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INTENTIONALITY WITH TEAMS AND TECHNOLOGY: THE RIGHT STUFF FOR CLINICAL TEACHERS

Chase J. Webber, DO, FACP; Regina G. Russell, PhD, MA, MEd; William B. Cutrer, MD, MEd

Dr. Webber (chase.j.webber@vanderbilt.edu) is assistant professor of clinical medicine in the Department of Medicine at Vanderbilt University Medical Center and master clinical teacher at the Vanderbilt University School of Medicine. Dr. Russell (regina.russell@vanderbilt.edu) is assistant professor of medical education & administration and director, learning system outcomes at the Vanderbilt University School of Medicine. Dr. Cutrer (bill.cutrer@vanderbilt.edu) is associate professor of pediatrics, critical care medicine, and associate dean for undergraduate medical education at the Vanderbilt University School of Medicine.

Medicine, We Have a Problem

Working and learning, as individuals and in teams, in analog and digital spaces. Three intersecting tensions form the backdrop of medical education currently in the wake of public health, geopolitical, and environmental crises.[1, 2] However, medical educators have been walking and chewing gum—behind the mask—at the same time now for almost three years. It isn't our first rodeo, dropped video call, or full-on dumpster fire. Experience has taught us that survival in the heavy crosswinds won't cut it for the patients and learners who depend upon our care and teaching. Learners and patients don't just call upon us, they count on us to thrive, go the distance *with them*, and not "go it alone." They and we can't accomplish it all ourselves. The mission before us will require a creative blend of co-constructed learning, teamwork, and technology.

Ground Control to Co-construction

Contemporary clinical learning is characterized by an exponential explosion of knowledge against a relatively stable denominator of cognitive load. The doubling time of medical knowledge has diminished significantly over the past seven decades: from 50 years in 1950, in 2010, 3.5 years, and in 2020 only 73 days.[3] Not only has the depth of knowledge increased but also its breadth, as well as others' ability to access this information, through both formal and informal streams. This ongoing growth of the information superstructure results in our rapidly diminishing ability to meet the demands of knowledge and practice of medicine as it evolves exponentially.

The composition of teams and the people that make up teaching teams represent another extraordinary shift. This change is in favor of greater diversity, inclusion, and the democratization of teaching and learning. This human-level shift calls out for collaborative approaches that fuel greater integration across domains of knowledge and experience. In our overlapping systems of clinical care, learner independence is not so much the end objective as learner interdependence.[4] Learners can vitally contribute as part of integrated teams that extend beyond the traditional roles of physician and patient.

Finally, technology has outpaced the methods we use to teach in medicine, still largely dependent on in-person or analog modes, with some e-learning on the margins. As medical teams shift towards embracing social, constructive, and collaborative aspects of new technologies, the importance of learning network creation in the blended, digital learning space is evident. The resulting

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DIMENSIONS OF INNOVATION IN EDUCATION

Tiffany I. Leung, MD, MPH, FACP, FAMIA,
Editor in Chief, SGIM *Forum*

For this SGIM *Forum* theme issue—"Medical Education Innovations and Explorations,"—I was impressed by the breadth and scholarly achievement of SGIM members. In all our theme issues over the last couple of years, I commented on the passion and response of our membership in their writing and initiatives on climate change and health; systemic racism and medicine; team and interprofessional care; physician and patient well-being and mental health; and LGBTQIA+, sex, and gender minority health. This theme issue is no exception: our call for submissions resulted in a record-breaking number of submissions that could fill more than three SGIM *Forum* issues! Clearly, our members have a passion for innovative, impactful, and evidence-based models of medical education across general internal medicine career stages.

Educational "innovations and explorations" can be viewed with a broadly inclusive definition: digital technologies, learning frameworks, curricular development, and many more approaches fall within this scope. In the challenging task of identifying selected articles for this first volume of articles on the theme (of an anticipated total of three to four), I sought to present a diversity of experiences. However, I recognize that it's an impossible task to capture all dimensions and perspectives in only one issue. Subsequent issues will share additional dimensions of the medical education learning experience.

In this issue, Webber, et al, offer a few quick tips on how clinical teachers can adapt to new learning environments and platforms. Casas, et al, provide key questions for faculty and postgraduate trainees to ask when determining what curricula a training program offers on sex- and gender-based women's health education, especially considering the overturning of *Roe v. Wade* by the U.S. Supreme Court. Greene, et al, describe their student-driven model of curriculum development to master core competencies in LGBTQ+ patient care.

Murugan, et al, introduce the field of health systems science and the development of a clerkship module, which includes applying design thinking during a hackathon to tackle health systems issues, at Emory University School of Medicine. South, et al, also introduce two curricular threads—one on health systems science and another on

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SGIM PHYSICIAN-EDUCATORS: DRIVING INTEREST IN ACADEMIC INTERNAL MEDICINE

LeRoi S. Hicks, MD, MPH, FACP, President, SGIM

"I believe strongly, based on the submissions we've seen for the Forum *and for content to our national meeting, the members of our society are the right models to promote improvements in how we train, and I remain excited about the year ahead."*

I was standing at the podium speaking to an auditorium full of medical students, many of them wearing their white coats for the first time, as they celebrated accomplishing the first step of their medical education. I had returned from our annual meeting (#SGIM22) and was giving the keynote address for a white coat ceremony in Philadelphia, and during the address, I looked over the audience and noted the extraordinary feeling of pride emanating from the parents in attendance. From a distance, it appeared that each person wearing a short white coat was enthusiastic about the ceremony and I briefly thought to myself… "I wonder how many of them will hold on to their optimism?"

Over the past several years, I've heard about a declining interest among students and residents in general internal medicine. Numerous reports exist of a burgeoning crisis in the physician workforce and the worsening shortage primary care doctors that will be critical in improving the life expectancy in much of our nation's aging population.[1] I am not alone in hearing concerns about the lack of growth of in our discipline. Recently, SGIM leaders had the opportunity to meet with colleagues from the American College of Physicians (ACP), Society of Hospital Medicine (SHM), and the Alliance for Academic Internal Medicine (AAIM). During that meeting, we spent significant time discussing our views on the future of internal medicine and how, over the next year, our societies can work together to address common concerns. One key area of focus was about promoting general internal medicine as a career for physicians and how to prepare to next generation of academic internists.

