPD: A Prospective, Multicenter, Randomized, Open-Label Clinical Trial*. *Chest*. 2021 Nov;160(5):1660-1669.

This multi-center, prospective, randomized, open-label trial at four tertiary care hospitals in China included 248 patients who were randomized to receive a personalized dose or a fixed-dose.

The daily dose of prednisolone was 61.4 mg in the personalized group and 56.2 in the fixed group. Failure of therapy in the hospital—meaning death, need for mechanical ventilation, additional corticosteroids, aminophylline, or an upgrade in antibiotics—occurred in 10.6% of the personalized group compared to 24.4% of the fixed group. The fixed group also fared worse in terms of death or readmission for acute exacerbation of COPD (AECOPD) within 180 days of discharge, and other parameters.

Researchers found that composite failure in the personalized group was lower, at 23.4%, for those who received more than 60 mg of prednisolone per day, than the 31.3% composite failure rate for those receiving less than 60 mg per day.

The efficacy of the higher dosing raises questions about the GOLD—Global Initiative for Chronic Obstructive Lung Disease—recommendation for AECOPD, which is 40 mg per day, Dr. Frank noted.

“On average, a GOLD-recommended dose of 40 mg of prednisone may be too low, and 60 mg—maybe not personalized but a dose of 60—may be better,” she said.

What is the association between the time of elective surgery, relative to the development of COVID-19 infection, and the risk of pulmonary and other major post-operative complications?

Deng JZ, et al. *The Risk of Postoperative Complications After Major Elective Surgery in Active or Resolved COVID-19 in the United States*. *Ann Surg*. 2022 Feb 1;275(2):242-246.

Researchers in the U.S. reviewed data on about 5,479 patients who had one major elective surgery and who had a COVID-19 diagnosis. They



Drs. Frank and Grant did an outstanding job with their in-person In the Literature at SHM Converge.

included non-emergent procedures, including brain mass resection, carotid endarterectomy, total knee arthroplasty, and other surgeries. Most of the patients had mild cases of COVID-19.

Among the findings, those having surgery within four weeks of their COVID-19 diagnosis had a 480% higher risk of developing post-op pneumonia and a 208% higher risk of respiratory failure. They were also at a higher risk for other complications. Those having surgery four to eight weeks after the COVID-19 diagnosis had a 96% increased risk of post-op pneumonia. Patients undergoing surgery at least eight weeks after the diagnosis of COVID-19 had similar post-operative risk as the control group of patients who had procedures performed before a COVID diagnosis.

Total knee arthroplasty was the most common surgery done among patients who'd had a COVID-19 diagnosis within the previous four weeks—although it is the type of procedure that could safely be put off for a bit, Dr. Frank said.

“So for all of us who do peri-op medicine, it's important to try to recommend that elective surgery be delayed a little, after the eight weeks,” Dr. Frank said.

Do non-critically ill patients with community-acquired pneumonia (CAP) need more beta-lactam antibiotics if they are stable after three days of treatment?

Dinh A, et al. *Discontinuing β -lactam treatment after 3 days for patients with community-acquired pneumonia in non-critical care wards (PTC): a double-blind, randomised, placebo-controlled, non-inferiority trial*. *Lancet*. 2021 Mar 27;397(10280):1195-1203.

This was a double-blind, randomized, placebo-controlled, non-inferiority trial at 16 hospitals in France, with 310 patients admitted for moderately severe CAP. Those who were clinically stable after 72 hours were randomized to receive a placebo or five more days of amoxicillin plus clavulanate.

The placebo group did no worse than those who were continued on treatment. At 15 days, 77% of the placebo group had been “cured,” with no fever, with resolution or improvement of respiratory symptoms, and no additional antibiotics for any reason. That compared to 68% for the beta-lactam group, which was not inferior.

Dr. Grant noted that the Infectious Disease Society of America guidelines recommend a minimum of five days of treatment—and he didn't expressly call the recommendation into question—but he said these findings suggest that clinicians might consider a shorter course than they usually use.

“At least if you're still doing seven, eight, or 10 days of antibiotics, certainly consider dropping down to at least five for your patients who are clinically stable early in their course,” he said.

In patients with acute myocardial infarction (MI) and anemia, is a restrictive strategy of blood transfusion non-inferior to a liberal strategy for 30-day major adverse cardiac events (MACE)?

Ducrocq G, et al. *Effect of a Restrictive vs Liberal Blood Transfusion Strategy on Major Cardiovascular Events Among Patients With Acute Myocardial Infarction and Anemia: The REALITY Randomized Clinical Trial*. *JAMA*. 2021 Feb 9;325(6):552-560.

This randomized, controlled, non-inferiority trial was performed across 35 hospitals in France and Spain and included 668 patients with MI and hemoglobin between 7 and 10 g/dL.

Patients were randomized to either a “restrictive” or “liberal” strategy of transfusion. With the restrictive strategy, transfusion was triggered by an Hg of 8 or lower with a post-transfusion target of 8 to 10 g/dL. With the liberal strategy, it was triggered by an Hg of 10 or lower with a post-transfusion target of 11 g/dL or higher.

At 30 days, 11% of patients in the restrictive group reached the primary outcome of death, stroke, recurrent MI, or emergency revascularization. That compared to 14% for the liberal strategy, and the restrictive strategy was found to be statistically non-inferior, although it didn't meet the criteria for superiority, Dr. Grant said.

“This is even more data supporting a restrictive strategy for blood transfusions,” he said. “Now we're seeing this in patients with acute coronary syndrome. Fewer transfusions are obviously a good thing, with respect to less transfusion-related risk, and lower cost. And it couldn't be more timely now with respect to blood-transfusion supply.” ■

Tom Collins is a medical writer in South Florida.

Apps and Gadgets: Tech for Hospitalists

By Thomas R. Collins

Apps, wearables, and gadgets—hospitalists are well aware that technology is having a profound effect on health care.

But you're probably not aware of everything out there, or just how quickly technology is shaping how doctors care for patients.

Anoop Agrawal, MD, associate professor of medicine at the Baylor College of Medicine in Houston, recognized by Apple as a Distinguished Educator, described what he sees as the most influential and useful health care technologies in a session at SHM Converge. It's an area that hospitalists need to keep up with, given the pace of advancements, he said.

In 2019, The Topol Review predicted that telemedicine would hit 80% adoption by 2030 or 2035. Because of the COVID-19 pandemic, that has already been reached.¹ Use of health care smartphone apps would hit 80% adoption by 2025, the review predicted, but "we're already there," Dr. Agrawal said. Sensors and wearables are also ahead of their previously predicted pace.

"It's really fascinating to look back at this and look at where we are today," he said. "All of these things have basically moved forward about a decade in terms of implementation and the impact they are going to have in our life."

In 2021, there were 350,000 health-related apps. Some, Dr. Agrawal cautioned, are unregulated by the U.S. Food and Drug Administration (FDA), so the users are taking on added liability should they choose to use them. The FDA doesn't regulate apps that act as medical textbooks, games simulating medical scenarios, or surgical training videos, for example. The FDA regulates an app only if it's considered a medical device.

Quality apps—including some he described in a similar talk in 2017—are no longer available, which Dr. Agrawal said is a shame, and shows the importance of supporting apps that you find helpful.

"Help support these developers and these apps," he said. "I know we're a little averse to buying apps, but if it's a quality app you need to help support it because otherwise it just ends up in the pile of rubble."

He recommended an array of apps and gadgets for hospitalists.

Apps

American College of Cardiology (ACC) Guideline Clinical App This app covers the ACC's entire body

of work, and Dr. Agrawal said the developers have done a nice job of organizing the topics. He said the app does not have the best interface but is navigable once you get used to it.

ARUP Consult This app, designed to help clinicians choose the right diagnostic test, is from a lab at the University of Utah. It's a web-based app, but like other web pages, it can be added to your home screen so that it appears with the other apps. "I think this is one of the best resources that are out there—I think it's actually on par with UpToDate," he said. "They have phenomenal algorithms. ... It's very clear, concise, it doesn't overwhelm you with information."

Rads Consult This app has incorporated all the content from the American College of Radiology's recommendations for every scenario. Users get a two-week trial, and then it costs \$14.99. "Rads Consult is like having a radiologist on speed dial," Dr. Agrawal said.

Seattle Heart Failure Model This web app calculates survival at baseline and after interventions that are inputted by the user, driving home the implications for treatments. "I love showing this to students and residents," he said. "It really helps them understand the impact the particular intervention that they're going to now start will have on the morbidity and mortality line."

