



THE TEACHING ACADEMY

Robert Larner, M.D. College of Medicine at The University of Vermont

2021 Snow Season Education Retreat

Thursday, January 14, 2021

PROGRAM

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2021 Snow Season Education Retreat PROGRAM

Wednesday, January 13, 2021

TIME	SESSION	ZOOM LINK
4:00-5:00 PM	Teaching Academy Induction and Award Ceremony <i>Session Length: 60 minutes</i> For captions, click here	Zoom Link

Thursday, January 14, 2021

TIME	SESSION	ZOOM LINK
7:30-8:30 AM	Preconference Session Faculty Development Series for Clinical Teachers 101: Teaching in the Clinical Setting Karin Gray, MD <i>Session Length: 60 minutes</i>	Zoom Link Meeting ID: 392 664 9330

TIME	SESSION	ZOOM LINK
8:30-8:40 AM	Welcome from Katie Huggett, PhD, Teaching Academy Director	Zoom Link Meeting ID: 912 4262 3620
8:40-9:10 AM	Oral Platform Presentations Moderator: Bridget Marroquin, MD <ul style="list-style-type: none"> • “MS4 Report”: A Student-Led and Remote Model for Case-Based Learning In Preparation for Residency Emily Greenberger, MD; Matthew Tsai; Dylan Koundakjian • Updating Pediatric Morning Report: Increasing Educational Quality and Satisfaction Among Residents and Faculty Anna Zuckerman, MD; Keith Robinson, MD; Sarah Twichell, MD; Molly Moore, MD; Nicholas Bonenfant, MD; Katharine Runte, MD; Sarah Couser, MD; Lewis First, MD; Jonathan N. Flyer, MD <i>Session Length: 30 minutes</i>	
9:10-10:10 AM	Plenary Diversity, Equity and Inclusion: Role of Medical Education Alison Whelan, MD Chief Medical Education Officer, AAMC <i>Session Length: 60 minutes</i> For captions, click here	Zoom Link Meeting ID: 964 1427 7300
10:10-10:30 AM	Break	

10:30 AM-11:30 AM 1st Breakout session

A	Q&A with Alison Whelan, MD Moderator: Lewis First, MD <i>Session Length: 60 minutes</i>	Zoom Link Meeting ID: 928 8437 0268
B	Partnering for Interprofessional Co-Teaching in the Clinical Setting Nancy Lemieux, MSN, RN, CHSE <i>Session Length: 60 minutes</i>	Zoom Link Meeting ID: 939 1306 6352
C	Global Health Partnerships in Medical Education Moderators: Mariah McNamara, MD; Ben Clements, MD Panelists: Majid Sadigh, MD; Shalote Chipamaunga, MD; Swapnil Parve, MD; Joseph Kalanzi, MD; Cathy Nakibuule, MD <i>Session Length: 60 minutes</i>	Zoom Link Meeting ID: 971 5904 7843
D	10:30am-12pm Racism and Bias in Clinical Settings –Disrupt the Cycle: A Simulation Case-Based Workshop LE Faricy, MD; Pamela Gibson, MD; Leigh Ann Holterman, PhD; Jaspinder Sra, MD <i>Session Length: 90 minutes</i>	Zoom Link Meeting ID: 973 7433 4819

12:00-1:00 PM

Lunch with Virtual Poster Session View PDF Posters Online Here	Zoom Link Meeting ID: 946 3891 4150
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1:15-2:45 PM 2nd Breakout session

A	Debrief for Everfi Module: Diversity and Inclusion EDU Michael Upton, MD; Eileen CichoskiKelly, PhD; Tiffany Delaney, MAEd <i>Session Length: 90 minutes</i>	Zoom Link Meeting ID: 996 0031 3816
B	It's Better Than You Think: The Telehealth Physical Exam Dennis Beatty, MD; Halle Sobel, MD <i>Session Length: 90 minutes</i>	Zoom Link Meeting ID: 981 2764 6038
C	Using Humanities to Facilitate Discussion and Perspective Taking Around Themes of Diversity, Equity, and Inclusion Jeremiah Dickerson, MD <i>Session Length: 90 minutes</i>	Zoom Link Meeting ID: 984 0407 7891
D	Poster Session for Reviewers <i>Session Length: 90 minutes</i>	Zoom Link Meeting ID: 959 9087 6626

2:45 - 3:00 PM Break**3:00-4:30 PM 3rd Breakout session**

A	Debrief for Everfi Module: Diversity and Inclusion EDU Michael Upton, MD; Eileen CichoskiKelly, PhD; Tiffany Delaney, MAEd <i>Session Length: 90 minutes</i>	Zoom Link Meeting ID: 959 8139 4520
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B	The LCOM CATS (Career Advising Trail System) Christa Zehle, MD; Lee Rosen, PhD <i>Session Length: 90 minutes</i>	Zoom Link Meeting ID: 997 2455 8929
C	3:00-4:00pm Practical Application of the Science of Learning and Instruction to Medical Education Jesse Moore, MD; Andy Hale, MD; LCOM Curriculum Team <i>Session Length: 60 minutes</i>	Zoom Link Meeting ID: 926 3114 4753

4:30 PM Conference concludes. Please complete the online evaluation. If you wish to receive CME credit, login to [MyCredits](#) and complete the required documentation within 30 days of the retreat.

Session Learning Objectives

Plenary

Diversity, Equity and Inclusion: Role of Medical Education

Alison Whelan, MD

Chief Medical Education Officer, AAMC

Session Length: 60 minutes

- Review the role of standardized exams in holistic review
- Develop an understanding of needed curriculum to create an inclusive workforce
- Learn about AAMC resources to support DEI work in medical education

Partnering for Interprofessional Co-Teaching in the Clinical Setting

Nancy Lemieux, MSN, RN, CHSE

Session Length: 60 minutes

- Outline how collaborative knowledge and skills from two professions result in effective co-teaching initiatives in patient care settings
- Apply interactive educational methods that lead to effective and vibrant co-teaching
- Recognize the essential role that rehearsals play in teaching success

Global Health Partnerships in Medical Education

Moderators: Mariah McNamara, MD; Ben Clements, MD

Panelists: Majid Sadigh, MD; Shalote Chipamaunga, MD; Swapnil Parve, MD; Joseph Kalanzi, MD; Cathy Nakibuule, MD

Session Length: 60 minutes

- Appreciate the historical context of global health education.
- Discuss the value of global health partnerships in medical education.
- Explore pitfalls and ethical concerns related to global health partnerships.
- Understand that successful global health partnerships are bidirectional relationships.

Racism and Bias in Clinical Settings –Disrupt the Cycle: A Simulation Case-Based Workshop

LE Faricy, MD; Pamela Gibson, MD; Leigh Ann Holterman, PhD; Jaspinder Sra, MD

Session Length: 90 minutes

- Define key terms relevant to conversations regarding bias and discrimination
- Understand pervasiveness of racism/microaggressions toward learners and faculty who are underrepresented in medicine (URM)
- Promote comfort and confidence in conversations about issues pertaining to diversity, equity, and inclusion (race/ethnicity but also SOGI, ability status, etc)
- Practice strategies and language that interrupt bias and discrimination (e.g., learn 3 effective phrases to use).

Session Learning Objectives

Debrief for Everfi Module: Diversity and Inclusion EDU

Michael Upton, MD; Eileen CichoskiKelly, PhD; Tiffany Delaney, MAEd

Session Length: 90 minutes

- Reflect on concepts of Equity, Inclusion and Health Disparities and how they apply to their work.
- Identify areas of challenge for addressing issues related to Equity, Inclusion and Health Disparities in their work.
- Develop plans for addressing areas of challenge regarding Equity, Inclusion and Health Disparities in their work.
- Reflect on strategies for managing the dynamics of privilege, bias and “isms”

It's Better Than You Think: The Telehealth Physical Exam

Dennis Beatty, MD; Halle Sobel, MD

Session Length: 90 minutes

- Review elements of Telehealth physical exams
- Discuss benefits and limitations of Telehealth physical exams
- Apply Telehealth physical exam skills
- Learn about technological advances to aid Telehealth physical exams

Using Humanities to Facilitate Discussion and Perspective Taking Around Themes of Diversity, Equity, and Inclusion

Jeremiah Dickerson, MD

Session Length: 90 minutes

- Define the construct of empathy, recognize its importance in medicine, and discuss how it might be cultivated in learners.
- Explain how the humanities can foster perspective-taking, connectedness, empathy, and compassion.
- Describe specific ways in which the humanities and contemplative practices can effectively be used in medical education.