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Q & A WITH SGIM'S CEO AND EDUCATION COMMITTEE CHAIRS ABOUT TOP PRIORITIES IN 2022-23

Eric B. Bass, MD, MPH; Danielle Jones, MD; Rachel Bonnema, MD

Dr. Bass (basse@sgim.org) is the CEO of SGIM. Drs. Jones (danielle.jones@emory.edu) and Bonnema (Rachel.Bonnema@UTSouthwestern.edu) are Chair and Co-chair of the Education Committee.

EB: What do you see as the main goal of SGIM's Education Committee?

DJ/RB: The goal of the Education Committee is to identify and respond to the needs of clinician-educators at all levels of their careers. This goal is a critical part of SGIM's mission because SGIM members are at the forefront of educating medical students, residents and fellows at academic medical centers and teaching hospitals.

EB: What are the top priorities of the Education Committee in the coming year?

DJ/RB: The first priority of the Committee is to resume full operation of the TEACH (Teaching Educators Across the Continuum of Healthcare) program that was interrupted by the COVID-19 pandemic. Developed by the Committee to address the needs of junior clinician-educators, the program offers quality instruction in teaching skills.[1] Participants can earn a master teacher certificate in one year by attending two consecutive annual meetings and completing online work and teaching observations at their home institutions. In the program, participants create an interactive teaching portfolio to document their teaching performance with reflections on strengths and weaknesses. Participants also gain life-long access to a community of medical educators.

The second priority is to represent SGIM's membership in weighing in on major educational policy issues. This priority has become an increasingly valuable role of the Committee as SGIM is asked more and more to contribute to deliberations about educational policy at a national level. Last year, for example, Committee members represented SGIM on the Alliance for Academic Internal Medicine's Internal Medicine Education Advisory Board and the National Board of Medical Examiners' new growth and innovations unit. The Committee submitted comments to the American Board of Medical Specialties on continued certification draft standards and to the Coalition for Physician Accountability's Undergraduate Medical Education (UME) to Graduate Medical Education (GME) Review Committee on how to improve the UME-GME transition. The Committee also published an article in JGIM that outlines educational needs and emerging areas for faculty development in telehealth teaching and assessment of telehealth competencies.[2] The article is valuable to educational policy makers because it proposes strategies for addressing the telehealth competencies defined by the Association of American Medical Colleges and the related educational milestones defined by the Accreditation Council for Graduate Medical Education.

A third priority is to continue sponsoring national awards that recognize outstanding clinician-educators whose scholarly contributions have had a national impact on the art and science of medicine and medical education. The awards include: the National Award for Career Achievements in Medical Education, the National Award for Scholarship in Medical Education, and the National Award for Mid-Career Education Mentorship. Past recipients of the awards are listed in the table, a "who's who list" of clinician-educators in general internal medicine.

Finally, the Committee will continue to give attention to how it can help SGIM create a more diverse, equitable, and inclusive professional home for our members while integrating anti-racism work on educational policies and practices that could otherwise perpetuate historical and ongoing injustices. The anti-racism work will build on the symposium that the Committee put together for the SGIM Annual Meeting in 2021 and that led to a perspective article in JGIM.[3]

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Past Recipients of SGIM's National Awards for Clinician-Educators

Year	For Career Achievements in Medical Education	For Scholarship in Medical Education	For Mid-Career Education Mentorship
2022	Sondra Zabar	Wei Wei Lee	Daniella Zipkin
2021	Diane B. Wayne	Adam Sawatsky	Jennifer Corbelli
2020	Paul Haidet	Kathleen Hanley	Rachel Bonnema
2019	Adina Kalet	Subha Ramani	Donna Windish
2018	Patricia S. O'Sullivan	Colleen C. Gillespie	Carla Spagnoletti
2017	Daniel Wolpaw	Abby L. Spencer	Alda M. Gonzaga
2016	Melissa A. McNeil	Jed D. Gonzalo	Stacy Higgins
2015	Thomas Beckman	Carla Spagnoletti	Hollis Day
2014	Jeffrey Jackson	Jeannette Guerrasio	Jada Bussey-Jones
2013	Patricia Thomas	Reena Karani	Monica Lypson
2012	Dennis Novack	Lisa Willett	Eva Marie Aagaard
2011	Judy A. Shea	Preetha Basaviah	Vineet Arora
2010	Molly Cooke	Jeanne M. Farnan	Joseph Cofrancesco
2009	David Michael Elnicki	Kathlyn E. Fletcher	Jeff Wiese
2008	Eric Holmboe Darcy A. Reed Joseph A. Carrese	Adina Kalet	
2007	Mark D. Aronson Paul M. Haidet Barry Issenberg	Diane Wayne	
2006	Stephen J. McPhee Sondra Zabar Charles C. Smith	Scott D. Stern	
2005	Dennis W. Cope John A. Flynn Stephen D. Sisson	Auguste H. Fortin John	
2004	James Wolliscroft Gerald Smetana Gary Ferenchick	Janet B. Henrich	
2003	David E. Kern	Steven R. Simon	
2002	Robert C. Smith Eric S. Holmboe Wit Educational Initiative	Nancy Rigotti	
2001	Lee Randol Barker	Deborah Burnet	
2000	Allan Goroll Robert Golub Raymond O. Powrie	Chad D. Kollas	
1999	Jack Ende Scott Wright	Linda Pinsky	
1998	Gordon Noel Mitchell Feldman Halina Brukner	Paul L. Fine	
1997	William Branch		
1996	Kelly Skeff		

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SGIM

SEX- AND GENDER-BASED WOMEN'S HEALTH EDUCATION: WHAT'S OUT THERE?