Coverage Search This "quick, easy tool" searches all commercial, Medicaid, Medicare, and health care exchange formularies to inform physicians and the public about coverage of medications.

GoodRx Pro This app is designed to help physicians help patients use GoodRx, the popular prescription app. Dr. Agrawal said that it can sometimes be time-consuming to explain to patients how to input information into GoodRx, so they're searching for the medication they actually need because there are so many variables. With GoodRx Pro, physicians can enter the information themselves, and send an anonymous email or text



to the patient that takes them to GoodRx with the information already entered.

Gadgets

AliveCor This is a wallet-sized gadget that can be used to generate single-lead ECG reports when used along with your smartphone. It is FDA-approved for algorithmic analysis of certain heart rhythms.

KardiaMobile 6L This is an FDA-approved 6-lead ECG used primarily for common arrhythmias. It is about the size of a Band-Aid.

Eko Stethoscope The gadget can listen to sounds either digitally or analog and connects to an app on your device with Bluetooth. This allows a phonogram to be viewed in real-time and to record sounds for playback immediately or at a later time. The DUO version offers atrial fibrillation and murmur detection but doesn't diagnose the type.

Thinklabs One Stethoscope This is a digital-only gadget and allows physicians to view a phonogram in real time, with a recording of sounds. "There were hospitals that were utilizing this during the pandemic in terms of making it much easier for physicians to safely listen to heart sounds," Dr. Agrawal said.

BodiMetrics circula+ Wellness Ring This device goes on the finger and continuously monitors pulse oximetry, heart rate, finger temperature, and blood pressure.

BodiMetrics-Vitals Rx Health Monitor This is an FDA-cleared gadget, available by prescription only, that can provide an obstructive sleep apnea screening report. It is strapped to the wrist and connected to a finger.

Oura Ring Dr. Agrawal called this aesthetically appealing device "consumer-facing sleep tracking for the fashionista." It monitors

heart rate, heart rate variability, sleep, and temperature, with pulse oximetry expected to be available soon. It is also cleared by the FDA for fertility tracking when used with the Natural Cycles app.

The availability of these devices to easily gather health data raises the prospect of their use being tied to insurance rates, Dr. Agrawal said.

"Are we maybe heading to a new world where your wearable tech can be utilized by insurance companies to adjust your health premiums by allowing tracking of things like sleep quality or other metrics?" he said. "I would not be surprised if 10 years down the road we're talking about some of this."

Artificial intelligence and machine learning are on the horizon as well. Deep neural networks, for instance, have been found to be able to detect skin cancer with dermatologist-level skill.²

More immediately, remote monitoring and telehealth are being made easier seemingly every day. These technologies also make the hospital at home concept easier to accomplish.

If many of these devices can become "part of our toolkit," he said, "we are going to have a big impact on reducing hospitalizations, shortening hospital stays, fewer visits to the emergency department, better outcomes for rural areas, and just overall better medical management." ■

References

1. Topol E, et al. Preparing the healthcare workforce to deliver the digital future. <https://topol.hee.nhs.uk/wp-content/uploads/HEE-Topol-Review-2019.pdf>. Accessed April 18, 2022.
2. Esteva A, et al. Dermatologist-level classification of skin cancer with deep neural networks. *Nature*. 2017;542(7639):115-118.

Tom Collins is a medical writer in South Florida.

SESSION SUMMARY

High-Value Care in Pediatrics

Things We Do for No Reason

Presenter: Mike Tchou, MD, MSc, Children's Hospital of Colorado/University of Colorado-Anschutz Medical Campus, Aurora, Colo.

Summary author: Ann-Marie Tantoco MD, FAAP, FHM

Key Takeaways

- Value is an important concept in pediatric hospital medicine and can be defined as an equation, which includes patient outcomes, patient experience, equity, and cost.
- The Choosing Wisely campaign provides recommendations on how hospitalists can improve the care of hospitalized children.
- Many opportunities are available to help provide high-value care to pediatric patients.

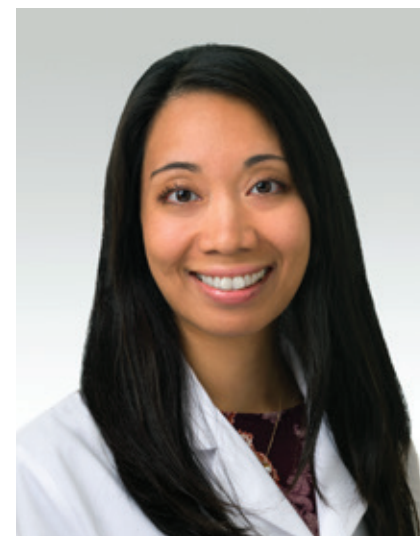
Dr. Tchou began by defining value as an equation, with value equaling the sum of outcomes, patient experience, and equity, divided by the sum of cost and input. He emphasized that child health care spending has greatly increased in the U.S. and can result in inefficient systems, burnout, and preventable harm.

He applied the value equation to a case of a five-day-old, healthy, term newborn with elevated bilirubin in the high-risk zone. An outpatient pediatrician requested hospital admission for this infant with a bilirubin of 19.2 on a Friday night for fear of the bilirubin increasing with the need for phototherapy prior to Monday. This ensued a discussion with the audience on how to best care for this infant. Dr. Tchou discussed that kernicterus usually occurs when total serum bilirubin is over 40 mg/dL with more than two neurotoxicity risk factors. In addition,

phototherapy may increase the risk of cancers and seizures. Phototherapy may also decrease the rate of breastfeeding and can cause stress and anxiety to parents and caregivers. Hospitalization for phototherapy also results in medical and non-medical costs for the families. He highlighted that one should not initiate phototherapy in term or late-term well-appearing infants who have bilirubin levels below the American Academy of Pediatrics guideline threshold for

treatment. This recommendation is one of those in "Choosing Wisely in Pediatric Hospital Medicine: 5 New Recommendations to Improve Value," published in *Hospital Pediatrics*.

He ended the talk by stating that there are several opportunities to bring high-value care to our pediatric patients. He provided a list of high-value care resources, which included cost data, articles, journals, textbooks, and national organizations. ■



Dr. Ann-Marie Tantoco is an academic med-peds hospitalist at Northwestern Memorial Hospital and Ann & Robert H. Lurie Children's Hospital of Chicago. She is an instructor of medicine and pediatrics at Northwestern University Feinberg School of Medicine, Chicago, and an executive council member of the SHM Pediatric Special Interest Group.

SESSION SUMMARY

Moving Up a Scale

Navigating the Jungle Gym of Leadership Opportunities in Hospital Medicine

Presenters: Teela Crecelius, MD, Indiana University School of Medicine, Indianapolis, Daniel Ricotta, MD, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Alan Hall, MD, University of Kentucky College of Medicine, Lexington, Ky., Sanjay Patel, MD, FACP, FHM, Riverside Methodist Hospital, Columbus, Ohio

Summary author: Tanveer Singh, MD

The presenters spoke about their journeys into their leadership roles and how a new- or early-career hospitalist can navigate through the process. Most important was that every hospitalist is going to have a slightly different journey to leadership, but the underlying principles remain the same.

The path to leadership and your role as a leader could be portrayed via *ikigai* (the Japanese concept referring to something that gives you a reason for being). Your role as a leader should give you a sense of purpose, and a reason for living. So, it should include what you love and are passionate about, what the world needs, what you are good at, that it's part of your profession, and what you can be paid for. If there is a combination of these factors, then your journey towards the leadership role

"Some opportunities will come your way, presented by your leadership. The reason you were selected or approached to lead a certain committee or to do a certain role is that your leaders trust in your abilities."

and your role as a leader will give you a sense of purpose, and thus *ikigai*.

Some opportunities will come your way, presented by your leadership. The reason you were selected or approached to lead a certain committee or to do a certain role is that your leaders trust in your abilities. Your answer could be yes, provided you have time and you think you can do a good job or not. If you say no, you can help your leaders by directing them to someone who can do the job or help them with the resources needed to

do the job. Don't agree to take any job if you think you will not work hard or you will not enjoy it.

To start a new endeavor, you will have to come out of your comfort zone. Try to build a relationship with your team and try to know them on a personal level. If someone is not performing in your team, don't be judgmental. Instead ask, "How can I help here?" The most important lesson to navigate through the journey was that you should not dwell on failures; think of failure as the first attempt at learning. Always



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remember that collaboration that means your success is the success of your team. ■



Hospitalists Recount the Struggles of Parenting During COVID-19

By Thomas R. Collins

Mary Fredrickson, MD, a hospitalist at HealthPartners and assistant professor of medicine at the University of Minnesota, already had a hectic life before COVID-19, with four children ages 5 to 21, and a husband who works full-time in tech. When the pandemic hit, she said, her routines crumbled.

