TEACHING PORTFOLIO

April 2023

Jessica DeBord, MD/MPH
Deming Department of Medicine
Department of Pediatrics
Tulane University School of Medicine
New Orleans, Louisiana

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PERSONAL INFORMATION

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Languages: English (native), Spanish (advanced)

EDUCATION AND TRAINING

7/2011 – 6/2012 **Chief Resident**, Department of Pediatrics
Tulane University School of Medicine
New Orleans, Louisiana

7/2007 – 6/2011 **Resident**, Internal Medicine/Pediatrics
Tulane University School of Medicine
New Orleans, Louisiana

8/2003 – 6/2007 **Tulane University School of Medicine**
New Orleans, Louisiana
Medical Doctor*

8/2003 – 6/2007 **Tulane School of Public Health and Tropical Medicine, Department of International Health**
New Orleans, Louisiana
Master of Public Health*

**joint MD/MPH four-year degree*

8/1998 – 5/2002 **University of Colorado**
Boulder, Colorado
Bachelor of Arts: Environmental, Population and Organismic Biology; Spanish Literature

BOARD CERTIFICATION

8/2011 Board Certified, American Board of Internal Medicine, ID #310325
1/2017 Re-certified, Focused Practice in Hospital Medicine

10/2011 Board Certified, American Board of Pediatrics, ID #681642

MEDICAL LICENSURE

Louisiana State Board of Medical Examiners: License #MD.202212

ACADEMIC APPOINTMENTS

7/2012 – Present **Assistant Professor of Internal Medicine and Pediatrics**
Tulane University School of Medicine
New Orleans, Louisiana

1/2019 – Present **Clinical Instructor of Pediatrics**
Louisiana State University School of Medicine
New Orleans, Louisiana

PROFESSIONAL AND SOCIETY MEMBERSHIPS

2/2021 – Present **Member,** Med-Peds Program Director's Association

7/2014 – Present **Member,** Association of Program Directors in Internal Medicine

7/2011 – Present **Member,** Association of Pediatric Program Directors

7/2007 – Present **Member,** American Academy of Pediatrics
Positions held: **Co-Chair**, section of hospital medicine, subcommittee on Med-Peds

HONORS AND AWARDS

4/2023 **Friend of Pro Bono Award:** on behalf of the Tulane Medicolegal Partnership
Louisiana State Bar Association

6/2021 **Department of Pediatrics Education Award:** in recognition of outstanding contributions to education
Tulane School of Medicine

Teaching

FORMAL EDUCATIONAL LEADERSHIP ROLES

2/2021 – Present **Director,** Combined Internal Medicine-Pediatrics Residency
Tulane SOM, New Orleans, Louisiana
Responsibilities include oversight of 24 internal medicine-pediatrics residents, program evaluation committee, clinical competency committee, certification exam preparation curriculum, and other residency curricula; working closely with leadership of categorical residency programs and school leadership; ensuring program is in substantial compliance with ACGME regulations

6/2017 – 2/2023 **Director**, Foundations in Medicine course
Tulane SOM, New Orleans, Louisiana
Director of introduction to clinical medicine course for all first- and second-year medical students; responsibilities include curriculum development and supervision, teaching

- Development and implementation of curricula in health systems science (including health care reform, value in medical care and quality improvement), evidence-based medicine (EBM), medical decision making & cognitive bias, and social determinants of health
- Adapted entire clinical skills curriculum to virtual format in response to COVID-19 pandemic
- Revamped scheduling of course material to occur in blocks between basic science modules

6/2017 – Present **Director**, Introduction to Clinical Teaching elective
Tulane SOM, New Orleans, Louisiana

Director of teaching elective for fourth year medical students; provide instruction in teaching skills to senior students that in turn lead small group sessions with pre-clinical students

8/2017 – Present **Faculty Advisor, Social Contexts in Medicine elective**
Tulane SOM, New Orleans, LA
Formed partnerships with schools of Social Work and Law in order to provide multidisciplinary team-based care for participating community members, integrated program within TLC framework

7/2015 – Present **Tulane Learning Communities (TLC),** Community Director
Tulane SOM, New Orleans, LA
Oversight of one Tulane Learning Community, strategic planning with community director and leadership team, integration of Foundations in Medicine course and Social Contexts of Medicine elective into TLC structure and function

7/2012 – 2/2021 **Associate Director for Curriculum & Assessment**, Tulane-Ochsner Pediatrics Residency Program
Tulane SOM, New Orleans, Louisiana
Responsibilities included supervision and coordination of 360° feedback (developed system of real-time, competency-based assessment using Entrustable Professional Activities as framework), and structured educational content (development and supervision of Weekly Academic half-Day [WILD] curriculum); coordinated Faculty Development Grand Rounds summer series

CURRICULUM DEVELOPMENT

2/2021 – Present **Director,** Combined Internal Medicine-Pediatrics Residency
Tulane SOM, New Orleans, Louisiana
- Recently awarded HRSA grant ($2.5 million over 5 years) to develop and implement curriculum in mental and behavioral health for primary care residents

6/2017 – 2/2023 **Director**, Foundations in Medicine course
Tulane SOM, New Orleans, Louisiana
Curricula developed and implemented: Intro to Wellness & Resiliency, Professionalism workshop (part 1 & 2), Quality Improvement workshop, Social Determinants of Health Interprofessional workshop with school of SW, Value in Diagnostic Testing workshop, Medical Decision Making workshop, Healthcare systems financing & reform workshop, Cultural humility & implicit bias workshop, Medical Interpreter Standardized Patient session & small group discussion, Abdominal exam session with Standardized Patients & simulators, Anti-racism media club, Professionalism media club, LGTBQ panel, Evidence-Based Medicine longitudinal curriculum (14 independent study modules and 10 live exam reviews)

7/2012 – 2/2021 **Associate Director for Curriculum & Assessment**, Tulane-Ochsner Pediatrics Residency Program
Tulane SOM, New Orleans, Louisiana
Curricula developed and implemented: Weekly Interactive Learning half-Day (WILD) – 2 year curriculum covering American Board of Pediatrics content specifications in interactive, case-based format for pediatric residents

TEACHING SKILLS DEVELOPMENT

3/2023 – Present **REACH Training Program: Patient Centered Mental Health in Pediatric Primary Care (PPP)**
Participating in 3-day interactive course focused on building skills in diagnosing and treating pediatric behavioral health problems and a six-month, case-based distance-learning program

7/2016 – **APPD LEAD Program**

4/2017 Selected for competitive one-year national faculty development program in pediatric educational leadership and scholarship

10/2014 **Academic Hospitalist Academy**
Englewood, Colorado
Attended academy aimed at improving skills in teaching, quality improvement and leadership

11/2013 – 12/2014 **Tulane Medical Education Scholars** program successfully completed
Tulane SOM, New Orleans, LA

TEACHING EXPERIENCE

10/2017 – Present **Lecturer,** Physiology course
Tulane SOM, New Orleans, LA
Presentation of "Heart Sounds" clinical correlation lecture annually for first year med student physiology course

7/2014 – 6/2017 **Preceptor**, Medical student pediatrics small groups
Tulane SOM, New Orleans, LA
Facilitate small group discussions of important topics in pediatrics for third year medical students on their Pediatrics rotation

10/2011 – 6/2017 **Preceptor**, Med/Peds Resident Continuity Clinic
Tulane SOM, New Orleans, LA
Supervision and teaching of the Internal Medicine/Pediatrics residents as they provide outpatient primary care services one afternoon weekly
Daily teaching rounds with medical students and residents while on service, participation in intern and resident afternoon report

7/2011 – 6/2012 **Chief Resident,** Department of Pediatrics
Tulane SOM, New Orleans, LA
Teaching responsibilities include development and implementation of weekly case-based curriculum for residents ("Weekly Interactive Learning half-Day [WILD]"), leading daily resident report, Med/Peds clinic preceptor and Pediatrics wards attending service

Service

COMMITTEE MEMBERSHIPS AND LEADERSHIP POSITIONS

NATIONAL:

7/2019 – 7/2022 **Co-chair,** Subcommittee on Med-Peds
American Academy of Pediatrics, Section of Hospital Medicine

3/2017 – 3/2018 **Vision 2020 Leadership & Collaboration strategic planning committee**
Association of Pediatric Program Directors

INSTITUTIONAL AND LOCAL:

3/2022 – Present **Graduate Medical Education Committee, Subcommittee on Professionalism**
Tulane SOM, New Orleans, LA

8/2018 – Present **Director, Introduction to Medical Education elective**
Tulane SOM, New Orleans, LA

1/2018 – Present **Faculty Advisor, Student Run Clinics elective**
Tulane SOM, New Orleans, LA

3/2018 – Present **General Internal Medicine Educational Council**
Tulane SOM, New Orleans, LA
Tasked with developing expectations and a means for valuing educational contributions of department faculty

8/2017 – Present **Faculty Advisor, Service Learning Council**
Tulane SOM, New Orleans, LA

7/2016 – Present **Curriculum Committee,** Tulane University School of Medicine
Subcommittees: Milestone development, Clinical Skills, Phase 1, Phase 2, LCME self-study
Tulane SOM, New Orleans, LA

7/2013 – Present **Tulane Pediatric Residency Program Clinical Competency Committee**
Positions held: **Chair**, April 2018-February 2021
Tulane SOM, New Orleans, LA

8/2007 – Present **Pediatrics Residency Program Evaluation Committee**
Tulane SOM, New Orleans, LA

EDITORIAL ACTIVITIES

1/2021 – Present **Reviewer,** Association of Pediatric Program Directors Longitudinal Educational Assessment Research Network (APPD LEARN)

8/2018 – 12/2019 **Contributing Editor**, The Human Diagnosis Project

Research and Scholarship

GRANTS

CURRENT FUNDING

1. 12/2022-9/2027
   1 TA2HP48935-01-00 $2,500,000
   Primary Care Training Enhancement – Residency Training in Mental and Behavioral Health
   Health Resources & Services Administration
   Role: Principal Investigator

PRIOR FUNDING

6/2016 **Carol Lavin Bernick Faculty Grant** recipient
Tulane University School of Medicine
Proceeds of $1000 applied towards APPD LEAD participation

7/2020 **Office of Medical Education Mini-Grant** recipient
Tulane University School of Medicine
Proceeds of $1,815 applied toward purchase of tablets and data plans for use by students participating in Social Contexts in Medicine elective for virtual home visits with patients

PEER-REVIEWED MANUSCRIPTS

1. Jones W, Jang A, Myers L, Dasgupta A, **DeBord J**. Clinical Pathway for Vaso-Occlusive Pain Reduces Hospital Admissions. The Journal for Healthcare Quality (JHQ). 2022 Jan;44(1):50-58.

2. Zimmerman E, Frieberg EM, **DeBord J**, Akingbola O, Yang SG, Yosypiv IV. Acute Onset of Multi-Organ System Dysfunction. Clinical pediatrics. 2012 Jan;51(1):96-8.

PRESENTATIONS AT NATIONAL MEETINGS

5/2020 **DeBord J,** Schwartz A, King B, Frohna J, Shutak C, Borman-Shoap E. Impact of Academic Half-Day Curricula on Pediatric Resident Exam Performance. Accepted for platform presentation at Pediatric Academic Societies Annual Meeting, Philadelphia, PA, May 2020. Meeting canceled due to COVID-19 concerns.

3/2020 **DeBord J,** Schwartz A, King B, Frohna J, Shutak C, Borman-Shoap E. Impact of Academic Half-Day Curricula on Pediatric Resident Exam Performance. Accepted for poster presentation at Association of Pediatric Program Directors' Annual Spring Meeting, San Diego, CA, March 2020. Meeting canceled due to COVID-19 concerns.

12/2019 Jones W, Myers L, Dasgupta A, **DeBord J**. A Clinical Pathway Reduces Admissions for Vaso-occlusive Pain in Sickle Cell Disease. Poster presented at 61st American Society of Hematology Annual Meeting & Exposition, Orlando, FL, December 2019.

5/2016 Park A, **DeBord J**. *A Twist of Fate* [abstract]. Poster presentation, Society of General Internal Medicine National Meeting, Hollywood, FL, May 2016.

3/2016 Adimora-Nweke D, **DeBord J**. *Well, doc, my chest pain is all gone* [abstract]. Poster presentation, Society of Hospital Medicine Annual Meeting, San Diego, CA, March 2016.

10/2013 Malhotra S, **DeBord JM**, Washko TR. A "Wild" Way To Learn Pediatrics: The Weekly Interactive Learning Half-Day. Poster presentation, Pediatric Educational Excellence Across the Continuum Meeting, Arlington, VA, October 2013.

5/2013 Malhotra S, **DeBord JM**, Washko TR. A "Wild" Way To Learn Pediatrics: The Weekly Interactive Learning Half-Day. Poster presentation, Pediatric Academic Societies Annual Meeting, Washington, DC, May 2013.

5/2009 **McDonald-Top JM**, Hawkins L, Fortgang I, Ramayya M. Cholestasis associated with multiple pituitary hormone deficiency: a case report and review. Poster presentation, Pediatric Academic Societies Annual Meeting, Baltimore, MD, May 2009.

5/2009 **McDonald-Top JM**, McConville JB. Psychosis or cerebritis? A cerebral dilemma. Poster presentation, Society of General Internal Medicine National Meeting, Miami, FL, May 2009.

INTRAMURAL PRESENTATIONS

4/2019 **Grand Rounds,** Department of Pediatrics
"A Little Feedback on Your Feedback: Using the New ACGME Milestones to Coach Learners"
Tulane University School of Medicine

1/2016 **Primary Care Grand Rounds,** Department of Internal Medicine
"Utilizing Biostatistics in Diagnosis, Screening, and Prevention"
Tulane University School of Medicine

12/2015 **Grand Rounds,** Department of Pediatrics
"First do no harm: Risks, costs, and value in pediatrics"
Tulane University School of Medicine

12/2013 **Grand Rounds,** Department of Pediatrics
"A Little Feedback on Your Feedback: Using the New ACGME Milestones to Coach Learners"
Tulane University School of Medicine

INVITED PRESENTATIONS

NATIONAL:

7/2022 Dickinson B, Cantu R, **DeBord J.** *Don't Just Pump & Dump: Managing Breastfeeding Mothers on Medications and Moore.* Mini-plenary presentation, Pediatric Hospital Medicine Conference, Orlando, Florida, July 28, 2022.

3/2019 Faculty Mentor, *Professional Development Session for Chief Residents*. Association of Pediatric Program Directors Annual Meeting, New Orleans, Louisiana, March 26, 2019.

7/2018 Cantu R, **DeBord J.** *Avoiding Booby Traps: Breastfeeding Management for the Pediatric Hospitalist.* Clinical Quick Hits workshop presentation, Pediatric Hospital Medicine Conference, Atlanta, Georgia, July 21, 2018.

INSTITUTIONAL AND LOCAL:

8/2022 **DeBord J**, Huntwork M. You Can Be Better at Feedback! Embrace your inner growth mindset and foster it in your learners through feedback. Faculty development seminar, Children's Hospital of New Orleans, New Orleans, Louisiana, August 22, 2022.

8/2019 **DeBord J.** *A Little Feedback on Your Feedback: Using the New ACGME Milestones to Coach Learners.* Grand Rounds, Ochsner Clinic Foundation Department of Pediatrics, New Orleans, Louisiana, August 2019.

RESEARCH IN PROGRESS

DeBord J, Shutak C, Schwartz A, Frohna J, Borman-Shoap E. Academic Half-Day or Noon Conference for the Win? A Multi-Center Case-Control Study Examining Conference Format and Trainee Exam Performance.

- Manuscript submitted, under review by *The Clinical Teacher*

DeBord J, Gibson J, Weissbecker K, Lazarus C. Correlation of medical school metrics with success in pediatric residency: alternatives to the USMLE.

- *Proposal accepted for implementation through the Association of Pediatric Program Directors Longitudinal Educational Assessment Research Network (APPD LEARN);* data analysis complete, manuscript in process

Office of the Chair

Tulane University
John W. Deming Department of Medicine

March 29, 2023

To: Teaching Scholar Selection Committee

RE: Nomination of Dr. Jessica Debord for Teaching Scholar Award

Dear Teaching Scholar Selection Committee,

I am delighted to nominate Dr. Jessica DeBord for the 2023 Tulane School of Medicine Teaching Scholar Award. In her 11 years as SOM faculty, Dr. DeBord has held numerous educational leadership positions in both graduate and undergraduate medical education, in addition to her serving as a hospitalist on the Internal Medicine and Pediatrics teaching services. In each of these roles Dr. DeBord has demonstrated innovation, dedication, and equanimity.

For the first nine years of her faculty, Dr. DeBord served as Associate Program Director for the Pediatric Residency Program (2012-2021). In that role she pioneered a new academic half-day educational conference format, mentored 12 senior residents annually in preparing and presenting Grand Rounds, oversaw the formal curriculum for the residency program, ensured it addressed each of the American Board of Pediatrics' Content Specifications, and revamped the program's system of evaluation and feedback. In 2017, she completed the Association of Pediatrics Program Directors' (APPD) Leadership in Educational Academic Development (LEAD) program, a competitive one-year national faculty development program in pediatric educational leadership and scholarship. She is a lead investigator on two ongoing studies through the APPD Longitudinal Educational Assessment Research Network (LEARN): one investigating the impact of the academic half-day conference format, and one that aims to identify alternative metrics to the USMLE that predict medical student success in pediatric residency.

In February 2021, Dr. DeBord accepted the challenging role of serving as interim Program Director for the Combined Medicine-Pediatrics Residency Program when the previous director was suspended from her role. Dr. DeBord has adeptly navigated charged resident and faculty emotions, national social media attention on the program, and Accreditation Council for Graduate Medical Education (ACGME) scrutiny with equanimity and dedication to the program and the school. Since taking on the role, she has prepared for and participated in three ACGME site visits in 2 years that resulted in program improvements and continued accreditation. In December 2022, under Dr. DeBord's leadership as primary investigator, the Med-Peds residency program was awarded a $2.5 million HRSA grant to develop and implement a new curriculum in mental and behavioral health for primary care physicians.

Tulane University, Health Sciences Center Campus
1430 Tulane Avenue, #8512, New Orleans, LA 70112-2699 *tel.* (504) 988-7800 *fax* (504) 988-1600

School of Medicine, Tulane University
John W. Deming Department of Medicine
Office of the Chairman

From June 2017 to February 2023, Dr. DeBord served as director of the Foundations in Medicine (FiM) course, her first leadership role in undergraduate medical education. In this role, Dr. DeBord aligned the course curriculum with the SOM core competencies and created new curricula aimed at filling gaps in the SOM curriculum. Recognizing that the SOM core competencies included topics not previously taught in the curriculum, she developed modules addressing patient safety, quality improvement, high value care, healthcare financing and reform, cultural humility, implicit bias, social determinants of health, professionalism, wellness, and evidence-based medicine. Dr. Debord continues to volunteer to oversee multiple student electives, including Social Contexts in Medicine, Service-Learning Leadership, Intro to Clinical Teaching, the Student-Run Clinics elective, and Intro to Medical Education Research. She served as an inaugural Community Director for the Tulane Learning Communities (TLC) program and worked to strengthen the curricular integration between the TLC program and FiM.

While director of FiM, Dr. DeBord also navigated multiple challenges that required substantial effort above and beyond the time protected for her role. In 2018-19, during her second year as FiM director, the SOM prepared for and completed an LCME site visit; Dr. DeBord served on numerous committees tasked with preparing for the visit and also developed new curricula in self-directed learning and evidence-based medicine to help the SOM satisfy LCME requirements. The following academic year the COVID-19 pandemic forced dramatic changes in scheduling and content as the course tasked with teaching pre-clinical students physical exam and communication skills shifted to a mostly virtual, and then hybrid format. When Hurricane Ida again forced major disruptions, rescheduling, and reinventing of curricula for FiM in the fall of 2021, Dr. DeBord approached each challenge with calm and determination to minimize the impact on students' acquisition of critical clinical skills.

Dr. DeBord has consistently demonstrated excellence in scholarship, exceptional teaching, and an ongoing commitment to enhancing the quality of learning and teaching at Tulane through the development of innovative curricula; dedication to students, residents, and the school through numerous challenges; and equanimity in the face of crisis. I can think of no one more deserving of this award, and I appreciate your thoughtful consideration of Dr. DeBord for the 2023 Teaching Scholar Award.

Sincerely,

Victor J. Thannickal, M.D.
Professor and Harry B. Greenberg Chair of Medicine
Chair, John W. Deming Department of Medicine

To the Selection Committee,

It is with great enthusiasm that I nominate Dr. Jessica DeBord for the 2023 Teaching Scholar Award. I had the privilege of learning from Dr. DeBord throughout my preclinical and clinical education at Tulane, and it is with the utmost confidence that I assert that she is most qualified for this award.

Few clinician-educators manage to sustain leadership roles in both graduate and undergraduate medical education, and yet Dr. DeBord does this masterfully. I was first introduced to Dr. DeBord when she took on the position as director of the Foundation in Medicine course for the preclinical medical students. In this role, she patiently and compassionately instilled in her learners the core principles and skills required for the clinical practice of medicine, including ethics, bedside manner and communication, and medical interviewing and documentation. This course's breadth would naturally pose an organizational challenge for any instructor, but Dr. DeBord expertly managed the numerous moving parts with apparent ease. Further, she is approachable and open to feedback and student insight. When I met with her to discuss my interest in developing a series of LGBTQ+ health modules to be incorporated in her course, she supported my initiative and made me feel empowered to shape my experience in medical education. Additionally, her willingness to learn alongside her students demonstrates her humility and grace that make her a particularly stand-out leader whom I personally hope to emulate in my career.

During my clinical years, I had the opportunity to again work closely with Dr. DeBord during my internal medicine rotation when she was my attending for half of my clerkship. I remember presenting my first patient to her, and knowing as I was delivering the information how disorganized my approach was and dreading her reaction. She met me with constructive feedback that highlighted ways in which I could improve while also building me up as an early learner; so much of the older school of thought in medical education is predicated on shame-based exercises, but her approach was much more effective in promoting my growth and development. Ultimately, it was my time rotating with Dr. DeBord that led me not only to pursue a career in internal medicine but also in medical education; she is a mentor and role model to whom I point as a key figure inspiring my current career path as well as someone whose demeanor and approach serves as my model for how I approach working with medical students.

In addition to the contexts in which I have had the opportunity to learn from Dr. DeBord, she has demonstrated a commitment to scholarship and development in the realm of teaching throughout her numerous leadership positions, continuing education, and research. Her achievements in teaching scholarship, as evidenced by the varied and high-quality curricula which she has developed, unequivocally illustrate that she is most deserving of this award.

Thus, I am delighted to nominate Dr. DeBord for the Teaching Scholar Award. Please feel free to contact me should you have any questions.

Shana Zucker, MD, MPH, MS
PGY-2 Internal Medicine Resident at the University of Miami/Jackson Memorial Hospital
Tulane University School of Medicine Class of 2021

Section 1. Personal Philosophy of Teaching and Learning

Much of my career in medical education thus far has been spent developing and refining curricula across the UME-GME spectrum at Tulane, mostly addressing the "soft skills" of medicine. I pioneered an interactive, case-based academic half-day for the Pediatrics residency program, developed a series of Evidence-Based Medicine modules, and created workshops addressing cultural humility and implicit bias, health care financing and reform, quality improvement, professionalism, feedback, wellness and resiliency, value-based care, social determinants of health, working with medical interpreters, medical decision-making, and cognitive biases for the Foundations in Medicine course. I have studied educational theory and research and believe strongly in the value of active, and when possible, experiential learning. I enjoy the continuous improvement cycle of curriculum development and appreciate the need for didactic sessions to supplement real-world learning; increasingly, I also recognize their limitations.

Despite the best intentions of educators that develop and deliver lectures, modules, simulations, and workshops aimed at developing communication skills and fostering professional identity formation, no matter the content and format, my experience and discussions with learners have informed me that too often trainees acquire and retain little of the intended material. Instead, they learn how to treat patients and colleagues, to navigate professionalism challenges, to handle uncertainty, and to balance life inside and outside of work by watching their faculty and peers. Culture and its hidden curriculum are powerful.

Above all, I appreciate the value of teaching and leading by example. The physician's potential to heal – and to harm – is profound, and physician training is too consequential to be relegated to the classroom and short-lived clinical encounters. Our learners deserve longitudinal, personalized mentorship and role modeling, both for their own professional development and to best prepare them positively impact their patients and communities.

This philosophy informs my medical education leadership roles in both UME and GME. As a community director for the Tulane Learning Communities I proposed and implemented a mentor-coach program intended to provide longitudinal role modeling and feedback for students from the start of medical school through graduation. In the absence of protected time for faculty the program has not yet been successful, but I intend to continue to advocate for this model in my role as a TLC Community Director. On the GME level, I have successfully implemented a coaching program for the Med-Peds residency; six coaches with protected time provide longitudinal mentorship and clinical skills oversight for four residents each.

Personally, I strive to model confident humility in my role as a residency leader and as an attending physician. I am intentional in discussing the knowledge and experiences that inform my approach to clinical conundrums and residency program challenges, but also the limitations to my knowledge. I endeavor to create an environment where all team members feel comfortable speaking up and sharing their concerns and feedback for me and for each other, and to ensure that feedback is used to effect change.

Section 2. Teaching and Learning Responsibilities

I have held numerous educational leadership positions at Tulane in both graduate and undergraduate medical education, beginning with a year as a pediatric chief resident (2011-12). After completing my chief residency I became an associate program director for the Pediatrics residency, a position I held until 2021 when I was asked to take on the role of directing the Med-Peds residency during a time of crisis for the program. I directed the Foundations in Medicine (FiM) program for first- and second-year medical students from 2017-2023, and I direct several associated electives for junior and senior medical students. I have also participated and held leadership positions in numerous educational committees and programs within the School of Medicine, most notably serving as a Community Director for the Tulane Learning Communities program since its inception and as a member of the SOM Curriculum Committee since 2016. More recently I have served on the GMEC Professionalism Subcommittee and the Professionalism Curriculum Task Force. On a national level, I served on the Association of Pediatric Program Directors Vision 2020 Leadership and Collaboration Strategic Planning Committee, as a Contributing Editor for the Human Diagnosis Project, and as Co-Chair of the American Academy of Pediatrics Section of Hospital Medicine Med-Peds Subcommittee.

Please refer to my teaching vitae for a complete listing of my teaching activities. My most notable contributions to teaching and learning at Tulane SOM are described in greater detail below:

Director, Tulane Internal Medicine-Pediatrics Residency Program *(February 2021 – Present)*

I was asked to serve as interim director of the Med-Peds residency program amid national controversy surrounding the removal of the former director, a time of great challenge for the program and the residents. Subsequent ACGME scrutiny has led to two egregious ACGME site visits for the program in the past two years, as well as two institutional site visits that focused largely on the IM and Med-Peds residencies. I have dedicated substantial time to addressing citation and preparing reports in anticipation of site visits. The recent ACGME review resulted in the resolution of five of twelve existing citations, no new citations, and continued status of accreditation with warning.