Rachel S. Casas, MD, EdM; Rosemarie L. Conigliaro, MD; Deborah DiNardo, MD, MS; Amy Farkas, MD, MS

Dr. Casas (rcasas@pennstatehealth.psu.edu) is an associate professor of medicine at the Penn State Health Milton S. Hershey Medical Center and director of the Residents and Fellows as Educators Program. Dr. Conigliaro (rconigliaro1@northwell.edu) is a professor of medicine at Zucker School of Medicine at Hofstra/Northwell and section chief of women's health within the Division of General Internal Medicine at Northwell Health/Katz Institute for Women's Health. Dr. DiNardo (Deborah.dinardo@va.gov) is an assistant professor of medicine at the University of Pittsburgh School of Medicine and director of the Pittsburgh VA Advanced Fellowship in Women's Health. Dr. Farkas (Amy.Farkas@va.gov) is an assistant professor of medicine at the Medical College of Wisconsin and Milwaukee VA Medical Center, an associate program director for the MCW Internal Medicine Residency program, and a senior consultant for the VHA's Office of Women's Health.

Background

Sex- and gender-based women's health (SGWH) addresses the healthcare needs of people assigned female at birth. While SGWH care is integral to internal medicine (IM) education, specialized training in advanced care and procedures is not available in many IM residency programs. Additionally, following the overturn of *Roe v. Wade*, training options in the full spectrum of reproductive health care are no longer available in all states. Fortunately, residency and fellowship programs exist to support SGWH training for internists. Graduates of these tracks are more likely to remain involved in SGWH care both in clinical practice and academically during their careers.[1]

Types of SGWH Educational Opportunities

While SGWH care is integral to the core curriculum for IM residency programs, additional opportunities for this training vary widely by program. This content is most often included in didactic or clinical sessions for all residents.[2] Additional opportunities available to interested residents may include dedicated SGWH continuity clinics, electives in IM or specialty clinics, and areas of concentration or tracks.

A summary of SGWH residency and fellowship tracks for internists is available in a published directory that is currently in the process of being updated for 2022 by the SGIM Sex- and Gender-Based Women's Health Education Interest Group.[3] These tracks are open by application for interested IM residents/fellows and are based at university and/or VA programs. The tracks generally include focused clinical training in SGWH with additional opportunities for training in research and educational methods (including concurrent degrees such as MPH, MEd, and MSc).

Identifying Programs and Interviewing

Because of the wide variability in experiences offered by SGWH residency and fellowship programs, it is important to consider one's goals and needs when identifying programs for application and to explore these key areas when interviewing. Of note, terminology may differ by program, with some programs using *women's health* to include care of all patients assigned female at birth. Think about the following when identifying programs for application and during interviews:

For SGWH Residency Tracks:

- How is the track education incorporated into the overall residency training?
- What clinical rotations and/or training are required?
- What are the elective opportunities?
- Does the program also offer a SGWH fellowship?

For SGWH Fellowship Programs:

- Is the program VA- or University-based (or both)?
- Is the fellowship a stand-alone program or a track within a larger program?
- Does the program offer opportunities for training in research and/or education (with option for corresponding advanced degree)?
- What is the balance of clinical, teaching, research, and other responsibilities?

For Both:

- How many residents/fellows participate in the program?
- What is the duration of the program?
- Is there a dedicated SGWH curriculum (didactic series, clinical conference, etc.)?
- What procedural opportunities (such as intrauterine device and contraceptive implants insertion/removals, endometrial biopsies, abortion procedures) are available during training?
- What clinical training opportunities (such as dedicated rotations in SGWH, breast health, pelvic pain clinics) are available during training?
- Is there a section of SGWH within the division or department?

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LEADERSHIP IN HEALTH POLICY (LEAHP) PROGRAM: BUILDING ON SUCCESS

Kelly A. Kyanko, MD, MHS; Latonya Riddle-Jones, MD, MPH; Thomas Staiger, MD; Mark D. Schwartz, MD

Drs. Kyanko (kelly.kyanko@nyulangone.org) and Riddle-Jones (lriddle@med.wayne.edu) are previous LEAHP scholars and an associate professor at NYU Grossman School of Medicine and assistant professor at Wayne State University School of Medicine, respectively. Dr. Staiger (staiger@uw.edu), professor at University of Washington School of Medicine, and Dr. Schwartz (mark.schwartz@nyulangone.org), professor at NYU Grossman School of Medicine, are the LEAHP program directors.

SGIM's Leadership in Health Policy (LEAHP) Program is now seeking applications to join the sixth cohort of members who wish to expand their impact through health policy and advocacy. The year-long, career development program began in 2017 and has now trained 83 scholars (including the current cohort). Its goals are for LEAHP Scholars to become more effective and active health policy advocates and local health policy experts, leaders, and teachers; and then to develop an expanding, national cadre of SGIM members who can deepen the Society's engagement in health policy and advocacy.

At the program's core is excellent mentorship, experienced and passionate teachers, interaction and collaboration with fellow scholars, a growing network of alumni, and mentored experience in health policy advocacy. One of the unique and most appealing aspects of the program is that it is feasible to fit the LEAHP program into a busy career while receiving mentorship and experiential training. In between half-day workshops at two successive annual meetings, the program is otherwise virtual, with core elements including the following:

- Monthly webinars led by LEAHP faculty with a mix of curriculum presentations, case discussions, and health policy journal clubs (studying perspectives on issues from across the political spectrum);
- Completion of at least two Capstone projects during the year (e.g., *Forum* or journal articles, white papers, curriculum development, SGIM workshop, advocacy project, etc.) in collaboration with their mentor and other LEAHP scholars.
- Monthly meetings with an assigned mentor to guide their individual development plan, learning, networking, and Capstone projects, and to discuss career crafting;
- Active participation in a health policy subcommittee (education, research, or clinical practice); with monthly calls and contributing to SGIM advocacy activities;
- Readings, including a core set of books, key papers, online sources on policy basics, and daily e-news feeds on health policy;
- Direct federal advocacy and/or local advocacy experience; and
- Virtual happy hours over the year to build community and connections among the cohort and the mentors.