The distancing required by COVID-19 meant that her mother, who had assisted with child care, could no longer help.

She got a boost from an unexpected source: The woman who cleaned their home, it turned out, had a daughter in the same grade-school class as her son, and the woman began to help with pick-up at school and made dinner for the family twice a week.

"That was completely life-changing," Dr. Fredrickson said. Not only did it take some of the load off her and her husband, but the woman's daughter became closer friends with their children, and it was an arrangement that helped the woman financially.

"It was actually this beautiful situation that worked out that never would have happened if it wasn't for that need," she said.

Dr. Fredrickson recounted her experience as part of a session on hospitalists' parenting challenges during the pandemic, in which hospitalists shared their frustrations, but also the occasional bright spots that arose from those trying times.

Session moderator Benji

Mathews, MD, MBA, SFHM, associate professor of medicine at the University of Minnesota, in Saint Paul, Minn., said the pandemic was tough on his dual-physician household.

"I feel like I just barely survived during the pandemic," he said.

The pandemic, he said, has forced him to answer, "What is it that I'm fighting for with my family?" For them, it was family reading time, spending time outdoors, engaging in service or work such as age-appropriate chores, practicing finding ways to fill times of boredom, and enjoying times of togetherness such as mealtime.

Ingrid Pinzon, MD, assistant professor at Emory School of Medicine in Atlanta, a divorced mother of two older daughters, said that the younger daughter, who had started college, struggled with depression during the pandemic.

"She was very isolated, so she would come home and stay home and sleep late," Dr. Pinzon said. "I would come home from work and she was still sleeping." She learned her daughter would log on to classes and then go right back to sleep when they were over.

"She was so depressed because she was not having contact with friends at the college," she said. "I've found help and she's stuck with her therapist. And I think that's the key."

She added: "My advice is just to talk as much as you can with them."

On the bright side, she said, the pandemic has brought her closer to her daughters.

"The last two years I've learned a

lot about my daughters in the time I spent with them."

Paul Grant, MD, clinical associate professor of medicine at the University of Michigan in Ann Arbor, Mich., adopted a baby daughter with his husband during the pandemic. He was helped by a newly enhanced benefit at the university that allowed him to take six weeks of parental leave. And his husband, a dental hygienist, has taken on the role of stay-at-home father.

"I do feel really lucky in that respect," he said. But he said he harbors concerns about speech development due to the limited social interaction and mask-wearing of the pandemic. He has also had to rely on Zoom and video phone calls for his own parents' "visits" with their new granddaughter.

Rachel Darling, MD, section head of hospital medicine at HealthPartners' Regions Hospital in Saint Paul, Minn., has three school-age children, including a son with special needs, and said she felt "more beat down and more beat down" with every new COVID-19 surge. She found she was yelling at her children "constantly" and had little patience for her special-needs son.

"I guess I could say we all discovered that we're more resilient than we ever thought we could be, but we also got lower and lower than I ever thought I could be," she said. She started on medication and took a meditation and mindfulness class one evening a week.

"It totally flipped my brain," she said. Although it meant stepping away regularly from family activities one night a week, she told her husband, "I have to grab that life preserver. Or none of us are going

to be good.' Because most of us are the ones holding our entire family together."

Daniel Townsend, DO, a med-peds hospitalist, also at HealthPartners, said hospitalists need to be realistic about their jobs' effects on the family.

"We cannot completely silo our lives," he said. "And when we have stress at work or in other areas of our lives, or anxiety or depression, it will come out in our parenting."

He asked panelists how to handle it when children ask about the grim aspects of their jobs—his own 9-year-old son began to call his dad's job his "dark hole" and to ask how many people had died that day.

Dr. Fredrickson suggested being direct.

"Honesty and transparency is the way to go because they're feeling it anyway," she said. But, she said, "obviously you don't want to overshare."

The pandemic, she said, has forced her to confront her own flaws when faced with fits of rage from her 8-year-old son. But on the flip side, her husband began to work at home and has continued to do so, providing her welcome flexibility. And the pandemic prompted her and her three younger sisters to start a monthly video phone call that has continued.

"That was surprisingly therapeutic just to talk to my sisters and have everybody share each other's stories." ■

Tom Collins is a medical writer in South Florida.

SESSION SUMMARY

So You've Been Involved in a Medical Error

How Hospitals Analyze and Learn from Adverse Events

Presenter: Daniel Steinberg, MD, FACP, SFHM, Mount Sinai Beth Israel, Icahn School of Medicine at Mount Sinai, New York

Summary author: Joanna Bonsall MD, PhD, SFHM

In this session, the speaker walked through the steps institutions practicing a safety culture take to address medical errors. As a lead-in, Dr. Steinberg reminded us that two of the important parts of a culture of safety are a just culture and a reporting culture.

In a just culture, acceptable and unacceptable behaviors are clearly defined; individuals are accountable for their choices but not for problems with the system. In a reporting culture, people have trust and freely report hazardous conditions, near-misses, and errors. In an organization where people freely report hazardous conditions, safety measures can be implemented before harm occurs.

After an adverse event is reported, the first step is to determine whether a root cause analysis (RCA) should occur. The patient safety team reviews the event report and completes a brief chart review. The team then determines two things: how likely the event is to occur again and the level of real or potential harm that resulted/could have resulted. Events with high real or potential harm or events associated with a lower level of harm but very likely to reoccur are assigned to an RCA. Other factors that may favor an RCA are events that expose system issues, involve multiple departments, involve communication or supervision issues, or are reportable to a state agency.

If the team proceeds with an RCA, the next step is for patient safety experts to interview all involved. The purpose of the interview is to establish a timeline of events, assess staff well-being, and determine what happened, what was supposed to happen, and what usually happens. Peer reviews are also incorporated into this process. Peers should be as close to the work as possible to be able to provide insight into the conditions, culture, and expectations.

After all the information is gathered, an interdisciplinary RCA group is convened. The RCA group includes subject matter experts and is led by an RCA process specialist. Involved staff and patients do not attend, for legal reasons. The RCA group builds a causal tree, which includes all the steps that led to the safety event. When an individual's decisions are involved in the error, the group asks what type of an error it is—human error, at-risk be-



Key Takeaways

- A safety culture includes a just culture, in which participants are accountable for their actions but not for system problems, and a culture of reporting.
- Institutions with a culture of safety have a well-defined process to fully investigate errors, determine the underlying cause of the errors, including individual and system contributions, and put into place steps to prevent similar errors in the future.
- If you are involved in an error, seek help, don't jump to conclusions about what happened, be honest, and remember the principles of just culture.

havior, or reckless behavior. Human error is when people are trying to do the right thing, but system factors cause slips. At-risk behavior is when someone chooses to do the wrong thing, but the risk was not recognized. Reckless behavior involves conscious disregard for substantial and unjustifiable risks. To get to this, reviewers ask the question: "Would three other staff with similar training do the same thing in similar circumstances?"

Once the causal tree is completed, each tree "branch" in the causal tree is given a root cause—e.g., work environment, staffing structure, communication, staff performance, etc. From this, the group writes root-cause statements for each situation that contributed to the safety event.

An example of a root-cause

statement might be: "A resident's reliance on a recent discharge summary for admission medication reconciliation created an opportunity for a prohibited abbreviation in that document to be misread, which occurred when an admitting resident became distracted due to a busy call night, resulting in their reading "4U" as "40 units" of Novolog."

After the RCA statements are written, a grid is created with statements, associated corrective action(s), and the person assigned with the success due date. Systems issues are confronted. In the cases of individuals, human error is addressed by consoling the person committing the error and improving the system. At-risk behavior is addressed through coaching and the removal of system incentives



Dr. Bonsall is an associate professor at Emory University School of Medicine and a hospitalist at Grady Memorial Hospital in Atlanta.

for the behavior. Reckless behavior is addressed through remediation and/or punitive actions.

Dr. Steinberg concluded by saying that when someone is involved in an error, it's natural to feel guilt, shame, or anxiety, but that they should look for help. Don't jump to conclusions about what happened. Participate in the process, be honest, and remember the principles of just culture. ■

Implicit Bias Unavoidable, but There Are Remedies

By Thomas R. Collins

The billboard loomed above the road in Savannah, Ga., with three huge faces in medical masks peering out.