Since becoming director, I have taken on the following initiatives:

- Implemented a robust Program Evaluation Committee with elected representatives from each resident class that meets at least bimonthly to improve areas of concern identified on the ACGME resident and faculty surveys and through the Annual Program Review
- Revamped the program's board preparation curriculum with input from resident leaders
- Appointed 6 Clinical Competency Committee (CCC) Coaches with protected time to coach four residents each
- Expanded the use of QR-code based surveys for "on-the-fly" feedback of residents while on Internal Medicine rotations
- Introduced a new resident committee on Curriculum and Scholarly Activity
- Awarded a 5-year, $2.5 million HRSA grant to develop and implement a curriculum in mental and behavioral health for primary care residents

Director, Foundations in Medicine Program *(June 2017 – February 2023)*

In in the six years I served as FiM director, my primary objective was to align course content with the recently develop SOM Institutional Educational Program Objectives and Milestones. The year prior to becoming director I served on the Milestones Subcommittee of the Curriculum Committee, tasked with developing the school's first set of Milestones. As my familiarity with the pre-clinical curriculum grew I

realized that many of the competencies the committee had outlined were not addressed in the curriculum at all at the time, particularly in the domains of Practice-Based Learning and Improvement, Professionalism, Systems-Based Practice, Personal and Professional Development, and Community Engagement and Service. In response, I began developing new curricula.

Below is a complete list of Foundations in Medicine sessions I oversaw and/or taught as course director (full course syllabus included in Appendix

*Sessions in green print did not exist when I assumed the FiM director role, and were developed and refined by me during my time as course director.

Session title	Duration (per student)	My role
Foundations in Medicine 1		
Intro to FiM lecture	1 hr	**Develop, deliver, and refine content**
Intro to teamwork, professionalism, & feedback workshop	1.5 hrs	Recruit facilitators, develop, deliver, and refine content
Medical interview lecture	1 hr	Scheduling and oversight
Borrowing Strategies lecture	1 hr	Scheduling and oversight
Intro to SCC lecture	1 hr	Scheduling and oversight
Vital signs lecture	1 hr	Scheduling and oversight
History of New Orleans & health disparities lecture	1.5 hrs	Scheduling and oversight
Budgeting lecture	1 hr	Scheduling and oversight
Intro to wellness workshop	2 hrs	Recruit facilitators, develop, deliver, and refine content
T2 advice panel	1 hr	Scheduling and oversight
Intro to SL & BLS lecture	0.5 hr	Scheduling and oversight
Intro to Student-Run Clinics workshop	3 hrs	Scheduling and oversight
Intro to TBL	1.5 hrs	Scheduling and oversight
Cultural humility lecture	1 hr	Recruit speaker, scheduling and oversight
Health systems financing and reform lecture	1 hr	Recruit speaker, scheduling and oversight
LGTBQ panel	1 hr	Scheduling and oversight
Mental health & wellness panel	1 hr	Scheduling and oversight
Anti-racism media club	1.5 hrs	Scheduling and oversight
Ethics 1: intro	1.5 hrs	Recruit facilitators, deliver and refine content
Ethics 2: research & consent	1.5 hrs	Recruit facilitators, deliver and refine content
Ethics 3: genetics	1.5 hrs	Recruit facilitators, deliver and refine content
Intro to Matas	2 hrs	Scheduling and oversight
Teaching Kitchen 1	3.5 hrs	Scheduling and oversight
TLC mentor meeting	1 hr	Scheduling and oversight
Patient safety workshop	2 hrs	Recruit facilitators, deliver and refine content
Healthcare systems workshop	1.5 hrs	Recruit facilitators, develop, deliver, and refine content

Cultural humility workshop	1.5 hrs	Recruit facilitators, develop, deliver, and refine content
H&P workshop 1	3 hrs	Scheduling and oversight, review and refine content
H&P workshop 2	3 hrs	Scheduling and oversight, review and refine content
Social determinants of health workshop	3 hrs	Recruit facilitators, develop, deliver, and refine content
QI & Professionalism workshop	1.5 hrs	Recruit facilitators, develop, deliver, and refine content
Professionalism Media Club	1.5 hrs	Scheduling and oversight
Big Charity discussion	1 hr	Panelist recruitment, scheduling and oversight, review and refine content
SP: Medical interview	1 hr	Scheduling and oversight, review and refine content
SP: Vital signs	1 hr	Scheduling and oversight, review and refine content
SP: MSK	1 hr	Scheduling and oversight, review and refine content
SP: Cardiovascular	1 hr	Scheduling and oversight, review and refine content
SP: Pulm	1 hr	Scheduling and oversight, review and refine content
SP: Patient Education	1 hr	Scheduling and oversight, review and refine content
SP: Self-eval	1 hr	Scheduling and oversight, review and refine content
Sim: Scrub/IV	1 hr	Scheduling and oversight, review and refine content
Sim: Vital signs	1 hr	Scheduling and oversight, review and refine content
Sim: Suturing	1 hr	Scheduling and oversight, review and refine content
Sim/SP: Abdominal exam	1 hr	Recruit facilitators, develop, deliver, and refine content
Sim: ICU	1 hr	Scheduling and oversight, review and refine content
LGTBQ+ modules and patient panel	1 hr	Scheduling and oversight, review and refine content
Media club: anti-racism	1.5 hrs	Scheduling and oversight, review and refine content
Media club: professional identity formation	1.5 hrs	Scheduling and oversight, review and refine content
Foundations in Medicine 2		
EBM Exercise 1: Disease Detectives*	1 hr	Develop and refine content
EBM Exercise 2: Sensitivity & Specificity*	1 hr	Develop and refine content
EBM Exercise 3: Predictive Values*	1 hr	Develop and refine content
EBM Exercise 4: Likelihood Ratios*	1 hr	Develop and refine content
EBM Exercise 5: Diagnostic Testing*	1 hr	Develop and refine content
EBM Exercise 6: Relative Effect Measures*	1 hr	Develop and refine content
EBM Exercise 7: Absolute Effect Measures*	1 hr	Develop and refine content
EBM Exercise 8: Principles of Screening*	1 hr	Develop and refine content
EBM Exercise 9: Study Design*	1 hr	Develop and refine content
EBM Exercise 10: Validity & Bias*	1 hr	Develop and refine content
EBM Exercise 11: Confounding & Effect Modification*	1 hr	Develop and refine content

EBM Exercise 12: Hypothesis Testing*	1 hr	Develop and refine content
EBM Exercise 13: Common Statistical Tests*	1 hr	Develop and refine content
EBM Exercise 14: Clinical vs Statistical Significance*	1 hr	Develop and refine content
Ethics 4: OB & Pediatrics	1.5 hrs	Recruit facilitators, develop, deliver, and refine content
Ethics 5: Resource Allocation	1.5 hrs	Recruit facilitators, deliver and refine content
Ethics 6: Medicolegal issues	1.5 hrs	Recruit facilitators, develop, deliver, and refine content
Ethics 7: End of life issues	1.5 hrs	Recruit facilitators, deliver and refine content
Teaching Kitchen 2	3.5 hrs	Scheduling and oversight
AAMC Financial Wellness modules	1 hr	Scheduling and oversight
EBM Exam Reviews (5 total)	2.5 hrs	Develop, deliver, and refine content
SP: Advance Medical Interviewing	1 hr	Scheduling and oversight
SP: Medical Interpreter	1 hr	Develop, deliver, and refine content
Medical Interpreter debrief and reflection	1.5 hrs	Recruit facilitators, develop, deliver, and refine content
Diagnostic Testing Workshop	2 hrs	Recruit facilitators, develop, deliver, and refine content
Medical Decision-Making Workshop	2 hrs	Recruit facilitators, develop, deliver, and refine content

**independent study*

In my six years directing FiM I successfully navigated the following major challenges:

- **LCME site visit** in early 2019, requiring substantial expansion of the curriculum to address topics in Self-Directed Learning and Evidence-Based Medicine not previously addressed, as well as regular committee meetings and report preparation
- **COVID-19 pandemic** in March 2020, requiring complete overhaul of the FiM curriculum as the school shifted abruptly to virtual learning
- **Hurricane Ida** in August 2021 and the subsequent cancellation of in-person activities for six weeks, requiring rescheduling, compression, and reconsideration of much of the FiM curriculum

Associate Program Director for Curriculum and Assessment, Tulane Pediatrics Residency Program *(July 2012-February 2021)*

In my first educational leadership role after residency I built skills in curriculum development and competency-based evaluation. I developed and piloted the structured curriculum still in use by the Pediatrics Residency Program during my year as chief resident (2011-2012) and refined it over nine subsequent years as associate program director (2012-2021). I also reformed the methods by which pediatric residents obtain faculty feedback. I proposed and implemented an “On-The-Fly” system of competency-based feedback using the Milestones, and later Entrustable Professional Activities.

Additional Notable Contributions to Teaching and Learning at Tulane

In addition to the above major roles, I have acted as faculty advisor on a volunteer basis to the following student electives:

- Social Contexts in Medicine (2017-present):
- Introduction to Clinical Medicine (2017-present):
- Student-Run Clinics (2017-2023):
- Intro to Medical Education (2017-2023):
- Service Learning Leadership (2017-2023):

Contributions to other courses and clerkships:

- Physiology course: *Heart Sounds* Clinical Correlations lecture, annually since 2017
- Pediatrics clerkship: small group preceptor from 2014-2017
- Clinical Diagnosis course: preceptor 2008-2010

Finally, I serve or have served on numerous committees across the UME-GME continuum, both at Tulane and nationally:

<u>National Committees:</u>

- Co-chair, Subcommittee on Med-Peds, American Academy of Pediatrics Section of Hospital Medicine (2019-2022)
- Vision 2020 Leadership & Collaboration Strategic Planning Committee, Association of Pediatric Program Directors (2017-2018)

<u>Tulane School of Medicine Committees:</u>

- SOM Curriculum Committee (2016-Present)
    - Subcommittees: Milestone development, Clinical Skills, Phase 1, Phase 2, LCME Self-Study
- Graduate Medical Education Committee, Subcommittee on Professionalism (2022-Present)
- General Internal Medicine Educational Council (2018-Present)
- Internal Medicine-Pediatrics Residency Clinical Competency Committee (2021-Present)
- Pediatrics Residency Clinical Competency Committee (2013-Present)

Section 3. Methods and Strategies for Teaching and Learning

My methods and strategies for teaching and learning have developed and matured through both practical experience and through formal mentorship and trainings. I have been fortunate to attend on teaching services while also holding leadership roles in undergraduate and graduate medical education since completing residency. I have also had the opportunity to learn from local and national experts, first through the Tulane Education Scholars Program, and subsequently through the Academic Hospitalist Academy, the Association of Pediatric Program Directors' Leadership in Education and Academic Development (APPD LEAD) program, and most recently through the REACH Institute's Patient-Centered Mental Health in Primary Care (PPP) course.

As introduced in Section 1, I am a strong believer in the value of active, and when possible, experiential learning. I strive to model confident humility in my role as a residency leader and as an attending physician. I am intentional in discussing the knowledge and experiences that inform my approach to clinical conundrums and residency program challenges, but also the limitations to my knowledge. I endeavor to create an environment where all team members feel comfortable speaking up and sharing their concerns and feedback for me and for each other, and to ensure that feedback is used to effect change.

Thus far in my career as a medical educator I have had the opportunity to teach in a multitude of settings. As a chief resident and the associate program director for the Pediatrics residency program I developed skills in facilitating medium-sized groups of residents as they worked through the Weekly Interactive half-Day (WILD) curriculum that I developed and implemented. I emphasized case-based learning, independent problem solving, and small group discussion and teach-back as my primary strategies to encourage knowledge acquisition, retention, and future application to the clinical setting *(Taylor 2013, Wolff 2015)*. Around the same time, I began attending on the Internal Medicine and Pediatrics ward services, where I developed skills in the Socratic method and learned the importance of maintaining both high expectations of learners and psychologic safety in promoting a positive clinical learning environment. My Wards Team Guide, which outlines my philosophy to teaching on the wards and my expectations of team members, and a sample email chain from a recent week on the inpatient service is included as Appendix A.

Upon accepting the directorship of the Foundations in Medicine (FiM) program in 2017, I was faced with numerous challenges to the success of the teaching methods I had previously employed. Where my previous learners had largely been small to medium sized groups of senior medical students and residents with substantial intrinsic motivation to acquire, retain, and apply the concepts I taught, I found pre-clinical medical students to be very different learners, with different motivations, obstacles, and learning styles. Early on, I developed sessions aimed at satisfying the LCME self-directed learning and evidence-based medicine requirements; those early efforts were largely unsuccessful. I spent a great deal of time reflecting on the challenges I faced and the failures I perceived and grew as a teacher in the process.

Recognizing that many pre-clinical students are motivated primarily by a drive to excel on USMLE Step 1 *(Chen 2019),* I linked all FiM activities to the USMLE Content Outline (detailed in FiM Syllabus, Appendix I). I developed pre-quizzes for most sessions to build accountability in completing pre-work. When practical, I developed board-style questions and had them added to module exams. Student evaluations

of FiM sessions improved with the changes I implemented, yet I remained unsatisfied with the course's effectiveness in many of its goals. Many FiM objectives, especially those in the domains of Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, Systems-Based Practice, Interprofessional Collaboration, Personal and Professional Development, and Community Engagement and Service are difficult (even impossible) to measure using multiple choice questions. I began to consider the importance of direct observation, ideally by a faculty member with a longitudinal relationship with the trainee, as a critical element in developing and assessing the "soft skills" that medical educators increasingly realize are as (or more) important than the ability to succeed on Step 1 *(Deiorio 2016).*

The year prior to becoming director of FiM I was appointed as a Community Director for the newly conceived Tulane Learning Communities (TLC) program. Early on I was excited about the potential for closer faculty connections envisioned for TLC; as I moved into the FiM director role I realized the potential for integration between the TLC program and FiM. The small group structure of the TLC program, with assigned faculty mentors, had the potential to serve as platform for a longitudinal clinical coaching curriculum. As the COVID-19 pandemic forced the SOM to re-envision the way in which medical education is delivered I developed a proposal to create a "coach" role within the TLC structure. The TLC coach program was piloted in AY 2020-21 with volunteer coaches, but without protected time for coaches or resources to develop faculty, the program was unable to provide the consistent direct observation and feedback to students required of a coaching program.

My experiences as a chief resident, associate program director, FiM course director, and clinical teacher have combined to shape my current approach to teaching. As emphasized in Section 1, I have come to appreciate the value of teaching and leading by example. Our learners deserve longitudinal, personalized mentorship and role modeling, both for their own professional development and to best prepare them positively impact their patients and communities. I intend to continue to advocate for such a system in both the UME and GME worlds; ideally, I envision a coaching continuum that bridges the UME-GME gap. I look forward to participating the AMA Academic Coaching Implementation Workshop in August to further develop my skills in implementing coaching programs in academic medicine, in the hopes of expanding such programs at Tulane.

<u>*Sources:*</u>

Chen, David R, et al. "Student Perspectives on the "Step 1 Climate"." *Academic Medicine* (2019): 302-304.

Deiorio, Nicole M., et al. "Coaching: a new model for academic and career achievement." *Medical education online* 21.1 (2016): 33480.

Taylor, David CM, and Hossam Hamdy. "Adult learning theories: implications for learning and teaching in medical education: AMEE Guide No. 83." *Medical teacher* 35.11 (2013): e1561-e1572.

Wolff, Margaret, et al. "Not another boring lecture: engaging learners with active learning techniques." *The Journal of emergency medicine* 48.1 (2015): 85-93.

Section 4. Methods to Assess and Evaluate Students' Learning

Assessment and evaluation of students' learning is complex and challenging, especially when that assessment occurs across training levels and specialties. As outlined in earlier sections, I believe that the most effective assessment of students' learning happens through direct observation. Direct observation allows the teacher to assess a students' performance more accurately, and arguably as importantly builds credibility in the feedback offered. While multiple choice questions have their place in assessment, they are poorly equipped to evaluate many of the skills physicians perform daily.

When attending on the Internal Medicine and Pediatrics wards, I am intentional about setting expectations on day one (refer to Appendix A for my Wards Team Guide). I practice frequent, low-stakes feedback, and I ensure my feedback is specific, timely, and based on objective, observed behaviors rather than judgement calls. I use the "Reflective Feedback Conversation" technique for in-person feedback, incorporating the learner's self-assessment prior to determining my recommendations for improvement.

In my role as director of FiM I have been frustrated by the difficulty with providing learners with feedback based upon observed behaviors. Without consistent faculty commitment to facilitate small groups or serve as clinical preceptors, student assessment occurs sporadically, and the effectiveness is inconsistent. During my time as FiM director I increased the number of pre-session quizzes and post-session reflection activities aimed at improving student assessment and feedback, but much work remains to be done in effectively assessing the "soft skills" within the Tulane curriculum.

I have undertaken numerous initiatives in my various educational leadership roles to improve the quality and quantity of feedback that trainees receive in the clinical setting. As associate program director for the Pediatrics residency, I reformed the methods by which pediatric residents obtain faculty feedback. I proposed and implemented an "On-The-Fly" system of competency-based feedback using the Milestones, and later Entrustable Professional Activities. Faculty now scan QR-codes on resident badges that link to an online survey where they are encouraged to discuss feedback face-to-face with residents and input a resident self-assessment prior to entering their evaluation of resident performance. Last year I expanded that system so that Med-Peds residents are able to use it while rotating on Internal Medicine rotations as well. All feedback is collated and presented to the Clinical Competency Committee (CCC) by each residents' Coach; The CCC then provides a summative evaluation, including Milestones evaluations. A sample QR code-linked feedback survey is included as Appendix B.

To better prepare both trainees and faculty to give and receive feedback, I have developed and led the following sessions on feedback for medical students and faculty:

Title (Format)	Audience	Date(s)
Introduction to Feedback (Workshop)	195 T1 students annually	2018-present
You Can Be Better at Feedback! Embrace your inner growth mindset and foster it in your learners through feedback (Faculty development seminar)	20 pediatric faculty at CHNOLA	August 2022
You Can Be Better at Feedback! Embrace your inner growth mindset and foster it in your learners through feedback (Grand Rounds)	60 pediatric faculty at Ochsner Hospital	August 2019

You Can Be Better at Feedback! Embrace your inner growth mindset and foster it in your learners through feedback (Grand Rounds)	30 pediatric faculty at Tulane-Lakeside Hospital	April 2019
A Little Feedback on Your Feedback: Using the New ACGME Milestones to Coach Learners (Grand Rounds)	40 pediatric faculty at Tulane School of Medicine	December 2013

The slides for a recent faculty development session on feedback I presented are included as Appendix C.

Section 5. Assessment and Evaluation of Teaching Effectiveness

Feedback from learners has been the primary driver of the changes to the teaching methods and strategies I have employed over the years, as detailed in Section 3. I receive and review feedback regularly and through multiple venues, and regularly modify my practice based upon feedback received. I believe strongly in the value of modeling humility and vulnerability. I view admitting my mistakes and shortcomings and demonstrating how I have and continue to grow from them and from the feedback I have received as one of my principles roles as a clinical teacher.

On clinical service:

I routinely ask trainees to provide me with feedback during feedback conversations. Recognizing that giving feedback to a superior can be intimidating, I establish the expectation at the start of an experience that I will ask for feedback, and I tell trainees what I hope to work on over the course of our time together. I review written evaluations regularly and frequently modify my teaching methods based upon learner feedback.

Selected comments from clinical evaluations (full recent evaluations included as Appendix D):

> *"Dr. DeBord is a professional, learning-oriented, thoughtful clinician who has helped me ease into my role as a blooming upper level. She is able to give guidance when I seek it, but respect my autonomy when I feel I have a situation under control." (Tulane IM resident)*
>
> *"I admire Dr. DeBord's evidence based medicine approach. She is very professional and ensures that the team members' time constraints are taken into account." (Tulane IM resident)*
>
> *"Dr. DeBord is an excellent teacher and physician. She allows residents to lead the team and teaches during rounds." (LSU Pediatrics resident)*
>
> *"Communicated expectations very clearly, offered a ton of teaching both on and after rounds, clearly invested in residents and students both learning at a level appropriate to them." (Tulane student)*
>
> *"Dr. DeBord shifted my feeling of my own clinical role from "helping the team" to "managing" a patient's clinical course through teaching, constructive criticism, and example. By the end of my time with Dr. DeBord I distinctly felt I had left the shore of "basic 3rd year med student" and am sailing strongly to 4th year med student and intern. I feel more confident making a differential diagnosis and narrowing it down as well as to approaching all situations with a sense of calm and empathy while maintaining appropriate objectivity. This balance was an essential part of my growth as a clinician that was exemplified by Dr. Debord, as we encountered many challenging patients and situations on our service during which the stress could have proved overwhelming without her demonstration of calm, methodical management. I feel much more confident in clinical decision making and putting all of the pieces of the puzzle (e.g. labs, imaging, subjective reports) together to form a coherent plan. Dr. Debord's emphasis on teaching kept us intellectually engaged and on our toes while always emphasizing that we were in a mutually respectful and safe space to learn and ask questions, particularly on post-call rounds. One of my best attendings this year." (Tulane student)*

As Foundations in Medicine Director:

One of the most difficult aspects of my first year as FiM director was growing accustomed to the large volume of (often critical) student feedback. It proved to be an incredible opportunity for growth, however. Through years of reviewing and acting on student feedback I have learned how to reflect upon critical feedback without taking it personally. I am a much better teacher and leader today than I was when I began directing FiM thanks in large part to the feedback I have received.

Selected comments from course evaluations (full recent evaluations included as Appendix E):

> *"I thought this was an unbelievable introduction to medical school. I feel extremely lucky and fortunate to have had this week before the hard sciences came into action. I feel that the entire week was as informative as possible and that this is information we needed in person. Thank you to everyone who contributed to making this week so great."*

> *"I love, love, love these Ethics readings. They are some of the most interesting work we have done in all of medical school. That being said, I have suffered through previous sessions. Very few students do the readings at all, and most seem to have just skimmed them. Facilitators often struggle to keep the session on track. This was the first time I felt really good about the session itself, thanks to Dr. DeBord's excellent facilitation. The readings were the main topic of conversation, and we kept coming back around to points made in the readings. I really appreciated her style, encouraging participation from various students and keeping the discussion on track."*

As Med-Peds Program Director:

My time as FiM director prepared me well for the critical feedback I received early in my tenure as interim director of the Med-Peds residency. Recognizing the enormous stress that Med-Peds residents and faculty were under at the time, I did my best to balance listening and acting upon feedback with placing it in context of the challenging circumstances that the feedback providers were facing. I strove to model openness to feedback and transparency in my response to it. While I do not receive internal structured evaluations on my performance as Program Director, I receive informal feedback regularly from residents, faculty, and administration. I also anonymously survey residents regularly and receive feedback annually via the ACGME resident and faculty surveys.

<u>ACGME survey responses:</u>

Note: ACGME survey is administered from February-April annually. I became Med-Peds Program Director in February 2021, shortly after the survey was opened for responses.

Survey item	% compliance 2020-21	% compliance 2022-23
Program director effectiveness (faculty survey)	25%	100%
Able to raise concerns without fear of intimidation or retaliation (resident survey)	24%	67%
Satisfied with process for dealing confidentially with problems and concerns (resident survey)	24%	52%

Unsolicited feedback regarding my teaching and leadership effectiveness, provided via email and personal cards, is included as Appendix F.

Section 6. Course and Curriculum Development, Innovations in Education

My most significant contributions to teaching and learning at Tulane have involved course and curriculum development and innovation. They include:

Weekly Academic half-Day (WILD) Curriculum for Pediatrics Residency Program

I developed and piloted the structured curriculum still in use by the Pediatrics Residency Program during my year as chief resident (2011-2012) and refined it over nine subsequent years as associate program director (2012-2021). The curriculum addresses each item from the American Board of Pediatrics Content Specifications over the course of 72 interactive, case-based half-day conferences. The curriculum was one of the first examples of the academic half-day in pediatric residency programs and was presented as a poster at the Pediatric Academic Societies Annual Meeting and the Pediatrics Educational Excellence Across the Continuum Meeting in 2013. My project during the year-long Association of Pediatric Program Directors (APPD) Leadership in Education and Academic Development (LEAD) program involved studying the impact of the curriculum using a pre-test/post-test design. I am currently first author on a multi-center study investigating the impact of the academic half-day format on pediatric board pass rates conducted through the Association of Pediatrics Program Directors Longitudinal Educational Assessment Research Network (APPD LEARN); our findings were accepted for platform presentation at the Pediatrics Academic Societies Annual Meeting in 2020 (canceled due to COVID-19), and the manuscript is currently under review. The WILD curriculum is still in use by the Tulane Pediatrics Residency Program. *A complete list of sessions is included as Appendix G, and the final presentation from my APPD LEAD project is included as Appendix H.*

Foundations in Medicine

The Foundations in Medicine (FiM) program is tasked with covering a wide spectrum of content across every domain of competency outlined by the School of Medicine. When I assumed directorship of the course many of the Institutional Educational Program Objectives were not addressed anywhere in the SOM curriculum. During my six years directing FiM I revamped existing curricula and created numerous new sessions aimed at addressing those objectives that had been previously uncovered, including sessions on health systems science, social determinants of health, and evidence-based medicine. In the process, I aligned all FiM sessions with the SOM objectives and ensured that each objective was addressed. A complete list of all sessions I developed is included in Section 2; *the syllabus is included as Appendix I.* Below is a list of new sessions I introduced:

- Intro to Feedback workshop
- Intro to Wellness workshop
- Cultural Humility lecture
- Cultural Humility and Implicit Bias workshop
- Health Systems Financing and Reform lecture
- Health Systems Financing and Reform workshop
- Social Determinants of Health Interprofessional Workshop (held in conjunction with School of Social Work)
- Quality Improvement and Professionalism workshop
- SP/Sim Abdominal Exam session
- SP Medical Interpreter session & debrief

- Diagnostic Testing workshop
- Medical Decision-Making workshop
- Evidence-Based Medicine modules (14 independent study modules + 5 exam reviews)
- Ethical issues in obstetrics and pediatrics small group
- Medicolegal issues in ethics small group
- LGTBQ+ modules and patient panel
- Media Club sessions on antiracism and professional identity formation

In additional to the creation of new sessions to address previously uncovered SOM objectives I also updated existing sessions annually both to better align with SOM objectives and in response to student feedback. *Recent evaluations for the Foundations in Medicine course are included in Appendix J.*

BAYOU Bridges Curriculum, Internal Medicine-Pediatrics Residency Program

I am currently working with an interdisciplinary team comprised of faculty from Child and Adolescent Psychiatry, Addiction Medicine, Internal Medicine-Pediatrics, and the School of Social Work to develop a curriculum in mental and behavioral health in the primary care setting for the Med-Peds residency, funded by a $2.5 million grant from HRSA. After piloting the curriculum with Med-Peds residents in the coming academic year, we plan to offer the program to additional residents from other primary care specialties. By the end of the grant period (2027) we intend to make the curriculum available to residency programs nation-wide. *See Appendix K for the grant proposal narrative and award letter.*

National Contributions to Medical Education

I have several contributions to medical education outside Tulane SOM. As a member of the Association of Pediatric Program Directors (APPD) Vision 2020 Leadership and Collaboration Strategic Planning Committee I contributed to the development of long-term strategies for improving support for emerging medical education leaders. As a Contributing Editor for the Human Diagnosis Project, I created numerous Global Morning Report cases aimed at improving diagnostic reasoning skill amongst trainees and practicing clinicians *(see Appendix L for links to cases I developed)*. I have twice presented workshops aimed at improving the evidence-based care of hospitalized breastfeeding child-mother dyads national Pediatric Hospital Medicine courses *(see Appendix M for most recent presentation slides)*. As co-chair of the American Academy of Pediatrics Section of Hospital Medicine subcommittee on Med-Peds I facilitated conversations around improving the capacity of pediatric hospitalists to support the care of adults with COVID-19 early in the pandemic and helped to develop webinars to educate Med-Peds residents considering careers in hospital medicine and/or pediatrics *(see Appendix N for unsolicited letter from AAP SOHM leadership)*.