As former scholars and founders of the program, we have long believed in its effectiveness and appreciated the enthusiastic recommendations of former scholars. We are now excited to share the formal results of an evaluation of the of first three program cohorts, recently published in *JGIM*.[1] The evaluation used electronic surveys conducted before and immediately following the program. Scholars rated on a 5-point Likert scale (strongly disagreed through strongly agreed) their self-efficacy on 38 learning objectives. We found significant and meaningful improvement after the program in mean self-efficacy scores overall and for each of the six domains of general health policy knowledge, teaching, research, and advocacy in health policy. Most respondents (61.4%) increased their mean score by at least 1 point.

The most compelling results emerged from analyses of open-ended responses to assess the perceived impact of the program on scholars' learning and career, and the most helpful aspects of the program. Scholars noted that strengthening their role as a physician advocate and improving understanding of the health policy process and payment and reimbursement were some of the most enduring lessons of the program:

> *"I have learned, quite tangibly, the power of using my voice (and pen) to advocate for (or against) policy issues that have a significant impact on the lives of my patients and community."*

> *"Much clearer understanding of the process by which a bill is created and becomes a law. I also*

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DESIGN THINKING INJECTS CREATIVITY INTO LEARNING HEALTH SYSTEMS SCIENCE

Avinash Murugan, MD, MBA; Maura George, MD; Holly Gooding, MD; Byron Crowe, MD; Nathan Spell, MD

Dr. Murugan (avinash.murugan@yale.edu) is currently a resident physician in internal medicine at Yale New Haven Hospital and was a co-designer of the Health Systems Science (HSS) course at Emory University School of Medicine. Dr. George (maura.george@emory.edu) is associate professor of medicine at Emory University School of Medicine and was a faculty co-lead for the Emory HSS course. Dr. Gooding (holly.gooding@emory.edu) is associate professor of pediatrics at Emory University School of Medicine and was a faculty co-lead for the Emory HSS course. Dr. Crowe (Bcrowe@bidmc.harvard.edu) is instructor in medicine at Harvard Medical School and helped teach the Design Thinking component of the Emory HSS Course. Dr. Spell (nspell@emory.edu) is professor of medicine at Emory University School of Medicine and was a faculty co-lead for the Emory HSS course.

With the ever-increasing complexity in healthcare delivery, an understanding of the structural context of the broader healthcare system is important as medical trainees learn how to provide high quality care to patients. Health systems science (HSS) is a concept that includes a collection of domains, such as clinical informatics, medical ethics, population health, policy, health economics, social determinants of health, and leadership.[1] Formal teaching on health systems science topics is often limited, as it competes with traditional medical school curricula. With the aim of closing this educational gap and taking advantage of a curricular opportunity that arose because of a change in educational schedules from the COVID-19 pandemic, we designed and implemented a novel course at Emory University School of Medicine for second year medical students. One of our authors has also developed educational activities at the graduate medical education level for medical house staff on design thinking (DT) at Beth Israel Deaconess Medical Center. We hope that our interactive educational approaches to teaching health systems science and DT principles provide ideas and inspiration to educators at other institutions in the teaching of these topics.

Our health systems science module at Emory University School of Medicine consisted of a two-week course prior to second year medical students starting on clinical clerkships. A primary component of our course was a team-based hackathon, in which small teams of medical students identified educational or clinical problems of interest and developed and proposed solutions to these problems. Approximately 140 medical students divided into 29 student teams participated in the course and worked on 19 unique problems related to HSS domain areas (13 clinical and six educational). Teams selected problems from a list generated by faculty or proposed a problem that course faculty approved. Examples included shared decision-making for cancer treatment, identification of underrepresented candidates for kidney transplants, co-production of the patient health record, addressing food insecurity in patients, and connection of patients and learners to community resources. During the hackathon, student teams received coaching from faculty mentors and were encouraged to reach out to independent stakeholders, such as end-users in the community, to gather user feedback and suggestions as they worked on their solutions. We intentionally incorporated principles of DT into the hackathon structure and curriculum. Students read an article from the business literature on DT.[2] To aid students in applying DT principles to their projects, we crafted a worksheet for teams to use, which included exercises such as identifying existing solutions for the problem, understanding user needs, and describing how their solution would fit into the broader system. Students were encouraged to consider social equity aspects of their proposed solutions, and many of the teams directly addressed social determinants of health.

Alongside hands-on hackathon project work, students completed the American Medical Association's Health Systems Science online modules[1,3] in an asynchronous manner during the first week of the course. To complement these modules and the project-based work, we recruited three Emory faculty members with first-hand experience in healthcare product design or innovation to give talks describing their development processes. Our goal was to share inspiration from physician leaders with the medical students on ways that DT and innovation can be incorporated alongside direct patient care in their medical careers.

The hackathon culminated with each student team crafting their "MVP," or minimal viable product, and developing a brief pitch describing the problem they chose to work on, a demonstration of their proposed solution, and their iterative design process. Many pitches included innovative multimedia proposals such as design mock-

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CURRICULAR THREADS TO TRAIN COMPASSIONATE PHYSICIANS TO IMPROVE HEALTHCARE SYSTEMS

Anna-Maria South, MD; Andrew Harris, MD; Jacqueline Pope-Tarrence, PhD; Alan Hall, MD

Dr. South (annamaria.south@uky.edu) is an assistant professor in the departments of internal medicine and addiction medicine at the University of Kentucky College of Medicine, and assistant thread leader of the Health Equity and Advocacy Thread. Dr. Harris (Andrew.HarrisMD@uky.edu) is an assistant professor in the department of urology at the Lexington VA Healthcare System and the University of Kentucky College of Medicine, and thread leader for the Health System Science Thread. Dr. Pope-Tarrence (jacqueline.pope-tarrence@uky.edu) is an assistant professor at the University of Kentucky College of Medicine, and thread leader for the Health Equity and Advocacy Thread. Dr. Hall (alan.hall@uky.edu) is an associate professor in the departments of internal medicine and pediatrics at the University of Kentucky College of Medicine, and assistant dean for curriculum integration.