"All Cardiothoracic Surgeons Look Like This," it read. All the faces were male, and white.

What was a Black girl who lived nearby, and saw this billboard every day, supposed to think?

Quinn Capers, MD, an interventional cardiologist, and professor of internal medicine at the University of Texas Southwestern Medical Center in Dallas, asked the audience this at a session on implicit bias at SHM Converge.

"They see images like this enough, their unconscious mind will say, 'This is the truth about the world in which we live,'" he said. "And it could be that because of that, the idea of becoming a cardiothoracic surgeon will never enter their developing brain."



Dr. Quinn

Images and messages like this—bombarding people through billboards, movies, and the news—create biases that make it less likely that we'll treat certain groups of people fairly. And we're powerless to keep these kinds of "implicit biases" from forming. But there are ways to resist, said Dr. Capers, who studies and frequently lectures about implicit bias.

"We all have it—that's how the brain works. We all have implicit biases based on what we see—height, age, gender, gender identity, our perception of somebody's religion, race, skin tone within a race," Dr. Capers said. "The good news is, that it actually is quite easy to consciously override your implicit biases so that they don't impair your ability to treat people fairly."

His talk was replete with examples of implicit bias in our culture that shape our way of thinking without us even realizing it and examples of research offering evidence that this bias is very real. He also pointed to findings that show that training can help.

In one study, which he helped lead, a medical-school admissions committee was trained on how to mitigate implicit bias.¹

"The next class was the most diverse in the history of that medical school," Dr. Capers said.

In another, University of Wisconsin academic departments in STEMM—science, technology, engineering, math, and medicine—were randomized either to receive implicit bias training or not. Those that received the training had an increase in women in those departments compared to those that didn't.²

Dr. Capers shared one example that showed how bias was even woven into the training at an academic medical center. In an online module used for re-credentialing that he once took, he was asked about this scenario: If you're in an elevator with someone who seems nervous, is wearing clothes that seem unusually heavy for the summer, starts telling you without prompting why he is at the hospital, and you both exit on the same floor, should you call security?

Dr. Capers said his answer was "no." The creators of the test considered that the wrong answer.

"It struck me that this is a biased question," he said. "The bias comes from the fact that we all have different experiences, we all have different expectations of what happens when you call the police or armed security on somebody, and you say it's because they're suspicious."

One person might envision a scenario in which law enforcement kindly asks for identification and apologizes for the trouble, while another might imagine a scenario in which law enforcement bursts onto the scene and orders the person up against the wall. After he had a conversation with the continuing education department, the question was removed from the module.

Even at a very early age, people can be profoundly influenced by these unintended messages, Dr. Capers said. In a well-known study known as the "doll test" study, Black children are shown two dolls that are identical except that one doll is Black and the other white, and they are asked questions such as which one is the pretty doll, and which is the good doll. The children repeatedly favor the white doll. The study, originally performed in the 1940s, has been repeated with similar results through the years into modern times. In one clip, a Black girl who has favored the white doll is asked which doll she looks like, and she hesitates before choosing the Black doll.

"Her little mind has already incorporated these facts: that white is good, and Black is bad, and I'm Black therefore I must be bad," he said.

Doctors aren't immune to these biases, Dr. Capers said. Studies have found similar degrees of bias

among physicians as among the general population, he said.³

And patients tend to notice, even if the physicians are not aware, he said.

"Try to remember that time when you saw a patient and came out of the room and you said, 'I don't know why, we didn't really connect,'" he said. "It could be that you were interacting with someone from a group against which you unknowingly are unconsciously negatively biased."

These biases can have meaningful impacts on patients, he said.

In a simulation study using actors playing the role of terminally ill Black and white patients, white physicians tended to say the same kinds of things to the patients, but non-verbal communication differed significantly—the physicians were less likely to put a hand on a Black patient's shoulder, less likely to hold a Black patient's hand, and less likely to look a Black patient in the eye.

"At the time of this critical conversation, if you were the patient, would you want your doctor to be facing you? Or hold your hand? Or look you in the eye?" Dr. Capers asked. "This study suggests if you're Black and your doctor is white, that might not happen. I hope that upsets you because that upsets me. One of the reasons it upsets me is because I know those doctors are good people, they're humanitarian just like me and you, and they're not aware of this. They think they treat everybody the same. This is the power of unconscious bias."

He offered these research-based ways to combat implicit bias: Ask people about common interests; consciously make an effort to have the perspective of the group against which there is a bias; when data seems to point to one conclusion, "consider the opposite" conclusion before making a decision; and spend time with people you admire who belong to the groups against which you have a bias.

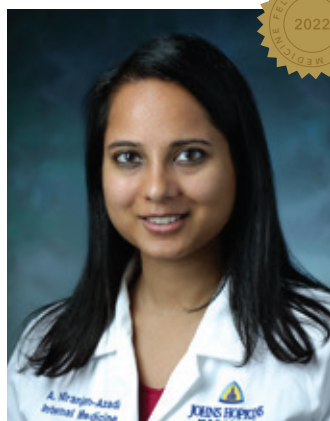
"Just because you have implicit bias," Dr. Capers said, "doesn't mean you discriminated, and it doesn't mean you will discriminate, but it means you might unknowingly discriminate." ■

References

1. Capers Q 4th, et al. Implicit racial bias in medical school admissions. *Acad Med*. 2017;92(3):365-369
2. Devine PG, et al. A gender bias habit-breaking intervention led to increased hiring of female faculty in STEMM departments. *J Exp Soc Psychol*. 2017;73:211-215.
3. Sabin J, et al. Physicians' implicit and explicit attitudes about race by MD race, ethnicity, and gender. *J Health Care Poor Underserved*. 2009;20(3):896-913.

Tom Collins is a medical writer in South Florida.

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SESSION SUMMARY

Breaking Into Medical Education

Opportunities, Challenges, & Strategies

Presenters: Shannon K. Martin, MD, MS, SFHM, University of Chicago, Chicago, Daniel N. Ricotta, MD, SFHM, Harvard Medical School, Cambridge, Mass., and Marion Stanley, MD, Northwestern Memorial Hospital, Chicago

Summary author: Arunab Mehta, MD, MEd

This talk consisted of a deep dive into the “continuum” of medical education opportunities for hospitalists. Dr. Martin talked about opportunities in undergraduate medical education with medical students, but also in graduate medical education, faculty development, continuing medical education, interprofessional education, and pre-professional health education of applicants trying to apply for medical school. Dr. Ricotta talked about answering emails and reaching out to individuals involved with medical education. “Emails are sent out for volunteering time to teach medical students all the time. Replying to such emails sets you up with the opportunity to start your involvement with the system,” he said.

Talking through personal narratives, the presenters discussed the difference between a clinician teacher (a clinician whose primary

Key Takeaways

- Show you're committed. Show up, be proactive, follow through, and answer emails.
- Learn who's on your institution's continuum. Get to know the players.
- Figure out what leaders need and fill those needs.
- Join a local committee; intentionally develop skills.
- Volunteer as a preceptor in medical school.

focus is on medical education as a teacher in the clinical realm) and a clinician educator (someone who applies the theory to educational practice, engages in educational scholarship, and serves as a consultant to other health professionals on education issues).

The presenters also talked about doing non-glamorous things at the institution and about figuring out what leaders need and filling those needs. Saying yes to such opportunities and excelling at them leads to further opportunities. Dr. Stanley echoed this and spoke about the needs of the organization that might not always align with the needs of the clinician but that might still be a pathway toward involvement with medical education.

“Be visible, say yes, be the go-to person when people are looking for someone for a particular task” said Dr. Ricotta. They ended the talk by asking people to, “...search broadly for mentors and sponsors at your institution, volunteer your time to precept at medical-school-run free clinics, and intentionally develop your skills at workshops and national conferences so that you can use them wisely while networking with individuals with similar interests.” ■



Dr. Mehta is a hospitalist at the Cleveland Clinic in Cleveland. He's a unit-based director of quality improvement and hospital acquired infections. He oversees medical curriculum for anesthesia residents in HM, speaks on assessment and evaluation of medical learners, and is president of the SHM Lake Erie/Northern Ohio Chapter.

SESSION SUMMARY

It's All in the HEADDSS

Recognizing and Treating Substance Use in the Inpatient Setting

Presenters: Erin McKnight, MD, MPH, Nationwide Children's Hospital, Columbus, Ohio, Hilary Lin, MD, Children's Health Orange County, Orange County, Calif., Stephanie Kwon, DO, Medical University of South Carolina, Shawn Jenkins Children's Hospital, Charleston, S.C.