The LCOM CATS (Career Advising Trail System)

Christa Zehle, MD; Lee Rosen, PhD

Session Length: 90 minutes

- The foundational elements of medical student career advising and career services
- The resources available to support advisors in their role and advisor support with common challenges in advising medical students
- Accreditation expectations for career advising
- Delivering career services to medical students

Session Learning Objectives

Practical Application of the Science of Learning and Instruction to Medical Education

Jesse Moore, MD; Andy Hale, MD; LCOM Curriculum Team

Session Length: 60 minutes

- Review basic principles of the science of learning
- Review of cognitive load theory
- Describe methods for applying the science of learning and cognitive load theory to medical education

CME Information



JOINTLY ACCREDITED PROVIDER™
INTERPROFESSIONAL CONTINUING EDUCATION

In support of improving patient care, The Robert Larner College of Medicine at The University of Vermont is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

The University of Vermont designates this live internet activity for a maximum of 6 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Meeting Disclaimer: Regarding written materials and information received, written or otherwise, during this Conference: The scientific views, statements, and recommendations expressed during this activity represent those of the authors and speakers and do not necessarily represent the views of The Robert Larner College of Medicine at The University of Vermont.

Interest Disclosures: As a joint accredited organization for interprofessional education, The Robert Larner College of Medicine at The University of Vermont Medicine is required to disclose any real or apparent conflicts of interest (COI) from anyone who has control of the content (speakers, planners, moderators).

No Interests to Disclose:

Dennis Beatty, MD
Amanda Broder
Eileen CichoskiKelly, PhD
Benjamin Clements, MD
Melissa Davidson, MD
Tiffany Delaney, MAEd
Jeremiah Dickerson, MD
LE Faricy, MD
Lewis First, MD, MS
Pamela Gibson, MD
Emily Greenberger, MD
Andrew Hale, MD
Leigh Ann Holterman, PhD
Kathryn Huggett, PhD
Nancy Lemieux, MS, RN, CHSE
Karen Lounsbury, PhD
Bridget Marroquin, MD

Mariah McNamara, MD
Jesse Moore, MD
Lee Rosen, PhD
Halle Sobel, MD
Jaspinder Sra, MD
Michael Upton, MD
Alison Whelan, MD
Christa Zehle, MD
Anna Zuckerman, MD

**Note: UVM CME Staff who reviewed this activity had no interests to disclose.*

Commercial Support Received:

We have not received any commercial support for this activity

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*Having a financial interest or other relationship with a corporate organization, **or discussing an unlabeled use of a commercial product**, may not prevent a speaker from making a presentation. However, the existence of the relationship must be made known to the planning committee prior to the conference, so that any possible conflict of interest may be resolved prior to the talk.

Snow Season Education Retreat Workshop Presenters and Facilitators

Dennis Beatty, MD, Medicine*
Eileen CichoskiKelly, PhD, Family Medicine*
Benjamin Clements, MD, Family Medicine*
Tiffany Delaney, MAEd, Office of Diversity, Equity, and Inclusion
Jeremiah Dickerson, MD, Psychiatry*
LE Faricy, MD, Pediatrics
Lewis First, MD, Pediatrics*
Pamela Gibson, MD, Pathology and Laboratory Medicine*
Andrew Hale, MD, Medicine*
Leigh Ann Holterman, PhD, Psychiatry, The Teaching Academy
Kathryn Huggett, PhD, Medicine, The Teaching Academy*
Nancy Lemieux, MS, RN, CHSE, Nursing
Mariah McNamara, MD, Surgery
Jesse Moore, MD, Surgery *
Lee Rosen, PhD, Psychiatry*
Halle Sobel, MD, Medicine*
Jaspinder Sra, MD, Anesthesiology*
Michael Upton, MD, Psychiatry*
Alison Whelan, MD, AAMC
Christa Zehle, MD, Pediatrics*

Planning Committee

Dennis Beatty, MD, Medicine*
Amanda Broder, The Teaching Academy
Melissa Davidson, MD, Anesthesiology*
Lewis First, MD, Pediatrics*
Pamela Gibson, MD, Pathology and Laboratory Medicine*
Kathryn Huggett, PhD, Medicine, The Teaching Academy*
Karen Lounsbury, PhD, Pharmacology*
Michael Upton, MD, Psychiatry*

*Indicates Teaching Academy Member

Teaching Academy New Members Inducted January 2021

Distinguished Educator

Karen Lounsbury, PhD, Pharmacology
Halle Sobel, MD, FACP, Medicine
Rebecca Wilcox, MD, Pathology and
Laboratory Medicine

Master Teacher

Dmitriy Akselrod, MD, Radiology
Deborah Cook, MD, Pathology and
Laboratory Medicine
Thomas Delaney, PhD, Pediatrics
Clara Keegan, MD, Family Medicine
Anne Stowman, MD, Pathology and
Laboratory Medicine
Jaspinder Sra, MD, Anesthesiology

Member

Wasef Abu-Jaish, MD, Surgery
Daniel, Ackil, DO, Surgery
Whittney Barkhuff, MD, PhD, Pediatrics
Michelle Cangiano, MD, Family Medicine
Benjamin Clements, MD, Family Medicine
Navid Esfandiari, PhD, Obstetrics,
Gynecology, & Reproductive Sciences

Members (cont.)

Tabitha Ford, MD, Surgery
Matthew Geeslin, MD, MS, Radiology
Matthew Gilbert, DO, MPH, Medicine
Heather Herrington, MD, Surgery
Alicia Jacobs, MD, Family Medicine
F. Louis Kirk III, MD, Anesthesiology
George Kurien, MD, Surgery
Skyler Lentz, MD, Surgery
Mark Lach, MD, Radiology
Shea Lambirth, MD, Medicine
Katherine Mariani, MD, MPH, Family
Medicine
Rachel McEntee, MD, Medicine
Carolyn Orgain, MD, Surgery
Christian Pulcini, MD, MPH, Surgery
Lindsay Reardon, MD, Surgery
Tamara Rimash, MD, Surgery
Matthew Siket, MD, Surgery
John Steele Taylor, MD, Neurological
Sciences

Protégé

Autumn Sacklow, MD, Surgery

Teaching Academy Members January 2021

Distinguished Educator

Jan Carney, M.D.
Melissa Davidson, M.D.
Lewis First, M.D.
Pamela Gibson, M.D.
Ann Guillot, M.D.
Mark Hamlin, M.D.
Kathryn Huggett, Ph.D.
Charles Irvin, Ph.D.
Douglas Johnson, Ph.D.
Amanda Kennedy, PharmD
John King, M.D.
Mark Levine, M.D.
Judith Lewis, M.D.
Karen Lounsbury, Ph.D.
Cate Nicholas, ED.D., P.A.
Mark Plante, M.D.
Molly Rideout, M.D.
Martha Seagrave, PA-C
Halle Sobel, M.D., FACP
Douglas Taatjes, M.D.
Rebecca Wilcox, M.D.

Master Teacher

Varun Agrawal, M.D.
Dmitriy Akselrod, M.D.
Naiim Ali, M.D.
S. Elizabeth Ames, M.D.
Scott Anderson, M.D.
Dennis Beatty, M.D.
Patrick Bender, M.D.
Stephen Berns, M.D.
Anant Bhawe, M.D.
Richard Bounds, M.D.
Stephen Contompasis, M.D.
Deborah Cook, M.D.
Keith Curtis, M.D.
Robert D'Agostino, M.D.
Thomas Delaney, Ph.D.
Kristen DeStigter, M.D., FACR
Stephen Everse, Ph.D.
Nathalie Feldman, M.D.
Candace Fraser, M.D.

Tim Fries, M.D.
Mark Fung, M.D., Ph.D.
Erica Gibson, M.D.
Karin Gray, M.D.
Andrea Green, M.D.
Laura Greene, M.D.
Andrew Hale, M.D.
Pete Holoch, M.D.
Friederike Keating, M.D.
Clara Keegan, M.D.
Jay Kikut, M.D.
Patricia King, M.D., Ph.D.
Michael LaMantia, M.D.
Karen Lounsbury, Ph.D.
Bridget Marroquin, M.D.
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Janet Murray, Ph.D.
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Lee Rosen, Ph.D.
Jay Silveira, Ph.D.
Jaspinder Sra, M.D.
Anne Stowman, M.D.
Mitchell Tsai, M.D.
Rebecca Wilcox, M.D.
Christa Zehle, M.D.
Bei Zhang, M.D., Ph.D.

Member

Wasef Abu-Jaish, M.D.
Daniel Ackil, D.O.
Abigail Adler, M.D.
Erik Anderson, M.D.
Whittney Barkhuff, M.D.,
Ph.D.
Maura Barry, M.D.
Jason Bartsch, M.D.
Michael Bazylewicz, M.
Mark Bisanzo, M.D.
Carolyn Boscia, M.D.
Bronwyn Bryant, M.D.
Kelly Butnor, M.D.

Whitney Calkins, M.D.
Michelle Cangiano, M.D.
Eileen CichoskiKelly, Ph.D.
Leigh-Anne Cioffredi, M.D.
Benjamin Clements, M.D.
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Jonathan Flyer, M.D.
Havaleh Gagne, M.D.
Eric Ganguly, M.D.
Garth Garrison, M.D.
Matthew Geeslin, M.D., M.S.
Matthew Gilbert, D.O., MPH
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M.P.H.
Robert Low, Ph.D.
John Lunde, M.D.
Lauren MacAfee, M.D.
Katherine Mariani, M.D.,
MPH
Rachel McEntee, M.D.
Isaura Menzies, M.D.
Stephen Merena, DPM
Jesse Moore, M.D.
Molly Moore, M.D.
Erin Morris, M.D.
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Sharon Mount, M.D.
Roberta O'Brien, M.D.
Carolyn Orgain, M.D.
Julie Phillips, M.D.
Marios Prikis, M.D.