Health inequities have become even more magnified during the COVID-19 pandemic, placing greater importance on educating medical students to meet the complex and unique needs of diverse patient populations. Future physicians must evaluate patients' concerns and problems with a frame built around social determinants of health (SDOH). Graduating students entering all specialties must learn to apply cultural and structural humility to individuals as well as systems level patient safety and quality improvement principles. Such complex domains should be incorporated continuously through all four years of medical education, allowing for appropriate growth throughout the curriculum with spaced repetition and ever advancing concepts. The University of Kentucky College of Medicine (UKCOM) introduced two curricular threads in 2021: The Health Equity and Advocacy Thread (HEAT) and the Health System Science Thread (HSST).

As an overview, UKCOM has four campuses in distinct geographic areas and in two time zones. The average class size is approximately 200 students across all campuses. In the first two pre-clinical years, students learn through system-based courses complimented by longitudinal classes emphasizing clinical and doctoring skills. Third-year students complete eight clinical clerkships and a longitudinal class, which integrates and assesses concepts between clerkships. Fourth-year students pursue required acting internships, electives, and finish with a capstone course, an intern year preparation bootcamp.

Each thread cohesively builds vital skills as students navigate through the curriculum. As a guide, the UKCOM core competencies or program-learning objectives were revised to emphasize the value and importance of the HEAT and HSST. The updated language emphasizes SDOH as well as the skills to effectively navigate and improve health systems. For example, each student is expected to "identify and address one's own cultural norms, attitudes, and biases that affect one's interactions among people in diverse health care settings and teams" as well as to "demonstrate willingness to learn from patients and other individuals of diverse backgrounds, including their lived experiences and historical contexts."[1] These updated core competencies have helped spark collaboration between the thread leaders and course directors. Session objectives are deliberately linked to specific course and thread objectives, which are mapped to these core competencies. Content is delivered by thread directors, course directors, and invited faculty.

The HEAT focuses on how SDOH contribute to certain populations being disproportionally affected by the burden of illness. This includes race, ethnicity, sex, sexual identity, disability, age, weight, geographic location, socioeconomic status or stigmatized health conditions like addiction and other psychiatric diseases. The framework of the thread emphasizes structural and cultural humility. Students learn to understand the SDOH, examine root causes, and engage in discussions to use this knowledge for patient advocacy.

In the first year, students are introduced to the concepts of health equity and cultural humility. They identify race as a social construct in contrast to skin color as a polygenetic trait. They participate in panel discussions in flipped classroom settings to discuss health inequities experienced by patients. Students complete a group project focused on health inequities in Kentucky and propose possible routes for advocacy. In the second year, students participate in panels with physicians, patients, and other healthcare providers that focus on different SDOH: they learn about the experience of transgender patients within the healthcare system, about patients with alcohol use disorder and liver disease needing a liver transplant, and how access to health care affects oral health.

In the third year, the clerkships discuss SDOH in a clinical context, and some have required clinical experi-

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ences, including observing treatment plan adjustments based on SDOH. In the Entrustment in Clinical Medicine course, topics that cross clerkships are taught, including a workshop on microaggressions. At the end of fourth year in the Transitions to Residency capstone course, students learn about treating pain adequately in patients with opioid use disorder and participate in a workshop on inclusive leadership as rising interns. Throughout the four years, students are assessed with a mixture of reflective writings, multiple choice questions and presentations of group projects.

Faculty are encouraged to use a didactic inclusive learning checklist to assess all content and assessments for biases, and to ensure the use of inclusive, non-stigmatizing language. The goal is to empower faculty members to teach and engage students on these challenging topics. An evaluation question was added to all course and clerkship evaluations to determine if students feel like the instructors addressed SDOH adequately. This data is used by the UKCOM Curriculum Committee to give feedback to individual courses. Additionally, students complete an anonymous annual survey to document their progress and give feedback on HEAT related curriculum changes. A student advisory council with students from all years and campuses serves to advise the thread leaders on evolving student needs.

The HSST consists of patient safety, quality improvement, healthcare value, population health, clinical informatics, and evidenced based medicine. The success of proper health systems science implementation is predicated on appropriate culture. The HSST establishes this culture and systems-thinking early in the first year and reiterates the culture throughout subsequent years. The backbone of the HSST curriculum is quality improvement (QI) and patient safety. Over the four years, students learn to assess patient safety events using root cause analysis tools, including the fishbone diagram and 5-why's technique. They then learn to utilize QI methodology to design appropriately aligned projects. This is achieved through didactics, group sessions, and workshops with multiple touch points each year across courses. The HSST streamlines material related to public health to build appropriately throughout the curriculum. The two threads overlap as SDOH often present as patient safety issues. Physician advocacy is broad and often includes QI at local institutions.

Implementing the threads has posed several challenges. When introducing new, important concepts, we quickly discovered that we could not solely focus on our first-year students as current upper classes also needed to be included; this required repetition of initial key concepts across years to establish a foundation to build upon in subsequent years. With four diverse campuses, we had to overcome challenges of different opportunities at each campus. In some cases, compromises were needed to ensure all students, regardless of location, could get comparable exposure to vital content. While course directors are consistently supportive of the threads, they also face their own challenges of limited course time, requiring creative solutions to add content without replacing other necessary content. Often this has meant building on principals already being taught, adding a perspective from a different angle.

Grading and competency assessments pose another challenge: interpersonal skills like cultural humility can be difficult to assess and require more in-depth evaluation than a multiple-choice question can offer. In addition, care needs to be taken to ensure these topics are handled with appropriate cultural humility by faculty presenting material and facilitating discussions. Faculty development is required to ensure faculty can provide a safe space and conducive learning environment for challenging conversations around topics like systemic racism.

Though the curricular threads are new, they already have a huge impact. Future goals are to build more joint didactics that unite the thread to supply students with tools to be effective patient advocates. Though all the United States struggle with the impact of SDOH, Kentucky has challenges with high rates of obesity, poverty, opioid use disorders and overdoses, and with many counties having poor access to medical care.[2-5] Training physicians to understand the importance of SDOH as part of the treatment plan ensures quality of care for all patient populations. The new threads at UKCOM strive to train compassionate physicians who practice cultural and structural humility.