Summary author: Mirna Giordano, MD, FAAP, FHM

Session objectives included identifying substance use disorder (SUD) among adolescents in the inpatient setting, recognizing signs and symptoms of intoxication and withdrawal, formulating an inpatient management framework, and using various treatment strategies for adolescents with SUD.

One in three high school students reports alcohol use, one in five reports marijuana use, and one in seven reports lifetime prescription opioid misuse. Black and Hispanic adolescents have higher rates of misuse and are significantly less likely to receive SUD treatment than white adolescents. Practitioners were reminded always to ask about the history (confidential, with the exceptions of abuse/exploitation and suicidal/homicidal ideations), and never to perform drug testing without the adolescent's consent. Different

Key Takeaways

- Once hospitalized, adolescents with SUD should be clearly identified and the symptoms of intoxication/withdrawal addressed, even when their primary reason for admission is a different medical issue.
- Confidential history remains the best way to identify SUD.
- Failure to quickly identify SUD may cause more medical problems, increased distress and length of stay, and worsening discord between the team and the patient and family.

types of drug testing were reviewed. Symptoms of intoxication and withdrawal for nicotine, marijuana, alcohol, opioids, benzodiazepines, and amphetamines were discussed in detail, along with management approaches for each.

Drs. Lin and Kwon have presented three cases that portrayed the importance of the topic in clinical encounters. The three cases illustrated: an irritable and restless 16-year-old female with acute asthma exacerbation, whose history

confirmed JUUL vaping usage; a 17-year-old male presenting with forearm cellulitis/abscess, admitting to heroin use; and an 18-year-old female presenting with vomiting and abdominal pain, found to have cannabinoid hyperemesis syndrome. The recommended prescriptions included: a nicotine patch and nicotine chewing gum for acute nicotine withdrawal for the 16-year-old; buprenorphine/naloxone (based on the Clinical Opioid Withdrawal Scale) for acute opioid withdrawal for the 17-year-



Dr. Giordano, an associate professor of pediatrics at Columbia University Medical Center in New York, is a pediatric hospitalist with expertise in pediatric surgical co-management in the intermediate care unit.

old; and capsaicin cream and haloperidol for the 18-year-old. ■



SESSION SUMMARY

Becoming an Ally for Gender Equity in Medicine

Presenters: Jennifer O’Toole, MD, MEd, SFHM, Cincinnati Children’s Hospital, Cincinnati

Summary author: Tiffani Panek, MA, SFHM, CLHM

While there have been strides in gender equity in the practice of medicine, there’s still a long way to go, summarized Dr. O’Toole. She mentioned that, while 2017 saw the first time that more women than men matriculated into medical school, women still fall behind in leadership positions, pay, publications, and presentations. She indicated that allyship is key to fixing these gaps, a term which she defines as “a person of privilege working in solidarity and partnership with a marginalized group of people to take down systems that challenge the group’s basic rights, equal access, and ability to thrive in our society.”

Allyship requires both affirmations of the existence of the problem and informed actions to work to eliminate these issues. Dr. O’Toole stated that men hold the majority of positions of power and influence, and therefore are vital to moving gender equity forward for all women. White straight women may also hold more influence than their non-white and non-binary counterparts and therefore are also needed players in the fight for equity.

Dr. O’Toole discussed a number of practical tips for how both men and women may provide allyship and move forward the cause of gender equity. The first is expand-

Key Takeaways

- Allyship is essential to closing the gender gap in medicine.
- Allyship requires both affirmation of the existence of the problem and informed actions to work to eliminate these issues.
- Allies must learn to listen closely to women’s experiences and normalize and validate them.
- Allies must actively use their privilege to eliminate practices such as sexist language, office housework, and the four Ms.
- Sponsorship by allies is a vital component in closing the gender gap.
- Organizational leadership and accountability to gender equity are the most powerful factors in change.

ing one’s gender intelligence by learning to listen, pay attention, and ask questions that open your eyes to workplace patterns, behaviors, and environment. She discussed the need for allies to ask women about their experiences, and when those experiences are shared, be sure to validate and normalize those situations as true representations of those women’s reality.

It’s important for allies to understand their own privilege and use it strategically. By relinquishing power, positions, and the spotlight to women and non-binary individuals, allies are actively creating opportunities for sponsorship, which is vital. Dr. O’Toole also pointed out the importance of identifying sexist language and intervening when it is being used, not just in the case of blatant misogyny, but

also when it is more subtly non-inclusive or dismissive of women. When allies see something, they must say something.

Dr. O’Toole spoke on the importance of allies in just saying no to the four “Ms”—mansplaining, manspaces, manterruptions, and manels. These entail condescending speech towards women, settings where men assume they will always be in the position of power, interruptions of women while they are speaking, and conference panels made up of only men. She also discussed the need to do away with “office housework” predominantly being assigned to women; tasks such as taking minutes, planning events, and bringing refreshments.

Dr. O’Toole indicated that organizational leadership and accountability to gender equity are the



Ms. Panek is the division administrator, division of hospital medicine, and program coordinator, Bayview academic hospital medicine training program at Johns Hopkins University, Baltimore.

most powerful factors in change; gender and diversity initiatives should be tied to metrics for the assessment of both systems and individuals. Transparency is key, especially when it comes to pay. Hiring and salary criteria should be clear and equally applied across all genders. Organizational support for flexible work and leave policies (for all genders) in which there is no negative impact on promotion or advancement opportunities are also needed. ■

SESSION SUMMARY

The Room(s) Where It Happens

The Architecture of a Great Morning Report

Presenter: Joel M. Bradley, MD, White River Junction VAMC, White River Junction, Vt., and Children’s Hospital at Dartmouth

Summary author: Arunab Mehta, MD, MEd

Morning reports (MR) were initially developed as conferences centering on case-based discussions where residents and attending physicians gathered to discuss oversight of patient care. They were later repurposed as educational experiences.

Studies have shown that 4-10% of weekly work hours are spent on MR, but they are largely unexamined areas of practice because their learning objectives are rarely specified and their outcomes rarely measured. They are filled with interruptions due to competing clinical duties and learners do not acknowledge them as safe learning spaces.

Three recent Veterans Affairs studies attempted to describe modern MRs. Faculty are predominantly hospitalists, 84% are led by chief residents, 85% are scripted, and 87% have a known diagnosis (most commonly medication side effects and congestive heart failure). Distractions (pagers) were found to affect 57% of learners. While most residents desired a learning envi-

Key Takeaways

- Morning reports are complex, diverse, educational spaces led by chief residents using scripted cases.
- Both in-person and virtual MRs have their advantages, and a combination of the two could be used to include both strengths in programs.
- Hospitalists are the faculty backbone of MRs and are in an ideal position to extend their educational impact.

ronment (25%) and a compelling case (18%), they also wanted them to be easier to attend, less focused on the history of present illness and review of systems, and more on differential diagnosis and management. Most MRs aimed to teach clinical reasoning to the residents, but they are becoming shorter and less frequent due to clinical pressures. Modern morning reports now include compact, digitally presented, highly scripted single cases with a bias toward rare and severe

presentations of known diagnoses. Most of the time is spent on history, differentials, and didactics.

When comparing in-person to virtual MRs, the overall assessment favored in-person reports with the key reasons being group participation and engagement with peers. There was increased participation of residents and program directors in virtual MRs. Residents liked virtual MRs because of easier access and audio/visual/chat benefits of the virtual medium, with 64% posting a positive impact, while lack of engagement and camaraderie caused 36% to post a negative impact. Virtual MRs might contribute to work-life balance, with better access for residents and faculty with multi-site collaboration. A mix of both types might be ideal.

Ways for hospitalists to extend the value of MRs include providing brief periods of focused learning without interruptions. Encouraging unscripted cases, coordinating learning objectives, and adding aspects of care coordination and quality metrics to the cases might also add value. Other methods



Dr. Mehta is an academic hospitalist at the Cleveland Clinic, Cleveland. He’s a unit-based director of QI and hospital acquired infections, he oversees medical curriculum for anesthesia residents in HM, and is president of the SHM Lake Erie/Northern Ohio Chapter.

include having the residents both summarize the key guidelines related to the MR after the session and using it on a current patient. ■

SESSION SUMMARY

Mental Health Boarding on Inpatient Units

Presenter: Heather Kreth, PsyD, Vanderbilt University Medical Center and Monroe Carrel, Jr. Children’s Hospital at Vanderbilt, Nashville, Tenn.