Christian Pulcini, M.D., MPH
David Rand, M.D.
Lindsay Reardon, M.D.
Tamara Rimash, M.D.
Valerie Riss, M.D.
Andrew Rosenfeld, M.D.
Alan Rubin, M.D.
Matthew Saia, M.D.
Mirabelle Sajisevi, M.D.
Marie Sandoval, M.D.
Sarah Schlein, M.D.
Joel Schnure, M.D.
Geoffrey Sriver, M.D.
Arti Shukla, Ph.D.
Matthew Siket, M.D.
Paul Slavik, M.D.
Emily Stebbins, M.D.
Kevan Sternberg, M.D.
Jillian Sullivan, M.D.
John Steele Taylor, M.D.
Alissa Thomas, MD
Tina Thornton, Ph.D.

Sarah Twichell, M.D.
Michael Upton, M.D.
Eline van den Broek-
Altenburg, Ph.D.
Constance van Eeghen,
Dr.P.H.
Stanley Weinberger, III, M.D.
Leslie Young, M.D.

Protégé

Nicholas Bedrin, M.D.
Alison Brandeis Johnson,
M.D.
James East, M.D., Ph.D.
Johanna Kelley, M.D.
Sarah Kelso, M.D.
Stephen Ranney, M.D.
Autumn Sacklow, M.D.
Benjamin Sanofsky, M.D.
Kramer Wahlberg, M.D.
Patrick Zimmerman, D.O.

Awards for Teaching and Educational Excellence
Conferred at the Teaching Academy Induction and Award Ceremony
on January 13, 2021

Teaching Academy

Innovation in Curriculum Development or Pedagogy

Molly Rideout, MD, Pediatrics

Educational Scholarship

Andrew Hale, MD, Medicine

Outstanding Contribution

Leah Burke, MD, Pediatrics

Frederick C. Morin III, MD Educational Leadership Award

Stephen Everse, PhD, Biochemistry

Distinguished Service Award

Alan Rubin, MD, Medicine and Psychiatry

Medical Group Education Awards

Continuing Medical Education Educator of the Year

Stephen Berns, MD, Family Medicine

Graduate Medical Education Educator of the Year

Julian Sprague, MD, PhD, Medicine

UVMHN Medical Group Education Grant

“Fostering gender equity to improve the clinical learning environment for medical learners at the
University of Vermont”

PI: Richard Bounds, MD, Surgery - Emergency Medicine

CO PI: Tabitha Ford, MD, Surgery - Emergency Medicine

Poster Session Abstracts

1. Validate entrustable professional activity (EPA)-based assessment in pathology residence training for common on-call activities

Bronwyn H. Bryant, MD

Background

Entrustable professional activities (EPAs) evaluate a resident's performance of a specific activity and link to competencies, which can inform assigning graduated responsibilities (e.g., taking call). At the University of Vermont (UVM), the Clinical Competency Committee (CCC) decides whether a resident is competent to take call, but it is currently operating with limited data (personal communication with CCC chair).

Methods

The proposed use of the EPAs in this study is to provide data to the CCC to inform decisions about a resident's competency to take call. This validation study follows the Kane Framework (*scoring—generalization—extrapolation—implication*) by providing multiple pieces of evidence for the CCC to review. Residents' performance of intraoperative consultations during their surgical pathology rotation will be evaluated by multiple EPA-based formative assessments (*scoring*). Residents will be assigned an entrustment level at the end of the rotation (*generalization*). Formative and summative assessments will be reviewed by the CCC (*extrapolation, implication*) to determine readiness to take call.

Results

The impact of EPAs will be assessed by periodic surveys to all participants with final surveys administered in December 2020 (prior to this cohort of residents starting on-call duties). EPAs should provide objective data to the CCC and should benefit residents by setting clear expectations and increasing resident confidence in performing intraoperative consultations.

Discussion

Entrustment is an intuitive, but novel, anchor for assessment. EPAs will promote direct observation of trainees, allowing faculty to provide more specific and timely feedback. Given the small number of residents in this program, there may be insufficient survey data to demonstrate an impact. The COVID-19 pandemic has impacted resident education in frozen assessment, which may be a confounding factor in this study.

IRB Determination: Exemption Category 1: Educational Setting.

Poster Session Abstracts

2. Engage in Exploration: Pathology Gross Laboratory in the COVID-era

Ronald J. Bryant, MD; Rebecca Wilcox, MD; Bei Zhang, MD, PhD, CLS(ASCP)

Background

Gross pathology labs used to operate mainly in a model of “show and tell” with the instructor acting as a topic expert and demonstrating the specimen to a group of fifteen students. There were often questions and answers in discussion with the instructor, yet most students did not have or take an opportunity to hold and evaluate the specimen themselves. Furthermore, this learning and teaching model is not compatible with the appropriate physical distancing during the Covid pandemic.

Methods

In response to the outbreak of Covid-19 the gross pathology lab has been redesigned as a flipped model. A series of short, session objective-driven videos are made available online. Students are expected to watch the videos before coming to the hands-on lab. Groups of two students enter the gross lab on a timed basis and rotate through a series of stations. At each station, students examine gross pathology specimens while answering questions designed to correlate clinical findings with gross morphology and pathophysiology and heighten observational skills. One or two pathologists are available throughout the lab session to address the questions from the students. The design of this laboratory exercise maintains appropriate distancing and hygiene in the time of Covid-19. The laboratory rooms are mapped to set up an appropriate number of timed stations. Flow-through the rooms is unidirectional.

Results

Compared with the traditional show-and-tell model of teaching gross pathology, the flipped model is genuinely student-centered and requires more active learning. Holding the specimen in their hands, students learn from discovery as they are completely engaged by exploring the specimen themselves. This gross pathology learning model has been very well received and evaluated highly by both the teachers and the students.

Disclosures: The authors of the poster have no financial interests to be disclosed.

Poster Session Abstracts

3. Mobile Syringe Exchange as an Opportunity for Community Engagement and Medical Education

Noorin Damji, BA; Kristina Valentine, MSc; Andrew Hale, MD

Background

People who inject drugs (PWID) are burdened by infections, abscesses, and overdoses. In rural areas, supplies to keep PWID safe are often far away and travelling is a barrier. Medical students are often removed from the realities of rural drug use. As future physicians, it is important for us to be cognizant of ways to care for PWID and decrease stigma. We provided harm reduction equipment (sterile syringes, disposal methods, clean rigs, and fentanyl test strips) and information (overdose prevention counseling, vein care information) to PWID in Franklin county using a mobile van. We created a student interest group (SIG) at LCOM to stimulate conversations about harm reduction and PWID.

Methods

We maintained relationships with PWID, and characterized the number of distinct and new participants, and secondary exchangers. We quantified syringes, fentanyl test strips, wound care kits and naloxone distributed to participants.

We identified additional student leaders and completed the first overdose reversal training at LCOM.

Results

In 2018, 22,194 syringes, 28 hygiene kits, 89 fentanyl test strips, 29 doses of naloxone were distributed to 28 unique clients, of which 11 were secondary exchangers. In 2019, 8,550 syringes, 34 hygiene kits, 17 fentanyl test strips, and 8 doses of naloxone were distributed to 13 unique clients, of which 7 were secondary exchangers. 38 medical students enrolled in LCOM's first Harm Reduction SIG. We identified 4 student leaders who would carry on the mobile exchange. 46 students were trained in responding to overdose and equipped with naloxone.

Discussion

Community engagement is an important educational experience for medical students to contextualize the lives of PWID; such interactions generate powerful impressions that decrease stigma.

Medical students can play a role in serving PWID by providing an essential service, bringing educational components to their classmates, and engaging them in conversations about caring for PWID.

IRB Determination: Project not determined to require UVM Institutional Review Board oversight.

Disclosures: None of the authors report any disclosures.

References

<https://news.uvmhealth.org/uvm-health-news/mobile-syringe-service-drives-harm-reduction-effort/>

Poster Session Abstracts

4. Evaluation of the Public Health Statistical Boot Camp Pilot Project

Tom Delaney, PhD; Victoria Hart, PhD; Jan Carney, MD, MPH

Background

Graduates of US public health programs must demonstrate competencies related to statistical thinking and analysis. For many students, significant time passes between taking core biostatistics courses and applying statistical knowledge in the Culminating Project Experience (CPE) required for the MPH degree. The LCOM CPE is structured as a group project in which students design and execute original research using a public health dataset. Projects typically involve statistical regression analyses and historically, students have needed additional supports during the analysis phase. As a proactive approach to strengthening needed quantitative skills, MPH faculty developed a public health data-focused Statistical *Boot Camp* to support students' learning and performance in the CPE and beyond.