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THE "ONE SLIDE APPROACH": AN ADAPTABLE MODEL TO ENHANCE MEDICAL STUDENT PRE-CLINICAL LGBTQ+ EDUCATION

Brady D. Greene, BS; Jeffrey Shu, BA, MSc; Kelly Bowen, BS; Maeve Hopkins, MD; Jason Lambrese, MD

Mr. Greene (greeneb3@ccf.org) is a medical student at the Cleveland Clinic Lerner College of Medicine (CCLCM). Mr. Shu (shuj@ccf.org) is a medical student at CCLCM. Ms. Bowen (bowenk@ccf.org) is a medical student at CCLCM. Dr. Hopkins (hopkinm7@ccf.org) is an obstetrician/gynecologist in the maternal-fetal medicine section at the Cleveland Clinic and a clinical assistant professor in the department of Obstetrics and Gynecology at CCLCM. Dr. Lambrese (lambrej@ccf.org) is a child and adolescent psychiatrist at the Cleveland Clinic, an assistant professor of medicine at CCLCM, a course director for the preclinical Behavioral Sciences course at CCLCM, and an assistant dean for student affairs at Case Western Reserve University School of Medicine.

LGBTQ+ individuals (those whose identities include lesbian, gay, bisexual, transgender, and queer/questioning) are at disproportionate risk for poor health outcomes and negative experiences within the healthcare system. Despite this, discussion of health issues affecting LGBTQ+ populations (and the contributing systemic, societal, and cultural barriers) remain scarce in medical school curricula. In fact, the median time dedicated to LGBTQ+ health topics is about five hours.[1] As a result, U.S. medical students and physicians report low preparedness and comfort in caring for LGBTQ+ patients, particularly transgender individuals.[2]

To proactively address this gap in medical education, topics on LGBTQ+ health disparities and care can be systematically integrated into the standard curriculum. Previous studies have demonstrated that increased exposure to vulnerable populations increases student knowledge and empathy in clinical practice.[3] The Association of American Medical Colleges (AAMC) Advisory Committee on Sexual Orientation, Gender Identity and Sex Development introduced 30 core competencies to improve curricular reform on issues affecting the LGBTQ+ population. Additionally, a recent call to action by Chriss, et al, in SGIM *Forum* introduced a framework for developing LGBTQ+ inclusive curricula in U.S. medical schools. This framework comprises five key steps: 1) assessment of institutional climate, 2) creation of an LGBTQ+ health education advisory committee, 3) integration of core competencies, 4) evaluation of progress, and 5) dissemination of results.[4] Our work closely parallels this approach, which was successfully operationalized at our medical school.

Creating Our Action Group

The origins of our action group started with several motivated medical students connecting with a faculty member that had academic interests in LGBTQ+ health. Soon after, a school- and institution-wide Diversity and Inclusion task force developed, leading to a call to action to address LGBTQ+ health within the curriculum. Hence, the LGBTQ+ Curricular Action Group of the Cleveland Clinic Lerner College of Medicine (CCLCM) was formed, and is composed of faculty, administrative staff, and medical students developing an integrative LGBTQ+ health curricula for all students in our program.

Assessing the State of Our Curriculum

Following the assembly of our action group, we performed a needs assessment of our preclinical curriculum. We began by conducting an extensive review of peer-reviewed literature and, with the help of faculty content experts, created a comprehensive list of LGBTQ+ health topics for integration into the standard curriculum. At CCLCM, the preclinical curriculum is organ system-based and spans two years, with the first year focusing on physiology and the second focusing on pathophysiology. Students learn through traditional seminars, small group problem-based learning (utilizing clinical vignettes), as well as physical diagnosis and communication skills classes. As medical students in our action group progressed through the 2020-21 academic year, they prospectively recorded where, in their respective first- and second year-studies, additional LGBTQ+ content could be integrated to further enhance student knowledge. This content was also mapped to the 30 core competencies put forth by the AAMC, enabling us to objectively confirm the benefits of integrating such points into the preexisting curriculum.

In parallel, utilizing pre-existing literature, we designed an IRB-approved survey to assess the baseline knowledge, attitudes, and beliefs regarding LGBTQ+ health within our student body.[5] Our initial survey was sent out at the beginning of the 2021-22 academic year and had a 64% response rate (33/64 students); survey results indicated that 63.6% (21/33 respondents) of first-

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PRESIDENT'S COLUMN (continued from page 3)

One key to successful preparation will be a re-examination of how we educate students, residents, and peer physicians as the climate in medicine continues to evolve at a rapid pace. Another key will be to demonstrate the wide diversity of career paths available to general internal medicine physicians and to provide guidance about those paths may be pursued.

Since the start of the pandemic, we've seen significant transformation in the way that care is delivered. The proliferation of virtual ambulatory visits has been striking, yet significant concerns about equity in access to high quality care remain.[2] Additionally, the proliferation of medical misinformation, occasionally spread by fellow physicians, may lead to further mistrust of our profession. We must discern fact from fiction for our patients, and it's important that we continue to develop the skill sets of our fellow physicians and trainees to provide evidence-based information in an easily digestible manner.

In my first column for the *Forum*,[3] I discussed the need to focus on educating the next generation of general internal medicine physicians who: 1) have more limited exposure to the broad array of disease due to disruptions during their clinical training, 2) have an increasing scope of virtual medicine in their practice and 3) seek a greater understanding of how to address the social vulnerabilities of the patients they serve. I am happy to see that for this issue, we received a significant number of submissions answering that call. I am proud to see the large number of our members who are thoughtfully approaching the need to evolve our existing educational processes. I can also report that, in preparation for our next annual meeting (#SGIM23), we are developing a slate of plenary speakers, workshops and symposia focused on creating a forum for Physician-Educators to engage across generations in creating mechanisms to promote interest in general internal medicine.

As I reflect on my question about sustaining optimism among future physicians, emphasizing the ways in which general internists are leading in a myriad of ways (policy, administration, education, and research) is critically important. I believe strongly, based on the submissions we've seen for the *Forum* and for content to our national meeting, the members of our society are the right models to promote improvements in how we train, and I remain excited about the year ahead.

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INTEREST GROUP UPDATE (continued from page 6)

- How many IM faculty specialize in SGWH care?
- Are there mentorship programs that provide opportunities for connection with SGWH faculty?
- Are there opportunities for SGWH learning and collaboration with other departments?
- What scholarship opportunities are available?
- What do graduates do after completing residency/fellowship?