Section 7. Teaching and Learning Materials

I am a strong believer in the value of active learning. Whether creating new curricula or revising existing curricula, for UME or for GME, my focus is on engaging learners with the material through engagement with one another. In my role as Pediatrics Chief Resident for the Pediatric Residency Program I pioneered the Weekly Interactive Learning half-Day (WILD), and as Associate Program Director I worked with nine years of Chief Residents to develop and refine interactive, case-based modules covering each American Board of Pediatrics Content Specification in a 2-year curriculum. *See Appendix O for a sample facilitator guide for a WILD module.*

As director of Foundation in Medicine (FiM) I took a similar approach to the development of interactive, case-based modules addressing topics in health systems science, evidence-based medicine, social determinants of health, wellness, professionalism, cultural humility, and implicit bias, using the USMLE Content Outline and the Tulane SOM Institutional Educational Program Objectives as a guide to content. *See Appendix P for example facilitator guides for two FiM modules and Appendix Q for a sample EBM module.*

I am currently working with an interdisciplinary team comprised of faculty from Child and Adolescent Psychiatry, Addiction Medicine, Internal Medicine-Pediatrics, and the School of Social Work to develop a curriculum in mental and behavioral health in the primary care setting for the Med-Peds residency (funded by the recently awarded HRSA grant). We are in discussion with faculty from the School of Public Health and Tropical Medicine's Region 6 South Central Public Health Training Center to develop a series of interactive virtual modules that will address the didactic elements of the curriculum; they will be complemented by small group workshops and standardized patient sessions, in addition to clinical experiences in mental and behavioral health. *See Appendix R for the preliminary curriculum overview and virtual module format.*

Section 8. Leadership in SOM Education

I have held numerous educational leadership positions at Tulane in both graduate and undergraduate medical education, beginning with a year as a pediatric chief resident (2011-12). After completing my chief residency I became an associate program director for the Pediatrics residency, a position I held until 2021 when I was asked to take on the role of directing the Med-Peds residency during a time of crisis for the program. I directed the Foundations in Medicine (FiM) program for first- and second-year medical students from 2017-2023, and I direct several associated electives for junior and senior medical students. I have also participated and held leadership positions in numerous educational committees and programs within the School of Medicine, most notably serving as a Community Director for the Tulane Learning Communities program since its inception and as a member of the SOM Curriculum Committee since 2016. More recently I have served on the GMEC Professionalism Subcommittee and the Professionalism Curriculum Task Force.

Please refer to my teaching vitae for a complete listing of my teaching activities. My most notable contributions to teaching and learning at Tulane SOM are described in greater detail below:

Director, Tulane Internal Medicine-Pediatrics Residency Program *(February 2021 – Present)*

I was asked to serve as interim director of the Med-Peds residency program amid national controversy surrounding the removal of the former director, a time of great challenge for the program and the residents. Subsequent ACGME scrutiny has led to two egregious ACGME site visits for the program in the past two years, as well as two institutional site visits that focused largely on the IM and Med-Peds residencies. I have dedicated substantial time to addressing citation and preparing reports in anticipation of site visits. The recent ACGME review resulted in the resolution of five of twelve existing citations, no new citations, and continued status of accreditation with warning.

Since becoming director, I have taken on the following initiatives:

- Implemented a robust Program Evaluation Committee with elected representatives from each resident class that meets at least bimonthly to improve areas of concern identified on the ACGME resident and faculty surveys and through the Annual Program Review
- Revamped the program's board preparation curriculum with input from resident leaders
- Appointed 6 Clinical Competency Committee (CCC) Coaches with protected time to coach four residents each
- Expanded the use of QR-code based surveys for "on-the-fly" feedback of residents while on Internal Medicine rotations
- Introduced a new resident committee on Curriculum and Scholarly Activity
- Awarded a 5-year, $2.5 million HRSA grant to develop and implement a curriculum in mental and behavioral health for primary care residents

Director, Foundations in Medicine Program *(June 2017 – February 2023)*

In in the six years I served as FiM director, my primary objective was to align course content with the recently develop SOM Institutional Educational Program Objectives and Milestones. The year prior to becoming director I served on the Milestones Subcommittee of the Curriculum Committee, tasked with developing the school's first set of Milestones. As my familiarity with the pre-clinical curriculum grew I realized that many of the competencies the committee had outlined were not addressed in the curriculum at all at the time, particularly in the domains of Practice-Based Learning and Improvement,

Professionalism, Systems-Based Practice, Personal and Professional Development, and Community Engagement and Service. In response, I began developing new curricula.

In my six years directing FiM I successfully navigated the following major challenges:

- **LCME site visit** in early 2019, requiring substantial expansion of the curriculum to address topics in Self-Directed Learning and Evidence-Based Medicine not previously addressed, as well as regular committee meetings and report preparation
- **COVID-19 pandemic** in March 2020, requiring complete overhaul of the FiM curriculum as the school shifted abruptly to virtual learning
- **Hurricane Ida** in August 2021 and the subsequent cancellation of in-person activities for six weeks, requiring rescheduling, compression, and reconsideration of much of the FiM curriculum

Associate Program Director for Curriculum and Assessment, Tulane Pediatrics Residency Program *(July 2012-February 2021)*

In my first educational leadership role after residency I built skills in curriculum development and competency-based evaluation.

Finally, I serve or have served on numerous committees across the UME-GME continuum at Tulane:

<u>Tulane School of Medicine Committees:</u>

- SOM Curriculum Committee (2016-Present)
  - Subcommittees: Milestone development, Clinical Skills, Phase 1, Phase 2, LCME Self-Study
- Graduate Medical Education Committee, Subcommittee on Professionalism (2022-Present)
- General Internal Medicine Educational Council (2018-Present)
- Internal Medicine-Pediatrics Residency Clinical Competency Committee (2021-Present)
- Pediatrics Residency Clinical Competency Committee (2013-Present)

Section 9. Professional Teaching and Learning Goals

Thus far, my goals as an educator at Tulane have been both broad and deep, to a fault. I have navigated simultaneous leadership roles in both graduate and undergraduate medical education through the recent pandemic, hurricanes, and institutional crisis. These roles have taught me much about teaching and leadership, and I am proud of the effort I have put into each. Reflecting now on the past 11 years, though, there is much I would do differently in hindsight. As I move into the next phase of my career as a medical educator, I look forward to focusing my efforts with the intent to maximize their impact. Below are my primary goals:

Develop opportunities for trainees to engage with the New Orleans community outside the walls of academia

The best part of training at Tulane is the opportunity to study medicine while treating and learning from the vibrant and diverse people of New Orleans. We are not doing enough to meaningfully engage our trainees with the people they learn from and serve. Moving forward, I will work to strengthen existing community partnerships and develop new ones. I hope to increase opportunities for trainees to meet people in their homes and communities, and to build their skills in integrating the priorities of their patients in the treatment plans they recommend.

Strengthen individualized, longitudinal coaching and role-modeling for trainees across the UME-GME continuum

Our learners deserve longitudinal, personalized mentorship and role modeling, both for their own professional development and to best prepare them positively impact their patients and communities. As a medical educator with a substantial experience in both undergraduate and graduate medical education, I look forward to opportunities to be involved in the evolving discussion about coaching trainees across the UME-GME continuum.

Lead with confident humility

I strive to model confident humility in my role as a residency leader and as an attending physician. I will continue to work on discussing the knowledge and experiences that inform my approach to clinical conundrums and residency program challenges, but also the limitations to my knowledge. I endeavor to create an environment where all team members feel comfortable speaking up and sharing their concerns and feedback for me and for each other, and to ensure that feedback is used to effect change.

Appendices

A. Wards team guide and sample team email
B. Sample QR code-linked resident feedback form
C. Faculty Development presentation on feedback
D. Evaluations for clinical teaching activities
E. Evaluations for classroom teaching
F. Unsolicited learner feedback
    a. Email from 2021 Med-Peds residency graduate
    b. Email from faculty participant in Grand Rounds
    c. Cards from 2022 Med-Peds residency graduates (2)
G. Content outline: WILD curriculum
H. APPD LEAD project presentation
I. Syllabus: Foundations in Medicine
J. Evaluations for Foundations in Medicine
K. BAYOU Bridges HRSA grant proposal narrative and award letter
L. Sample Teaching Materials for National Audience: Human Diagnosis Project Global Morning Report Case Links
M. Sample Presentation at National Meeting: Pediatric Hospital Medicine conference, July 2022
N. Unsolicited letter from AAP SOHM leadership
O. Sample WILD lesson plan and presentation: Neurology I
P. Sample FiM workshops
Q. Sample EBM modules: Positive & Negative Predictive Value
R. BAYOU Bridges curriculum overview & format

Wards Team Guide
Jessica DeBord

Thanks for taking the time to review! This is meant as a guide to what I am hoping to hear when you present on rounds, and an introduction to my philosophy on the care of hospitalized patients. I look forward to the chance to teach and learn from one another over the coming week!

Goals and philosophy:

1. Provide safe and effective patient care – by doing our best to improve patients' health when possible, being honest about our capabilities and limitations, respecting patients' goals and wishes regarding their health, and minimizing risks whenever possible. Along those lines:
    - We should consider the potential harms as well as benefits of every intervention we offer, including those that are apparently benign (i.e. daily labs, continuous pulse ox), and eliminate unnecessary or potentially harmful treatments whenever possible
    - We should involve our patients in the decision-making process to the degree that they desire to participate (this means describing benefits and harms of treatment options and asking which options align best with their priorities)
2. Learn from and teach one another and our patients
    - Questions are always welcome, as is feedback
    - I encourage you to think out loud! Make mistakes. We can all learn from hearing how our teammates approach medical decision making, both when they're right, and especially when they're wrong. As a trainee, I don't expect you to have all the right answers (I still don't always). More important is that you recognize where your knowledge gaps are, are honest about them, and that you're working on the life-long learning skills you'll need throughout your career as a physician.
    - I will give feedback on-the-fly - including during and after presentations. If I ask point out a different way to frame your presentation or suggest a different treatment plan, it's not intended as a criticism of you, but rather a learning point for the entire team. I may also ask you to elaborate on your medical decision making process – again, this isn't meant to criticize your decisions, but rather because the best way to learn medical reasoning is to hear it discussed again and again, by people at varying stages of training. We can all learn from each other!
3. This is a wonderful article that describes some of the challenges facing students and residents as they develop clinical skills through interactions with patients, and the role of empathy in doctoring. Take a look if you time: https://www.dropbox.com/s/8it5melbc9ky62k/The%20Performance%20Art%20of%20Student%20Doctoring%20%28Wackerbarth%202020%29.pdf?dl=0

Expect from me:

- Teaching: I teach often on rounds, when time allows. I will often teach during afternoon rounds week as well – if there are any topics in particular you'd like to discuss, please let me know in advance.
- Feedback: I will send brief feedback emails periodically and will distribute a sign-up for optional face-to-face feedback sessions. If there is something you are working on and/or anything

specific you would like feedback on, please let me know! If you would like to sit down and talk at any point during the week, I'm happy to do that too, just let me know.

- Supervision AND autonomy: I am your safety net. I will try to give you as much autonomy as possible, while also ensuring patient safety. If at any time you feel you would like more direct supervision, please let me know.
- Things to know about me:
    - I don't do a hands-on physical on every patient, every day – this article (https://jamanetwork.com/journals/jama/fullarticle/1877214) describes some of the reasons (although it's more relevant to the outpatient setting). Hospitalized patients do generally have indications for daily physicals, and as physicians in training, part of your job is to learn by examining your patients; so I I do expect that every patient is examined by a resident/intern daily, as well as a medical student – if there's anything that doesn't make sense about the exam that's presented, or I'm concerned about undetected or progressing abnormalities, I'll do my own exam. Often, watching the patient's comfort level, alertness, breathing rate, affect, etc gives me more useful information than a hands-on physical, and multiple exams increases the risk of nosocomial infection and potentially discomfort for the patient. If there is ever something about a patient's exam that you are unsure about, or could use a second opinion on, please ask.
    - I am not a great auditory learner – I often miss details in a spoken presentation. For this reason, I may check labs and imaging on the Epic app while you are presenting – it's not that I'm not paying attention to you, I'm just confirming details I may have missed. I also may ask you to repeat things you have probably already told me. Don't take it personally!

Expectations:

- All team members:
    - Tell the truth! It is always better to say "I don't know but I'll find out" than to make something up.
    - Mistakes are normal and acceptable! I am here as your safety net. Take chances, be autonomous in your thought process, make mistakes, show critical thinking and assessment skills. No need to try to guess what I am thinking.
    - Present to the whole team (not just to me)
    - Avoid medical jargon when presenting in front of a patient
    - Listen to every presentation unless you are actively engaged in an urgent patient-care task. Think about your differential diagnosis and how you would treat the patient as you hear them presented.
    - Call me anytime you have a patient safety concern, or are otherwise overwhelmed, unsure, or need help. I will try to give you autonomy and won't check in constantly unless I have specific concerns … but never hesitate to ask for help if you need it.
        - If you call me for help: ideally call with "here's the problem, here's my plan, is there anything I'm missing?"

- Students:
    - Read up on every patient you admit. If you feel comfortable with the basics of their diagnoses, look up the most recent evidence about management of the condition for which they are admitted. This is good practice for you and has the potential to make a difference in your patients' outcomes.
    - KNOW YOUR PATIENTS. This is the most important thing you can do as a medical student to improve the safety and experience of the hospitalized patients for whom you care. Know where they live, who they live with, who their PCP is, when and how they take their meds, who they call when they need help, lab trends since admit, prior outpatient workup, etc.
- Interns:
    - Ask for help when you need it
    - Have a system for tracking to-dos (consults to call, orders to enter, labs to follow-up, etc)
    - Don't copy-paste your progress notes every day. Remove inactive issues, update consultant recs and meds, and incorporate a means of emphasizing active issues so that consultants can quickly review and understand our team plan.
- Upper level residents:
    - You run the team! I am here to supervise and support, so ask for help when you need it
    - Pre-round – I will assume that the plan presented on rounds by the students and interns is your plan

Presentations:

- ***On family-centered rounds, please make sure to use non-medical jargon that the patient and/or family can understand. Avoid terms like "failure to thrive" that might make the family feel judged or inadequate. General rule of thumb: if you didn't know the word before you started med school, don't use it in the patient room without explaining it.***
- It is okay to skip over elements of the history and exam that don't seem to be relevant to the diagnosis and plan – I'll ask if I want more info. The most important part of your presentation is your medical decision-making process …
- Assessment: THE MOST IMPORTANT PART OF YOUR PRESENTATION. This is where you bring everything you have presented together and show off your medical decision-making skills. I want to hear what you think the most likely diagnosis is and WHY, the other diagnoses you're still considering, and why they're less likely, as well as whether they're high enough on your list to merit additional workup. Present this analysis for every acute problem – so if the patient has acute kidney injury in addition to shortness of breath, I want to hear why you think they have AKI as well as why they have SOB (not just AKI – we're giving IVF).
- Plan: By problem, with the reason for admission first and any additional active problems in order of priority. Go through chronic problems for which we are continuing home management on admission, but no need to continue to present those every day if no changes to management. For active problems, start with any further workup before you go into what we are doing from a management standpoint. Include all meds we are giving in your plan. Always include dispo planning – anything we can work on that will facilitate a safe discharge and improve the patient's ability to adhere to the treatment plan after discharge.

Debord, Jessica M

From: Debord, Jessica M
Sent: Saturday, March 25, 2023 4:45 PM
To: Spradley, Ty T; Annamalai, Arvind; eupp@lsuhsc.edu; jschef@lsuhsc.edu; marcus.davis@lcmchealth.org; Bourgeois, Taylor A; Reeves, Ashley E.; victoria.klibert@lcmchealth.org; asam4@lsuhsc.edu
Subject: Toxic shock and diagnostic accuracy of the pulmonary exam
Attachments: Lung auscultation diagnostic accuracy Nature 2020.pdf

Hi all,

The utility of the pulmonary exam for various diagnoses has come up on rounds recently - attached is a meta-analysis detailing the utility of the pulmonary exam for the diagnosis of several common lung pathologies (spoiler alert – not very useful).

Also, here is a podcast on the diagnosis and treatment of toxic shock syndrome that is relevant to one of our current patients: http://www.emdocs.net/emdocs-podcast-episode-61-toxic-shock-syndrome/

I enjoyed working with you all this week! For those of you off for the weekend, I hope you're enjoying yourselves. I'll send final feedback emails later –

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Subject: Bronchiolitis and asthma

Hi all,

Following up on a few respiratory topics that came up on rounds today ...

Attached:

- 2014 AAP Bronchiolitis Guidelines (you will notice they mostly suggest NOT doing things)
- 2016 meta-analysis investigating utility of hypertonic saline for bronchiolitis (TLDR: does not decrease LOS)
- Choosing Wisely recommendations from Pediatric Hospital Medicine section of Society of Hospital Medicine - see #1 in particular

Also, on rounds I mentioned that inhaled corticosteroids/beta agonist combos can be used for rescue treatment of asthma exacerbations. Below is a table from UpToDate with details on regimens (the regimen I mentioned is highlighted). Of note, this is best studied in older kids/adolescents/adults.

Simplified approach to initial asthma therapy for adolescents and adults

Asthma symptoms	
Intermittent asthma (step 1)	
▪ Infrequent asthma symptoms (eg, <2 times/week)	SABA as needed (prefe **or** Low-dose ICS plus fast
Mild persistent asthma (step 2)	
▪ Asthma symptoms or need for reliever inhaler ≥2 times/week but <4-5 days/week	Low-dose ICS daily and **or** Low-dose ICS plus fast **or** LTRA daily with SABA a
Moderate persistent asthma (step 3)	
▪ Troublesome asthma symptoms most days ▪ Nocturnal awakening due to asthma ≥1 time/week ▪ Risk factors for exacerbations*	**Preferred options**¶ ▪ Low-dose ICS-form ▪ **or** ▪ Low-dose ICS-LAB
Severe persistent asthma (step 4)	
▪ Daily asthma symptoms (≥1/week) ▪ Nocturnal awakening due to asthma ≥1 time/week ▪ Low lung function	**Preferred options**Δ ▪ Medium-dose ICS ▪ **or** ▪ Medium-dose ICS **Evaluate for add-on th**
Severe persistent asthma (steps 5-6)	
▪ Ongoing asthma symptoms and waking with asthma despite step 4 therapy	Medium- to high-dose **Evaluate for add-on th**

Initial therapy for asthma is based on the frequency and severity of asthma symptoms. Patients who present with an acute exacerbation may need oral glucocorticoids in addition. The response to therapy should be assessed in 2 to 12 weeks depending on clinical urgency. Treatment may be stepped down if asthma is well controlled for at least three months, or stepped up 1 or 2 steps if asthma is not well controlled or is very poorly controlled. At follow-up visits, check adherence, inhaler technique, environmental factors, and comorbid conditions. Subcutaneous immunotherapy is suggested as an adjunct to standard pharmacotherapy in individuals who have demonstrated allergy to the included allergens and whose asthma is well controlled whenever immunotherapy is administered. Consult with an asthma specialist if step 4 or higher is required.

DPI: dry powder inhaler; FEV_1: forced expiratory volume in one second; ICS: inhaled corticosteroid (glucocorticoid); LABA: long acting beta-agonist; LMA: leukotriene modifying agent (eg, zileuton); LTRA: leukotriene receptor antagonist (eg, montelukast, zafirlukast); MDI: metered dose inhaler; SABA: short-acting beta-agonist; LAMA: long-acting muscarinic antagonist.

* Risk factors for exacerbations include the following: smoking, allergen exposure if sensitized, previous intubation or intensive care unit stay for asthma, low FEV_1 (especially <60% predicted), obesity, food allergy, chronic rhinosinusitis, and poor adherence/inhaler technique.

¶ **Other options for moderate persistent asthma (step 3):** Medium-dose ICS daily, with SABA as reliever; **or** Low-dose ICS-LABA plus LTRA daily, with SABA as reliever.

Δ **Other options for severe persistent asthma (step 4):** High-dose ICS with SABA as reliever; medium-dose ICS and substitute tiotropium (or other LAMA depending on availability and regulatory approval) for LABA; **or** High-dose ICS daily with SABA as reliever.

◇ Add-on therapies may include:

- Tiotropium (or other LAMA depending on availability and regulatory approval) may be substituted for LABA or added on (step 4).
- LTRA/LMA are more commonly added on for concomitant nasal polyposis or aspirin-exacerbated respiratory disease. The US Food and Drug Administration issued a boxed warning for montelukast in March 2020.
- Asthma biologics include anti-immunoglobulin E, anti-interleukin (IL)-5, anti-IL-5R, anti-IL-4R (anti-IL-4/IL-13), and anti-thymic stromal lymphopoietin (anti-TSLP). Refer to UpToDate graphic on approach to selection of biologic agents for add-on therapy.
- Theophylline, cromolyn, and nedocromil are additional options that are not included in the table as they are rarely used, due to more effective options with fewer adverse effects (theophylline) or limited availability (cromolyn, nedocromil).

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Director, Foundations in Medicine Program

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Sent: Tuesday, March 21, 2023 6:00 PM
To: Spradley, Ty T <jspradley1@tulane.edu>; Annamalai, Arvind <aannamalai@tulane.edu>; eupp@lsuhsc.edu <eupp@lsuhsc.edu>; jschef@lsuhsc.edu <jschef@lsuhsc.edu>; marcus.davis@lcmchealth.org <marcus.davis@lcmchealth.org>; Bourgeois, Taylor A <tbourgeois@tulane.edu>; Reeves, Ashley E. <areev2@lsuhsc.edu>; victoria.klibert@lcmchealth.org <victoria.klibert@lcmchealth.org>; asam4@lsuhsc.edu <asam4@lsuhsc.edu>
Subject: Antipyretics for fever and hyperkalemia with heparin

Hi all,

I'm re-attaching my wards team guide for those who didn't get it yesterday. Following up on my brief treatment of fever soapbox from AM rounds:

- A "Things we do for no reason" article is attached on antipyretics for fevers
- Here is a brief podcast on the topic of **fevers as part of the immune response to infection**: https://curiousclinicians.libsyn.com/episode-24-fevers-and-response-to-infection
- More background on fevers (this one is technically a prequel to the above podcast, listen first if you listen to both): https://curiousclinicians.libsyn.com/episode-21-fevers-and-rigors
- A tweetorial on the topic from one of the podcast hosts: https://twitter.com/tony_breu/status/1370769365428277255?lang=en

Here's the episode of The Curious Clinicians addressing the mechanism behind hyperkalemia with heparin (to answer Arvind's question from afternoon rounds): https://curiousclinicians.com/2022/10/13/episode-59-hyperkalemic-heparin/

See you tomorrow!

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Subject: Wards Team Guide

Hi Green Team,

I'm excited to work with you for the rest of this week! My expectations document is attached; take a look when you have a moment, and let me know if you have any questions. I know I'm missing a few people from this email – please share with anyone you notice is missing. If you have their emails and can reply all with them included, it would be helpful to have an email chain for sharing info throughout the week.

Here's a link to sign up for optional feedback meetings with me (see guide for details on feedback): https://calendly.com/jessdebord/ward-team-feedback

See you tomorrow!

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APPENDIX B: SAMPLE QR CODE-LINKED RESIDENT FEEDBACK SURVEY

SAMPLE QR CODE:

LINK: https://tulane.co1.qualtrics.com/jfe/preview/previewId/a983ae85-38c6-4802-9f60-2d4b34fdf377/SV_1RETfENYSTxp0ma?Q_CHL=preview&Q_SurveyVersionID=

You can be better at feedback!

Embrace your inner growth mindset and foster it in your learners through feedback

JESSICA DEBORD, MD/MPH &
MARGARET HUNTWORK, MD
AUGUST 22, 2022

Children's Hospital
New Orleans
LCMC Health

1

Conflicts of Interest

None relevant to this topic

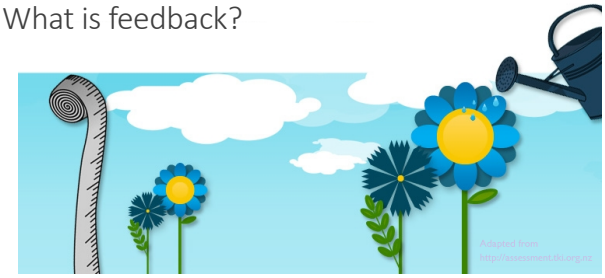
2

Objectives

- Compare and contrast *feedback* with *evaluation*
- Apply a *growth mindset* mentality to your role as a feedback provider and encourage it in trainees
- Understand how *Entrustable Professional Activities* and *Milestones* can provide a framework for providing effective feedback
- Identify your own next steps for ensuring you're providing effective, learner-centered feedback

3

What is feedback?



4

What is feedback?

Feedback is designed to influence, reinforce, or change behavior, concepts or attitudes

5

How confident do you feel in your ability to provide effective feedback?

Poll everywhere

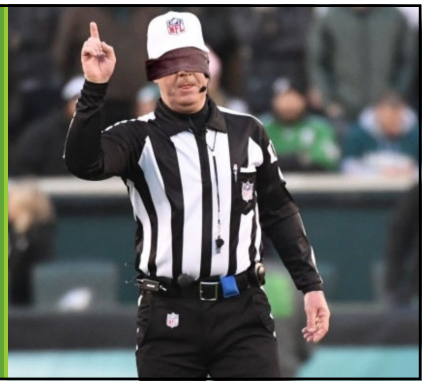
6

Why is giving good feedback in medicine so hard?

Word cloud

7

Why is giving good feedback in medicine so hard?