Methods

The *Boot Camp* is self-directed, fully online, and consists of eight modules that can be completed in 4-5 hours. Modules take the learner through downloading SPSS, inspecting and preparing data for analysis, conducting selected univariate and multivariate analysis and validating their results. Each module contains a brief narrative, embedded screencasts and videos, links to other resources and an application exercise (with solution provided). Modules end with a self-evaluation in which students reflect on the module and their experience with the application exercise. This project was determined as exempt from review by the UVM IRB.

Results

In a pilot of 19 students, pre-*Boot Camp* self-evaluations indicated that only 5% felt very comfortable performing statistical analysis in SPSS and 16% felt very comfortable choosing the correct statistical test for a public health research question. Post-*Boot Camp* self-evaluations are not yet available but individual module results show substantial gains in student self-reported statistical skills as a result of participation. Additional analyses will be conducted, including examination of open-ended responses from self-reflection items.

Disclosures: The authors have nothing to disclose and no prior dissemination has occurred.

Poster Session Abstracts

5. Impact of peer-to-peer discussion series on medical student assessment of racial justice education

Grace Eisenbiegler; Lud Habtu Eyasu; Akua Frimpong; Charlotte Gemes; Krisandra Kneer; Liana Mathias; Alexa Rosenthal

Background

Medical schools have been increasingly made aware of curriculum gaps relating to social determinants of health in the preclinical curriculum. Following recent national attention to the significance of race and health, there has been an effort to improve bias training and didactic education on racism. However, these often take the form of online modules or lectures that do not allow peer-to-peer dialogue.

Methods

The “Race Dialogues,” was designed as an elective summer discussion series, occurring weekly for 1.5 hours over a total of six weeks. Unique topics concerning the history and legacy of race and racism in the United States were presented each week with optional supplementary readings and videos available. Participants optionally completed a pre-survey, a post-survey, and a post-series open-ended reflection, as well as weekly surveys on each session.

Results

Preliminary data analysis has shown several common themes among the responses. In the pre-survey, the majority of responses indicated that participants did believe in the existence of systemic racism in medicine and agreed to the importance of integrating discussions of ethnicity and race throughout the curriculum. By the end of the Race Dialogue series, there was an increase in understanding of how racism impacts medical care and health outcomes. Participants also indicated they gained the vocabulary to discuss race and racism with peers and felt more comfortable talking about race and racism with preceptors, residents, and attendings.

Discussion

The survey responses also highlighted a desire for more conversations regarding race and racism within the medical school curriculum. In the future, this program could continue as an established summer series or be integrated into the academic school year as an accredited course. This education is critical to building a healthcare workforce that is sensitive and adept at promoting racial justice.

IRB Determination: IRB exemption was obtained for all survey materials.

Poster Session Abstracts

6. What Information Resources do Students Use? Analysis of Information Resources used in Convergence PBL

Jack Fitzsimons; Alice Stokes, MLIS; Laurie Gelles, PhD; Patricia King, MD, PhD

Background

Convergence is a problem-based learning (PBL) course occurring in January of the second year, in which the students meet in small groups and work through seven clinical case problems. An important component of the PBL process is “self-directed” learning: students identify their knowledge gaps and formulate “case questions” to research outside the classroom and then return to present their findings to their peers. As they analyze and synthesize information relevant to addressing their questions, each student must assess the credibility of information resources and develop information seeking skills, a medical knowledge competency at LCOM. The resources students used to research Convergence case questions were analyzed in order to understand their information seeking skills and preferences at this point in their education.

Methods

At the onset of the course, the students received a presentation on information seeking skills and given electronic tablets. During the small group sessions and for each case question presentation, the students were asked to report the resources they utilized. These data were analyzed grouping the resources into 8 categories: 1. Journal, 2. Text book, 3. Medical search engine (e.g., Cochrane, Pubmed), 4. University, Governmental (NIH), or Medical Society websites, 5. Commercial medical literature abstracting site (e.g. Dynamed, Up to Date), 6. Commercial USMLE study resource (e.g. Amboss, First Aid, Osmosis, Boards and Beyond, Pathoma), 7. Informational website for the general public (e.g. Mayo Clinic, Medscape), and 8. Class notes or other class information. Similar categories were used by Krasne, et al.

Results

Resources data were collected from 15 groups over seven cases. The group response rate over the seven cases was 65%. Overall commercial medical literature abstracting sites were cited most frequently at 33.5% of total citations, while commercial USMLE study resources were cited nearly as often at 33%. The remaining categories ranged from 3-9%.

Discussion

The high use of USMLE study resources is likely related to timing relative to taking USMLE step 1, while the high use of highly abstracted resources may reflect preference for quickly reviewed materials. Information seeking skills should be evaluated at multiple times in the curriculum to evaluate competency development and identify opportunity for education intervention. Additional librarian and technology guided workshops matched to different times in the curriculum may promote greater use of high-quality resources.

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Poster Session Abstracts

7. Beyond the Emergency Department: Perceived Effects of COVID-19 on Emergency Medicine

Resident Education

Tabitha Ford, MD; Megan Fix, MD; Eric Shappell, MD; Daniel Egan, MD; Alexandra Mannix, MD; John Bailitz, MD; Xian Li, MD; Michael Gottlieb, MD

Background

In late 2019, the COVID-19 pandemic began with a novel coronavirus causing a significant burden of disease internationally. In the United States (US), many medical residents saw a rapid shift in their professional demands, with increasing numbers of patients infected with COVID-19, restrictions on opportunities for patient care, increased utilization of personal protective equipment, and a deviation from in-person education to virtual didactics.

Methods

Our cross-sectional survey-based, mixed-methods study sought to determine the perceived effects of the pandemic on Emergency Medicine (EM) residents' educational experiences. We administered a survey to Emergency Medicine residents at seven US programs, varying by length of training, geographical location, and local incidence of COVID-19 infections. We summarized quantitative data with comparisons of subgroups, and answers to open-ended questions were analyzed using an inductive approach.

Results

187/313 participants responded (59%) with the majority (119/182, 65.4%) reporting an overall negative effect of the pandemic on their residency education and junior residents disproportionately affected ($p=0.03$). 81/182 (44.5%) participants had a clinical rotation partially or completely cancelled. 124/182 (68.1%) declared a negative effect on their wellness, but 89/183 (48.9%) reported increased satisfaction with EM as a career choice. We identified four qualitative themes (systems experience, clinical experience, didactic experience, and wellness) and 34 subthemes, categorized into positive and negative effects.

Discussion

We found mixed results of the pandemic on the EM residency experience with an overall negative effect on education, wellness, and clinical rotations, but an increase in satisfaction with EM as a career choice. This is further contextualized in our qualitative data analysis, highlighting the impacts of participants' systems, clinical, didactic experiences during the pandemic in addition to the influence on resident wellness.

IRB Determination: Deemed exempt by University of Utah IRB.

Themes	Positive Subthemes	Negative Subthemes
Systems Experience	<ul style="list-style-type: none"> • Operational knowledge gained from participating in a disaster response • Increased innovation • Positive view of emergency medicine as a specialty • More efficient hospital workflow and improved interdepartmental relationships 	<ul style="list-style-type: none"> • Frustration with frequently changing protocols • Changes to schedules or rotation cancellation • Disruption in clinical workflow
Clinical Experience	<ul style="list-style-type: none"> • Increased knowledge and experience in the management respiratory pathology • Increased comfort with the implementation of infection control measures • Increase in time available on shift • Increased exposure to procedures and critical care for senior residents 	<ul style="list-style-type: none"> • Frustration with protocolized restrictions on which patients' providers could treat • Limited experiences for junior residents • Decreased patient volumes • Decreased clinical variety • Decreased clinical acuity • Decreased on-shift teaching opportunities • Concern for the impact of anchoring bias
Didactic Experience	<ul style="list-style-type: none"> • Experience with independent learning • Increased convenience or flexibility with virtual didactics • Inclusion of outside speakers with virtual didactics 	<ul style="list-style-type: none"> • Less engagement with virtual didactics • Negative effect of virtual didactics on interpersonal interactions with colleagues • Inability to travel to national conferences • Decreased education in core content due to increased focus on the management of COVID-19 • Decrease in simulation
Wellness	<ul style="list-style-type: none"> • Increased time for residents to do things they enjoy • Career affirmation • Increased camaraderie and resilience 	<ul style="list-style-type: none"> • Negative impact on mental health • Frustration and discomfort related to personal protective equipment • Concern for physical safety of self and close contacts

Poster Session Abstracts

- Negative impact on social interactions
- Anxiety regarding future career implications

Poster Session Abstracts

8. Wild Ortho Wednesdays: A Novel Online Curriculum for Multilevel Learners in Emergency Medicine

Tabitha Ford, MD; William Denq, MD; Megan Fix, MD

Background

Musculoskeletal complaints are common in emergency departments, but many emergency physicians feel dissatisfied with their orthopedic training. Studies have demonstrated that EM physicians, in addition to residents in other specialties and senior medical students, have inadequate knowledge of common musculoskeletal conditions.