If the residency program does not have a dedicated track, many of the above questions would still be relevant to discuss SGWH training options outside of a track. Additionally, consider asking about elective opportunities and provision of SGWH care within continuity clinic.

Conclusion

In the evolving landscape of access to SGWH care, general internists will be increasingly called upon to fill in care gaps for these patients. Trainees aiming for careers focused in SGWH care should consider seeking out residency and fellowship programs with dedicated education in this area.

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Integration Points Shared with Year 2 Cardiology and Pulmonology Course Directors

Block	Teaching Point	Source	Site of Integration	AAMC Competency
Year 2 Cardiology and Pulmonology	Increased risk for MIs and ischemic strokes with estrogen hormone therapy.	Connelly PJ, et al. *Hypertension*. 2019;74 (6):1266–74.	Atherosclerotic Cardiovascular Disease seminar	KFP4
	COPD and asthma prevalence are higher in bisexual versus heterosexual individuals.	Ward BW, et al. *Prev Chronic Dis*. 2015;12:E192.	COPD seminar	PC5
	Higher smoking rates amongst LGBTQ+ individuals.	Gruskin EP, et al. *Am J Public Health*. 2007;97(8):1496–502.	COPD seminar	KFP4, PC5

and second-year students are interested in learning additional LGBTQ+ health topics, and few relied on the existing preclinical curriculum for this information—illustrating a clear need for this work.

Integrating LGBTQ+ Health Content

Starting in the 2021-22 academic year, we sought to integrate LGBTQ+ health content into existing seminars, based on the needs assessment conducted the previous year. To facilitate this, we utilized a student-driven approach where students created a collated document containing suggested integration points relevant to each organ system. Then, medical students organized and led meetings with the course directors of each organ system block and shared our findings, including the curricular setting in which the specific health information was currently being delivered (i.e., seminar, problem-based learning), suggested LGBTQ+ health integration points, the corresponding peer-reviewed literature supporting our identified health information, and the corresponding AAMC competencies we would be meeting by including this information in our curriculum (see Table). A faculty "champion" liaison from our action group also attended these meetings to help mitigate the potential effect of a power dynamic between medical students and faculty. During these meetings, we suggested integrating these points into pre-existing seminars by adding one or two additional PowerPoint slides to the current lecture, utilizing the corresponding peer-reviewed literature. We term this the *One Slide Approach*, wherein our student-driven model relieves the burden on faculty by offering to share relevant literature or creating a draft slide. Course directors would not need to create any new seminars or eliminate any existing seminars to include this information, nor would seminars need to alter their content in a drastic fashion—they need to simply include "one more slide." Given the simplicity of this approach, and the significant uptake we have seen in our program, we believe this is broadly adaptable to any medical school with a seminar-based curriculum.

Evaluating and Disseminating Our Work

Given the cyclic nature of the academic year, our model for curricular integration enables us to iteratively assess our group's progress. As our action group entered its second year of work, rising second-year students assessed the status of previously suggested integration points, allowing us to identify uptake across the preclinical curriculum. Over the course of the 2021-22 academic year, 57.6% (34/59) of the suggested LGBTQ+ health topics were successfully integrated into the standard curriculum, and our group continues to meet with course directors annually to review the success of content integration and identify barriers for inclusion. Complementary to this process, we will send out our student survey annually, providing insight into student knowledge as they start medical school, while also enabling direct assessment of the impact of our preclinical curricular reform on student knowledge, attitudes, and beliefs over time. As we enter our new academic year, we look forward to sharing the success of our intervention as well as lessons learned throughout the process.

Conclusion

In summary, our Action Group implemented a systematic process to improve curricular inclusion of LGBTQ+ core competencies, in accordance with the framework presented by Chriss, et al. To further promote integration of core competencies and remove faculty burden, we incorporated a "One Slide Approach" in which students create tailored PowerPoint slides for easy addition to faculty presentations. Additionally, we established practices for annually assessing the curriculum's efficacy in conveying these competencies to students. Through this process, we hope to better prepare medical students to provide care to LGBTQ+ patients while regularly evaluating our methods and facilitating similar processes at other medical programs.

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shift from personal knowledge management to team knowledge management deserves additional attention in medical education.

Based on these intersecting trends, the only way forward that we can see for clinical teachers is with collaborative teams, that engage in continuous practice-based learning, drawing from distributed knowledge bases, and engaging new technologies to support connectedness of people and ideas in ways previously only imagined.

Pushing (and Pulling) the Envelope

In his best-selling *The Right Stuff* from 1979, Tom Wolfe wrote the captivating story of seven astronauts in training in the Mercury program. In addition to coining the phrase "push the envelope"—to practice at the boundary limits of performance—Wolfe defines having the right stuff as taking risks "in a cause that means something to thousands."

Clinical teachers, take note. We can't *mail in* (*or email in*) the teaching. No longer is it enough for the clinical teacher to just "show up" or simply don one of the many hats that they wear at any time. Model clinical teachers today are team-focused, responsive to feedback, and iteratively developing, rehearsing, and improving what they teach. They take risks, teach across platforms, try out new methods to push (deliver) as well as pull (retrieve) ideas that engage the boundary limits of individual learners and learning teams.

One of the most important ways to address these system shifts while encouraging peak performance is to give patients and learner teams what they deserve most: intentionality. Intentionality requires forethought and can't be achieved impromptu or via superficial routine. Teams of educators, physicians, athletes, and even master chefs have called attention to the role of (deep) performance: maximizing capabilities through activities that improve behaviors, skills, and attitudes. Only through targeted interventions that properly match learning activities to different learner levels can this level of performance be reached.

This can't all happen simultaneously, particularly while patients need to be examined and evaluated, learners take time to present their assessments and plans, and learning points are being created and distributed. The workplace environment isn't always conducive nor helpful to these endeavors. Clinical teachers too need the right stuff to harness the inherent intersecting tensions in the current teaching environment and empower their learners and patients to reach their full individual and collective potential.