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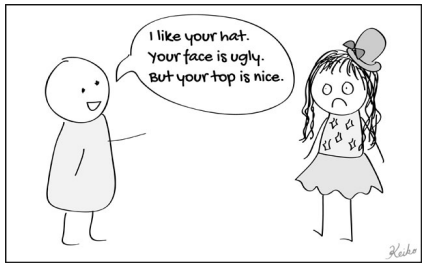
Harness your inner growth mind-set – and role model for learners

9

Making your feedback more effective



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4 Steps to More Effective Feedback

PREPARE:

1. Start out by sharing **goals and expectations**

2. Use **direct observation** to generate data

PERFORM:

3. Ask for learners' **self-assessment**

4. Use the **SOAP** framework

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PREPARE

12

1. Start out by **sharing goals and expectations**

- What do you expect from your learners?
- What can they expect from you?
- What do they want to improve upon during your time together?
- When/where/how often will you provide feedback?
- What feedback you would like to receive
- Model respect for all, willingness to welcome multiple opinions, readiness to admit own limitation and errors

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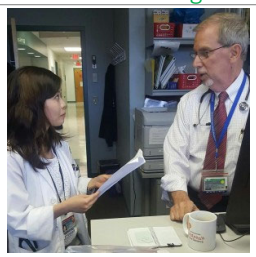
2. Use **direct observation** to generate data



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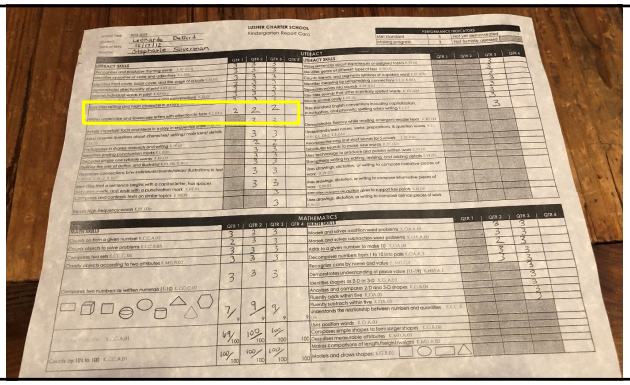
Your student: Leo

15



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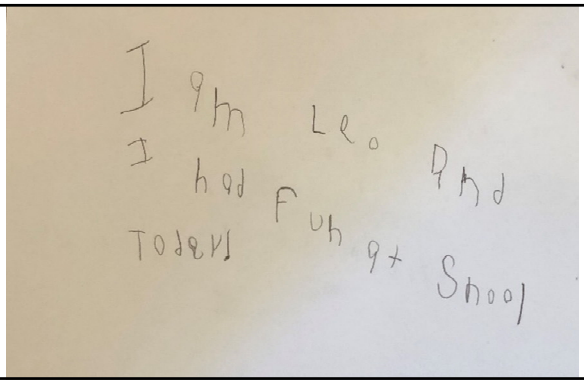

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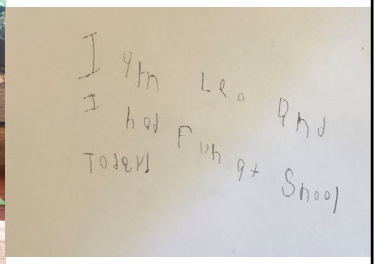


18

What feedback do you have for Leo now?

19

PERFORM

20

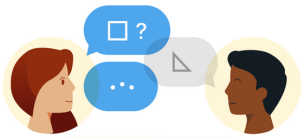
3. Ask for learners' self-assessment

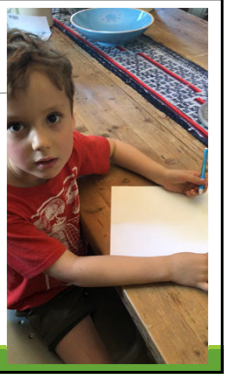
	Known to Self	Not known to Self
Known to Others		
Not known to Others		

The Johari Window (Luft, 1969)

21

The Feedback Conversation





22

4. Use the SOAP Method for Feedback

S = **S**pecific
O = **O**bservable
A = how it **A**ffects me
P = **P**lan for improvement

23

How effective is this feedback?

"Your writing needs to be neater."

S = **S**pecific
O = **O**bservable
A = how it **A**ffects me
P = **P**lan for improvement

24

Better Example

"I notice that you're left-handed, and that your hand blocks the letters that you've just written, which leads to your writing slanting downward. If you used lined paper it will make it easier to write in a straight line.

S = **S**pecific
O = **O**bservable
A = how it **A**ffects me
P = **P**lan for improvement

25

How effective is this feedback?

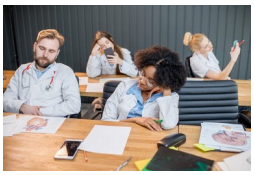
"Appears bored during rounds"

S = **S**pecific
O = **O**bservable & **O**bjective
A = how it **A**ffects me, **A**ctionable
P = **P**lan for improvement

26

Better Example

"Frequently looks at her phone while others are presenting, which makes her seem uninterested"



S = **S**pecific
O = **O**bservable & **O**bjective
A = how it **A**ffects me, **A**ctionable
P = **P**lan for improvement

27

How effective is this feedback?

"Read more"

S = **S**pecific
O = **O**bservable
A = how it **A**ffects me
P = **P**lan for improvement

28

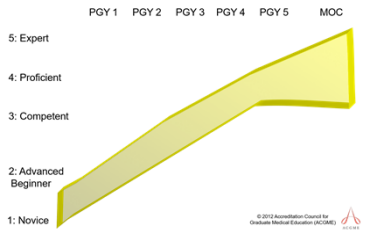
How about this?

"Be more judicious with your diagnostic testing"

S = **S**pecific
O = **O**bservable
A = how it **A**ffects me
P = **P**lan for improvement

29

The Milestones



30

Competency: Diagnostic Evaluation

Medical Knowledge 2: Diagnostic Evaluation

Level 1	Level 2	Level 3	Level 4	Level 5
Lists basic evaluation (e.g., diagnostic testing and consultation) for common diagnoses, with prompting	Recommends broad evaluation based on an unfocused differential diagnosis	Recommends focused evaluation based on a prioritized differential diagnosis	Prioritizes and optimizes evaluation based on risks, benefits, indications, and alternatives to clarify the diagnosis(es)	Educates others about risks, benefits, indications, and alternatives to guide diagnostic decision making
Reports results of diagnostic studies	Identifies clinically significant diagnostic study results, with guidance	Interprets clinical significance of diagnostic study results	Interprets clinical significance of diagnostic study results and considering study limitations	Teaches others to interpret clinically significant results and consider study limitations

Comments:

Not Yet Completed Level 1
Not Yet Assessable

31

Entrustable Professional Activities

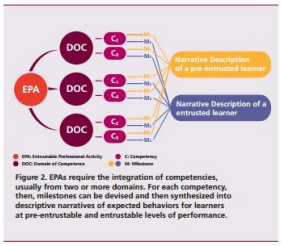


Figure 2. EPAs require the integration of competencies, usually from two or more domains. For each competency, then, milestones can be devised and then synthesized into descriptive narratives of expected behaviors for learners at pre-entrustable and entrustable levels of performance.

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EPA 4: Manage patients with acute, common diagnoses in an ambulatory, emergency, or inpatient setting

Description of the activity:	The ability to manage pediatric patients who present with common acute illnesses is a key activity of a pediatrician.
The functions required of this activity include:	• Gathering essential information through history, physical and initial laboratory evaluation • Engaging in sound clinical reasoning that drives the development of an appropriate differential diagnosis to allow the proper diagnostic tests to be performed • Knowing or acquiring knowledge of the evidence realted to the primary problem • Applying the evidence to the patient's care in developing a diagnostic work-up and plans for management and follow-up • Placing the patient at the center of all management decisions to provide patient and family centered care by engaging in bidirectional communication with patients and parents • Documenting the therapeutic plan and clinical reasoning in a manner that is transparent to all members of the health care team
Associated competencies:	PC 1: Gather essential and accurate information about the patient PC5: Perform complete and accurate physical examinations PC6: Make informed diagnostic and therapeutic decisions that result in optimal clinical judgement PC7: Develop and carry out management plans MK 2/PBLI 6: Locate, appraise, and assimilate evidence form scientific studies related to their patient's health problems; critically evaluate and apply current medical information and scientific evidence for patient care ICS 1: Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds ICS 6: Maintain comprehensive, timely, and legible medical records, if applicable

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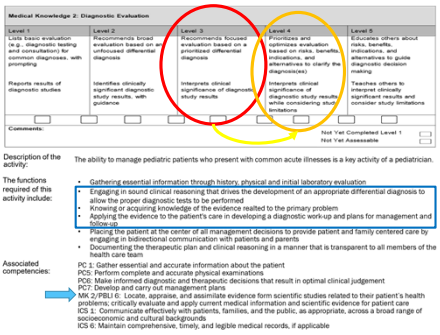
Competency: Diagnostic Evaluation

EPA 4



Description of the activity: The ability to manage pediatric patients who present with common acute illnesses is a key activity of a pediatrician.

The functions required of this activity include:
• Gathering essential information through history, physical and initial laboratory evaluation
• Engaging in sound clinical reasoning that drives the development of an appropriate differential diagnosis to allow the proper diagnostic tests to be performed
• Knowing or acquiring knowledge of the evidence realted to the primary problem
• Applying the evidence to the patient's care in developing a diagnostic work-up and plans for management and follow-up
• Placing the patient at the center of all management decisions to provide patient and family centered care by engaging in bidirectional communication with patients and parents
• Documenting the therapeutic plan and clinical reasoning in a manner that is transparent to all members of the health care team

Associated competencies:
PC 1: Gather essential and accurate information about the patient
PC5: Perform complete and accurate physical examinations
PC6: Make informed diagnostic and therapeutic decisions that result in optimal clinical judgement
PC7: Develop and carry out management plans
MK 2/PBLI 6: Locate, appraise, and assimilate evidence form scientific studies related to their patient's health problems; critically evaluate and apply current medical information and scientific evidence for patient care
ICS 1: Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds
ICS 6: Maintain comprehensive, timely, and legible medical records, if applicable

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Better example

Try: "You develop robust differential diagnoses, but you can better incorporate risks and alternatives when developing diagnostic testing strategies. I suggest that you read more about test characteristics and how to apply them to selecting appropriate diagnostic tests"

S = **S**pecific

O = **O**bservable

A = how it **A**ffects me

P = **P**lan for improvement

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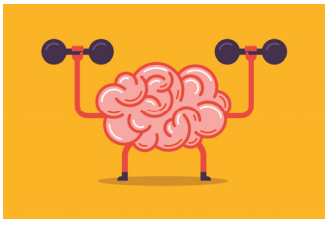
You too can embrace a growth mindset!



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The Growth Mindset and giving feedback

Role model doing important things that make you uncomfortable

Make it easier by establishing bi-directional feedback as part of your daily routine

- Set goals & expectations
- Follow through with HIGH FREQUENCY, LOW STAKES feedback

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"… can help learners reflect on where their performance stands and how to improve."
- Deiorio, N., 2016

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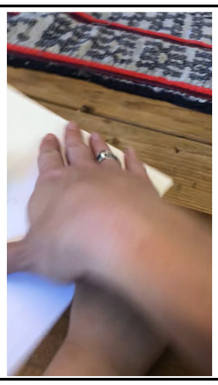

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The challenge

Embrace a growth mindset when it comes to providing feedback to your trainees!

Set out clear expectations at the start

Directly observe skills and behaviors

Provide specific, actionable feedback

Help your trainees to formulate plans for improvement

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Questions? Feedback?

"I have a note from my doctor. I'm allergic to criticism!"

Submit anonymous feedback directly here!

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Resident-of-Faculty Inpatient Evaluation

Learning Climate

	Rarely	Occasionally	Consistently	Avg (Std):
1. My attending expressed interest in me as a learner.*		9.68%	87.10%	**2.90** (0.3)
2. My attending established a positive learning climate where I felt comfortable even when I made a mistake.*		3.23%	93.55%	**2.97** (0.2)
3. My attending generally gave both positive and negative feedback and offered suggestions for improvement.*	3.23%	9.68%	83.87%	**2.83** (0.5)

Rounding Effectiveness

	Rarely	Occasionally	Consistently	Avg (Std):
4. My attending demonstrated bedside teaching with patients (history-taking, physical exam skills, patient education).*		22.58%	74.19%	**2.77** (0.4)
5. My attending demonstrated use of evidence-based medicine with clinical skills and decision-making.*			96.77%	**3.00** (0.0)
6. My attending shared his/her thought process for patient care decisions.*			96.77%	**3.00** (0.0)
7. My attending conducted rounds in an organized and efficient fashion.*		6.45%	90.32%	**2.93** (0.2)
8. My attending completed rounds before 1 pm.*		9.68%	87.10%	**2.90** (0.3)

Professionalism

	Rarely	Occasionally	Consistently	Avg (Std):
9. My attending demonstrated respect, compassion and integrity when interacting with patients and colleagues.			96.77%	**3.00** (0.0)
10. My attending was respectful of my need to attend conferences (Monday school, Friday School, Afternoon Delight).*			96.77%	**3.00** (0.0)

11. My attending was respectful of my adherence to duty hours (<80 hrs/week, avg 1 day off in 7 days).*		12.90%	83.87%	**2.87** (0.3)

Additional Comments

12. Please provide comments on the attending's strengths and suggestions for improvement. These comments will be viewed by attending physician but will be anonymous and aggregated.	Great educational experience Providing more detailed feedback for residents in terms of weaknesses and strengths would be a better use of feedback time. Very approachable and committed to providing excellent patient care Dr Debord is a professional, learning-oriented, thoughtful clinician who has helped me ease into my role as a blooming upper level. She is able to give guidance when I seek it, but respect my autonomy when I feel I have a given situation under control. Excellent teaching provided by rounding at bedside, which gave a good framework for learning for medical students and interns. Dr. Debord demonstrated great teaching on rounds and gave chalk talks on relevant clinical topics Very good teaching and also very respectful of our time when we needed to get work done on call/post call days â€" a good balance. I felt very comfortable reaching out with questions too. I admire Dr. Debord's evidence based medicine approach. She is very professional and ensures that the team members' time constraints are taken into account. Enjoyed working with her. I really enjoy working with Dr DeBord. She's good about teaching and then following up with articles for the team to read that were all well selected and good reads. She's personable and has a good bedside manner with respect for our patients. Teaches evidence-based medicine and references article/guidelines for decisions. Appreciate efficient rounds but could do more bedside exam teaching. I enjoyed working with Dr DeBord, she was very well thought out in her reasoning and good about offering her experience to enhance plans. Could help efficiency of rounds to table round and then see one intern's patients at a time, so the other can do work and complete the to-dos that came up during rounds. I thought table rounds were better, it's easier on the arms to not have to hold your laptop in one hand in the hallway. At least would be nice to stop at nurses station to be able to rest computer on something.
13. Confidential Comments This area is provided to allow positive or negative feedback that you do not feel comfortable giving directly to the attending physician. These comments will go to the program director only.	(confidential)

Debord, Jessica **7/1/2020 - 6/30/2021**

Evaluated 6 times

Has completed 0 evaluations

Rotation *Eval Count*

Overall

Resident Evaluation of Attending 2017-2018

Establishes a good learning environment (approachable, enthusiastic, etc.)	Average	Peer Average	Minimum	Maximum	Standard Deviation
Never/Poor1 - Always/Superb5	4.67	4.72	4	5	0.52

Stimulates me to learn independently	Average	Peer Average	Minimum	Maximum	Standard Deviation
Never/Poor1 - Always/Superb5	4.50	4.58	4	5	0.55

Organizes time to allow for both teaching and care giving	Average	Peer Average	Minimum	Maximum	Standard Deviation
Never/Poor1 - Always/Superb5	4.50	4.61	4	5	0.55

Offers regular feedback (both positive and negative)	Average	Peer Average	Minimum	Maximum	Standard Deviation
Never/Poor1 - Always/Superb5	4.67	4.48	4	5	0.52

Clearly specifies what I am expected to know and do during the rotation	Average	Peer Average	Minimum	Maximum	Standard Deviation
Never/Poor1 - Always/Superb5	4.67	4.55	4	5	0.52

Gives clear explanations/reasons for opinions, advice, actions, etc.	Average	Peer Average	Minimum	Maximum	Standard Deviation
Never/Poor1 - Always/Superb5	4.50	4.65	4	5	0.55

Incorporates research data and/or practice guidelines into teaching	Average	Peer Average	Minimum	Maximum	Standard Deviation
Never/Poor1 - Always/Superb5	4.83	4.65	4	5	0.41

Teaches or demonstrates effective patient and/or family communication skills	Average	Peer Average	Minimum	Maximum	Standard Deviation
Never/Poor1 - Always/Superb5	4.50	4.67	4	5	0.55

What does this faculty member do well?	Average	Peer Average	Minimum	Maximum	Standard Deviation
Text Scale	N/A	N/A			

Anonymous:
'Good teaching on rounds'

Anonymous:
'Dr. Debord did a wonderful job of incorporating us to the team quickly and often made time to teach us something.'

Anonymous:
'great teacher!'

Anonymous:
'Dr. Debord was a great attending to work with. As an intern I appreciated that she would regularly offer her thought process on differential diagnoses/management decisions for patients.'

Anonymous:
'great teacher!'

Anonymous:
'Dr. Debord is an excellent teacher and physician. She allows residents to lead the team and teaches during rounds.'

In what areas could this faculty member improve?	Average	Peer Average	Minimum	Maximum	Standard Deviation
Text Scale	N/A	N/A			

Anonymous:
'Nothing major! I benefit a lot from attendings incorporating lectures/cases/chalk talks as part of their teaching. As much as time allows in the afternoon (Especially if the census is low) I think incorporating more of those would be helpful in my learning.'

Debord, Jessica - 7/1/2020 - 6/30/2021

Anonymous:
'none'

Anonymous:
'none'

Anonymous:
'-'

Anonymous:
'I honestly cannot think of any areas in which to improve.'

Anonymous:
'Sometimes could have been more efficient with discussions with patient's families on rounds'

Please provide any feedback about this rotation as a whole.	Average	Peer Average	Minimum	Maximum	Standard Deviation
Text Scale	N/A	N/A			

Anonymous:
'It went very well, I had very few issues during the rotation and always felt supported!'

Anonymous:
'great learning environment!'

Anonymous:
'great learning environment!'

Anonymous:
'Great rotation I learned a lot'

Anonymous:
'This rotation was a great rotation. Learned a lot.'

Anonymous:
'One area that could be improved upon is the morning checkout space. With the medical students/other learners the library gets crowded and hard to hear. Teams would benefit from dedicated checkout spaces.'

Overall comments:

Anonymous:
"great learning environment!"

Anonymous:
"great learning environment!"

Anonymous:
"Good rotation with great faculty!"

Anonymous:
"Good rotation and learning"

Anonymous:
"Great rotation, I really enjoyed CHPA throughout my time on the rotation!"

Anonymous:
"Great attending to work with"

DeBord, Jessica

Student of Preceptor: All Clinical Rotations

Student Evaluation of Preceptor I

Student Evaluation of Preceptor

#	Criteria	No Response	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total Responses	Mean Score
1	The preceptor was clear in conveying what was expected of me during the clerkship (e.g., as specified in the syllabus or goals and objectives).	0%	0%	0%	0%	0%	100%	1/1	5.00
2	The preceptor was a good clinical teacher and demonstrated a commitment to student learning.	0%	0%	0%	0%	0%	100%	1/1	5.00
3	The preceptor treated me with respect and considered me an integral part of the team.	0%	0%	0%	0%	0%	100%	1/1	5.00
4	The preceptor included me in discussions of clinical problems.	0%	0%	0%	0%	0%	100%	1/1	5.00
5	The preceptor was a good professional role model.	0%	0%	0%	0%	0%	100%	1/1	5.00
6	The preceptor provided adequate supervision of my clinical work.	0%	0%	0%	100%	0%	0%	1/1	3.00
7	The preceptor provided me with useful feedback, including constructive criticism.	0%	0%	0%	0%	0%	100%	1/1	5.00
Group Mean								7/7	4.71
Mean Total Points								33.00/35.00	94%

DeBord, Jessica

Student of Preceptor: All Clinical Rotations

Student Evaluation of Preceptor II

Overall Quality of Teaching

#	Criteria	No Response	Poor	Fair	Good	Very Good	Excellent	Total Responses	Mean Score
1	The overall quality of this preceptor's teaching was:	0%	0%	0%	0%	0%	100%	1/1	5.00
Group Mean								1/1	5.00
Mean Total Points								5.00/5.00	100%

DeBord, Jessica

Student of Preceptor: All Clinical Rotations

What were the strengths of this preceptor?

Response
communicated expectations very clearly, offered a ton of teaching both on and after rounds, clearly invested in residents and students both learning at a level appropriate to them.

DeBord, Jessica

Student of Preceptor: All Clinical Rotations

In what areas could this preceptor improve?

Response
1 submissions without a response.

Tulane University School of Medicine
Internal Medicine Clerkship

Educator Comments Report

Subject: Jessica M. DeBord
Time Period: Between '04/01/2016' AND '06/30/2016'
Time Period: Between '01/01/2016' AND '03/31/2016'
Time Period: Between '10/01/2015' AND '12/31/2015'
Time Period: Between '07/01/2015' AND '09/30/2015'
Time Period: Between '04/01/2015' AND '06/30/2015'
Time Period: Between '01/01/2015' AND '03/31/2015'
Time Period: Between '10/01/2014' AND '12/31/2014'
Time Period Type: Completed Date
Report Date: 09/01/2016

What were the strengths of this preceptor?	
Subject: Jessica DeBord	lots of knowledge and experience, patient with students
Subject: Jessica DeBord	Dr. Debord made her expectations clear very early on, which made it much easier for us students to maximize our learning during teaching opportunities. She is also knowledgable and was happy to assist us with any questions or assignments we had due.
Subject: Jessica DeBord	I greatly enjoyed working with Dr. Debord. It is clear that she stays on top of the literature and enjoys teaching. I learned so much from her and wish all attendings were as intelligent, caring and thorough as Dr. Debord.
Subject: Jessica DeBord	Very nice
Subject: Jessica DeBord	Very patient and good at explaining concepts to both students and patients.
Subject: Jessica DeBord	easy to discuss topics with and will answer questions
Subject: Jessica DeBord	She made her expectations very clear and wanted students to actively participate in rounds and patient research. She was very good at teaching the students to make an assessment and plan.
Subject: Jessica DeBord	Dr. Debord was very clear in her expectations and outlined them early on. She frequently engaged in teaching, even with a heavy patient load, which I greatly appreciated. She met us where we are in our stage of training and challenged us to read/learn/do more for our patients and made us feel like a valuable part of the team. She was also very supportive of the students in our various assignments.
Subject: Jessica DeBord	Dr. DeBord gave me an excellent amount of autonomy while also keeping herself available to offer guidance.
Subject: Jessica DeBord	Efficient and knowledgeable. Good with patients
Subject: Jessica DeBord	Excellent teacher
Subject: Jessica DeBord	Patient with students and efficient. Good role model in terms of medical knowledge.
Subject: Jessica DeBord	Taught a lot during rounds and asked us questions to help us learn. Provided valuable feedback. Was clear about expectations.
Subject: Jessica DeBord	Very clear on expectations on rounds, great clinical teacher, feedbacks and suggestions were very helpful
Subject: Jessica DeBord	Dr. DeBord was very, very knowledgeable in the clinic. It was very obvious that when she voiced her opinion, it was well-informed. When she did not know the definitive diagnosis, she did read up on them that night and reinforced her differentials with that information. I think she led a tight ship. People knew what they were supposed to do. I don't know why this matters to me, but - she dressed well. I just imagine that if I were a patient, I would have more respect for the physician who dresses well/professionally.

Subject: Jessica DeBord	Dr. Debord was an excellent teacher and team leader. She consistently discussed difficult topics in depth and took the time to explain complex cases and clinical decision making. From the first day she was very clear about the expectations and role of the medical student. She also provided great feedback at the end of her two weeks that helped prepare me for the second half of the rotation and then some.
Subject: Jessica DeBord	Dr. Debord shifted my feeling of my own clinical role from "helping the team" to "managing" a patient's clinical course through teaching, constructive criticism, and example. By the end of my time with Dr. Debord I distinctly felt I had left the shore of "basic 3rd year med student" and am sailing strongly to 4th year med student and intern. I feel more confident making a differential diagnosis and narrowing it down as well as to approaching all situations with a sense of calm and empathy while maintaining appropriate objectivity. This balance was an essential part of my growth as a clinician that was exemplified by Dr. Debord, as we encountered many challenging patients and situations on our service during which the stress could have proved overwhelming without her demonstration of calm, methodical management. I feel much more confident in clinical decision making and putting all of the pieces of the puzzle (e.g. labs, imaging, subjective reports) together to form a coherent plan. Dr. Debord's emphasis on teaching kept us intellectually engaged and on our toes while always emphasizing that we were in a mutually respectful and safe space to learn and ask questions, particularly on post-call rounds. One of my best attendings this year. The donuts also noted and appreciated!
Subject: Jessica DeBord	Great clinical teacher and very patient with students and residents. Wonderful professional role model. Providing breakfast post call was always kind and greatly appreciated by everyone on the team.
Subject: Jessica DeBord	Extremely broad clinical knowledge, really cares about her patients and works to make sure they receive impassioned excellent care.
Subject: Jessica DeBord	Dr. Debord was very knowledgeable and interested in her patients. She took time to have difficult conversations with them, and watching that helped me to think more about how I would handle those situations. We had a few patients whose family were unclear of their current situation and Dr. Debord navigated that and helped the patient and family to understand what was going on and what to expect. I am definitely going to try and emulate that when I enter into difficult patient/family situations.
Subject: Jessica DeBord	Excellent clinical mind, and great with patient care.
Subject: Jessica DeBord	Dr. DeBord was a great attending. She professional, compassionate and accessible. Moreso than other attendings, she treated me as a valued member of the team and as a colleague. Her medical knowledge and patient interactions were both energizing and encouraging in their expertise. Though young, Dr. DeBord shows an uncanny ability to relate and engage patients on a number of issues, and her ability to address end of life issues on the wards was impressive. I had a wonderful week working with Dr. DeBord.
In what areas could this preceptor improve?	
Subject: Jessica DeBord	n/a
Subject: Jessica DeBord	N/A
Subject: Jessica DeBord	teach more about the processes and decision making
Subject: Jessica DeBord	I think she did a great job. I dont know of any areas she could improve.
Subject: Jessica DeBord	Dr. Debord showed us multiple physical exam findings on rounds, but it is always helpful for third years to improve our physical exam skills. Even though it is a bit inefficient, I know that most students really appreciate being taught physical exam techniques during rounds, even if the patient does not have an abnormal finding (assuming the patient is amenable.) This isn't really specific to Dr. Debord-- in fact, we saw more physical exam demonstrations with her than our other attendings.
Subject: Jessica DeBord	More contact with attendings (true for all)
Subject: Jessica DeBord	N/a
Subject: Jessica DeBord	A little more feedback during presentations might have been helpful
Subject: Jessica DeBord	n/a
Subject: Jessica DeBord	I think she was very good overall. I don't know why, but I got kind of flustered in our feedback session when she said that my affect was flat. It could be my nature, and I would say that it's kind of a smaller fraction of who I am as a medical student/professional. I've been made aware of it in the past. I will continue to make my attendings aware that I can be perceived that way ahead of time. I like to joke around and stuff with the people I work with closely, but when I'm working I like to work.
Subject: Jessica DeBord	n/a
Subject: Jessica DeBord	n/a

Subject: Jessica DeBord	None
Subject: Jessica DeBord	Struggled to give feedback to students, struggled with expectations conversation. Dr. Debord is consistently on her phone looking at the relevant patient chart information during student presentations. I understand this is her method of fact checking and building the clinical picture in her head but it initially comes across the first few days as if she is uninterested in what you're presenting(Iknow this is not actually the case.) If she prefaced her phone usage before presentations it would not be an issue.
Subject: Jessica DeBord	During bedside rounds I would have enjoyed more of a discussion of the clinical decisions that were made by the resident and Dr. Debord. We occasionally ran through an overview of the relevant topics, but a more in depth discussion including more questions to test our understanding, would have been helpful.
Subject: Jessica DeBord	Setting expectations of medical students is helpful for us. More actual teaching would have been great, as she is clearly very knowledgeable, but spent very little time with us as individuals.

End of comment report.