Summary author: Andrea Krause, MD, FAAP

Dr. Heather Kreth, a child and adolescent psychologist, began her behavioral-health-themed session by stating: “I am an honorary hospitalist.” She practices in a unique setting by being employed within the division of pediatric hospital medicine at Vanderbilt University Medical Center and Monroe Carrel, Jr. Children’s Hospital at Vanderbilt, in Nashville, Tenn. Dr. Kreth described how pediatric hospitalist divisions can, “do the best we can despite limited resources” in the care of our growing child and adolescent mental-health-related hospital admissions.

The American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry, and the Children’s Hospital Association declared a national emergency in children’s mental health in the fall of 2021. Dr. Kreth cited studies that show mental

Key Takeaways

- There’s a clear benefit to having behavioral health become a part of the hospitalist service rather than a separate consultation service.
- A highly functioning behavioral health team with multi-disciplinary services will provide clear benefits with decreased staff harm and decreased length of stay for behavioral health patients.
- A huge part of the solution is access to mental health services in the community as well as decreased associated stigma.

health boarders make up 26-49% of any given pediatric hospital census. The average length of stay for these patients is two to three days in the inpatient medical unit.

The session described the innovative staffing model of her program. Dr. Kreth functions as the primary psychologist working in tandem with a pediatric acute care nurse practitioner to staff the mental health patients in need of medical stabilization at their hospital. This behavioral health team has been in place

since 2018 and has shown clear benefits by decreasing staff harm events related to agitated patients by 90%. Violent-restraint usage has dropped by 30%. Dr. Kreth attributes these improvements to intensive staff education that she provides on topics such as verbal de-escalation techniques, suicide safety, and tactics for mental health technicians (instead of patient sitters) at the bedside. Her behavioral health team has shown a significant cost-savings effect on hospital administration. Their



Dr. Krause is a pediatric hospitalist and associate professor of pediatrics at the University of Louisville affiliated with Norton Children’s Medical Group, Louisville, Ky.

average length of stay decreased from 2.79 days down to 1.81 days. ■

SESSION SUMMARY

Blinks, Clocks, and Snacks

Human behavior: Implications for Hospital Medicine

Presenter: Brad Sharpe, MD, FACP, SFHM, University of California, San Francisco

Summary author: James S. Kim, MD, Emory University School of Medicine, Atlanta

Many aspects of human behavior are influenced by judgments and assessments that occur within fractions of a second. These types of decision-making processes are ingrained in us at an early age and are automatic and unconscious.

One example of a split-second assessment is “us/them”. A person can detect whether a person in a picture is of the same/different race within 50 milliseconds, which is faster than a blink of an eye.

Interestingly, different neurologic pathways are active when an observer sees an “insider” versus an “outsider” of the observer’s group. If the person in the picture is of a different race than the observer, the amygdala (an area associated with the fear, anxiety, and aggression response) is activated at 100 milliseconds. If the picture is of someone of the same race, the pathways of facial recognition are activated first rather than the amygdala (“Do I know this person?”).

These “us/them” associations not only apply to race, but also gender, socioeconomic status, age, religious affiliation, and many other dichotomies. However, we not only sort people by “us/them”, but we also attach certain characteristics to “other” people that are negative while people who are “with” us are positive, which is a source of implicit bias. You can visit projectimplicit.net and take various tests that can reveal your own possible sources of implicit bias.

An implication of “us/them” is that a person may have less empathy for anyone considered “them”. It can also lead to viewing someone in a “them” group to be less trustworthy, disgusting (due to activation of the insula), and more homogeneous (“all of them tend to do that”), as opposed to seeing people as individuals.

Thankfully, while this splitting comes naturally and very quickly, it is rather flimsy. Techniques to overcome some of these initial biases are:

- Recognize that you have implicit biases
- Be open and talk about them (consider this when setting expectations with a team that you will be working with)
- Take perspectives of individuals (instead of a social history only talking about occupation,



tobacco, ethanol, and drug use, include more of a life story)

- Make the effort to find a way to personally connect with the other person

Dr. Sharpe referenced one study of white and Black participants who were either Dodger or Giants fans in baseball. When a white or Black Dodger fan was shown the face of a race-discordant person, the amygdala pathways activated as noted previously. However, when the race-discordant face was shown wearing a Dodger jersey or other identifiers that they supported the same team, amygdala activation was not seen.

As mentioned before, connecting with another person who is “not like you” can be as simple as finding some way of seeing the person as an individual. These points of connection don’t necessarily have to be profound; even something as simple as having a shared liking of carrots can help overcome some of these barriers.

Some questions to consider asking would be: “What are you famous for?”; “When you are feeling well, what do you like to do?”; or, “What makes you happy?”.

Perceptions of other people’s attractiveness, likeability, competence, trustworthiness, and aggressiveness happen within 100 milliseconds. These split-second perceptions don’t change much even when an observer is given extended periods (zero-order correlations were between 0.6-and 0.7).

A study where teaching fellows were recorded was spliced and shown to observers with 30 seconds of video (later six seconds) but without sound. The observers were asked to judge different traits (active, competent, enthusiastic, supportive, warm, confident, etc.) and give a global rating of the fellow’s teaching ability. The 30-second (and later six-second) audio-only clips correlated highly with end-of-semester evaluations



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of the fellows (0.85).

Because perceptions occur so quickly, it’s important to make a good first impression. Work on seeming warm, enthusiastic, confident, etc. (e.g., smile, open your eyes, have an open posture, and introduce yourself enthusiastically).

Perceptions of time can be altered by simply sitting down. Sitting down during a patient encounter increased the patient’s perception of how much time a clinician spent with them on an interview by 50% for hospital medicine patients (clinician spent 10 minutes with the patient; the patient perceived a 15-minute encounter). Patients perceived that the clinician communicated well, cared, and showed compassion towards them, which led to higher satisfaction with the health care professional.

Ego depletion is more likely to occur when you’re tired, hungry, busy, have the urge to urinate, or have decision fatigue. People with ego depletion can become more aggressive, less empathetic, less honest, eat more poorly, spend more impulsively, and avoid making decisions.

To combat ego depletion, make sure you’re not hungry before an interaction that may tax your “inner reserves”. Do more difficult tasks earlier in the day or shortly after a break. And do things that will recharge you (look at family pictures, a funny video, have a non-medical conversation, etc.) before these interactions. Lastly, reflect on the big picture of why you’re a hospitalist. ■



Disaster Management Right up Hospitalists' Alley

By Thomas R. Collins

At all levels of handling disasters—managing capacity, coordination among hospitals, and biocontainment—hospitalists can and should be more involved, panelists said in a session at SHM Converge.

Jason Persoff, MD, associate professor of medicine at the University of Colorado School of Medicine, Aurora, Colo., and assistant director of emergency preparedness there, said his experience on a storm-chasing trip changed his outlook on hospitalists' involvement in disaster work. He was in Joplin, Mo., in 2011, when an F5 tornado hit, with winds stronger than 200 mph.

He went to work at the only operating hospital there.

"I was suddenly in charge of a very large unit of patients," about 50 to 75, he said. "The surgeons were off operating and those patients came out of the OR and they needed somebody to take care of them." This opened his eyes to the greater role that hospitalists should play in these situations, he said. The COVID-19 pandemic has accentuated this need, the panelists said.

Hospitalists should have important roles in incident command systems, which are needed to coordinate operations, planning, logistics, and finances associated with emergency situations—whether it's COVID-19 (considered a "mass effect incident") or a horrific car crash (considered a "mass casualty incident").

"What people don't realize is, we use incident command all the time," Dr. Persoff said. "And we as hospitalists will be better if we can think about things in terms of incident command type structure."

At his center, he created a position that meets every day with every department, all the way down to outpatient medicine, to hear their concerns that need to be followed up with incident command.

"This serves as a clearinghouse for all current information that was going on in the active event," he said.

Kasey Bowden, FNP, NP, MSN, RN, assistant professor of medicine at the University of Colorado Hospital in Aurora, Colo., said hospitalists have been heavily involved in executing the operations for COVID-19, including a "surge plan" that issues a day-to-day capacity report, assesses resources, and makes plans to deal with patient-load issues proactively.

"As people who pride ourselves on being systems experts, this is something we as hospitalists need to take the lead on," she said.

The surge team issued reports to other divisions, including surgery and general internal medicine, so they were aware of the available resources and so everyone was on the same page, she said.

"We did that regularly, frequently, and so it became predictable," she said. "People knew they could expect this messaging from hospital medicine. And they came to know here's the expectations of us based on that messaging. And that was incredibly important to our overall operational response."