Methods

We developed an online longitudinal orthopedics curriculum for EM providers utilizing case-based learning strategies to increase relevance for adult learners and promote learner inquiry. We created an electronic mailing list called Wild Ortho Wednesdays (WOW), a free online service distributing weekly peer-reviewed orthopedic cases. Each email consists of questions relevant to the ED recognition and management of a specific orthopedic disorder following a brief case presentation and image prompt. Answers are provided to the questions in a concise, high-yield format in the body of the email. A pilot group of EM attendings, fellows, and resident physicians at a single academic institution who subscribe to WOW were surveyed on utilization of the presented material and its impact on clinical practice.

Results

13 subscribers responded to the survey. They report that, on average, 79% of the weekly emails are opened and, of those, 89% of email content is reviewed. 62% of respondents have chosen to further research a particular topic after learning about it from WOW. All participants report that knowledge obtained from this service has impacted their clinical practice.

Discussion

While the implications of these results are limited by the small sample size of this pilot study, they suggest that WOW may be an effective tool to increase EM provider knowledge and independent investigation of clinically important musculoskeletal disorders. Further research is warranted regarding the objective effect of this curriculum on provider knowledge and retention of information.

IRB Determination: Deemed exempt by University of Utah IRB.

Poster Session Abstracts

9. The Applied Practice Experience: Bridging distance education and in-person learning

Kelsey Gleason, ScD; Heather Palow, Med

Background

As schools and programs move toward alternative approaches to active learning during the COVID-19 pandemic and beyond, innovative strategies are urgently needed to promote academic engagement. This work bridges distance education and in-person learning. The Applied Practice Experience (APE) is a required, 1-credit capstone course that encourages online Masters of Public Health (MPH) students to gain onsite, in-person, work experience. In their final semester, students identify a public health organization of their choosing to complete their APE culminating in two final products that showcase the knowledge and skills gained during their MPH and applied during their APE.

Methods

We analyzed feedback from 43 students who completed their APE during Spring 2020, at the height of the COVID-19 pandemic. The purpose of this work is to demonstrate a model for combining in-person and remote learning strategies by analyzing reflections and feedback using qualitative data methods to identify successes and opportunities for future learning.

Results

Overall, students appreciated the opportunity to engage in an on-site experience as part of their online MPH degree, citing the utility of “hands-on” experience with organizations as a networking tool and enjoyed connections with the APE instructors. Some students struggled with finding site placements; suggestions included creating a repository of willing host agencies. Students also struggled with understanding requirements and timelines within the 1 credit; suggestions included having more information prior to the start of the APE activities.

Discussion

The APE is a useful model for engaging students in an online environment. The ability of students to gain experience at a public health organization is valuable; the limitations and challenges are not insurmountable but do require thought and modifications for future iterations of the course. The model may be useful in other academic contexts, including medical education.

Poster Session Abstracts

10. Personality and perceptions of online courses among students who chose and students who were forced to online learning

Victoria Hart, PhD; Leigh Ann Holterman, PhD; Stephen Everse, PhD; Katheryn Huggett, PhD

Background

Online medical education may persist during the COVID-19 pandemic and years following. Literature suggests that student perceptions of online learning differ based on personality and motivation for online coursework (Keller, 2013; Rios, 2019). To assist faculty in the preparation of successful online curriculums, it is imperative to understand associations between personality and perceptions of online learning among medical students who might otherwise prefer in-person instruction compared to students who chose online coursework.

Methods

We surveyed the medical student class of 2022, who were forced to transition to online learning during the pandemic, medical student class of 2024, who expected some online learning due to the pandemic, and Master of Public Health (MPH) students, who chose a fully online program and serve as a comparison group. Participants responded to validated survey instruments regarding personality type (John, 1991, 2008) and perceptions of online learning (Keller, 2013).

Results

We received 116 responses (co2022: 33, co2024: 45, MPH: 38). Significant differences in perception of online courses were seen between all cohorts, with co2022 having the least favorable perceptions and MPH students having the most favorable (co2022: $\beta=-1.37$ $p<.01$; co2024: $\beta=-.81$, $p<.01$; MPH: *Ref*). Among MPH students, conscientiousness was positively correlated with engagement in ($R=.35$, $p=.03$) and perceived value from ($R=.37$, $p=.02$) online courses and negatively correlated with anxiety and frustration with online courses ($R=-.34$, $p=.03$). No personality and perception correlations were seen in co2022 or co2024.

Discussion

The varied findings between MPH and medical students indicate differences between students who chose online learning compared to those forced to transition. The lack of associations between personality and perceptions of online learning for medical students suggests other mechanisms affect their perceptions, but more research is needed. Recognizing areas in which medical students negatively perceive online learning may support efforts to enhance their learning experience while online education persists.

IRB Determination: This study was certified as exempt by the UVM IRB: CHRBSS (Behavioral) STUDY00001139.

Poster Session Abstracts

11. Use of an online Q&A forum to enhance learning and community in an asynchronous quantitative class

Victoria Hart, PhD; Carolyn Siccama, EdD; Thomas Delaney, PhD

Background

As online education becomes more prevalent due to the COVID-19 pandemic, developing meaningful online learning communities is critical for student engagement and retention (Martin 2017; Means 2017). Creating community in online quantitative classes poses a challenge due to the technical nature of the material. Promoting online discussions as a question and answer (Q&A) forum in quantitative classes may reap benefits from peer-to-peer learning as well as build community among asynchronous online learners.

Methods

We promoted a social-media style discussion tool, Yellowdig, as a Q&A forum among 33 students in an asynchronous online graduate epidemiology class. Students were encouraged to collaborate on problem sets but not permitted to collaborate on quizzes. We used linear regression to determine if the number of posts (asking a question) or comments (answering a question) in the Q&A forum was predictive of problem set or quiz grades, controlling for overall discussion participation and previous coursework in the public health program. We further monitored community engagement metrics within the discussion tool.

Results

In adjusted models, there was a significant positive association between answering questions in the Q&A forum and problem set grades ($\beta=0.73$, $p=.02$) but no significant associations with quiz grades. Community engagement metrics improved compared to the previous semester that did not promote a Q&A forum. The average number of comments per discussion post increased by 52% (2.71 vs 5.65, $p<.001$) and average number of connections per student increased by 22% (35.5 vs 45.6, $p<.001$).

Discussion

In this case study of an asynchronous online quantitative course, the use of a Q&A forum may have conferred some learning benefit to students on assignments that allowed collaboration, although replication in other quantitative courses is needed. Community engagement metrics suggest a more connected online learning community; however, subsequent investigation should also consider qualitative assessment of student perceptions of the Q&A forum.

IRB Determination: IRB pending

Disclosures: Dr. Hart is on the Academic Advisory Board for Yellowdig (not compensated).

Poster Session Abstracts

12. Virtual Peer Teaching in Medical School Anatomy Education

Abigail Hielscher, PhD

Background

Peer teaching is a powerful educational tool utilized in medical school curricula. One place in which the first-year medical students at the Larner College of Medicine engaged in peer teaching was in the anatomy lab. Here, half of the class of students who had performed a particular dissection would teach these structures to the other half of the class who did not perform the dissection. While this strategy enabled direct peer-to-peer teaching and provided an opportunity for students to learn from one another, there were several observed unintended outcomes. For example, students frequently did not show up on time and were not always engaged in the exercise. Additionally, the lab was crowded and noisy making learning more challenging.

Methods

In light of these observations along with the need to limit student numbers in the lab as a result of COVID-19, I prepared a strategy in which students could conduct their anatomy peer teaching in a virtual environment. Here, students, working in groups of 4 members, were tasked with the following:

1. Find and label 4-5 assigned structures on provided cadaver-based images
2. Utilize knowledge of anatomical relationships to discuss the rationale for labeling
3. Discuss something relevant about the structure (e.g. muscle action)
4. Prepare a 5-minute video presentation of steps 1-3 and upload to Microsoft Teams
5. Review and provide feedback to another group's video

Results

The goal of the project is to establish a more effective and efficient means for students to teach and learn from one another. While the virtual peer teaching is new and ongoing, preliminary feedback from students indicates that students value the exercise but find the video editing to be cumbersome.

Discussion

In the future, it will be important to educate students on the use of the technology to edit their video presentations.

Poster Session Abstracts

13. Social Determinants of Health Rounds for Obstetrics and Gynecology Clerkship

Sidney Hilker; Jessica Chung, MD; Erin Morris, MD

Background

Social determinants of health (SDH) are responsible for half of illnesses and play large role in patient wellbeing and in the health of communities. Implementing education about SDH into the medical school curriculum enables future physicians to be aware of social determinants and consider ways to improve the health system that they work within. There is limited integration of this coursework into clinical clerkships, including OB/GYN. The OB/GYN clinical clerkship presents a unique opportunity for students to see healthcare from several different perspectives, including the outpatient clinics, labor and delivery floors, inpatient wards, and operating rooms.

Methods

At the University of Vermont Larner College of Medicine, we implemented SDH Rounds in the OB/GYN clinical clerkship to challenge medical students to identify the effects of SDH independently and apply this knowledge to patient care. In SDH Rounds, clerkship students come together via Zoom to present cases from their OB/GYN clinical experiences that demonstrate scenarios related to social determinants of health. After the rotation, students are asked to rate the importance of identifying social determinants as well as how effectively the activity helped them identify patients with social risk factors and think about potential solutions to social barriers to care using a five-point Likert scale.