DeBord, Jessica

Student of Facilitator_Preclinical

Student of Facilitator_Standard Evaluation

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	My facilitator created a comfortable learning environment in the session.	0%	0%	0%	17%	50%	33%	18/18	4.17
2	My facilitator effectively guided us to the answers by asking questions.	0%	0%	0%	17%	56%	28%	18/18	4.11
3	My facilitator encouraged participation by all students in the group.	0%	0%	0%	17%	56%	28%	18/18	4.11
4	My facilitator interceded enough to keep our group on track and on time.	0%	0%	0%	17%	56%	28%	18/18	4.11
5	My facilitator made certain that we covered the entire case and all the major learning points.	0%	0%	0%	17%	56%	28%	18/18	4.11
6	This session was beneficial and contributed to overall learning.	0%	0%	0%	17%	56%	28%	18/18	4.11
Group Mean								108/108	4.12
Mean Total Points								24.72/30.00	82%

DeBord, Jessica
Student of Facilitator_Preclinical
(Comments) - Student of Facilitator_Standard Evaluation
none
N/A
Dr. Debord was a great ethics facilitator. I wish we had more time with her in our FIM education.
While I do love Dr. DeBord, I do think changing our first ethics session less than 12 hours in advance notice was really troublesome for a lot of our classmates especially for those who had already our busy schedules planned. If a change in the schedule needs to be made, I would really apprecicate if you have had at least a one weeks notice in advance.
Dr. DeBord was a fantastic facilitatory that carried the conversation forward and was able to answer many of our questions related to the topic. I found the conversation to be both insightful into ethical approaches to complex issues, but also informative on more of the specifics of hospital functioning!
It was great to have this session in-person, it created a more comfortable sharing environment. I enjoyed our conversations that we had going through the cases.

DeBord, Jessica

Student of Facilitator_Preclinical

Student of Facilitator_Standard Evaluation

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	My facilitator created a comfortable learning environment in the session.	0%	0%	0%	10%	54%	36%	39/39	4.26
2	My facilitator effectively guided us to the answers by asking questions.	0%	0%	0%	8%	56%	36%	39/39	4.28
3	My facilitator encouraged participation by all students in the group.	0%	0%	0%	10%	54%	36%	39/39	4.26
4	My facilitator interceded enough to keep our group on track and on time.	0%	0%	0%	10%	54%	36%	39/39	4.26
5	My facilitator made certain that we covered the entire case and all the major learning points.	0%	0%	0%	10%	54%	36%	39/39	4.26
6	This session was beneficial and contributed to overall learning.	0%	0%	3%	13%	49%	36%	39/39	4.18
Group Mean								234/234	4.25
Mean Total Points								25.49/30.00	85%

DeBord, Jessica
Student of Facilitator_Preclinical
(Comments) - Student of Facilitator_Standard Evaluation
Great work!
Dr. DeBord really works hard to put FiM together.
N/A
I am continuously confused as to when evaluations are due. Also, this time I wasn't even in the small group of the students I was supposed to be peer evaluating. Nevertheless, enjoyed session. Thanks,
I think next time we should be evaluating the 4th year students that facilitated the discussion. I was in Lauren's group and it was great!
I thought the session was interesting.
n/a
Great facilitator and great session!
For some reason I felt these cases were not as challenging -- most of my group felt there was only one right thing to do, and so there was very little debate about the other options since we all agreed on what would be the ethical action.
Just superb all around
great session
I felt that this session was useful. Dr. DeBord did a good job facilitating.
Good job.
My student facilitator was amazing, she was very engaging and created a very welcoming environment that was easy to share and discuss in.
Overall exceptional
This was a great session!

DeBord, Jessica

Student of Facilitator_Preclinical

Student of Facilitator_Standard Evaluation

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	My facilitator created a comfortable learning environment in the session.	0%	0%	0%	0%	56%	44%	9/9	4.44
2	My facilitator effectively guided us to the answers by asking questions.	0%	0%	0%	0%	44%	56%	9/9	4.56
3	My facilitator encouraged participation by all students in the group.	0%	0%	0%	0%	44%	56%	9/9	4.56
4	My facilitator interceded enough to keep our group on track and on time.	0%	0%	0%	0%	56%	44%	9/9	4.44
5	My facilitator made certain that we covered the entire case and all the major learning points.	0%	0%	0%	0%	56%	44%	9/9	4.44
6	This session was beneficial and contributed to overall learning.	0%	0%	0%	0%	44%	56%	9/9	4.56
Group Mean								54/54	4.50
Mean Total Points								27.00/30.00	90%

DeBord, Jessica
Student of Facilitator_Preclinical
(Comments) - Student of Facilitator_Standard Evaluation
Dr. DeBord did an excellent job moderating our discussion. I enjoyed the insights and anecdotes that she shared. I am very grateful for how she challenged all of us to think deeply about the topic and provided us with a space to speak freely.
I love, love, love these Ethics readings. They are some of the most interesting work we have done in all of medical school. That being said, I have suffered through previous sessions. Very few students do the readings at all, and most seem to have just skimmed them. Facilitators often struggle to keep the session on track. This was the first time I felt really good about the session itself, thanks to Dr. DeBord's excellent facilitation. The readings were the main topic of conversation, and we kept coming back around to points made in the readings. I really appreciated her style, encouraging participation from various students and keeping the discussion on track.
n/a

Jessica DeBord

Overall quality of teaching *(67 respondents)*: **Honors** 4.44

What did this presenter do well? (65 comments)

- 11 students mentioned Dr. DeBord's passion for the subject. Dr. DeBord's presentation style was complimented 7 additional times.
- Students found her to be approachable, relatable, inviting, and engaging. They complemented her delivery, her pacing (4 respondents), and her preparation - saying she and her slides were well organized.
- Respondents tended to complement this lecture as a helpful introduction to FiM (4), they liked the "card building activity" (2), and the vast majority appreciated the Saints example (6).
- 2 students specifically expressed an appreciation for Dr. DeBord's willingness to engage with other perspectives. Others commented on how it was helpful to be taught by a practicing physician.

How can this presenter improve? (2 comments)

- This lecture was very well received with most comments for improvement being about scheduling; Owl Club will discuss with the curriculum committee to see if these requests may be possible.
- 1 student would have appreciated more discussion of what is a "professional."
- 1 student would have appreciated more notice on the reading.

Jessica DeBord

Overall quality of teaching *(73 respondents)*: **Honors** 4.12

What did this presenter do well?

- 2 students appreciated how interactive the session was
- 2 students enjoyed the heart sound recordings
- 2 students were glad about how concise the lecture was
- 2 students appreciated the clinical aspect of this lecture
- 1 student liked the clicker questions
- 1 student appreciated the heart sound mnemonics

How can this presenter improve?

- 1 student felt that the lecture could have benefitted from being in-person
- 1 student felt that the lecture didn't adequately answer the lecture objectives
- 1 student requested time devoted to reviewing all answer choices for clicker questions
- 1 student requested that she dedicate time to explaining why certain maneuvers are used to hear certain heart murmurs
- 1 student requested a recap of maneuvers and corresponding heart murmurs
- 1 student felt that it wasn't clear what was important to know for the exam

Jessica DeBord

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From: Mathai, Abraham
To: Hamm, L. Lee; LeDoux, Elma I; Gladden, Paul B; Thannickal, Victor J; El-Dahr, Samir S; Wiese, Jeffrey G; Carlson, John C; Bhatnagar, Deepa
Subject: Recommendation: Dr. Jessica DeBord
Date: Wednesday, March 3, 2021 11:01:44 AM

Dear Dr. Hamm, Dr. LeDoux, Dr. Gladden, Dr. Thannickal, Dr. El-Dahr, Dr. Wiese, Dr. Carlson, and Dr. Bhatnagar,

I am Abraham Mathai, one of the chief residents of the Med-Peds program, and ***I am writing to you to strongly recommend Dr. Jessica DeBord for promotion to her next academic rank*** (I think Associate Professor of both Internal Medicine and Pediatrics), ***based on exemplary and selfless service to the university.***

I do not know whether it is my place as a resident to directly contact senior administration to recommend a faculty member for promotion; however, I believe that uncommon situations demand uncommon means of communication. Also, I value the 360 degree feedback approach that I learnt during my time in Goldman Sachs, which I think is often lacking in academia. Considering the dynamic and fluid situation that the Med-Peds program is going through, regardless of what the final outcome will be, ***I do not want her critical contributions for the Med-Peds program to be unnoticed at a later date.***

Right from the first day that Dr. DeBord has taken over as the Interim Program Director of the Med-Peds program, she has fulfilled her duties with **professionalism, poise, humility, respect, and selfless service above and beyond her role.** These are the salient points I would like to mention about her:

1. Professionalism and impartiality in the middle of a firestorm: Dr. DeBord's professional approach to dealing with such polarized opinions within the program with poise has been a textbook version of what academic leadership should look like. She has been respectful of the opinions of ALL residents, regardless of rank. She has valued EACH and EVERY resident even when some felt that their opinions weren't being heard in the hierarchical nature of academic medicine.

2. Respect for prior decisions and her predecessor: Although it was completely within her powers to make changes to the Match list as interim PD, she deferred the decision for the final rank list to the recruitment committee comprised of residents. She also ensured that the previous decisions made by the former PD, Dr. Princess Dennar were respected with regards to the rank list, so that residents are reassured that there will be no interference in issues that have already been decided upon.

3. Calm through a social media forest fire: With the social media fire being lighted and fanned by certain individuals, the mental peace of residents who were engrossed in social media activities was at jeopardy. In an unfamiliar terrain, where each and every action could backfire, she sought advice from professionals in the public relations department, and navigated this problem delicately and precisely. She intervened at critical moments and was a calming voice which doused some of the flames.

4. Maturity and a principled stand: The letters and opinions of some faculty members, including some in the current Med-Peds leadership, is public knowledge. During this time, Dr. DeBord took a neutral and principled stand which held the program together, and displayed immense maturity.

5. Humility in seeking advice: Dr. DeBord always sought advice from all residents in dealing with many issues pertaining to the program, particularly, the social media crisis, the recruitment policies, the path forward, etc. A good leader is marked by his/her advisors and she has shown her leadership

skills by being humble.

6. Selfless service: Dr. DeBord has been available for residents to call her at all times of the day and night, especially in these difficult times. I have personally reached out to her on many occasions late in the night, often feeling guilty for disturbing a mother of three young children. She has clearly taken out time from her personal life to ensure that the residents were taken care of and her personal sacrifices haven't gone unnoticed.

Thank you so much for taking the time to read my letter.

Sincerely,

Abraham Mathai, MD, MS, PhD

Chief Resident, Internal Medicine & Pediatrics

Debord, Jessica M

From:
Sent: Thursday, April 11, 2019 3:31 PM
To: Debord, Jessica M
Subject: Grand rounds

Jess, that was by far the best medical education talk that I've ever been to. Even with the technological issues, I've never seen something so good. The video clips of you and Leo were so cute and perfect for illustrating the points, the interactivity actually worked even though you had a couple of know-it-all's in the audience, the video clips of Scrubs were funny but poignant, and the didactic parts combined the evidence base and the practical tips to make it all actionable. Your speaking style was that of an approachable expert. And based on what I have learned, I am certain that you have worked very very hard to hone your knowledge and communication skills to the point where you are so amazing. I'm so impressed!

Sent as a mobile message

Dear Dr. Debord,

Thank you for everything you have done for me and the program. As someone who is not always the most outspoken person in the room, your quiet confidence and willingness to always listen to others first has been a personal inspiration for me. From working with you on outreach projects to celebrating Mardi Gras with you and your family, I have learned so much over the last few years and had so much fun in the process! I am excited to apply my training at my new job in Los Angeles and carry the spirit, joy, and resilience of New Orleans with me there and beyond. I can think of no better example of someone connected to those values than you and thank you again for all your guidance, mentorship, and support!

Take care and wishing you all the best for the new academic year!

Dear Dr. Debad,

Thank you so much for everything you have done for us this year! Even though we never worked together before you became our PD, I really appreciated that you took the time to get to know me, advocate for me when I was experiencing burnout and write me a meaningful letter of recommendation for fellowship. This year has been better and way less stressful for many of us, largely thanks to you.

Sincerely,

Dear Dr. DeBord,

I wanted to write a note thanking you for the time you spent meeting with me, teaching me, and offering words of advice. Your letter + support during the residency application process meant a lot to me and I hope I'm able to do the same for folks in the future. I matched at UMD in Baltimore, so while my partner and I are excited to be moving closer to family, we're super sad at the thought of leaving New Orleans. I'd love to stay in touch and will definitely be back to visit! Thanks again.

Sincerely,

APPENDIX G: WILD CURRICULUM OVERVIEW

NUMBER	TOPIC	SUBTOPIC
1	Growth and Development 1	Infant developmental milestones, ALTE (13K1)
2	Growth and Development 2	Infant growth and FTT
3	Growth and Development 3	Early childhood development, developmental delay
4	Growth and Development 4	Middle childhood development, obesity
5	Nutrition and Nutritional Disorders 1	Breastfeeding & infant nutrition
6	Nutrition and Nutritional Disorders 2	Vitamins, minerals, protein and calories
7	Nutrition and Nutritional Disorders 3	Nutritional support and problems (inc refeeding from XII.M.1)
8	Preventive Pediatrics 1	Anticipatory Guidance
9	Preventive Pediatrics 2	Sleep hygiene & safety (inc 13J, 28A,13K)
10	Preventive Pediatrics 3	Vaccines
11	Preventive Pediatrics 4	Screening and disease prevention
12	Poisoning and Environmental Exposure to Hazardous Substances	
13	Fetus and Newborn Infant 1	Well-baby nursery (delivery room, routine care, jaundice, home birth, TTN,
14	Fetus and Newborn Infant 2	The ill term newborn (TEF, abd wall defect, NAS, chorio/sepsis, MAS, ptx, oligo, injuries & deformations), maternal meds, hypoxia-ischemia
15	Fetus and Newborn Infant 3	Premature neonates (RDS, IVH, NEC) (inc XIII.D.5)
16	Fluid and Electrolyte Metabolism 1	Electrolytes, dehydration, SIADH, metabolic alkalosis
17	Fluid and Electrolyte Metabolism 2	Acid/base, HNKC, hyperkalemia
18	Genetics and Dysmorphology 1	Intro to Genetics, diagnostic testing, genetic counseling
19	Genetics and Dysmorphology 2	Chromosome & gene abnormalities
20	Allergic and Immunologic Disorders 1	Asthma & allergic rhinitis
21	Allergic and Immunologic Disorders 2	Risk factors, allergies, anaphylaxis, allergy testing and immunotherapy, atopic derm (XX.B)
22	Allergic and Immunologic Disorders 3	Immunodeficiencies & leukocyte disorders (XV.C)
23	Infectious Diseases 1	Common Viruses of Childhood, public health
24	Infectious Diseases 2	Infections in immunocompromised hosts, Fungi/parasites
25	Infectious Diseases 3	Bacteria
26	Infectious Diseases 4	HIV/AIDS, hepatitis
27	Metabolic Disorders	Metabolic disorders
28	Endocrine Disorders 1	Growth,sex differentiation & puberty
29	Endocrine Disorders 2	DM, metabolic syndrome
30	Endocrine Disorders 3	Thyroid, adrenal, pituitary, Ca/Phos/PTH
31	Gastrointestinal Disorders 1	Chronic abdominal pain, chronic vomiting, diarrhea, constipation, esophogeal
32	Gastrointestinal Disorders 2	Jaundice, hepatomegaly, malabsorption, abd mass
33	Gastrointestinal Disorders 3	Acute abdominal pain, acute vomiting, diarrhea, GI bleed, ulcers, IBD
34	Respiratory Disorders 1	General sx, diagnostic testing, bronchiolitis, pneumonia

35	Respiratory Disorders 2	Upper airway, FB, extrapulmonary SOB (pleural, ptx, pulm htn, cor pulm), hemosiderosis
36	Respiratory Disorders 3	congenital (diaphragmatic hernia, vascular rings, kartagener's, thoracic deformities), CF, bronchiectasis
37	Cardiovascular Disorders 1	General, CHD, CHF, systemic diseases affecting heart
38	Cardiovascular Disorders 2	Infectious and noninfectious cardiovascular diseases, rate & rhythm disorders, ischemia
39	Blood and Neoplastic Disorders 1	General, hematology (not leukocyte disorders)
40	Blood and Neoplastic Disorders 2	Oncology, pancytopenia
41	Renal and Urologic Disorders 1	General, GU, infections
42	Renal and Urologic Disorders 2	Glomerulonephritis, nephrotic, renal failure, htn
43	Genital System Disorders	Genital System Disorders
44	Neurologic Disorders 1	HA, meningitis, encephalitis, abscess, hydrocehalus, AMS, ICP, spinal dysraphism, CP, narcolepsy
45	Neurologic Disorders 2	Weakness, ataxia, hypotonia, movement d/o, neurodegenerative, spinal cord, peripheral nerve and NM jcn, stroke
46	Musculoskeletal Disorders 1	Congenital MSK disorders
47	Musculoskeletal Disorders 2	Acquired MSK disorders
48	Skin Disorders 1	Skin disorders in newborns, neurocutaneous, pigmented lesions, other
49	Skin Disorders 2	Infectious rashes, hair loss
50	Collagen Vascular and Other Multisystem Disorders	Collagen Vascular and Other Multisystem Disorders
51	Disorders of the Eye	Disorders of the Eye
52	Ear, Nose and Throat Disorders 1	Ears and hearing
53	Ear, Nose and Throat Disorders 2	Nose and throat, neck, sinuses
54	Adolescent Medicine and Gynecology 1	Puberty, psychologic growth and development, acne (20G)
55	Adolescent Medicine and Gynecology 2	Health behaviors of adolescents, general mgmt issues
56	Sports Medicine and Physical Fitness 1	Fitness, sports participation, nutritional requirements, performance enhancing drugs & supplements
57	Sports Medicine and Physical Fitness 2	Sports injuries, concussion
58	Substance Abuse	Substance Abuse
59	Disorders of Cognitition, Language and Learning 1	Intellectual disabilities, learning disabilities, poor school performance, diagnostic eval, mgmt
60	Disorders of Cognitition, Language and Learning 2	ASD, speech/language
61	Behavioral and Mental Health Issues 1	Common behavioral issues
62	Behavioral and Mental Health Issues 2	ADHD
63	Behavioral and Mental Health Issues 3	Internalizing/externalizing behaviors, suicidal behaviors

64	Child Abuse & Neglect, Violence	Abuse and neglect, family & societal violence
65	Psychosocial Issues	Chronic illness, family and environmental issues, specific problems
66	Critical Care	Critical Care
67	Emergency Care 1	Seizures (XVIII.G), fever
68	Emergency Care 2	Wounds, trauma (burns, sjs/tss)
69	Pharmacology and Pain Management	Pharmacology and Pain Management
70	Research and Statistics	Research and Statistics
71	Ethics for Primary Pediatricians	Ethics for Primary Pediatricians
72	Patient Safety and Quality Improvement	Patient Safety and Quality Improvement

A WILD Approach to Didactics:
Comparing pediatric resident knowledge acquisition and retention following Weekly Interactive Learning half-Day conferences and daily noon conferences

Jessica DeBord, MD, MPH

Tulane University School of Medicine

New Orleans, Louisiana

Background

- Lecture-based didactics have been shown ineffective in changing physician performance
- Evidence on the effect of noon conference (NC) attendance on medical knowledge is conflicting
- Interactive conferences have been successful in effecting change in professional practice, health care outcomes, and exam performance
- The academic half-day (AHD) is gaining popularity
  - Previously published studies:
    - Moreno, Frohna, et al. JGME 2013
    - Ha, et al. JGME 2014
    - Zastoupil, et al. Acad Pediatr 2017
- The Tulane/Ochsner pediatrics residency adopted an interactive, case-based AHD format in 2010: Weekly Interactive Learning half-Day (WILD)
- ***Objective:*** To assess the knowledge of residents on specific topics before and after didactic sessions at three pediatric residency programs, two using noon conference, and the other the WILD curriculum

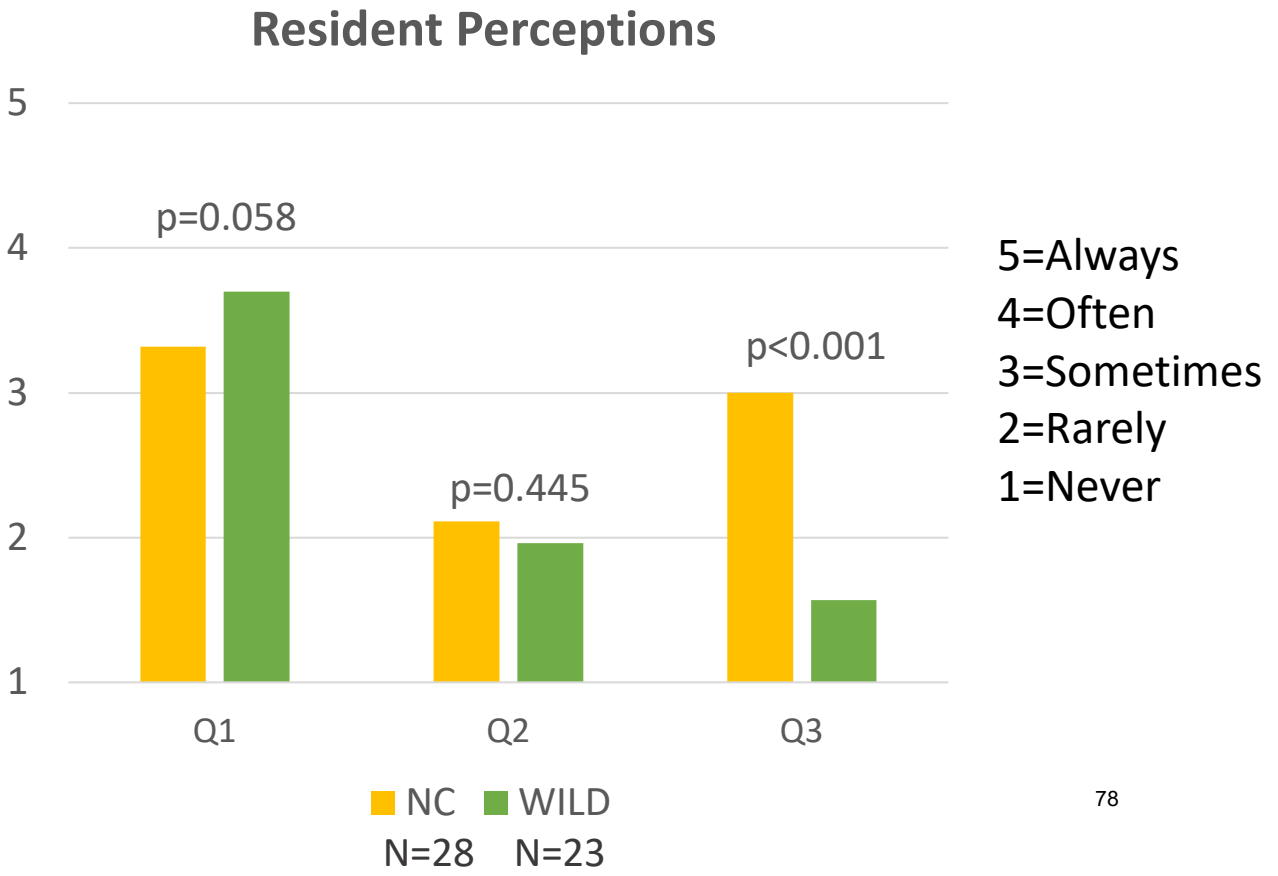
Methods

- Study sites: Tulane (WILD), Vanderbilt (NC) and University of Chicago (NC)
- 25 question pre-test administered (5 control questions + 5 questions per topic)
  - AAP PREP questions used
- Each site covered 4 topics in a series of didactic sessions
  - The mouth and oropharynx
  - Sports injury prevention and treatment
  - The nose
  - Attention deficit and hyperactivity disorder
- Post-test administered one month after completion of didactic series (identical to pre-test)
- Additional data collected addressed attendance at study sessions and subjective data re: impact on patient care responsibilities, disruptions and perceived learning by residents
- Residents given time to complete pre/post-tests during conferences, also able to complete on their own time
- Excluded scores from residents that did not complete both pre- and post-test

Results: Perceptions & Attendance

Total # of Residents Completing Surveys:		
	Tulane	Vanderbilt
Pre-Test	36	35
Post-Test	23	28
Both	22	17
In attendance per session:		
Oropharynx	18 (82%)	6 (35%)
Sports Injury	15 (68%)	7 (41%)
Nose	17 (77%)	5 (29%)
ADHD	14 (64%)	5 (29%)

- Q1: I learn material in didactics that I remember and apply to caring for patients
- Q2: Patient care is negatively impacted by my absence while attending didactics
- Q3: My learning is disrupted during didactic sessions (pages, calls, etc)



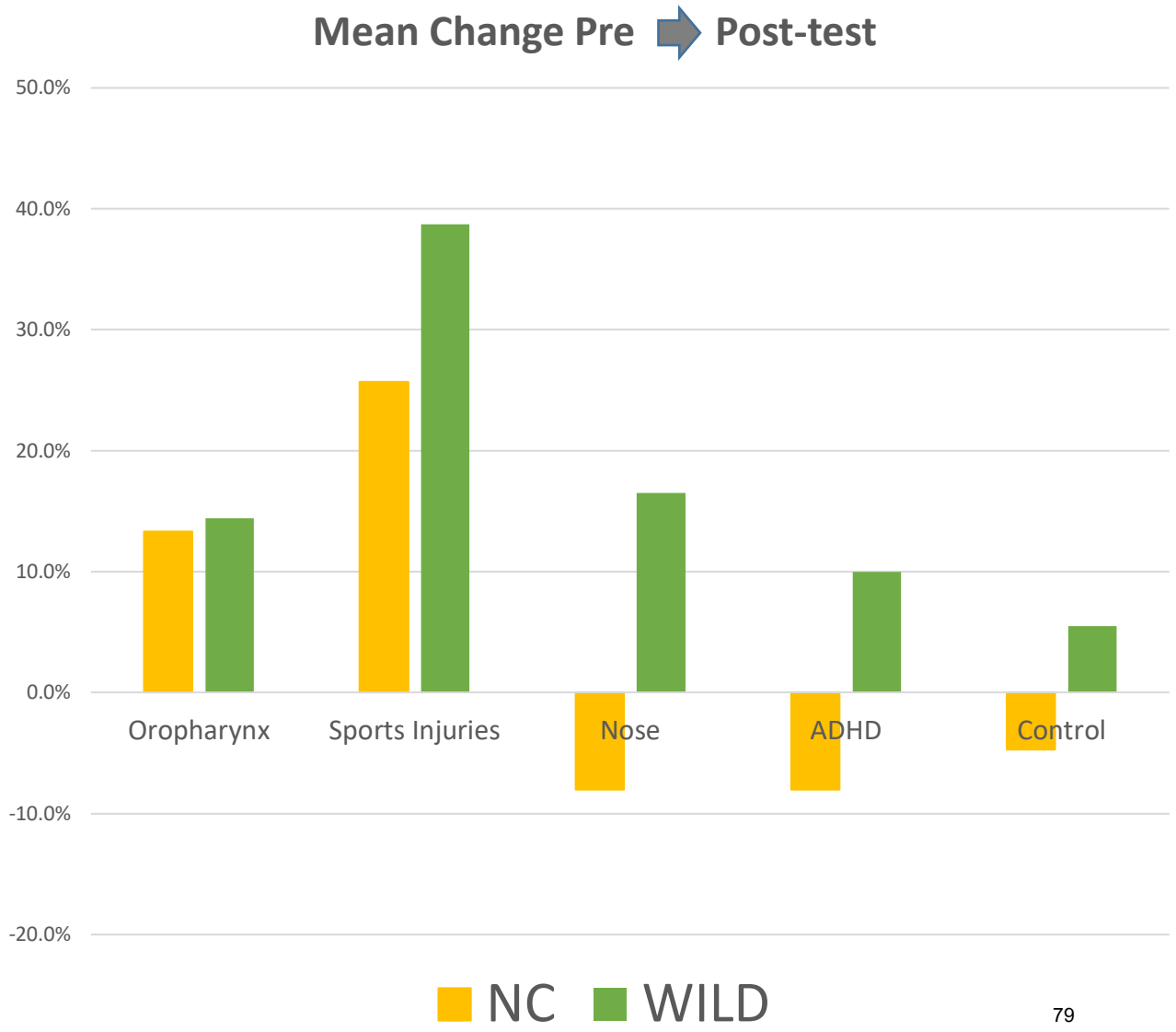
Results: Test scores

NC

Subject	n	Mean change	SD	P
Oropharynx	6	+13.3%	20.7%	0.175
Sports injuries	7	+25.7%	22.3%	**0.022**
Nose	5	-8.0%	22.8%	0.477
ADHD	5	-8.0%	17.9%	0.374
Control	17	-4.7%	20.7%	0.361

WILD

Subject	n	Mean change	SD	p
Oropharynx	18	+14.4%	17.9%	**0.003**
Sports injuries	15	+38.7%	14.1%	**0.000**
Nose	17	+16.5%	23.7%	**0.011**
ADHD	14	+10.0%	10.4%	**0.003**
Control	22	+5.5%	24.0%	0.299



Discussion

- Residents attending WILD demonstrated significant improvement from pre to post-test on all subjects, but not control questions
- Residents attending NC demonstrated significant improvement on Sports Injuries questions, but not on other topics or control questions
- Of residents who completed both the pre and post-test, on average 34% were in attendance per NC; 73% average attendance at WILD
- Residents attending WILD reported fewer disruptions than those attending NC
- Low response rate on post-test (17/35 [49%] NC, 22/36 [61%] WILD) and low NC attendance may impact power to detect learning, and introduce sampling bias
- Study will run at 3rd site in May, and all sites will collect 3-month post-test data to assess longer-term retention

References

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Foundations in Medicine
Class of 2026

Course Guide & Handbook

Revised 2022

Tulane University

****NOTE: Details may change over the course of the year; the most up-to-date materials will be found on eMedley****

Contents

Introduction

Welcome to Foundations in Medicine!