Clinical Teaching with "the Right Stuff"

How can clinical teachers best navigate this new landscape? First, recognize the clinical teaching environment for what it is: a unique and shared space that brings together real-world patient care while pushing the envelope of learner knowledge and educator skill. Remember that the digital environment serves at best to supplement or augment traditional in-person teaching, not replace it. Apply proactive frameworks in your teaching such as the Master Adaptive Learner model[5] and self-regulated learning. Approach teaching rounds, or any teaching interaction, with a developmental perspective. A pre-/intra-/post-approach can be helpful to follow:

- *Before rounds (Pre-)*: Digitize and distribute your attending expectations for your team. Have these ready to be sent out to team members even before you meet them. A short document describing your specific objectives for learners of all levels on your team will contribute to shared decision making and a collaborative learning environment. Create a shared notebook for your team to use during the rotation in a secure, cloud-based learning system readily available at your institution.
- *During rounds (Intra-)*: Ask members of your team to share their learning goals with you and each other. Generate and crowdsource hypotheses and questions organically as you see patients together. Write these down as action items to investigate further as learning activities. In this way, teaching points are valued as equally important as checking Ins and Outs or daily weights, you can make the workflow a teaching process, and each captured item becomes an opportunity to collaborate.
- *After rounds (Post-)*: Follow through on the teaching by creating, sharing, and posting learning points asynchronously based on the topics referenced previously on rounds. Invite all learners to participate equally. Interleave and use recall, reflection, and bring in diverse sources with links: .pdf files, multimedia, diagnostic schemas, infographics. Carry forward newly discovered answers, insights, and questions (calling out team wins) into the rounds on subsequent days.

The Future Is Bright beyond the Clouds

Each generation has its unique challenges, but every storm must pass. How prepared clinical teachers will be for future challenges will depend upon how well they've responded to the lessons of the present. We have a duty to strengthen our teams as people, improve our processes, and adapt technologies at our disposal as teachers to leave the teaching environment in a better state than we found it. Only then will we look back on our current problems as beginnings, rather than ends. What will matter most is whether we (and our teams) have acquired the right stuff to do things better the next time. The future of medical education is bright beyond the clouds.

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SIGN OF THE TIMES *(continued from page 14)*

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FROM THE EDITOR *(continued from page 2)*

health equity and advocacy—implemented in the fourth-year clerkship at University of Kentucky College of Medicine.

LeRoi Hicks, SGIM President, and Eric Bass, SGIM CEO, offer a look ahead at SGIM's priorities on advancing medical education, in and out of SGIM. Kyanko, et al, call members' attention to SGIM's Leadership in Health Policy (LEAHP) program, which will soon begin training its fifth cohort of applicants as health policy leaders.

With so many submissions to pack into just one theme issue, I thank the numerous authors who submitted their work to the SGIM *Forum*. I hope this and following issues present more innovative medical education work from members and offer readers new ideas and inspiration. I encourage readers to reach out to authors if they want to learn more about an interesting approach and/or write a future SGIM *Forum* article that offers a related or inspired experience.

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HEALTH POLICY CORNER *(continued from page 7)*

now understand where in that process advocacy is possible and helpful."

While didactics such as lectures and journal clubs were helpful to scholars, the most cited meaningful aspects of the program were mentorship and collaboration with colleagues:

"The direct mentoring was incredibly valuable in pushing me to think bigger about what I could achieve."

"The opportunity to work across institutions on a policy curriculum has been career-changing for me. Whereas many academic groups tend to become territorial about collaboration, the LEAHP cohort was united by a common (and very passionate) desire to develop future leaders in General Internal Medicine through a standardized curriculum. In addition to the excitement of taking on this big dream so many of us already seemed to share, I made lifelong friends and colleagues across the country, with whom I will now (hopefully!) take on future tasks."

Future analyses will assess longer-term outcomes including the durability of improvements in self-efficacy and the program's impact on career development and accomplishments in health policy. Former LEAHP graduates have had leadership roles in SGIM including the Health Policy Committee and Social Determinants of Health Working Group, the Health Equity Commission, and SGIM Council, among many others.

The application period for 2023-24 LEAHP scholars is currently open until November 21, 2022. Applicants will be notified of acceptance in January 2023. To apply or learn more about LEAHP and the policy efforts of SGIM, please visit the following: https://www.sgim.org/communities/advocacy/leadership-in-health-policy.

LEAHP is an excellent opportunity to strengthen knowledge in health policy, meet exceptional colleagues, collaborators, and mentors, and amplify your engagement and advocacy in health policy—join us!

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SGIM Forum
Society of General Internal Medicine
Society of General Internal Medicine
1500 King Street, Suite 303, Alexandria, VA 22314
202-887-5150 (tel) / 202-887-5405 (fax)
www.sgim.org

MEDICAL EDUCATION: PART I *(continued from page 8)*

ups of smartphone apps, workflow demonstrations, or sample curricula. Through peer judging, a few teams were selected to present an extended pitch in the second round. Our goal with incorporating a time-constrained pitch requirement, a common feature in hackathons, was for students to practice efficiently and succinctly communicating their iterative ideation and problem-solving process.

Incorporating training on DT into graduate medical education can complement education at the medical student level. Although DT is a relatively new modality in health care, it is used widely in industry by leading organizations to create and refine products and services. Importantly, DT methods are specifically designed to understand the human emotional and behavioral experience in a complex system, surface the most pressing unmet needs among users of the system, and facilitate creative problem solving among teams through co-design with users. When applied to healthcare problems, DT fosters a "human-centered" mindset that harnesses the intrinsic motivations and values of the healthcare workforce to improve care for people and can complement other process-centered methods including contemporary QI modalities.[4]

A hackathon combined with design thinking exercises offers an interactive project and team-based approach for medical trainees to learn and engage with health systems science topics that often are underemphasized in the traditional medical school curriculum. By combining the problem-solving format of a hackathon with cutting-edge methods from DT, we created a context for learners that closely replicates the experience of solving real-world systems issues. We believe that this approach engages the creativity of learners and can be applied to a variety of topics in medical education.

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MEDICAL EDUCATION: PART III *(continued from page 13)*

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