Karyn Baum, MD, MEd, MHA, a hospitalist and chief transformation officer at Essentia Health, Duluth, Minn., led the Critical Care Coordination Center in Minnesota that oversaw the statewide placement of patients so as many patients as possible could get beds, whether they had COVID-19 or not.

"If you could not find a bed in your normal referral patterns, we were your phone-a-friend moment," she said. The center "placed almost 2,000 patients who would not have had a bed and boarded in the emergency department for hours."



Dr. Baum

This coordination among hospitals and systems—many of which were also competitors—was vital for patient care, she said.

"We really had to bring everybody together and we had to play as a team even though we're competitors," she said. "Hospitalists are perfect for that work because we do it every day. We can work with the consultants that may disagree with each other. This is the same thing but at scale."

Crucially, for this job, hospitalists "understand the complexities of patient care" and trying to navigate these complexities during a crisis moment would have been more of a challenge for those without this experience, she said.

Gaby Frank, MD, FACP, SFHM, medical director of the biocontainment unit at Denver Health Hospital Authority, said that this, too, is an area suitable for hospitalist involvement. At her center, this unit includes 10 hospitalists. Familiarity with bedside procedures and with point-of-care ultrasound, care of the acutely ill, and frequent training make hospitalists ideal for this work, she said.

That biocontainment unit, she believed, is the only one of the Regional Emergent Special Pathogens Treatment Centers that is (so far) run by hospitalists.

"We can do this," Dr. Frank said. "I think this is actually our lane."

Dr. Baum said hospitalists should be more ambitious in their pursuit of work in disaster management.

"We can speak the medical language, but we also can speak the operational and administrative language," Dr. Baum said. "So we have bridged the gap."

She said, "You can make an incredible difference both for your system and for your community." ■

Tom Collins is a medical writer in South Florida.



Misinformation is Everywhere

Expert Suggests a More Careful Approach

By Thomas R. Collins

In a world that can feel like it's awash in misinformation—about COVID-19, politics, and Russian propaganda related to the Ukraine war for example—we all need to make more of an effort to fight the problem, an expert said in a session at SHM Converge.

"We have a lot more work to do in terms of defining what it is we're talking about, and moving beyond the buzzwords, to thinking about careful measurement, thinking about theory," said Brian Southwell, PhD, director of the Science in the Public Sphere Program at Research Triangle Institute International, a non-profit research organization in Durham, N.C. that works with governments, businesses, and other clients on medical, social, and other types of projects. "And we have to do avoid the old problem of reinventing the wheel and overlooking a lot of work that's already been happening."



Dr. Southwell

Dr. Southwell and his colleagues worked on creating a definition of misinformation for the Annals of the American Academy of Political and Social Science that could be useful for understanding the problem better and for blunting its damage. They settled on: "Publicly available information that is misleading or deceptive relative to

best available evidence at the time and counters statements by actors who adhere to scientific principles without adding accurate evidence for consideration."

He elaborated on a few phrases of the definition. "Relative to best available evidence at the time" is an important phrase, he said, because it gets at the dynamic nature of science.

"If we're not careful we're going to end up talking about misinformation in a way that rules out our scientific endeavor," he said. "Science itself is iterative, of course, and evolves over time. So it's quite possible that a claim that held up in 1957 has less evidence today."

The phrase "actors who adhere to scientific principles" gets at the idea of misinformation as a competition between groups.

"We tend to think about misinformation and the capital-T 'Truth,'" Dr. Southwell said. "A lot of what we're often talking about in the arena of science is a contestation between that which has been produced by rigorous effort and that which lies outside of that process." An important part of the concern about misinformation is the concern that "people aren't playing by the rules."

The misinformation problem, he said, can be broken down into four main points.

One is that we are "biased toward acceptance," he said.

"The way that we tend to encounter information and misinformation is to accept it at face value," Dr. Southwell said. "That is not to suggest that we ignore our critical capacity to then make sense of it

as perhaps being true or false. But initially, we take it in and process it as though it's true." This basic human tendency "puts us all in the same boat," he said.

Another issue is that there are reasons why we share misinformation that might have nothing to do with providing information to someone, but with basic social impulses, he said.

"A lot of misinformation-sharing is a matter of inadvertent, or at least unintentional, instances where people don't necessarily want to share false information, but they're trying to connect with other people to show that 'You're part of my collective identity, you're a part of my tribe.'"

Also, Dr. Southwell said, our regulatory system emphasizes post-hoc detection of misinformation, rather than preventing its spread in the first place. Hospitalists are positioned to try to help, by connecting with patients, he said.

"You are in a spot where you are interacting with patients regularly in trusted relationships," he said. "That's actually where I think we ought to move forward with this. Rather than trying to vanquish misinformation from existence."

The final point, he said, is that "correction is hard."

"You can correct misperceptions, it's possible to do that—so that's good," he said. "But it's difficult work to do." The false claim has to be very explicit, and it needs to be called out explicitly—"you have to fight fire with fire in terms of exposure."

What can be done? The first, he said, is to "encourage compassion

for those sharing misinformation.

That "is not to suggest that misinformation isn't a concern—of course it's a really important one," he said. "But I also think that what we need to do is focus less on shaming and blaming, less on shaking our head at the outlandish thing that our uncle or cousin or friend posted."

Experts, including doctors, should embrace the chances they have to translate scientific information. Also, he said, we need to learn what other people are encountering in the way of their information sources, and we need to empower people to seek correct information for themselves.

Also, he said, "We can try to encourage people to take a breath, pause for a second before they share."

Dr. Southwell said that "transparency is going to be important."

A large proportion of the country "generally thinks science is a good thing," he said, but "we haven't done a great job of educating as to what the process is going to look like, the fact that information and knowledge are going to evolve over time."

Dr. Southwell suggested there needs to be a better job of "pulling back the curtain showing the humanity of health care workers."

"What I don't want to suggest is that you all have to be somehow superhuman and ignore all the pain and injury that comes with that. It's just to suggest there is a way forward." ■

Tom Collins is a medical writer in South Florida.

SESSION SUMMARY

Illuminate Your Chalk Talks

Incorporating Microlearning and Digital Content to Improve Ward Teaching

Presenter: Chase J. Webber, DO, FACP, Vanderbilt University Medical Center, Nashville, Ky.

Summary author: James S. Kim, MD

Learning is an acquired skill, but the way we are taught throughout most of our education is not the most conducive method for retention. Ebbinghaus' Forgetting Curve shows that after we are given information in the form of a lecture, there is a sharp decrease in retention that happens in just an hour (approximately 44% of the information given is already lost after an hour, and only 25% of this is left after six days). While one may despair of ever remembering anything, the good news is that spaced retrieval practice improves retention over time. In other words, the more frequently someone encounters the same information, the more they're able to retain, and overcome the forgetting curve.

As educators on the wards, many people can identify the barriers to effective teaching: time constraints, learner fatigue, cognitive load (there is simply too much information to soak in at one time), and a one-size-fits-all approach to learning. While having a lengthy "chalk-talk" is important and can be effective in delivering information, there can be obvious limitations in what it can deliver.

This brings us to the concept of microlearning, which is "an instructional unit that provides a short engagement in an activity intentionally designed to elicit a specific outcome from the participant". It requires active engagement by the teacher and learner, it is self-contained (the lesson can stand by itself), and it is "just in time/just enough" meaning it meets the learner at a particular moment when the question comes to the forefront, but not so overwhelmingly as to drown the learner in information.

Microlearning focuses on performance and behaviors. This allows the teacher to meet the learner at the level that is appropriate for them. In the same teaching interaction, the goals for a learner may be different. For a second- or third-year medical student, the goal may be to create a prioritized differential diagnosis, while the goal for the senior resident may be to compare the

clinical reasoning script that they used with the attendings and have a dialogue about how to refine it.

One way in which Vanderbilt University has tried to incorporate these aspects of learning is by having learners create teaching scripts which in turn have been compiled digitally to create an electronic learning record that is available for the house staff to reference in case of need. Dr. Webber will keep them on Evernote, but whatever electronic note-taking system your institution prefers can be used as well. Some have also used Twitter to keep track of them all. Other online

references such as UptoDate, JAMA rational clinical exam, and Google can also help learners get granular, mobile, just-enough resources to inform clinical decisions.