This course will serve as the clinical counterpoint to your basic science courses. While the medical knowledge you'll acquire via your basic science coursework is the traditional cornerstone of medical education, it's the tip of the iceberg when it comes to what it takes to be a competent physician. In recent years, the organization that accredits medical schools has developed a list of competencies in which medical schools should ensure students are proficient prior to graduation. Tulane has adapted these competencies into our own set of objectives encompassing, in addition to knowledge, the domains of patient care, practice-based learning and improvement, interpersonal communication, professionalism, systems-based practice, interprofessional collaboration, personal and professional development, and community health and engagement. Foundations in Medicine is tasked with ensuring you are introduced to each of these domains, whose mastery is critical in your journey toward competency as a practicing physician.

So how will we do that? Many of these topics are best taught in small groups, through discussion, reflection, and interaction. Some are best learned through hands-on practice, with patients (real or actors) or simulation. Many of you come to medical school with background knowledge in these areas, while a large portion will have no experience with topics such as biostatistics, epidemiology, health systems, quality improvement, and patient safety. These are the challenges inherent to this course. In an attempt to best accommodate learners with varying degrees of baseline knowledge, we will often utiliz e online modules; these allow those already familiar with the material to quickly review and take quizzes to demonstrate competency, while those with less familiarity can dive deeper into the material. Whenever you're assigned online coursework, we'll have small group, case-based discussions afterwards, to allow you to apply the material and learn from one another. The next challenge is scheduling nearly 200 students in for hands-on practice and small group activities. To achieve this, you're divided into groups according to your assigned Tulane Learning Community (TLC), and you'll stay with this small group throughout the course of Foundations in Medicine.

We hope that your time in FiM proves informative and fulfilling, that it prepares you well for direct patient care, for Step 1, and that it provides a reminder of why you decided to pursue a career as a physician.

- The FiM Team (Dr. DeBord, Dr. Slipman, & Bryan)

The FiM Team: Contact Information

Email foundations@tulane.edu with all FiM-related questions, and someone from the course team will reply to you

Administrative Program Coordinator

Bryan Whittington
bwhittington@tulane.edu
Office (504)988-9896
Fax (504)988-8682
Murphy Building, Suite 530 (Office of Medical Education)

*Bryan is your starting contact person for most FiM-related questions and concerns. In particular, anything related to scheduling (small groups, preceptors, etc), where/when to show up, tracking service learning hours or grades on assignments, due dates, etc should go to him.

Course Director

Jessica DeBord, MD, MPH
jdebord@tulane.edu
Office: Murphy Building, Room 916

Co-Director

Ronald Slipman, MD
rslipman@tulane.edu

Why should I learn this now??

1. **Because it will help you to do right by your future patients**
2. **Because it will help you keep your "eye on the prize"**
3. **Because you're going to need to know how to do it all day 1 on the wards**
4. **Because it will help you ace Step 1**

USMLE Content Outline: Topics addressed in FiM		When is it covered in FiM?
17	Biostatistics, Epidemiology/Population Health, & Interpretation of the Medical Literature	
17.1	Epidemiology/population health	
17.1.1	Measures of disease frequency: incidence/prevalence	EBM
17.1.2	Measures of health status: rates, crude and adjusted; reproductive rates (eg, maternal mortality, neonatal/infant/under-5 mortality); mortality, morbidity; standardization; life expectancy, health-adjusted life expectancy; population attributable risk (PAR), population attributable risk percent (PAR%); risk factors	EBM
17.1.3	Survival analysis interpretation (eg, Kaplan-Meier curve)	EBM
17.1.4	Composite health status indicators, measures of population impact: years of potential life lost; quality-adjusted life years; disability-adjusted life years; standardized mortality ratio	EBM
17.1.5	Population pyramids and impact of demographic changes	EBM
17.1.6	Disease surveillance and outbreak investigation: disease reporting; response to public health advisory, health promotion; recognition of clusters	EBM
17.1.7	Communicable disease transmission: attack rate; herd immunity; reportable diseases	EBM
17.1.8	Points of intervention: primary, tertiary; community level (eg, cigarette taxes, soda taxes, smoke-free cities, buildings: restaurants, public buildings); school policies; access, healthy food, transportation, clean air, safe environments	EBM
17.2	Study design, types and selection of studies (includes dependent/independent variables)	
17.2.1	Descriptive studies (case report [one person]/case series [more than one])	EBM
17.2.2	Analytical studies: observational: community surveys; cross-sectional (individuals); ecological (populations); case control; retrospective and prospective cohort	EBM
17.2.3	Analytical studies: interventional: clinical trial (randomized controlled trial; double-blind; placebo-controlled; noninferiority/equivalence trials); community intervention	EBM
17.2.4	Systematic reviews and meta-analysis: potential uses; estimation of effect sizes; heterogeneity; publication bias; forest plots, funnel diagrams; risk of bias, bias risk scale	EBM
17.2.5	Obtaining and describing samples: matching, inclusion/exclusion criteria, selecting appropriate controls for studies, lack of controls, concealed allocation, randomization, stratification	EBM

17.2.6	Methods to handle noncompliance: loss to follow-up; intention-to-treat analysis	EBM
17.2.7	Qualitative analysis	EBM
17.3	Measures of association	
17.3.1	Relative risk	EBM
17.3.2	Odds ratio, hazard ratio	EBM
17.3.3	Other measures of association: number needed to treat/harm; absolute risk (AR), absolute risk percent (AR%); population attributable risk (PAR), population attributable risk percent (PAR%)	EBM
17.4	Distributions of data: measures of central tendency; measures of variability; regression to mean; normal distribution; nominal measurement	EBM
17.5	Correlation and regression, uses and interpretation: correlation coefficients; multiple regression	EBM
17.6	Principles of testing and screening	
17.6.1	Properties of a screening test: validity, accuracy, reliability; criteria for a screening test; confirmatory testing; appropriateness; lead-time bias, length bias; screening vs diagnostic tests	EBM
17.6.2	Sensitivity and specificity; predictive value, positive and negative	EBM
17.6.3	ROC curves	EBM
17.6.4	Probability: theory (independence, product, addition rules); decision trees; likelihood ratios (application of Bayes theorem); post-test, pretest	EBM
17.7	Study interpretation, drawing conclusions from data	
17.7.1	Causation: hypothesis-generating vs hypothesis-driven testing; causal criteria, temporality, temporal sequence, dose-response relationship; reverse causality	EBM
17.7.2	Chance	
17.7.2.1	null hypothesis, Type I error and alpha level (multiple comparisons, random error/chance)	EBM
17.7.2.2	sample size and Type II error, beta, power	EBM
17.7.2.3	selection and interpretation of basic tests of statistical significance: chi-square; confidence intervals; p-values; t-test	EBM
17.7.2.4	a priori vs. post hoc analysis: subgroup analysis; error rate; affect types	EBM
17.7.3	Interpretation of graphs/tables and text	EBM
17.7.4	Bias, confounding, and threats to validity (includes methods to address)	
17.7.4.1	selection, sampling bias	EBM
17.7.4.2	information bias: recall; ascertainment, ecologic fallacy, lack of blinding; loss to follow up	EBM
17.7.4.3	confounding variables, Hawthorne effect (includes methods to address)	EBM
17.7.4.4	other threats to validity (eg, placebo effect)	EBM

17.7.5	Internal vs. external validity: generalizability (external validity); efficacy vs effectiveness	EBM
17.7.6	Statistical vs. clinical significance; clinical and surrogate outcome/end-point	EBM
17.8	Clinical decision making, interpretation and use of evidence-based data and recommendations: application of study results to patient care and practice, including patient preferences and individualization of risk profiles; risk/benefit analysis; synthesis of concepts with real data	MDM
17.9	Research ethics	
17.9.1	Informed consent for research	CITI, Ethics
17.9.2	Privacy of patient data (HIPAA)	HIPAA, Ethics
17.9.3	Roles of institutional review boards (IRBs)	CITI, Ethics
17.9.4	Intervention analysis: interim analysis; stopping analysis; safety monitoring	CITI, Ethics
17.9.5	Regulatory issues: drug development, phases of approval; appropriateness of placebo; appropriateness of randomized clinical trial; components of studies; ethics; scheduling; off-label use	CITI, Ethics
17.9.6	Other issues related to research ethics	CITI, Ethics
18	Social Sciences	
18.1	Communication and interpersonal skills, including health literacy and numeracy, cultural competence	
18.1.1	Patient interviewing, consultation, and interactions with the family (patient-centered communication skills)	SP, Medical Interviewing Workshops
18.1.1.1	fostering the relationship (eg, expressing interest)	SP, Medical Interviewing Workshops
18.1.1.2	information gathering (eg, exploring patient's reaction to illness)	SP, Medical Interviewing Workshops
18.1.1.3	information provision (eg, providing information about working diagnosis)	SP, Medical Interviewing Workshops
18.1.1.4	making decisions (eg, eliciting patient's perspectives)	MDM
18.1.1.5	supporting emotions (eg, effective discussion with difficult patients)	SP, Medical Interviewing Workshops
18.1.1.6	enabling patient behaviors (eg, education and counseling)	SP, Medical Interviewing Workshops
18.1.2	Use of an interpreter	SPECTRUM
18.2	Medical ethics and jurisprudence, include issues related to death and dying and palliative care	
18.2.1	Consent/informed consent to treatment, permission to treat (full disclosure, risks and benefits, placebos, alternative therapies, conflict of interest, and vulnerable populations)	Ethics, MDM

18.2.2	Determination of medical decision-making capacity/informed refusal	Ethics, MDM
18.2.3	Involuntary admission	Ethics
18.2.4	Legal issues related to abuse (child, elder, and intimate partner)	Ethics
18.2.4.1	child protective services, foster care, immunizations	Ethics
18.2.4.2	legal requirements for reporting	Ethics
18.2.5	Birth-related issues	Ethics
18.2.6	Death and dying and palliative care	EOL
18.2.6.1	life support	EOL
18.2.6.2	advance directive, health care proxy, advance care planning	EOL
18.2.6.3	euthanasia and physician-assisted suicide	EOL
18.2.6.4	diagnosing death/determination of brain death	EOL
18.2.6.5	pronouncing death	EOL
18.2.6.6	organ donation	EOL
18.2.6.7	Hospice	EOL
18.2.6.8	pain management, including ethical issues related to death and dying	EOL
18.2.6.9	information sharing, counseling families	SP, Medical Interviewing Workshops
18.2.6.10	psychosocial and spiritual counseling, fear and loneliness	SP
18.2.7	Physician-patient relationship (boundaries, confidentiality including HIPAA, privacy, truthtelling, other principles of medical ethics, eg, autonomy, justice, beneficence)	Ethics
18.2.8	Impaired physician, including duty to report impaired physician	Ethics
18.2.9	Negligence/malpractice, including duty to report negligence and malpractice	Ethics
18.2.10	Physician misconduct, including duty to report physician misconduct	Ethics
18.2.11	Referrals	MDM
18.2.12	Cultural issues not otherwise coded	SPECTRUM
18.3	Systems-based practice (including health systems, public health, community, schools) and patient safety (including basic concepts and terminology)	
18.3.1	Complexity/systems thinking	
18.3.1.1	Characteristics of a complex system and factors leading to complexity: how complexity leads to error	PS, MDM
18.3.1.2	Sociotechnical systems: systems engineering; complexity theory; microsystems	PS, QI
18.3.1.3	Health care/organizational behavior and culture: environmental factors, workplace design and process; staffing; overcommitment, space, people, time, scheduling; standardization, reducing variance, simplification, metrics; safety culture; integration of care across settings; overutilization of resources (imaging studies, antibiotics, opioids); economic factors	PS, HS
18.3.2	Quality improvement	
18.3.2.1	Improvement science principles	

18.3.2.1.1	Variation and standardization: variation in process, practice; checklists, guidelines, and clinical pathways	PS, QI
18.3.2.1.2	Reliability	QI
18.3.2.1	Specific models of quality improvement: model for improvement: plan-do-study-act (PDSA), plan-do-check-act (PDCA); Lean, including recognition and types of waste; Six Sigma	QI
18.3.2.2	Quality measurement	
18.3.2.2.1	Structure, process, outcome, and balancing measures	QI
18.3.2.2.2	Measurement tools: run and control charts	QI
18.3.2.2.3	Development and application of system and individual quality measures: core measures; physician quality report system (PQRS); event reporting system	QI
18.3.2.3	Strategies to improve quality	
18.3.2.3.1	Role of leadership	QI
18.3.2.3.2	Principles of change management in quality improvement: specific strategies	QI
18.3.2.4	Attributes of high-quality health care	
18.3.2.4.1	High-value/cost-conscious care: overutilization of resources, including diagnostic testing, medications	Value
18.3.2.4.2	Equitable care: access	Value, SPECTRUM
18.3.2.4.3	Patient-centered care	MDM, SPECTRUM
18.3.2.4.4	Timely care	MDM
18.3.3	Patient Safety	
18.3.3.1	Patient safety principles	
18.3.3.1.1	Epidemiology of medical error	PS
18.3.3.1.2	Error categorization/definition: active vs latent errors; Swiss cheese model of error; preventable vs non-preventable; near miss events/safety hazards	PS
18.3.3.1.3	Causes of error	
18.3.3.1.3.1	Patient factors: understanding of medication use; health literacy; economic status; cultural factors (eg, religion); failure to make appointments; socioeconomic status	SPECTRUM
18.3.3.1.3.2	Physician factors: deficiency of knowledge; judgment errors; diagnostic errors; fatigue, sleep deprivation; bias – cognitive, availability, heuristic, anchoring, framing	PS, MDM
18.3.3.1.3.3	Human factors (eg, cognitive, physical, environmental)	PS, MDM
18.3.3.1.4	High reliability of organization (HRO) principles: change management and improvement science; conceptual models of improvement	QI
18.3.3.1.5	Reporting and monitoring for errors: event reporting systems	PS
18.3.3.1.6	Communication with patients after adverse events (disclosure/transparency)	MDM
18.3.3.2	Specific types of error	
18.3.3.2.1	Transitions of care errors (eg, handoff communication including shift-to-shift, transfer, and discharge): handoffs and related communication; discontinuities; gaps; discharge; transfers	PS, MDM
18.3.3.2.2	Medication errors	PS

18.3.3.2.2.1	Ordering, transcribing, dispensing, administration (wrong quantity, wrong route, wrong drug)	PS
18.3.3.2.2.2	Medication reconciliation	PS
18.3.3.2.2.3	Mathematical error	PS
18.3.3.2.3	Procedural errors	PS
18.3.3.2.3.1	Universal protocol (time out); wrong patient; wrong site; wrong procedure	PS
18.3.3.2.3.2	Retained foreign bodies	PS
18.3.3.2.3.3	Injury to structures: paracentesis; bowel perforation; thoracentesis; pneumothorax; central venous/arterial line injuries; arterial puncture and bleeding and venous thrombosis; lumbar puncture bleeding; paralysis	PS
18.3.3.2.3.4	Other errors: anesthesia-related errors; mathematical errors	PS
18.3.3.2.4	Health care-associated infections: nosocomial infection – eg, surgical site, ventilator associated, catheter-related; handwashing procedures or inadequate number of handwashing stations; central line associated blood stream infections; surgical site infections; catheter-associated urinary tract infections; ventilator-associated pneumonia	PS
18.3.3.2.5	Documentation errors: electronic medical record (including voice-recognition software errors); record keeping; incorrect documentation (eg, wrong patient, wrong date, copying and pasting, pre-labeling)	PS
18.3.3.2.6	Patient identification errors	PS
18.3.3.2.6.1	Mislabeling: transfusion errors related to mislabeling	PS
18.3.3.2.6.2	Verification/two identifiers: lack of dual validation, including verbal verification of lab results	PS
18.3.3.2.7	Diagnostic errors: errors in diagnostic studies; misinterpretation	MDM
18.3.3.2.8	Monitoring errors	PS
18.3.3.2.8.1	Cardiac monitoring/telemetry	PS
18.3.3.2.8.2	Drug monitoring (warfarin, antibiotics)	PS
18.3.3.2.9	Device-related errors	PS
18.3.3.2.9.1	malfunction	PS
18.3.3.2.9.2	programming error	PS
18.3.3.2.9.3	incorrect use	PS
18.3.3.3	Strategies to reduce error	PS
18.3.3.3.1	Human factors engineering	PS
18.3.3.3.1.1	Situational awareness	PS
18.3.3.3.1.2	Hierarchy of effective interventions: forcing function; visual cues	PS
18.3.3.3.2	Error analysis tools: error/near miss analysis; failure modes and effect analysis; morbidity and mortality review; root cause analysis	PS
18.3.3.3.3	Safety behavior and culture at the individual level: hierarchy of health care, flattening hierarchy, speak up to power; afraid to report, fear; psychological safety; closed-loop communication	PS

18.3.3.3.4	Teamwork: principles of highly effective teams; case management; physician teams, physician-physician communication; interprofessional/intraprofessional teams; strategies for communication among teams, including system-provider communication, physician-physician communication (eg, consultations), interprofessional communication, provider-patient communication	PS
18.3.4	Health care policy and economics	
18.3.4.1	Health care policy	HS
18.3.4.1.1	Health care disparities: race/ethnicity; numeracy/literacy; socioeconomic status	SPECTRUM, HS
18.3.4.1.2	Access to care: critical access systems or hospitals	HS
18.3.4.1.3	Social justice	SPECTRUM
18.3.4.2	Health care economics/Health care financing	HS
18.3.4.2.1	Types of insurance: Medicare, Medicaid, private insurance, self-pay	HS
18.3.4.2.2	Navigating the insurance system: deductibles/co-pays; in-/out-of-network; preferred providers	HS
18.3.4.2.3	Reimbursement issues affecting safety and quality: emergency services – EMTALA; pay-for-performance	HS

Structure

The academic year will begin with 3 days of "FiM orientation," which will provide you with a foundation in the competencies that we will continue to build upon throughout the year. After orientation, you will usually have 2 days of FiM sessions that follow each module exam, as well as a few sessions scheduled during modules (primarily standardized patient sessions covering physical exam maneuvers relevant to the module). You will also have an entire week dedicated to FiM, called "FiM week" in February.

Some FiM sessions will be brief (around 1 hour), and some will be longer (up to 4 hours). Time needed to complete independent studies will vary in length depending on your familiarity with the topic. Suggested times are included in this syllabus; sometimes they will be longer than 4 hours. Many scheduled sessions are shorter than 4 hours, and you will have little prep work for FiM without protected time in the schedule.

The FiM curriculum covers a variety of content:

- Intro to Tulane Medical School and the Greater New Orleans community
- Patient Safety (PS)
- The Healthcare System (HS)
- Quality Improvement (QI)
- Value
- Medical Decision Making and Errors (MDM)
- Clinical Skills
- Ethics
- Evidence-Based Medicine (EBM)
- Preceptor
- Service Learning (SL) & Reflection
- SPECTRUM
- Teaching Kitchen (TK)
- Tulane Learning Communities (TLC)

For most topics you will complete an **independent study activity** meant to prepare you for an **application session**. **Application sessions** will entail facilitated small group discussions related to the topic, SP session, or simulation.

You will also have several required certifications to complete:

- Basic Life Support (BLS)
- Blood Borne Pathogens (BBP)
- Collaborative Institutional Training Initiative (CITI)
- Health Insurance Portability and Accountability Act (HIPAA)

This handbook will provide you with overviews of each session, including objectives, expectations, grading, and pre- and post-work, when applicable. If anything is ever unclear, please reach out to Foundations@tulane.edu for assistance. We look forward to working with you over the coming two years! This course is an ever-evolving work in progress, and feedback on how to make it the best it can be is always appreciated.

FiM week: February 13-17, 2023

During this week you will have FiM activities scheduled every morning and afternoon, with the exception of Wednesday and Friday afternoons, which are reserved for MPH coursework and electives. Plan to be in FiM sessions or preparing for FiM sessions all week long.

Tulane SOM Objectives

Patient Care		When is it covered in FiM?
1.1	Perform all medical, diagnostic, and surgical procedures considered essential for the area of practice	Sim activities, preceptor, SP sessions, BLS, SL
1.2	Gather essential and accurate information about patients and their conditions through history-taking, physical examination, and the use of laboratory data, imaging, and other tests	SP sessions, FiM week, SL, preceptor
1.3	Organize and prioritize responsibilities to provide care that is safe, effective, and efficient	Patient Safety unit, preceptor
1.4	Interpret laboratory data, imaging studies, and other tests required for the area of practice	MDM unit, Value unit, preceptor
1.5	Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment	EBM, preceptor, MDM unit
1.6	Develop and carry out patient management plans	Preceptor, MDM unit, SL
1.7	Counsel and educate patients and their families to empower them to participate in their care and enable shared decision-making	SP session, Value unit, MDM unit, preceptor, SL
1.8	Provide appropriate referral of patients including ensuring continuity of care throughout transitions between providers or settings, and following up on patient progress and outcomes	SL, preceptor
1.9	Provide health care services to patients, families, and communities aimed at preventing health problems or maintaining health	SP sessions, preceptor, SL
Knowledge for Practice		
2.1	Demonstrate an investigatory and analytic approach to clinical situations	QI, MDM, EBM
2.2	Apply established and emerging biophysical scientific principles fundamental to health care for patients and populations	EBM
2.3	Apply established and emerging principles of clinical sciences to diagnostic and therapeutic decision-making, clinical problem-solving, and other aspects of evidence-based health care	EBM, MDM
2.4	Apply principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention/health promotion efforts for patients and populations	EBM
2.5	Apply principles of social-behavioral sciences to provision of patient care, including assessment of the impact of psychosocial and cultural influences on health, disease, care- seeking, care compliance, and barriers to and attitudes toward care	SPECTRUM, SL
2.6	Contribute to the creation, dissemination, application, and translation of new health care knowledge and practices	EBM, CITI
Practice-Based Learning and Improvement		
3.1	Identify strengths, deficiencies, and limits in one's knowledge and expertise	Reflection activities
3.2	Set learning and improvement goals	Reflection activities
3.3	Identify and perform learning activities that address one's gaps in knowledge, skills, and/or attitudes	QI

3.4	Systematically analyze practice using quality improvement methods	QI
3.5	Incorporate feedback into daily practice	TLC
3.6	Locate, appraise, and assimilate evidence from scientific studies related to patients' health problems	EBM
3.7	Use information technology to optimize learning	EBM
3.8	Participate in the education of patients, families, students, trainees, peers and other health professionals	SP sessions, SL
3.9	Obtain and utilize information about individual patients, populations of patients, or communities from which patients are drawn to improve care	EBM, QI
3.10	Continually identify, analyze, and implement new knowledge, guidelines, standards, technologies, products, or services that have been demonstrated to improve outcomes	EBM, QI
Interpersonal and Communication Skills		
4.1	Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds	SPECTRUM, SP sessions, preceptor, SL
4.2	Communicate effectively with colleagues within one's profession or specialty, other health professionals, and health-related agencies	Patient Safety unit, SL, preceptor
4.3	Work effectively with others as a member or leader of a health care team or other professional group	Patient Safety unit, SL, preceptor
4.4	Act in a consultative role to other health professionals	SL
4.5	Maintain comprehensive, timely, and legible medical records	FiM week, SL, preceptor
4.6	Demonstrate sensitivity, honesty, and compassion in difficult conversations, including those about death, end of life, adverse events, bad news, disclosure of errors, and other sensitive topics	EOL unit, SP sessions
4.7	Demonstrate insight and understanding about emotions and human responses to emotions that allow one to develop and manage interpersonal interactions	SP sessions, preceptor, SL
Professionalism		
5.1	Demonstrate compassion, integrity, and respect for others	SPECTRUM
5.2	Demonstrate responsiveness to patient needs that supersedes self-interest	SL
5.3	Demonstrate respect for patient privacy and autonomy	HIPAA, ethics, preceptor, SL
5.4	Demonstrate accountability to patients, society, and the profession	SL, TLC, SPECTRUM
5.5	Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation	SL, SPECTRUM
5.6	Demonstrate a commitment to ethical principles pertaining to provision or withholding of care, confidentiality, informed consent, and business practices, including compliance with relevant laws, policies, and regulations	Ethics, EOL unit, HIPAA, BBP
Systems-Based Practice		
6.1	Work effectively in various health care delivery settings and systems relevant to one's clinical specialty	Healthcare Systems unit, preceptor, SL
6.2	Coordinate patient care within the health care system relevant to one's clinical specialty	Healthcare Systems unit, preceptor, SL
6.3	Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care	Value unit

6.4	Advocate for quality patient care and optimal patient care systems	Patient Safety, QI units, SL
6.5	Participate in identifying system errors and implementing potential systems solutions	QI unit
6.6	Perform administrative and practice management responsibilities commensurate with one's role, abilities, and qualifications	Preceptor
Interprofessional Collaboration		
7.1	Work with other health professionals to establish and maintain a climate of mutual respect, dignity, diversity, ethical integrity, and trust	Preceptor, Patient Safety unit, SL
7.2	Use the knowledge of one's own role and the roles of other health professionals to appropriately assess and address the health care needs of the patients and populations served	Patient Safety unit, Healthcare Systems unit, SL
7.3	Communicate with other health professionals in a responsive and responsible manner that supports the maintenance of health and the treatment of disease in individual patients and populations	Patient Safety unit, preceptor, SL
7.4	Participate in different team roles to establish, develop, and continuously enhance interprofessional teams to provide patient- and population-centered care that is safe, timely, efficient, effective, and equitable	Patient Safety unit, Sim ICU
Personal and Professional Development		
8.1	Develop the ability to use self-awareness of knowledge, skills, and emotional limitations to engage in appropriate help-seeking behaviors	Reflection activities, TLC
8.2	Demonstrate healthy coping mechanisms to respond to stress	TLC
8.3	Manage conflict between personal and professional responsibilities	TLC
8.4	Practice flexibility and maturity in adjusting to change with the capacity to alter one's behavior	TLC
8.5	Demonstrate trustworthiness that makes colleagues feel secure when one is responsible for the care of patients	SL, preceptor
8.6	Provide leadership skills that enhance team functioning, the learning environment, and/or the health care delivery system	CBL sessions, Sim ICU
8.7	Demonstrate self-confidence that puts patients, families, and members of the health care team at ease	Preceptor, SL, SP sessions
8.8	Recognize that ambiguity is part of clinical health care and respond by utilizing appropriate resources in dealing with uncertainty	MDM unit, EBM
Community Engagement and Service		
9.1	Describe the social determinants of health and identify how they create barriers to wellness for underserved populations	SPECTRUM, SL
9.2	Use community resources to improve individual and population health	SL, preceptor, SPECTRUM
9.3	Partner with a community health stakeholder to design, implement, evaluate or enhance an intervention to address at least one social determinant of health	SL, SPECTRUM
9.4	Explain methods of community health assessment	SPECTRUM, SL

Adopted and approved by the Tulane University School of Medicine Curriculum Committee on July 27, 2016 and the Executive Faculty Committee on October 11, 2016.