Results

Preliminary data (N=30) suggest that all participating students agree or strongly agree that SDH curriculum is important. Ninety-three percent of respondents felt the rounds helped them identify patients with risk factors and potential system-level solutions. More than 90% of respondents felt the activity added to their learning during the OB/GYN rotation. We plan to continue to measure the student experience for the duration of the academic year.

IRB Determination: This project did not require IRB approval and has been accepted for an interactive presentation at the Annual APGO/CREOG Conference in March 2020. The authors have no disclosures.

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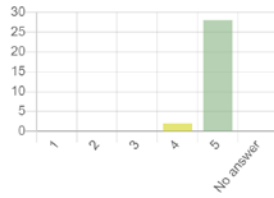
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Poster Session Abstracts

Preliminary Figures

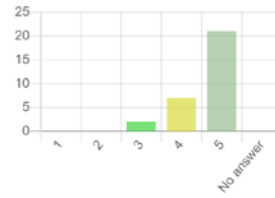
I feel it is important to recognize and address the social determinants of health as part of whole patient care.

Arithmetic mean 4.93 Standard deviation 0.25



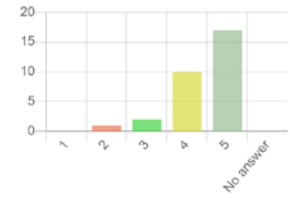
The Social Determinants of Health exercise allowed me to identify social determinants of health.

Arithmetic mean 4.63 Standard deviation 0.61



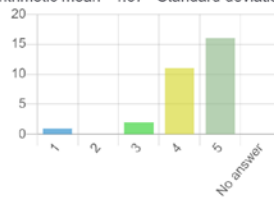
The Social Determinants of Health exercise helped me to identify patients with social risk factors.

Arithmetic mean 4.43 Standard deviation 0.77



The Social Determinants of Health exercise helped me to apply SDH knowledge to think about potential solutions to barriers.

Arithmetic mean 4.37 Standard deviation 0.89



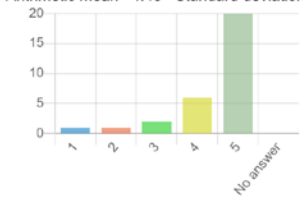
The Social Determinants of Health activity and discussion was a positive addition to the learning experience of the Ob/Gyn clerkship.

Arithmetic mean 4.53 Standard deviation 0.68



I would recommend this activity remain in the Clerkship curriculum moving forward.

Arithmetic mean 4.43 Standard deviation 1.01



Poster Session Abstracts

14. A Discussion-Based Learning Session to Clarify Values Around Abortion

Van Hoang; Sidika Kajtezovic; Leigh Ann Holterman, PhD; Lee Rosen, PhD

Background

Abortion is a common medical procedure, yet exposure to abortion education during medical school is scarce at both the pre-clinical and clinical level. Thus, it is imperative for medical schools to develop tools to educate students about this impactful procedure.

Methods

A 90-minute small-group session was developed and implemented in the Professionalism, Communication, and Reflection course for first-year medical students at the Larner College of Medicine. Session materials included a pre-session questionnaire, an abortion fact sheet (with data from the CDC, JAMA, and the New England Journal of Medicine), an article representing a “pro-life” stance, and a personal essay written by a medical student who had undergone an abortion.

The session structure included 30 minutes to discuss the readings and survey results; 45 minutes to discuss how to handle referring patients for an abortion using different clinical scenarios, patient stories and pregnancy lengths; and 15 minutes to debrief. Afterward, students completed a six-item Likert-type questionnaire gauging reactions to the workshop, engagement, and reflection on the topic.

Results

Post-session questionnaire data from two first-year classes (n=72, n=80) were reviewed. The majority of respondents reported “Agree” or “Strongly Agree” when asked if the session prompted discussions they would not have had elsewhere (87.5% Class A, 77.5% Class B) and if they learned something new about the topic (94.4% Class A, 81.25% Class B). More than 60% of respondents found the session helpful in clarifying their own attitudes and valuable to listen to those of their peers.

Discussion

Our study suggests that students responded positively to the session. Therefore, this format is an appropriate method to deliver objective information regarding abortion as well as to stimulate thoughtful discussion about the procedure and individual values surrounding it.

Disclosure: No disclosures necessary from any listed authors. Previous submission and acceptance to the 2021 APGO Conference as a round table discussion.

Poster Session Abstracts

15. Active learning in the clinical years: Improving pediatric ECG competency through a novel PACE (Pediatrics ACtive Learning Electrocardiography) Module

Jennifer E. Holland; James K. Rohwer, MD; Julia M. O'Connor; William E. Hopkins MD; Jonathan N. Flyer MD

Background

Active learning (AL) improves academic performance in the sciences and is the primary preclinical pedagogy at the Larner College of Medicine (LCOM) (1,2). However, few studies have assessed the feasibility and efficacy of AL for clinical-level medical students (3,4). Web-based AL interventions to improve cardiology clinical competencies are limited yet offer promise for asynchronous learning (3). We are evaluating an innovative delivery of AL for teaching pediatric electrocardiogram (ECG) clinical competency. Our team developed the web-based **P**ediatric **A**Ctive Learning **E**lectrocardiography (PACE) module for fourth-year medical students enrolled in the LCOM pediatric cardiology elective. The study aims to 1) evaluate change in student ECG competency after PACE module interaction and 2) assess learner satisfaction.

Methods

Eligible participants include medical students and residents enrolled in pediatric cardiology (August 2020 - July 2021). Students are invited to use the web-based PACE module (educational intervention) for two weeks while residents receive standard ECG textbook reading (educational control). Pediatric ECG competency is evaluated by online test (25 questions) administered at baseline, two weeks, and ten weeks (Figure 1). Learner demographics, qualitative experience, and module feedback are self-reported. Immediate ECG competency and sustained retention will be tested by repeated-measures ANOVA; Wilcoxon rank-sum tests will assess user satisfaction.

Results

Preliminary results are limited (students, n=3; residents, n=2) but demonstrate module completion by fourth-year medical students during clinical elective time (1-4hrs). Students positively review the PACE module, consistently would recommend it to peers, and report case examples with interactive, real-time feedback as module strengths.

Discussion

The PACE module offers an accessible online and asynchronous AL experience during a pediatric cardiology elective and will help evaluate student ECG competency. Given current educational disruptions and increasing demands for remote learning, study findings may offer insights about broader integration of web-based AL into clinical training.

IRB Determination: This study was deemed exempt (Category 2, Surveys and Interviews) by the UVM IRB.

Figure 1. PACE Module Study Design

Poster Session Abstracts

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Fourth-Year Medical Students

Baseline (T₀)
Survey & ECG Pre-test
PACE Module

**Immediate ECG
Competency**
(T₀ + 2 weeks)
Survey & ECG Post-test 1

Sustained Retention
(T₀ + 10 weeks)
ECG Post-test 2

Pediatric Residents

Baseline (T₀)
Survey & ECG Pre-test
ECG textbook reading

**Immediate ECG
Competency**
(T₀ + 2 weeks)
Survey & ECG Post-test 1

Sustained Retention
(T₀ + 10 weeks)
ECG Post-test 2
*PACE module available
after test*

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Poster Session Abstracts

16. Global Health Teaching Elective: Creating a Reading Course for Senior Students Focused on Five Major International Health Themes

Amanda Kardys; Christina Dawson; Katrina Thornburgh; Audree Frey; Mariah McNamara, MD, MPH; Ben Clements, MD

Background

During the COVID-19 pandemic traditional global health trips have been suspended, leaving a gap for students wishing to receive exposure to global health during medical school.

As senior student teaching assistants (TAs), three students created a two-week reading course for fourth year medical students at The Larner College of Medicine (LCOM) on five major themes of global health:

1. Global burden of disease
2. Global health organizations
3. Ethics and impact of international aid
4. Access, health literacy and cultural context
5. Climate change

Of note, international health partners play an integral part in teaching these themes. In week one, enrolled students receive a preset reading list for one topic per day, video talks from global partners teaching on these themes, and a supplemental reading list. They then produce a one-page reflective essay per day on what they discovered about each theme. In week two, students apply what they learned about each theme to a specific area of global health such as women's health, mental health, or chronic diseases in global health. This application culminates in a 15-20-minute virtual presentation to other elective students and available global health partners.

Methods

The three TAs met with their advisor virtually to discuss topics and create the structure of the course. They spent time reviewing articles, podcasts, YouTube videos, and multimedia interactive websites to curate a succinct and informational required reading list. Global health partner input on these themes was elicited to diversify the viewpoints on these topics.

Results

A two-week reading course was produced and is currently under review for addition to the fourth year LCOM curriculum.

Discussion

In this uncertain time, creating a virtual link to global health, enhanced by instruction from international partners, can prove vital for creating a foundation for future physicians' global health careers.