Microlearning can not only help deliver information to learners but also improve one's care when one is on direct care. Dr. Webber described a situation when he was on direct care which seemed like a relatively straightforward chest pain case. While the patient had a low HEART score, he decided to dig a little deeper and noted that some of his symptoms increased LR+ significantly after looking through www.thennt.com, an online reference that gives quick summaries of evidence-based medicine. Based on his HEART score, his pre-test probability for Acute Coronary Syndrome was 25%, but after looking through www.thennt.com, his posterior probability was 66%. The patient went to the catheterization lab and was found to have a 90% proximal left anterior descending stenosis, which was stented successfully.

Another example given was when a patient had hyperkalemia with electrocardiogram changes. Given the findings, the resident felt it was necessary to give insulin immediately to address the situation but didn't remember whether to give the insulin subcutaneously or intravenously. Fortunately, a teaching script had been made several months earlier and the resident was able to reference it electronically; it emphasized insulin should be given intravenously. While this could have been

looked up in some other way, the existence of the electronic teaching script made the information timely, relevant, and digestible for the situation at hand.

Learners trust their attendings to have a large fund of knowledge but having corroborating evidence is even better. Instead of doling out homework assignments ("Look it up"), Dr. Webber suggests modeling humility: "Let's look into this question together." Concepts are fleeting, but cases stick. Patients are our best teachers.

In conclusion, despite our connected age and prevalent technology, medicine has yet to fully adopt social learning theory and microlearning. A team-based learning network empowers teachers and participants to name, identify, and begin to treat diagnoses on day one. Illuminated chalk talks (microlearning with



Dr. Kim is an assistant professor of medicine at Emory University School of Medicine, and Emory University Hospital, Atlanta.

additional electronic references) are the building blocks for future learning. ■



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Intellectual Disabilities Call for Thorough Care

By Thomas R. Collins

A 45-year-old woman with trisomy 21, hypertension, obesity, and obstructive sleep apnea arrives in the emergency department (ED) with a fever, a fast breathing rate, and a fast heart rate. Staff at the woman's adult daycare facility saw that she had very dry lips, was lethargic, and was behaving "unusually". The ED hasn't been able to reach the woman's sister, who is her caregiver.

Hospitalists may not be as equipped as they could be in providing care for such a patient, presenters said in a session at SHM Converge. And yet such special-needs patients—who can arrive at the hospital with multiple comorbidities and intellectual deficits that make it hard for them to cope and communicate—could often benefit greatly from care that is sensitive to their needs.

"This is an important population that we need to be caring well for in the hospital," said Susan Hunt, MD, clinical assistant professor at the University of Washington in Seattle.

Adults with intellectual disability (ID) have more medical comorbidities than their peers. They are more likely to be admitted to the hospital than their peers, and their length of stay tends to be longer than stays of those without ID.

The definition for ID is three-pronged: a deficit in intellectual functioning including reasoning, problem-solving, planning, and other characteristics, confirmed by clinical evaluation and testing; a deficit in adaptive functioning that significantly hampers conforming to developmental and sociocultural standards; and the onset of these deficits in childhood.

Assessing the decision-making ability of a patient can be a dicey area for a hospitalist, and this is an issue more often than you might think—up to two-thirds of patients with ID may lack the capacity to make decisions, and even a third of those without an intellectual disability may have diminished decision-making capacity during a hospitalization.

There is a multitude of ways to assess decision-making capacity. Physicians should assess whether the patient can communicate a decision, understand the impact the decision will have, appreciate what the decision does for or to them, and understand the risks and benefits of a decision.

"It is not as black and white as we wish it was," said Rachel Peterson, MD, assistant professor of clinical medicine at Indiana



University in Indianapolis. "There is a lot of gray." She added that physicians don't need to assess all those components to determine the capacity to make decisions, but they need at least one, and which one will be based on their assessment of the situation.

Physicians might be reluctant to assess a patient's decision-making ability because they don't want to impose restrictions, but there are many layers to handling the matter. The most basic step is supported decision making with others, with several gradations of increasing support including advance directives, trusts, and, finally, guardianships.

Pain, constipation, issues related to multiple medications, and behavior are common problems hospitalists will face when treating patients with ID.

When a patient reports pain, the source has to be found if there's no clear location—and it could be urinary retention, spasticity, or other causes, Dr. Hunt said. Management without medications should be considered first, such as positioning, comfort objects, and changes to the lighting.

The Pain Assessment in Impaired Cognition (PAIC-15) Scale was specifically developed for these patients and was adapted from pediatric non-verbal scales.

When using medications to treat pain, drug-drug interactions have to be kept in mind as well, she said, especially with psychoactive drugs and anti-epileptics.

Respiratory suppression, constipation issues, and urinary retention should be kept at the top of the clinician's mind, she said.

Constipation, generally, is more of a concern in adults with ID than in the general population. The hospitalization rate for constipation for these patients is eight times higher than for those without ID. Constipation might show up as distress, sleep disturbance, or behavioral changes, and it could lead to complications including incontinence, hemorrhoids, and fissures, she said. Fiber intake, dietary changes, and abdominal massage are treatment options that could help avoid medications.

Physicians should also stay on top of hydration, she said.

"Patients with intellectual disability, if they don't have easy access to water, they may not ask for it."

Quick check-ins to ask whether a patient had a bowel movement is not enough monitoring, she said. Physicians should be in close contact with nurses.

"This is not a side note in these patients. This is a primary thing that you should really focus on each day and be tracking carefully," she said.

It's important to take special care to know what medications patients with ID are taking, why they take them, and precisely how.

"Even if it's in their med list as PRN...is it really PRN? When do you give it?" Dr. Hunt said.

There also may be medications

that are used for off-label indications, and physicians should be sure to know these reasons. That way, if there is a need to hold medication, medical staff will be aware of what the side effects might be.

Aggressive behavior is a common challenge when caring for the intellectually disabled, and is a main cause for referral to a psychiatric facility. This behavior is specific to the person and the context, and causes could range from a headache to pressure sores to medication side effects.

"These patients have often been in the hospital a lot, sometimes since they were children," Dr. Hunt said. "And that can be traumatic. They may have had a bad experience with a blood draw in the past and they just remember that every time."

Dr. Peterson said physicians should remember that they're treating not just the patient, but also their caregiver. Caregivers need clear medical updates and might need help with medical or legal paperwork. Physicians should also consider that caregivers might just need a break.

"We have to think about the family around them," Dr. Peterson said. "Respite [may be a] part of the reason for hospitalization." Supporting a family in this way, she said, can support the patient indirectly and provide for a safer and more supportive environment when they get home. ■

Tom Collins is a medical writer in South Florida.

SESSION SUMMARY

Eating Disorders and ARFID Guidelines

Presenter(s): Andrea Krause, MD, Norton Children's Hospital and the University of Louisville, Louisville, Ky.;
Kyung Rhee, MD, MSc, MA, Rady Children's Hospital and University of California San Diego

Summary author: Klint Schwenk, MD, MBA

Drs. Krause and Rhee presented an update on the management of eating disorders and Avoidant Restrictive Food Intake Disorder (ARFID) in the pediatric population. The audience was led through a discussion of current diagnostic criteria for eating disorders and ARFID and a robust discussion of the mindset of patients with these disorders. A series of cases with learning points were discussed and admission criteria and level of care guidelines were reviewed.

Dr. Rhee reviewed common presentations of patients with ARFID and how this population differs from patients with eating disorders such as bulimia and anorexia. She described the medical behavior unit structurally and the multidisciplinary team approach at Rady Children's Hospital in San Diego. She explained the behavioral and medical management of these unique



Dr. Schwenk is a pediatric hospitalist at Norton Children's Hospital in Louisville, Ky. He serves as medical director for inpatient services and is a professor of pediatrics at the University of Louisville.

patients, including common medications used in their treatment program. ■

Key Takeaways

- Eating disorders are the second deadliest Diagnostic and Statistical Manual of Mental Disorders diagnosis (from suicide) and early intervention leads to significantly better outcomes.
- Anorexia nervosa is an ego-syntonic illness, meaning patients do not want to give up the behaviors, believing they are acceptable, while bulimia nervosa is an ego-dystonic illness, associated with guilt and shame.
- ARFID commonly presents as selective eating, poor appetite, or food fears such as choking and vomiting.
- Compared to typical eating disorders, patients with ARFID are younger, not as low in weight, more frequently male, have longer durations of illness before diagnosis, and have high rates of comorbid conditions.
- Behavioral management for ARFID requires a multidisciplinary team approach with structure, rewards, and consequences, and a stepwise progression of food exposure with positive reinforcement.

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Photo was taken before March 2020 when COVID-19 precautionary measures were not in place.