Professionalism

As you enter the medical profession, we expect you to practice professionalism. According to the accrediting body for medical education, professionalism is a competency – meaning it can be taught and measured. During FiM, you will attend workshops in which you learn about professionalism, and you will be expected to demonstrate professionalism throughout the course. A portion of your grade will also depend upon your demonstrated professionalism.

The Tulane University School of Medicine community believes that a profession gains its credibility by its commitment to society. As a professional group, we recognize our multiple responsibilities to our patients, colleagues, communities, families, and ourselves. Realizing that it is a privilege and an honor to be a medical professional, we hold the following ideals:

- **Patient welfare is our primary concern, for only by this commitment do we justify the trust placed in us by patients and the community at large.**
- **Relationships with our colleagues, faculty, and staff are an essential part of professional conduct.**
- **Integrating personal growth into our professional development is essential to our commitment to medicine.**
- **As medical professionals, we shall strive to be responsible citizens.**

Policies & Grading

How to succeed in the course

In order to receive a "Pass" in Foundations in Medicine, you must do ALL of the following:

- Complete all required online modules and certifications and upload certificates to eMedley, when applicable, **before the first day of Phase 2**:
  - BLS
  - CITI
  - Blood-borne pathogens
  - HIPAA
- Complete all required Service Learning hours (25 total before the end of Phase 1)
- Attend at least 3 preceptor sessions
- Complete the Reflection activity for Service Learning
- Achieve at least 65% of total available points (at least 130 points):
  - Attendance and participation: **earn up to 100 points**
    - Make-up assignments are available for **half credit**
  - Percent correct on quizzes: **earn up to 50 points**
  - Professionalism as reported by your peers, faculty and course director: **earn up to 50 points**

Scheduling

The logistics of a course in which nearly 200 students all get an opportunity to be "hands-on" becomes challenging. The FIM office will create schedules for the various participatory events.

It is **the student's responsibility** to find out what activity your group is assigned to for that day and attend the sessions. This is a portion of the measure of student professionalism.

You may have FiM sessions scheduled just before or after holidays; you must attend these sessions to earn full credit. **Please check the schedule carefully prior to making travel plans.**

Switching

Switching times/dates is STRONGLY DISCOURAGED, and may not be done without permission from the FiM office. These sessions are very carefully coordinated, therefore no switching is allowed except with an approved reason. If you absolutely need to make a schedule change, follow this procedure:

1. Find a classmate with whom you can switch (verify it with that person)
2. Notify the FIM office, before your assigned activity, and include the dates you have available to switch to, with whom you are switching (have it verified with that person), and your compelling reason for requesting the switch.
3. The FiM team has the final approval for switches.
4. Failure to follow the described procedure **will result in a zero score** for that activity and may incur an additional professionalism penalty.

How to earn FiM Points:

Attendance & Participation: Up to 100 points

Every FiM session is worth a set number of points (point value for each session listed below)

- Complete pre-work, show up on time and participate actively: earn full points
- Fail to complete pre-work: deduct 30%
- Show up late: deduct 20%
- Leave early: deduct 20%
- Minimal participation: deduct 20%
- Detract from session for other participants: deduct 50%

Points by FiM session:

LARGE GROUP SESSIONS		SMALL GROUP SESSIONS		HANDS-ON SESSIONS	
Intro to FiM lecture	1	Anti-racism media club	3	SP: Medical interview	2
Intro to teamwork workshop	1	Ethics 1: intro	3	SP: Vital signs	2
Medical interview lecture	1	Ethics 2: research & consent	3	SP: MSK	2
Borrowing Strategies lecture	1	Ethics 3: genetics	3	SP: Cardiovascular	2
Intro to SCC lecture	1	Intro to Matas	2	SP: Pulm	2
Vital signs lecture	1	Teaching Kitchen 1	4	SP: Patient Education	2
History of New Orleans & health disparities lecture	1	TLC mentor meeting	1	SP: Self-eval	2
Budgeting lecture	1	Patient safety workshop	7	Sim: Scrub/IV	2
Intro to wellness workshop	2	Healthcare systems workshop	3	Sim: Vital signs	2
T2 advice panel	1	Cultural humility workshop	3	Sim: Suturing	2
Intro to SL & BLS lecture	1	H&P workshop 1	3	Sim/SP: Abdominal exam	2
Intro to Student-Run Clinics workshop	3	H&P workshop 2	3	Sim: ICU	1
Intro to TBL	1	Social determinants of health workshop	5		
Cultural humility lecture	1	QI & Professionalism workshop	7		
Health systems lecture	1	Professionalism Media Club	3		
LGTBQ panel	1	Big Charity discussion	4		
Mental health & wellness panel	1				

*Sessions highlighted in blue have assigned pre-work that must be completed in order to earn full credit
**Sessions highlighted in orange have lengthy pre-work with protected time scheduled. Completing pre-work but missing in person-session earns 30% credit.

†*If you miss a session, (regardless of whether your absence is excused), you have the option of requesting a make-up session to earn 50% credit.*

Quizzes: Up to 50 points

You will be assigned short quizzes to test your preparation for many FiM sessions. Pre-quizzes must be completed on your own, and you may use any resources you'd like to assist you. **Quizzes must be completed PRIOR to the relevant session in order to earn full credit.**

Professionalism: Up to 50 points

Points will be awarded at the discretion of the course directors, using input from small group facilitators and the various sites where FiM sessions take place.

To earn full credit for professionalism:

- Complete all required trainings and assignments on time
- Contribute positively to small group sessions
- Complete peer, facilitator, and course evals regularly and constructively
- Garner positive feedback from your facilitators and peers following small group sessions

Additional considerations

Independent studies

Students entering med school have wide variation in their familiarity with some of the topics we'll cover in FiM. Some have degrees in biostatistics or health systems management, or took substantial pre-med coursework; others have next to no experience in the topics. To account for this, we assign independent studies as pre-work for many FiM sessions. These can be completed at each student's individual pace.

Time needed to complete independent studies will vary in length depending on your familiarity with the topic. Suggested times are included in this syllabus; sometimes they will be longer than 4 hours. Many scheduled sessions are shorter than 4 hours; the remaining time can also be used for assigned independent studies.

The Institute for Healthcare Improvement (IHI) Open School

This is an online course designed to introduce students to the basics of Patient Safety, Quality Improvement, Person- and Family-Centered Care, Triple Aims for Populations, and Healthcare Leadership. You will use the IHI modules as pre-work for multiple FiM application sessions throughout the year, and will receive a certificate of completion after each module, as well as a Basic Certificate after completing all required modules prior to the completion of Phase 2.

Service Learning

Completing SL is required to pass the course. Failure to complete the required 25 SL hours by the end of Phase 1 will result in a course **Fail**, regardless of the numerical FIM grade.

Tulane Learning Communities (TLC) integration

Throughout Foundations in Medicine, you will participate in small group activities with your Tulane Learning Community (TLC) groups. Participation in required TLC activities like mentor meetings (group and individual) counts towards the attendance portion of your grade, and several sessions addressing wellness and professionalism are considered part of the TLC component of the curriculum.

Discrimination (Title IX)

Tulane University recognizes the inherent dignity of all individuals and promotes respect for all people. As such, Tulane is committed to providing an environment free of all forms of discrimination including sexual and gender-based discrimination, harassment, and violence like sexual assault, intimate partner violence, and stalking. If you (or someone you know) has experienced or is experiencing these types of behaviors, know that you are not alone. Resources and support are available: you can learn more at titleix.tulane.edu. Any and all of your communications on these matters will be treated as either "Confidential" or "Private" as explained in the chart below. Please know that if you choose to confide in me I am mandated by the university to report to the Title IX Coordinator, as Tulane and I want to be sure you are connected with all the support the university can offer. You do not need to respond to outreach from the university if you do not want. You can also make a report yourself, including an anonymous report, through the form at tulane.edu/concerns.

Confidential	Private
Except in extreme circumstances, involving imminent danger to one's self or others, nothing will be shared without your explicit permission.	*Conversations are kept as confidential as possible, but information is shared with key staff members so the University can offer resources and accommodations and take action if necessary for safety reasons.*
Counseling & Psychological Services (CAPS) | (504) 314-2277 or The Line (24/7) | (504) 264-6074	**Case Management & Victim Support Services | (504) 314-2160 orsrss@tulane.edu**
Student Health Center | (504) 865-5255	**Tulane University Police (TUPD) | Uptown - (504) 865-5911. Downtown – (504) 988-5531**
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Commonly Used Abbreviations

CBL	Case-Based Learning
EBM	Evidence-Based Medicine
FiM	Foundations in Medicine
H&P	History & Physical exam
IHI	The Institute for Healthcare Improvement
IPE	Interprofessional Education
MDM	Medical Decision Making
PS	Patient Safety
Sim	Simulation
SP	Standardized Patient
TBL	Team-Based Learning
TLC	Tulane Learning Communities
QI	Quality Improvement

Curriculum Overview

Intro to Tulane School of Medicine & the Greater New Orleans community

Welcome to Tulane, and to New Orleans! While some of you were born and/or raised in the city, many of you are unfamiliar with the city and its people, customs, and heritage. During this Unit, you will participate in a number of activities intended to immerse you in the culture and history of this incredibly unique and diverse city that will serve as the backdrop for the next four years of your training.

Introduction to the History of New Orleans and Health Disparities

Presenter: Keith C. Ferdinand, MD, FACC ,FAHA , FASPC, FNLA
Gerald S. Berenson Endowed Chair in Preventive Cardiology
Professor of Medicine

Overview: Hear about the history of New Orleans and healthcare in the city, and health disparities unique to our area as well as the country at large

Estimated time: 1.5 hours

Session objectives:

- Understand the history of New Orleans, and how it relates to health disparities in the city today
- Describe health disparities prevalent in the United States, including how they impact the health of individuals and populations

Big Charity Discussion and Q&A

Presenter: Peter DeBlieux, MD
Chief Experience Office, University Medical Center
Professor of Medicine

Overview: Discuss the documentary "Big Charity," then participate in a small group debrief and Q&A with a local physician leader featured in the film

Estimated time: 2.5 hours

Expectations for all students:

- Participate actively in group discussion

Session objectives:

- Understand the history of the Charity Hospital system in providing care for residents of New Orleans for centuries
- Describe some of the challenges faced by the New Orleans health care system moving forward

Patient Safety

Several studies have examined medical errors using claims data and found that teamwork breakdowns arising from communication problems and handoff errors were a contributing factor in 70% of the instances.(1) Not surprisingly, studies have demonstrated that many communication breakdowns involve nurses and physicians (2) and that the perception of these interactions varies (3, 4). Poor communication thus represents a major etiology of preventable adverse events in hospitals (5-8). Instruction in patient safety must include strategies that focus on these areas.

The Patient Safety Unit of the FIM course is conducted jointly with support from Delgado Charity School of Nursing and Tulane School of Medicine. You will complete Institute of Healthcare Improvement (IHI) modules in preparation for an application session: a case-based workshop with nursing students.

References

1. Singh H, *et al*. Arch Intern Med. 2007;167(19):2030-2036 [PMID 17954795].
2. Donchin Y, *et al*. Crit Care Med. 1995;23(2):294-300 [PMID 7867355].

Morton M, *et al*. J Community Health. 1996;21(1):23-35 [PMID 8903581].

Baggs JG, *et al*. Am J Crit Care. 1997;6(5):393-399 [PMID 9283677].

5. Brennan TA, *et al*. JAMA. 1991;265(24):3265-3269 [PMID 2046108].
6. Brennan TA, *et al*. N Engl J Med. 1991;324(6):370-376 [PMID 1987460].
7. Leape LL, *et al*. N Engl J Med. 1991;324(6):377-384 [PMID 1824793].
8. Sutcliffe KM, *et al*. Acad Med. 2004;79(2):186-194 [PMID 14744724].

USMLE relevance:

- From the USMLE content outline: Patient safety principles, causes of error, specific types of error

Independent Study (check eMedley for most up-to-date assignments)

Overview: Complete IHI modules covering topics in Patient Safety to prepare for the interprofessional session
Estimated time: 6.5 hours **over 2 sessions**

- ✓ Complete these Institute for Healthcare Improvement (IHI) Open School Modules: http://app.ihi.org/lms/onlinelearning.aspx
  - ✓PS 101: Introduction to Patient Safety
  - ✓PS 102: From Error to Harm
  - ✓PS 103: Human Factors and Safety
  - ✓PS 104: Teamwork and Communication in a Culture of Safety
  - ✓PS 105: Responding to Adverse Events

Patient Safety (Interprofessional Education Session)

Presenters: Jessica DeBord, MD/MPH, Ronnie Slipman, MD, Kevin Krane, MD, and Mary Trosclair, RN

Overview: You will work in small groups with nursing students to discuss how teamwork and communication skills can further patient safety.

Estimated time: 1.5 hours

Expectations for all students:

- Dress in professional attire, including white coats
- Participate actively in group discussion

Session objectives:

- Describe various roles that comprise interprofessional teams
- Identify how various team roles interact to provide patient-centered care
- Explain the value of interdisciplinary health care teams in improving patient care and outcomes
- Describe the epidemiology of medical errors
- Explain how human factors contribute to medical errors
- Explain how safety culture contributes to reducing medical error
- Describe safety design principles and methods to prevent errors
- Participate effectively as a member of an interprofessional team

The Healthcare System

The US healthcare system is rapidly changing, and part of your job as physician will be to ensure that the care you provide is effective within the context of the system, as well as to help your patients navigate the increasing complexity of the system. During this Unit, we will discuss the US healthcare system as it is, and how it may change in coming years.

USMLE relevance:

From the USMLE content outline: see section 18.3.4 in USMLE table (Health Care Policy & Economics)

Intro to Healthcare Financing & Reform

Presenters: Marc Kahn, MD, MBA, MACP, FRCP
Dean, Kirk Kerkorian School of Medicine at UNLV and Vice President for Health Affairs

Format: Lecture

Estimated time: 1 hour

Session objectives:

- Name and describe the functions of the major payors in health care delivery at a regional and national level
- Identify the different types of practices US physicians choose in delivering care and the differences between these care models

Healthcare Reform Workshop

Format: Lecture followed by small groups facilitated by faculty and T4s

Overview: Discuss recent approaches to healthcare reform in facilitated small groups, including cases of patients affected by changes to healthcare financing and coverage requirements

Estimated time: 2 hours

Pre-work:

1. The Structure and Cost of US Health Care: https://www.youtube.com/watch?v=KriEIJ0ubh0
2. Moriates C et al. "Common health insurance terms and definitions." Understanding Value-Based Healthcare.McGraw-Hill Education, 2015. Print.
3. Askin E, Moore N. The Health Care Handbook excerpts (see eMedley)
4. Gawande, Atul. "The Cost Conundrum." *The New Yorker* 1 June 2009.

Expectations for all students:

- Sign-in
- Participate actively in group discussion
- Complete peer evaluations after session

Session objectives:

- Name and describe the functions of the major payors in health care delivery at a regional and national level
- Identify the different types of practices US physicians choose in delivering care and the differences between these care models

Quality Improvement

Serious errors occur at the best hospitals and clinics — despite the best efforts of talented and dedicated providers. As the Institute of Medicine (IOM) declared in 2001, in words that still ring true, "*Between the health care we have and the care we could have lies not just a gap, but a chasm.*" This Unit launches you on your journey to becoming a health care change agent.

Through the IHI modules, you'll get a high-level picture of the current quality of care in the United States and other nations, including some common challenges; you'll see how six aims for improvement from the Institute of Medicine have created a sense of direction for improvement efforts all over the world; and you'll get your first introduction to the science of improvement, with a theory of how to change systems. You'll then use what you learned in a session where you apply the principles of QI to your own plan for improvement.

USMLE relevance:

- From the USMLE content outline: "Quality improvement: improvement science principles; variation and standardization; reliability, specific models of quality improvement; quality measurement, structure, process, outcome, and balancing measures; measurement tools; development and application of system and individual quality measures; strategies to improve quality; role of leadership; principles of change management"

Independent Study (check eMedley for most up-to-date assignments)

Overview: Complete IHI modules covering topics in Quality Improvement to prepare for the application session

Estimated time: 8 hours over **2 sessions**

- ✓ Complete these Institute for Healthcare Improvement (IHI) Open School Modules: http://app.ihi.org/lms/onlinelearning.aspx
  - ✓ QI 101: Intro to Health Care Improvement
  - ✓ QI 102: How to Improve with the Model for Improvement
  - ✓ QI 103: Testing and Measuring Changes with PDSA Cycles
  - ✓ QI 104: Interpreting Data
  - ✓ QI 105: Leading QI

QI workshop

Presenter: Jessica DeBord, MD/MPH and Karen Weissbecker, PhD

Overview: In this workshop, you'll practice PDSA cycles, and apply the principles of QI to revising your wellness contract

Estimated time: 1.5 hours

Expectations for all students:

- Sign-in
- Participate actively in group discussion

Session objectives:

- Explain the goals of quality improvement put forth by the Institute of Medicine
- Explain systems-based approaches to provide high quality care
- Systematically analyze practice using quality improvement methods and implement changes

with the goal of practice improvement

Value (Phase 2)

In this Unit, we will discuss drivers of the cost crisis in the US healthcare system, and approaches physicians can utilize to reduce cost and/or improve the quality of care provided (otherwise known as increasing value).

USMLE relevance:

- From the USMLE content outline: "High-value/cost-conscious care: overutilization of resources, including diagnostic testing, medications"

Independent Study

Overview: complete several IHI modules to prepare you for the Value Workshop
Estimated time: 6 hours

- ✓ Complete these Institute for Healthcare Improvement (IHI) Open School Modules: http://app.ihi.org/lms/onlinelearning.aspx
  - ✓ L 101: Intro to Health Care Leadership
  - ✓ TA 101: Intro to the Triple Aims for Populations
  - ✓ TA 103: Increasing Value and Reducing Waste at the Point of Care

Value in Diagnostic Testing Workshop

Presenter: Jessica DeBord, MD/MPH
Overview: Work in small groups to discuss your approach to a patient scenario to maximize benefit and reduce harm, including applying principles of biostatistics to choose appropriate diagnostic tests.
Estimated time: 1.5 hours
Expectations for all students:

- Sign-in
- Participate actively in group discussion

Session objectives:

- Identify and describe key drivers of the cost crisis in health care
- Identify, describe, select and utilize evidence, tools, and information technologies to support cost-effective medical decision-making
- Identify and describe strategies to support cost-effective clinical decision-making including utilizing test characteristics to minimize unnecessary diagnostic testing

Medical Decision-Making & Cognitive Bias (Phase 2)

In this Unit, we will think about how we think. Historically, physicians in training have learned to "think like a physician" by observing physicians at work. Exercises like "stump the chump" can provide insight into the thought process of the master clinician. Increasingly though, we are recognizing and naming elements of the medical decision making process and where it can go awry (cognitive biases). In this unit, we will delve into what makes a master clinician, how even experts make mistakes, and discuss ways to mitigate the cognitive biases to which we all fall prey.

USMLE relevance:

- From the USMLE content outline: "Causes of error … Physician factors: bias – cognitive, availability, heuristic, anchoring, framing Human factors (eg, cognitive, physical, environmental)"

Independent Study: see eMedley for assigned pre-readings

Overview: complete several pre-reading assignments to prepare you for the MDM Workshop
Estimated time: 3 hours

- ✓ Complete these Institute for Healthcare Improvement (IHI) Open School Modules: http://app.ihi.org/lms/onlinelearning.aspx
  - ✓ PFC 101: Intro to Patient-Centered Care
- ✓ Watch this "Stump The Chump" from the creators of the IM Reasoning podcast (approximately 42 minutes): https://www.youtube.com/watch?v=XzvFHlhALeU&t=0s&list=PLSKzfhGqDVAVLos4V_UHb4KQNOTQ_T9Eo&index=20

Medical Decision Making workshop

Presenter: Jessica DeBord, MD/MPH
Overview: Work in small groups to develop a differential diagnosis, assessment and plan, incorporating patients' preferences; discuss potential sources of uncertainty and error in patient cases
Estimated time: 1.5 hours
Expectations for all students:

- Sign-in
- Participate actively in group discussion
- Complete peer evaluations after session

Session objectives:

- Describe the concept of an illness script
- Compose a limited differential diagnosis for each medical problem in a patient who has multiple medical problems
- Demonstrate clinical reasoning by applying physical exam findings to narrow a differential diagnosis
- Construct a problem list for a patient, using pathophysiology to organize the list based upon disease mechanisms
- Construct a plan for diagnostic evaluation and initial management
- Solicit and respect multiple viewpoints
- Demonstrate self-awareness regarding when to show confidence and when to express

uncertainty
- Lists & describe types of common cognitive errors in medical decision-making

Clinical Skills

USMLE relevance:
- From the USMLE content outline: "Communication and interpersonal skills, including … patient interviewing … (patient-centered communication skills), fostering the relationship (eg, expressing interest), information gathering (eg, exploring patient's reaction to illness), information provision (eg, providing information about working diagnosis), making decisions (eg, eliciting patient's perspectives), supporting emotions (eg, effective discussion with difficult patients), enabling patient behaviors (eg, education and counseling)"
- From "Changes to the USMLE 2015-2016" handout: "examinees will see an increased focus on … interpersonal and communications skills."

The Structure of the Medical Interview Lecture

Overview: An introduction to the structure of the medical interview, by Dr. LeDoux
Estimated time: 1 hour
Objectives:
- Describe the elements of a complete history
- Develop appropriate patient rapport
- Explain basic vocabulary related to history-taking
- Define and identify the elements of a therapeutic relationship and factors that create and maintain it

Vital Signs lecture

Overview: An introduction to obtaining an interpreting vital signs, by Dr. LeDoux
Estimated time: 1 hour
Objectives:
- List and describe the commonly reported vital signs and how they are obtained
- Recognize and interpret common vital sign abnormalities

H&P Workshop

Format: Small group workshop with T4s
Overview: Work in pairs to practice obtaining and documenting a patient history
Estimated time: 3 hours
Objectives:
- Describe the elements of a complete history and physical
- Explain basic vocabulary related to history-taking
- Organize written information to be shared with patients, family, colleagues, and community
- Identify the necessary components of complete medical records

Lecture and Workshops: Intro to Student-Run Clinics

Presenters: T4 student leaders

Overview: Attend a brief lecture introduction to the New Orleans health care system followed by stations during which you'll practice skills needed to participate in student-run clinics

Estimated time: 3.5 hours

Expectations for all students:

- Participate actively

Session objectives:

- Become familiar with the healthcare landscape in New Orleans/Louisiana
- Understand the Student Clinic Council structure
- Become familiar with the Student Run Clinic sites and the training requirements to participate in the clinic system
- Understand protocols for emergency situations that may arise in clinic such as (1) stroke, (2) MI, (3) HTN-emergency, and (4) seizures
- Review the TUSOM Bloodborne Pathogen Exposure Protocol
- Gain tools for dealing with hostile situations and difficult patients in the clinical setting
- Begin to practice taking a history and briefly presenting using the SOAP format
- Properly measure blood pressure

Advanced Medical Interviewing (Phase 2)

1. Independent Study: Inclusive Sexual History Taking, Domestic Violence, & Trauma-Informed Care

Overview: complete assignments and quiz to prepare you for an SP session

Estimated time: 2 hours

See eMedley for updated assignments

Session objectives:

- Describe the use of open-ended questioning to elicit a patient's sexual history
- Describe neutral terminology used to conduct the interview
- Recognize signs and symptoms of intimate partner violence
- Describe interview techniques to screen patients for intimate partner violence
- Define trauma and trauma-informed care
- Describe key principles of performing a physical examination in a manner that is sensitive to all patients, particularly those with a history of trauma
- List specific examples of trauma-informed language and behaviors that can be utilized during the physical examination

2. Application: SP session

Overview: Work in small groups to obtain a complex history, including sexual history

Estimated time: 2 hours

Session objectives:

- Use open-ended questioning to elicit a patient's sexual history
- Use neutral terminology to conduct the interview
- Utilize interview techniques to screen patients for intimate partner violence
- Use trauma-informed language and behaviors in conducting a patient interview

3. Reflection: in small groups immediately after SP session

Overview: Reflect on your SP session with your small group. See eMedley for assignment.
Estimated time: 1/2 hour
Session objectives:

- Synthesize the information and feedback received in the SP session
- Discuss with peers different ways they can improve sexual history taking skills in the future
- Discuss personal biases and preconceived notions about patient's backgrounds
- Recognize that making assumptions about a patient's sexual practices and failing to ask patients the right questions can lead to negative health outcomes

4. Documentation: completion of H&P document

Overview: Having seen a patient, physicians must document their encounters. If it's not documented, it didn't happen; documentation drives physician reimbursement, communicates with other providers, and protects you, medical-legally. See eMedley for assignment.
Estimated time: 1 hour
Session objectives:

- Document a history, physical, assessment, and plan using the appropriate format

Sim Center

Many physicians perform procedures. The Sim center sessions are designed to allow students to practice basic procedures such as IV insertion, phlebotomy, and suturing. These activities involve a combination of site-specific trainers as well as fully computerized mannequins. **These sessions are generally not intended to make you proficient in the skills presented**; they are intended as an introduction the skills you will develop further in your clinical rotations. You will be expected to perform **hand hygiene/sterile technique** during each session, and are expected to be proficient in these prior to beginning your clinical rotations.

Pre-readings and session guides for each session can be found on eMedley.

All sessions take place in the SIM Center -- 131 S Robertson St, New Orleans, LA 70112

<u>Expectations for all Sim sessions:</u>

- Prepare for the SIM session by reviewing the pre-session materials and taking the pre-quiz
- Pre-quizzes must be completed on your own, and you may use any resources you'd like to assist you
- Attend your assigned session (see "Switching" under Policies & Grading)

Session 1: Hand-washing and phlebotomy

Overview:

Washing hands (correctly!) is **the most effective** infection control strategy. This scrubbing video is the same as one used for the surgery clerkship in your T3 year. Finally, phlebotomy & IV insertions are two of the most common procedures.