Poster Session Abstracts

17. Virtual Academic Detailing with Vermont Prescribers: A COVID-19 Inspired Educational Innovation

Amanda G. Kennedy, PharmD, BCPS; Rich Pinckney, MD, MPH; Charles D. MacLean, MD; Gary Starecheski, RPh; Marci Wood, PharmD; Laurie McLean; Elizabeth Cote

Background

The Vermont Academic Detailing (AD) Program was established in 1999. Traditionally, this outreach program provides in-person, evidence-based education to primary care prescribers by trained physicians and pharmacists. AD is used to support continuing education of primary care prescribers throughout Vermont. There are little data supporting a model of virtual AD.

Method

In May 2020, AD transitioned to a virtual format, due to the COVID-19 pandemic and physical distancing policies. Virtual AD sessions used Zoom software and were between 30-60 minutes long. Participants were asked to complete an online evaluation survey following the session. Evaluation data from May to October 2020 were compared to survey data for in-person sessions from May to October 2019, with a hypothesis of non-inferiority between virtual and in-person formats using Fisher's exact tests.

Results

Ninety-eight one-to-one or small group virtual AD sessions were completed with 265 prescribers in the 2020 timeframe. A total of 274 prescribers participated in sessions during the 2019 timeframe. Eighty-eight prescribers (33%) completed a post-session survey in 2020 and 233 prescribers (85%) completed a survey in 2019. The survey responses of the prescribers strongly support the virtual AD model. Ninety-nine percent of prescribers (86/87) indicated a willingness to attend future sessions. One hundred percent of prescribers (88/88) felt the program was free of commercial bias. Ninety percent of prescribers (74/82) in 2020 and 91% of prescribers (178/195) in 2019 indicated that the presentation will impact their prescribing behavior ($P=0.8$). Ninety-nine percent of prescribers in both 2020 (87/88) and in 2019 (214/217) indicated the presentation will impact their patient care ($P=1.0$).

Discussion

Virtual delivery of AD to prescribers statewide is feasible and results in similar levels of self-reported satisfaction and behavior change intentions as the traditional in-person program.

IRB Determination: N/A

Poster Session Abstracts

18. Experience with converting Continuing Medical and Interprofessional Education conferences to virtual events during the Pandemic: implication for the future

John G. King, MD, MPH; Terry Caron, MEd; Kate Martin; Mary Gagne; Martha Allen; Sandra Gauthier; Michele Morin; Karen Whitcomb; Kristina Perry

Background

The COVID-19 pandemic prevented in-person events due to public health risk. Many CMIE events were cancelled and others were converted to video-conference events. From October 2020 through March 2021 a total of 10 conferences with 103 hours of combined CMIE were done virtually in multiple disciplines. Women's Health and Cancer, Family Medicine Review Course, Wilderness Medicine Review Course, Neurology for the Non Neurologist, Northern New England Neurology Conference, Osteoporosis Update for Primary Care, UVM Cardiovascular/Vascular Forum, Emergency Medicine Update and Winter Dermatology Conference and Vermont Perspectives in Anesthesia.

Methods

Conference directors used prerecorded or live sessions on the Zoom platform to offer conferences virtually. Where data was available, we compared attendance, corporate sponsorships, and evaluations to previous year in-person events.

Results

We will have results available at the time of presentation in January for 7 conferences. The main graphic will show before and after virtual event attendance, number of corporate sponsors, and a summary of evaluations and qualitative comments.

Discussion

Virtual CMIE events can be well attended and provide valuable education. Corporate sponsors in some cases were equally interested in virtual events.

IRB Determination: Exempt status determination.

Disclosures: We lead the University of Vermont Larner College of Medicine Continuing Medical and Interprofessional Education Programs.

Poster Session Abstracts

19. Infographics as a Means to Integrate Social Determinants of Health Principles into the Pre-clinical Medical Curriculum

Krisandra Kneer, MPH; Karen Lounsbury, PhD

Background

We envision a healthcare system that promotes prevention of illness rather than purely relying on treating and curing disease. It is therefore imperative that future physicians are trained to identify and address the social factors that impact health. Despite the clear need for teaching the social determinants of health in pre-clinical medical education, integrating these principles into the curriculum continues to be a challenge. The University of Vermont's Larner College of Medicine has recently incorporated a "Social Medicine Theme of the Week" to acknowledge the specific ways social and economic factors influence health outcomes and contribute to persistent disparities within the health care system. The aim of this project was to present these themes through online infographics to provide students with a resource to acquire foundational knowledge specific to social medicine topics.

Methods

To create content that was both engaging and accessible, we utilized the infographic generator website Venngage. Each infographic integrated a social medicine theme that pertained to the basic science content taught that week. The body of the infographic included a summary of the topic along with visually enhanced representations of data (e.g., timelines, charts, statistics). In addition, embedded hyperlinks directed students to multimedia resources including podcasts, TED talks, documentaries, and recently published articles. Infographics were delivered to students as an independent learning session within their curriculum calendar.

Discussion

Advantages of this format include the ease in accessibility and the ability cover a wide range of topics in an easily digestible manner. Because these topics evolve rapidly, this approach allows materials to be continually updated to reflect the most recent literature. This meaningful approach to teaching the social determinants of health is an important step towards inspiring the next generation of physicians to address inequities and actively work towards social change.

Poster Session Abstracts

20. Development of Learning Modules to Improve the Informed Consent Process

Autumn Sacklow, MD; Alison Johnson, MD; Sarah Kelso, MD; Cate Nicholas, EdD

Background

Informed consent is defined as the “process of communication between a patient and physician that results in the patient’s authorization or agreement to undergo a specific medical intervention.” Even though the informed consent process is of critical importance to the execution of safe, patient centered health care, the process is frequently insufficient leaving patients and physicians at odds. Prior research has demonstrated that patient comprehension of the key elements of informed consent is often poor.

Methods

Given this information and the recent experience with the informed consent process at the University of Vermont Medical Center the current project was designed. In order to seek to improve the informed consent process at the UVMMC, a literature review was performed and the current UVMMC policies and practices were reviewed. With this information simulation-based cases of the most common procedures performed were developed. Simulated patient informed consent interactions were then recorded and embedded in a PowerPoint to create learning modules. One of these modules directly addressed the informed consent process with the Deafblind population. Checklists were developed as part of the mastery learning process.

Discussion

The goal is to disseminate these learning modules to physicians partaking in the informed consent process and evaluate outcomes following the intervention. The implications of this project are impactful on the delivery of patient centered healthcare as well as the implementation of an educational intervention.

IRB Determination: Given that this is a quality improvement project, IRB review was not required to complete this project.

Disclosures: This work has not previously been disseminated in any form and we have nothing to disclose.

Poster Session Abstracts

21. Active Learning for Budding Entrepreneurs: Lessons Learned from Going Virtual in 2020

Tina Thornton, PhD; Erik Monsen, PhD; Alison Howe, PhD; Mercedes Rincon, PhD; Charles Irvin, PhD

Background

Biomedical entrepreneurship is key to translating investments in medical research into innovations in therapeutics, diagnostics, and devices. However, it is often difficult for scientists to make the pivot to commercialization as this requires a new set of skills such as understanding the healthcare market, navigating regulatory requirements, business plan development, protection of intellectual property and the like. A paucity of training opportunities in the skills needed for commercialization exists in the traditional biomedical research curriculum. This is even more evident in the Institutional Development Award (IDeA) program-eligible states.

Methods

To address these needs we established the IDeA-Entrepreneurship (I-Trep) training program (funded by an Innovative Program to Enhance Research Training NIH R25 mechanism). The overall goal for I-Trep is to promote entrepreneurship in biomedical research and to facilitate the transition of innovative ideas and discoveries from bench to bedside and into the marketplace.

Results

A key part of our program is an intensive summer bootcamp in biomedical entrepreneurship designed for learners with a wide range of experience with the commercialization process—from neophytes to experienced entrepreneurs with established start-up companies. Retrospective survey analysis after three years of running the course revealed that participants found the course valuable and useful to their careers. This year due to the pandemic, we delivered the course virtually and learned that using lectures for introduction to the material did not work well and indeed impeded the establishment of team-based learning that is integral to the in-person course.

Discussion

Using feedback from the participants, we describe a strategy to convert our bootcamp into an entirely active learning-based curriculum for improved virtual delivery. We posit that innovative, active learning training opportunities that close this skills gap will speed the conversion of biomedical inventions into products that benefit patients.

Poster Session Abstracts

22. "MS4 Report": A Student-led and Remote Model for Case-Based Learning in Preparation for Residency

Matthew Tsai, BS; Dylan Koundakjian, BS; Emily Greenberger, MD

Background

The arrival of COVID-19 within the U.S. prompted unprecedented changes in medical education. Students required new outlets to practice advanced clinical reasoning skills outside of traditional clinical settings. While students are frequent attendees at resident case conferences, there are few known initiatives teaching students to design and present case conferences themselves.

Methods

In "MS4 Report," fourth-year medical students volunteered to virtually present real clinical cases to a group of their peers and to guide the clinical discussion. One General Internal Medicine faculty member mentored each student beforehand to ensure effectiveness of delivery and teaching points. Two medical student leaders coordinated student sign-ups and provided technical support. One invited faculty discussant per case provided expert input and clinical pearls throughout the presentation. Educational quality was measured by feedback survey upon series completion using a standard 1-5 Likert scale.

The series included seven presentations from April to May 2020, delivered with Microsoft PowerPoint on the virtual platform Zoom. Session topics included differential for dyspnea, anemia workup, emergency medicine decision-making, neonatal resuscitation, and a morbidity and mortality discussion. Attendance ranged from 2 to 11 attendees (mean 6.57), excluding student coordinators and presenters.

Results

Our results show that the MS4 Report model may improve students' abilities to prepare and deliver a case conference presentation with faculty mentorship. Attendees collectively indicated increased comfort with forming a broad differential diagnosis, developing assessments and plans, increased engagement in their medical education, and increased comfort with contributing to a case discussion.

Discussion

Limitations include small sample size, short duration of study, and selection bias, considering participation was voluntary. Additional research may clarify the role similar programs could play in a post-COVID curriculum.

IRB Determination: IRB exemption was obtained.

Disclosure: This work has been accepted for publication in Medical Science Educator and for poster presentation at the SGIM Mountain West/New England Regional Meeting.

Table 1: MS4 Report Quality Survey Results (n=9 attendees^a, 4 presenters).

Quality Measure	Average agreement on a standard 1-5 Likert Scale, 5 indicating strongly agree (Standard Deviation)
Increased comfort with forming a broad differential	4.2 (0.44)
Feel more engagement in medical education	4.4 (0.53)
Increased comfort contributing to a case discussion	4.3 (0.71)
Preference for the student-led format of MS4 Report over the resident-led format of other conferences	3.8 (0.83)
Interest in participating in a similar activity in student's intended specialty of practice	4.7 (0.5)
Enough variety among MS4 Report cases	4.3 (0.71)
ZOOM as an effective delivery platform	4.6 (0.53)
Presenters Only	
Increased confidence in ability to prepare a case presentation	4.5 (0.58)
Increased confidence in ability to lead a case-based discussion	4.5 (0.58)
Increased comfort with clinical content presented	4.0 (0.82)

Student administrators are excluded from the number of attendees and presenters reported above.

^aAverage number of MS4 reports attended 4.1 (2.3).

This table appears in our manuscript accepted for publication [1].

References

Tsai M, Koundakjian D, Greenberger E. "MS4 Report": A Student-led and Remote Model for Case-Based Learning In Preparation for Residency. Accepted for publication in Medical Science Educator October 2020.

23. Development of the Partnering Guide to Educate Clinicians in PCOR/CER

Constance van Eeghen, DrPH; Georgia Brown, MLA; CR Macchi, PhD; Paula Reynolds, MEd; Doug Pomeroy; Kari Stephens, PhD; Jen Lavoie

Background

Research studies increasingly respond to a broad range of stakeholders interested in generalizable as well as rigorously evaluated outcomes, focused on what is effective in the field. Methods to conduct patient-centered outcomes (PCOR) and comparative effectiveness research (CER) may include new partners on the research team: patients, clinicians, and other stakeholders. PCOR stakeholder-engaged research brings members of the target community directly into the team to be equal, collaborative members in planning, designing, implementing, and disseminating the research. A current UVM PCOR/CER study on Integrating Behavioral Health and Primary Care (IBH-PC) asked its stakeholders – patients, clinicians, payers, and policy makers – to develop a guide for patient partner engagement as a part of its intervention. Adapt the IBH-PC study intervention guide for future clinical researchers: establish a generalizable method of educating clinical researchers on building stakeholder engagement capacity in PCOR and CER.

Methods

We used a team-based, iterative, and adaptive process based on tools in the IBH-PC guide. We collaborated with new stakeholders in co-creating a tested protocol of activities that effectively foster reciprocal relationships between researchers and stakeholders in team based PCOR and CER. This development process took place entirely on a web-based and virtual learning forum supporting synchronous and asynchronous communication. Primary care patients, family members, healthcare team members, and researchers from the multiple chronic conditions (MCC) community as well as other stakeholders from the IBH-PC study, other patient-based forums, and doctoral students studying integrated behavioral health. Total number of participants expected is 65 out of a pool of over 3,000 by February 2021.

Results

An initial version of The Partnering Guide for PCOR and the tools for capacity building, including self-assessment of needs, tested engagement activities, and the web-based platform. Earlier presentation at NAPCRG November 2020.

Outcomes to be reported: Funded by PCORI.

24. The Impact of a Preclinical Medical student Mentored Summer Research Experience in Cardiovascular Disease on Scholarship and Career Trajectory: A Six-Year Report

Kramer Wahlberg, MD; Amreen Mughal, PhD; Zhaolin Li, MS; Mary Cushman, MD, MSc; Jonathan Flyer, MD

Background

Developing a sustainable and efficient training infrastructure for future cardiovascular clinician-scientists is an academic priority. Despite the increase of medical student research participation, national data from the American Association of Medical Colleges Graduation Questionnaire (GQ) suggest research career interests diminish by graduation.

Methods

We studied the impact of a mentored cardiovascular summer research fellowship (SRF) on medical student scholarship and career planning. This is a six-year study of a competitive summer research fellowship (SRF) implemented by the Cardiovascular Research Institute of Vermont (CVRI-VT) at the University of Vermont Larner College of Medicine (LCOM). SRF awardees were selected during first year of medical school by a merit-based application process. They completed mentored research between the first and second years. All (23) awardees of the CVRI-VT SRF (2015-2020) were surveyed in 2020 to ascertain current position, research engagement, and perspectives regarding their SRF experience. Comparisons to national GQ data from equivalent years were made using chi-squared tests.

Results

The survey response rate was 87% (20/23); 25% had graduated, 55% were women. Nearly half (47%) had published a peer-reviewed abstract or manuscript, similar to the national rate for medical students at time of graduation. Most (80%) respondents were involved in other research projects and nearly all anticipated a career involving research (90% v 53% nationally, $p < 0.001$), with the majority (75%) planning to pursue a career in cardiovascular medicine. Participants identified several valuable SRF components including mentorship (80%), stipend for research expenses (75%), and protected time (65%).

Discussion

LCOM students completing a cardiovascular SRF after their first year published at the national average compared to overall graduates, and anticipated careers including research. Larger, and longer-term study of the SRF impact on scholarship and academic appointments in cardiovascular science is needed.

IRB Determination: According to the policy defining activities that constitute research at UVM, this work met criteria for operational improvement activities exempt from ethics review.

Disclosure: A similar abstract is being drafted for submission to the American College of Cardiology 2021 Scientific Sessions. The authors have no disclosures to report.

25. Updating Pediatrics Morning Report: Increasing Educational Quality and Satisfaction among Residents and Faculty

Anna Zuckerman, MD; Keith Robinson, MD; Sarah Twichell, MD; Molly Moore, MD; Nicholas Bonenfant, MD; Katharine Runte, MD; Sarah Couser, MD; Lewis First, MD; Jonathan N. Flyer, MD

Background

Morning report (MR) is a case-based conference commonly used in resident education. Recent studies highlight participant dissatisfaction with conference educational value, but data are lacking on means for improvement. This quality improvement (QI) project aimed to increase pediatric MR quality and participant satisfaction. Pediatric residents and faculty utilized adult learning theory and a key driver diagram (Figure1) to standardize the MR educational process (intervention). The intervention included a five-element checklist (conference objectives, American Board of Pediatrics content alignment, evidence-based literature, review question, take-home points) and formalized resident-faculty mentorship.

Methods

Residents and faculty in the UVM Department of Pediatrics were surveyed regarding MR quality and satisfaction at baseline and six months following intervention; responses were analyzed using mixed effects logistic regression. Adherence to checklist elements was measured via feedback forms and tracked using a QI run chart.

Results

Resident survey response rates were 90% (18/20) at baseline and post-intervention. Faculty survey response rates were 55% (42/77) at baseline and 44% (34/77) post-intervention. Seventeen MR conferences occurred during the study (January-June 2020). Residents reporting high quality MR increased from 50% to 72% ($p=0.2$), and faculty from 29% to 85% ($p<0.001$). Resident and faculty satisfaction with MR content increased from 50% to 89% ($p=0.03$) and 25% to 67% ($p<0.001$), respectively. Resident satisfaction with faculty feedback increased from 11% to 56% ($p=0.02$). Included checklist elements increased from 36% to 91% during the study. Intervention utilization has continued since June 2020, with 16 presentations and 86% checklist adherence (Figure2).

Discussion

Standardizing the MR educational process improved pediatric MR quality and satisfaction for residents and faculty. Ongoing QI science will be used to refine the MR process, focusing on feedback satisfaction and program sustainability. Future studies are needed to evaluate effects of standardized pediatric MR on resident teaching skills and educational outcomes.

IRB Determination: This study has been determined exempt from IRB review under the Educational Settings category by the University of Vermont Institutional Review Board.

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