In this session, you will work through two stations:

1. Medical handwashing/scrubbing
2. Phlebotomy and IV insertions.

Objectives:

1. Describe & demonstrate the appropriate steps for handwashing and good hand hygiene for healthcare scenarios
2. Describe & demonstrate the appropriate steps for scrubbing.
3. Describe & demonstrate the steps for inserting an IV and performing phlebotomy.

✓ Pre-session materials: (see eMedley for updated assignments and links)

1. Handwashing
    - Review the Handwashing video
    - Review the handout on Hand-hygiene

2. Scrubbing
    - Review the Scrubbing video

3. Phlebotomy/IV insertion

    - Review the Phlebotomy_video
    - Review the handout on Phlebotomy
    - Review veins of the arm and thoracic cavity

4. **Take the pre-session quiz**

Session 2: Vital Signs

Overview:

This simulation case will require your team to gather various pieces of information in separate groups and pool your information to find a solution and figure out what is causing a fever.

In this session, you will work through multiple stations:

1. Assessing vitals
2. Foley catheter placement
3. Obtaining Lab samples
4. Chart review
5. Lab review & interpretation

Objectives:

1. Obtain and synthesize patient information
2. Describe & demonstrate the appropriate steps for placing a Foley catheter
3. Describe the indications & complication involved in placing nasogastric tubes & Foley catheters

Expectations:

- Review the pre-session materials
- Attend your assigned session (see "Switching" under Policies & Grading)

✓ Pre-session materials: (see eMedley for updated assignments and links)

1. Taking a blood pressure
    - Review the video Taking a Blood Pressure
2. Foley catheter placement
    - Review the Foley Guide
    - Review the video Foley placement
3. Additional reading
    - Female foley
    - Male foley
4. **Take the pre-session quiz**

Session 3: Abdominal exam (SP/Sim)

Overview:

In this session, you will practice the abdominal exam on a simulator as well as a standardized patient. After practicing exam maneuvers on a simulator, you will attempt to identify simulated abnormal findings, followed by practice on a standardized patient.

Location: Sim Center, 3rd floor Murphy Building
Objectives:

- Describe and demonstrate proper technique for the abdominal exam maneuvers
- Recognize common abnormal abdominal exam findings

Expectations:

- Review the pre-session materials
- Attend your assigned session; you will be turned away if you attempt to attend a different session

Pre-work:

✓ View Bates' Physical Exam Abdominal Exam video

Session 4: Suturing/Knot tying

Overview:
Being able to place simple sutures and tying a basic surgical knot are essential skills for all medical students. In this SIM center session, you will learn & practice placing simple-interrupted sutures and tying basic overhand square surgical knots.

In this session, you will work through two stations:

1. Simple-interrupted suturing
2. Tying two-handed square knots

Objectives:

1. Demonstrate the appropriate steps for placing simple-interrupted sutures
2. Demonstrate the appropriate steps for tying two-handed square knots
3. Describe common errors in placing simple sutures and tying surgical knots

Expectations:

- Review the pre-session materials
- Attend **your** assigned session; you will be turned away if you attempt to attend a different session

✓ Pre-session Materials: (see eMedley for updated assignments and links)

1. Watch video on simple interrupted suturing, this is what you will be doing in the SIM center
2. Watch Video on the knot tying procedure, this is what you will be doing in the SIM center
3. Optional video: Suturing a laceration on an actual patient
4. **Take the pre-session quiz**

Session 5: ICU

Overview:

You and your group (the ICU team) are attending to a patient post-operatively. The patient will develop several physiological issues

Your task is to identify and try to address these issues.

For your benefit, we will have T4 specialists standing by who can provide consultation services. In other words, you can ask them for help.

Objectives:

1. Build interpersonal team skills by working with a group to identify and treat acute medical issues
2. Apply principles of physiology to addressing acute decompensation in a simulated patient
3. Practice calling a consultant to assist in managing a complex patient

Expectations:

- There is no pre-session work for this activity.
- Please show up promptly on your assigned date/time
- Due to the nature of the activity, there will not be make-ups
- You will not be allowed to walk into a session for which you are not assigned

Standardized Patients

"The good physician treats the disease; the great physician treats the patient who has the disease."
---Sir William Osler

The course includes a total of 8 Standardized Patient (SP) encounters over the course of the T1 & T2 years. While the use of SP is somewhat artificial, these sessions provide a "safe" environment (not actual clinical situations) to practice the skill of the medical interview and provide feedback from trained facilitators.

Obtaining an accurate medical history is the single most essential component of being a physician. Numerous studies have shown that more refined communication skills lead to more accurate diagnoses, better health outcomes, and fewer medical errors. In addition, when medical errors occur, physicians possessing good communication skills are far less likely to be litigated.

Communication in healthcare is different from other situations for two reasons: 1) the essential power hierarchy in the patient---physician relationship in which the patient is ill and seeking help, 2) physicians have a short amount of time to establish rapport and gain the trust.

These are skills that students will be introduced to and have a chance to practice. Mastering these skills, however, is the work of a career.

<u>Expectations for all SP sessions:</u>

- Prepare for the SP session by reviewing the pre-session materials and taking the pre-quiz
    - Pre-quizzes must be completed on your own, and you may use any resources you'd like to assist you
- Attend your assigned session (see "Switching" under Policies & Grading)
- Wear your white coats & professional dress

Session 1: Medical interviewing

Overview:

In this session, you will be meeting a standardized patient (SP). You will interact with the SP by asking questions. The object of your conversation is to elicit why the patient has come in to see you, and what are the details and circumstances surrounding this issue. Try to focus on using good communication skills, like asking open-ended questions, and establishing rapport. The medical interview involves a specific format that you should also practice.

Students are grouped in pairs and practice taking a complete medical interview. Each student will get the opportunity to interview the SP and receive personalized feedback from the SP and their partner.

Objectives:

- Identify the components of medical history, including the identifying the chief complaint, history of the present illness (HPI), past medical history (PMH), review of systems (ROS), family history, and social history, allergies and medications (including over-the-counter, OTC)
- Elicit the chief complaint & HPI using the FAR COLDER mnemonic

Estimated time: 70 minutes

✓ Required pre-work: (see eMedley for updated assignments and links)

1. Review the Bates' Guide to Examination and History Taking:
    i. Chapter 1: Foundations for Clinical Proficiency
    ii. Chapter 3: Interviewing and Health History (beginning of chapter until you reach "Advanced Interviewing")
2. The Pocket Guide to Clinical Skills: Section titled "Medical History"
3. Review Master interviewing Rating Scale
4. **Take the pre-quiz**

Session 2: Musculoskeletal exam

Overview: Students are assigned to pairs. They will be guided through the musculoskeletal exam by an SP, including inspection, range of motion and palpation. They will practice the entire exam including testing all major joints, including hands, elbows, shoulders, spine & neck, feet, knees and hips. Each student will be given the opportunity to Role Play with the SP as a patient. The SP will offer feedback on physical exam skills and patient communication.

Objectives:

- Practice inspection, range of motion and palpation of all major joints, including hands, elbows, shoulders, spine & neck, feet, knees and hips

Estimated time: 70 minutes

✓ Required pre-work: : (see eMedley for updated assignments and links)

1. Review the Bates' Visual Guide to Physical Examination video: Musculoskeletal exam
2. Review The Pocket Guide to Clinical Skills section titled "Musculoskeletal exam"
3. **Take the pre-quiz**

Session 3: Vital Signs

Overview: Obtaining a medical history involves gathering data from your patient. Once gathered, clinicians synthesize these data and combined with their clinical knowledge form diagnostic hypotheses and plans of care. An important part of this patient data are the vital signs. This session will instruct you in the proper method for obtaining patient vitals.

Objectives:

- Obtain a focused chief complaint & HPI using the FAR COLDER mnemonic
- Obtain a complete ROS, Family History, and Social History
- Demonstrate the correct maneuvers for obtaining vital signs: blood pressure, measure respiratory rate, temperature, heart rate, and BMI

Estimated time: 55 minutes

✓ Required pre-work: (see eMedley for updated assignments and links)

1. Review the Bates' Visual Guide to Physical Examination video: General Survey & Vital Signs
2. The Pocket Guide to Clinical Skills: Section titled "Vital Signs"
3. **Take the pre-quiz**

Session 4: Pulmonary exam

Overview: Not only does the pulmonary system coordinate exquisitely with the cardiovascular system, but the similarity of pulmonary disease presentations offers a particular challenge to the diagnostician. The ability to gather data is crucial to discovering clues that can help diagnose a problem of the lungs.

In this SP session you will interact with a patient presenting with a pulmonary complaint. You will interview the patient and learn how to perform a brief lung exam.

Estimated time: 90 minutes

✓ Required pre-work:

1. Review the Bates' Visual Guide to Physical Examination video: Thorax & Lungs (http://batesvisualguide.com.libproxy.tulane.edu:2048/multimedia.aspx?categoryID=21787#21776)
2. The Pocket Guide to Clinical Skills: Section titled "Pulmonary exam"

Objectives:

- Demonstrate the ability to auscultate the lungs
- Demonstrate the ability to obtain a history specific to pulmonary complaints
- Be able to correlate information from pulmonary auscultation with the underlying anatomy
- Describe how the pulmonary findings and historical clues relate to pulmonary physiology

Session 5: Cardiovascular exam

Overview: The cardiovascular system offers an excellent starting point from which to begin understanding the physiology of the human body. Pressure gradients and flow combined with electrical coordination smooth and cardiac muscle are combined in the heart and great vessels to provide a conceptual understanding of fluid dynamics. Understanding shifts in fluid into and out of vessels and cells and the electrical coordination of the heart are crucial to comprehending the leading cause of death in the US – cardiovascular disease.

In this SP session you will go through a series of stations will illustrate various aspects of interviewing a patient with a cardiac complaint as well as auscultating the heart.

For this SP session, you will rotate through several Cardiovascular stations:

1. Harvey simulator --- an introduction to heart sounds
2. EKG station --- introduction to reading EKGs
3. SP session --- to learn & practice the CV exam
4. Tidbits --- a potpourri of useful concepts about cardiovascular disease

Objectives:

- Demonstrate the ability to auscultate the heart
- Be able to correlate information from cardiac auscultation with events in the cardiac cycle
- Describe how the electrical components of the surface electrocardiogram relate to mechanical events

Estimated time: 55 minutes

✓ Required pre-work: (see eMedley for updated assignments and links)

1. Review the Bates' Visual Guide to Physical Examination video: Cardiovascular Exam
2. The Pocket Guide to Clinical Skills: Section titled "Cardiovascular exam"
3. **Take the pre-quiz**

Session 6: Patient education & counseling

Overview: Part of the role as physicians is to educate patients to make healthier lifestyle choices. Historically, physicians have a poor success rate with influencing patient behaviors. Part of the reason is lack of knowledge in effective strategies.

Studies show that with effective skills, physicians are more likely to impact positively on patient behaviors. Lifestyle and dietary modifications can prevent or at least minimize chronic conditions such as coronary artery disease, hypertension, and diabetes. Improved health outcomes of these efforts include fewer strokes and heart attacks.

Patient education & counseling is broad, but critical topic in medicine. Although the details vary with the counseling topic (*ie*., tobacco cessation, medication adherence, weight loss, etc.), there are some common elements and affects every branch of medicine, whether it be medication adherence, pre-operative instructions, post-operative wound care, dietary changes, or rehab instructions. If after a flawless surgical procedure the patient has a wound infection or poor mobility after orthopedic repair, it counts as a complication for the surgeon.

In this SP encounter, you will have an opportunity to practice strategies for educating and counseling patients. Tobacco cessation is one of the examined areas for providing education & counseling, but the methods used carry over to other areas. We will focus primarily on tobacco cessation and use this as the "blueprint" for providing patient education & counseling in other situations.

Objectives:

- Describe the stages of change
- Assess a patient's stage of change for a given modifiable behavior
- Provide appropriate counseling for smoking cessation, weight loss & exercise, and medication adherence
- Check for patient understanding & commitment

Estimated time: 70 minutes

✓ Required pre-work: (see eMedley for updated assignments and links)

1. Review the video: Stages of Change (run time is about 14 minutes)
2. Tulane Patient Education & Counseling handout (available on eMedley and in the Pocket Guide)
3. Okuyemi KS, Nollen NL, Ahluwalia JS. Interventions to facilitate smoking cessation. Am Fam Physician 2006: Jul 15;74(2):262-71. PMID: 16883923.
4. Searight R. Realistic approaches to counseling in the office setting. Am Fam Physician 2009 Feb 15;79(4):277-84. PMID: 19235494.
5. **Take the pre-quiz**

Session 7: Self-evaluation & skills review

Overview: This SP session is an opportunity to see what you have learned over the first semester of Year 1 in medical school. This is designed as a straightforward case in which you simply interview a patient and obtain a history.

You have been assigned a new clinic patient with a history of asthma and tobacco use who has come into the clinic complaining of a cough for the last two weeks.

The patient is new to New Orleans and has recently lost insurance coverage after being laid--- off from his/her previous job. S/he states that her illness and precarious financial situation are sources of increasing stress.

The resident has asked you to take a COMPLETE MEDICAL HISTORY.

Objectives:

- Take a complete patient history: chief complaint, history of present illness, past medical history, social history, family history, and review of systems
- Provide any counseling you feel may be appropriate
- Demonstrate self-confidence that puts patients, families, and members of the health care team at ease

Estimated time: 70 minutes

✓ Required pre-work: (see eMedley for updated assignments and links)

1. Review the materials for the previous sessions in Bates'
2. Review pages 7-26 in The Pocket Guide to Clinical Skills
3. Review the "how-to" videos from the previous sessions

Ethics

The overall goal of ethics is to promote an understanding of the complexities of the physician-patient relationship in today's health care environment. It addresses the notion of the "art of medicine" as a complement to the science of medicine.

The broad perspective on medical ethics incorporates individual components of the humanities, behavioral sciences, philosophical, and professional & clinical ethics. This multi-disciplinary approach is designed to develop in students a rich knowledge base, the ability to think critically and systematically about ethically problematic cases and situations, to apply ethical and humanistic principles to patient-centered care and to encourage self-exploration and awareness.

Overview: As medicine's First Principle, *primum non nocere*, medicine is ultimately an ethical endeavor involving such decisions as "what is doing harm?" and "what is doing good?" to the issue of professional ethics. These topics are explored in this component of FIM. There are a total of 7 ethics sessions during Phase 1 & Phase 2.

Estimated Time**:** 90 minutes per session

USMLE relevance:

From the USMLE content outline: "medical issues and jurisprudence… issues related to death and dying and palliative care … consent/informed consent to treatment, permission to treat … determination of medical decision-making capacity/informed refusal … involuntary admission … legal issues related to abuse … foster care … immunizations … legal requirements for reporting … physician-patient relationship"

Expectations for each session

- ✓ ***At the first session, students will sign up to facilitate discussion for each of the following 6 sessions.***

For **ALL** students:

1. Sign-in via
2. Participate actively in group discussion
3. Complete peer evaluations after session

For Student Discussion Leaders:

- For each session, 1 student will be responsible for leading the discussion. Students are responsible for indicating to the faculty facilitator for each session who will be the student leaders for each session. You are required to lead 1 ethics session which will be evaluated by your peers.
- It is expected that the student leaders will decide between themselves how to run their session. Bringing in supplementary material is encouraged!
- Remind all students to complete the sign-in quiz
- Lead the session, and facilitate discussion: This means involving your classmates (some of whom may not want to speak up). Help maintain the flow of discussion.
- Remind students to complete online peer-evaluation after the session

Session 1: Principles of Medical Ethics

Session objectives:

1. Describe the 4 bioethical principles commonly considered necessary for medical care
2. Discuss how the principles of beneficence and nonmaleficence can be used to determine medical indications
3. Understand the role of ethics and professionalism in medical school

Estimated Time**:** 90 minutes per session

USMLE relevance:
From the USMLE content outline: "medical issues and jurisprudence… permission to treat … physician-patient relationship"

- ✓ Required readings: (see eMedley for updated assigments and links)
  - Lo B. Resolving Ethical Dilemmas: A Guide for Clinicians, Chapters 1 & 2

Session 2: Ethics of Research & Consent

Session objectives:

- Define elements of informed consent for procedures
- Explain ethical and legal issues of informed consent in various patient populations and clinical scenarios

Estimated Time**:** 90 minutes

USMLE relevance:
From the USMLE content outline: "medical issues and jurisprudence… permission to treat … physician-patient relationship"

- ✓ Required pre-work: (see eMedley for updated assignments and links)
  1. *Read:* Resolving Ethical Dilemmas by Bernard Lo, Chapter 28: Clinical Research
  2. *Listen:* Stuff you Missed in History Class podcast, *The Tuskegee Syphillis Study*
  3. *Listen:* Radiolab podcast, *The immortal life of Henrietta Lacks*

Session 3: Ethical Issues in Genetics

Session objectives:

- Discuss how genetic information differs from other types of medical information
- Identify the ethical principles that need to be considered in pre-symptomatic genetic testing situations and discuss how these principles may compete with each other
- Discuss "duty to warn" and how it applies in terms of contacting at risk at risk family members with information from genetic testing (ethically and legally) (see Tarasoff case)
- List and discuss the factors that may influence patient's decisions regarding whether or not to have genetic testing

- Discuss additional concerns and factors that may arise when decisions regarding whether or not to have genetic testing are applied to pre-symptomatic testing in minors
- Review the ethical and policy statement regarding genetic testing and screening of children put out by the AAP and the ACMGG (Am College of Medical Genetics and Genomics). Do you agree with their recommendations?

✓ Required pre-work: (see eMedley for updated assignments and links)

1. *Read:* Resolving Ethical Dilemmas by Bernard Lo, Chapter 42
2. *Read:* Tarasoff v Regents
3. *Read:* Genetic Diseases and the Duty to Disclose *Virtual Mentor.* 2012;14(8):640-644.
4. *Read:* Summary of American Society of Human Genetics (ASHG) position regarding sharing of genetic information (Paragraph posted in packet)
5. *Listen:* Expecting the Unexpected: Dealing with secondary findings in genomic sequencing

Session 4: Ethical Issues in Obstetrics & Pediatrics

Session objectives:

- Discuss the principle of informed consent as it relates to children, adolescents and pregnant women
- Identify the circumstances under which minors can legally make their own health care decisions, and when parents must be notified
- Describe the ethical challenges that may arise given the intertwined relationship of pregnant women and fetuses
- Understand legal requirements for reporting of suspected abuse

Estimated Time**:** 90 minutes

USMLE relevance:

From the USMLE content outline: "legal issues related to (child) abuse, child protective services, foster care, immunizations, legal requirements for reporting, birth-related issues"

✓ Required readings: (see eMedley for updated assigments)

- Lo B. Resolving Ethical Dilemmas: A Guide for Clinicians, Chapters 37 and 39

Session 5: Ethics of Value and Distributive Justice

Format: Facilitated small group discussion
Estimated time: 2 hours
Pre-work: See eMedley for updates
Session objectives:

- Discuss controversies that arise when considerations of cost are introduced to the provision of medical care
- Explain how the principles of medical ethics can be applied to allocation of scare resources
- Describe the ethical principles involved in distributive justice

Session 6: Medico-Legal Issues in Ethics

Format: Facilitated small group discussion
Estimated time: 2 hours
Required readings: see eMedley for updated readings
Session objectives:

- Describe the concepts of medical decision-making capacity and informed refusal
- Discuss the ethics of involuntary admission
- Understand the legal requirements for reporting of privileged patient information

Session 7: Ethical Issues Near the End of Life

Format: Facilitated small group discussion
Estimated time: 2 hours

- ✓ Required readings: (see eMedley for updated assigments)
  - Lo B. Resolving Ethical Dilemmas: A Guide for Clinicians, Chapter 15
  - Bowron, Craig. Our unrealistic views of death, through a doctor's eyes. The Washington Post. February 17, 2012
  - Caplan A. Bioethicists: Girl's tragic case can't change reality of brain death. NBC News.
  - Magnus DC, Wilfond BS, Caplan AL. Accepting brain death. NEJM March 6;370(10)891-4.
  - Fink S. The deadly choices at memorial. New York Times. August 25, 2009 OR listen to this podcast: https://itunes.apple.com/us/podcast/radiolab/id152249110?mt=2&i=1000374402092

Session objectives:

- Discuss how the basic principles of biomedical ethics apply to medical decision making near the end of life
- Distinguish palliative sedation from euthanasia
- Define brain death , and discuss common ethical dilemmas surrounding the diagnosis and management of brain death

Evidence-Based Medicine: Longitudinal Curriculum

"Good doctors use both individual clinical expertise and the best available external evidence, and neither alone is enough. Without clinical expertise, practice risks becoming tyrannised by evidence, for even excellent external evidence may be inapplicable to or inappropriate for an individual patient. Without current best evidence, practice risks becoming rapidly out of date, to the detriment of patients."

- David Sackett

USMLE relevance:

- From the USMLE content outline: see schedule below, all topics come directly from USMLE content outline
- From "Changes to the USMLE 2015-2016" handout: "examinees will see an increased focus on … epidemiology, biostatistics, and population health"

Matas-101

Overview:

The study of medicine is the study of uncertainty. In some cases, guidelines have been established for certain conditions. There are situations in which the guidelines prove inadequate and you may be required to make decisions based on less-than-ideal information. When faced with these situations, good clinicians turn to the medical literature. This section of the course provides an introduction to the medical literature.

Searching the medical literature is a skill which you will be asked to exercise throughout the clinical clerkships and indeed, your careers. General search engines (Google, Yahoo, etc.) do not help you figure out which of the hits are good science or junk science. Your ability to decide a course of action for a patient may depend on the strength of the information that you uncover. The Matas Library staff will show you the tools that are available to assist you and help you develop the skill of searching the medical literature to answer a clinical question.

Estimated time: 90 minutes

Objectives:

- Locate, appraise, and assimilate evidence from scientific studies related to patients' health problems
- Obtain and utilize information about individual patients, populations of patients, or communities from which patients are drawn to improve care
- Continually identify, analyze, and implement new knowledge, guidelines, standards, technologies, products, or services that have been demonstrated to improve outcomes

Assignment: Details on eMedley

Weekly EBM exercises

Beginning in Phase 2, you will have weekly EBM exercises assigned and available on eMedley. These assignments are designed to:

1. Familiarize you with essential concepts in biostatistics and epidemiology that will be tested on module exams and USMLE Step 1
2. Provide ongoing practice to solidify the concepts
3. Introduce the application of these principles to clinical practice (Evidence-Based Medicine)

EBM exercises will be assigned most weeks; they will be posted in eMedley before the time listed in the calendar, and will be **due by Friday at 5 pm**. Exercises will generally include a video lecture and a study guide, and then several questions derived from the assignments. Exercises may be completed alone or in groups; if completed in groups, each individual needs to submit their own answers via eMedley. EBM exercises are intended to be FORMATIVE; you will earn credit for completing each exercise, regardless of your score. You must complete the exercise to earn credit.

Expect questions on each Phase 2 module exam addressing EBM topics covered in that module. Your score on these questions will contribute 20% to your final FiM2 grade.

Objectives:

- Describe the principles of epidemiological sciences as they apply to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention/health promotion efforts for patients and populations
- Define basic methodological terms and EBM principles used to study biomedical research and population health
- Appraise, assimilate, and apply scientific evidence in discussion of pathophysiology and cases
- Apply evidence-based medicine (EBM) principles to provide critical appraisal of published studies

Preceptor

> "He who studies medicine without books sails an uncharted sea, but he who studies medicine without patients does not go to sea at all."
>
> ---Sir William Osler

While you may have shadowed physicians before, the community preceptor experience is intended to get you involved as a healthcare professional.

Very few other professions ask you to interact with a wide variety of individuals and quickly develop a rapport with them. You are asking that these people trust you, yet, there is a power differential - usually they are sick and seeking your help. On the other hand, past experiences and a general fear of doctors may make patients less than forthcoming.

How, then, to be open, honest and empathetic, come across as knowledgeable and capable, while probing for historical clues and data in a potentially short amount of time?

Your role is primarily to observe seasoned clinicians as they interact with patients. Every encounter is different and every physician's approach is also different. If something a preceptor does to put the patient at ease, or if an interaction goes poorly, watch and learn. Internalize them. "Borrow" what you think you would want to emulate and pay attention to the things you would have done differently.

This activity is intended to allow students to observe and participate in the patient-physician relationship.

Preceptor is ***not*** intended to match students with particular fields of medicine.

You will have the opportunity to sign up for preceptor slots via the online sign-up. You are welcome to sign up for slots whenever works for your schedule, as long as they do not conflict with required coursework.
https://outlook.office365.com/owa/calendar/FIMPreceptorAssignments20212022@wave.tulane.edu/bookings/

There is one program that can take the place of Preceptor assignments: Social Contexts in Medicine (SCIM) program - http://tmedweb.tulane.edu/mu/scim/. For more information on this program, contact the student leaders.

Estimated time: up to 4 hours per session

Experience objectives:

- Communicate one's roles and responsibilities clearly to patients and families
- Describe how the therapeutic relationship affects the healing process and the clinician
- Define and identify elements of constructive professional relationships with patients and families
- Define and identify the elements of a therapeutic relationship and factors that create and maintain it
- Describe the role of the physician on an interprofessional team

Expectations:

- Attend a minimum of **3 sessions** over the course of Phase 1
- Participate actively in your session, and avoid cell phone use
- Dress Code:
    - White coats, close toed shoes
    - Professional and fairly conservative (no jeans, no tank tops, no short skirts)

Service Learning & Reflective Practice

The medical profession is a service profession and Tulane has a strong history of service to the community. Service Learning is a unique learning experience, which offers a wide range of opportunities to practice many different skills necessary for becoming a physician. These learning activities must be fulfill objectives, be tracked, and be reflected upon to be part of the students' grades.

The overall philosophy of these visits is to immerse the students into the world of community-based health care. The goal is to understand that health and well-being cannot be divorced from a person's context; this includes, in particular, the concept that medical diagnosis and treatment are not the primary determinants of health and, in fact, are often a very small contributing factor to heath & wellbeing.

There are dozens of service learning (SL) projects in which to participate. Many have a clinical component, while others do not. Availability of clinical SL projects may vary over the course of the year depending upon the status of the ongoing pandemic; the Student Clinic Council will oversee clinical opportunities, and availability will follow their protocols.

Signing in and out is absolutely essential. Students must sign in and out of the project while on site. Failure to do so will prevent you from earning hours for that project (i.e. if it's not documented it never existed).

For all other SL issues or problems, please contact foundations@tulane.edu.

Expectations:

- Attend the SL activities for which you sign up (Show up!)
- The FIM office will track SL hours completed; and are **based solely on sign-in sheets** (Sign-in!)
- Make sure you sign in and out
- Note that training hours are only granted upon completion of subsequent regular hours for that project
- Complete at least 25 hours prior to the end of phase 1

Objectives:

- Gain awareness of population-based health programs and community organizations
- Describe community organizations and services available to patients and families
- Describe the network of programs and community organizations that address health disparities in the community
- Explain how pathophysiology and patient demographics help to determine relevance of elements of a patient's history
- Demonstrate a basic understanding of commonly used screening tests for the early detection of disease in asymptomatic patients
- Participate in the education of patients, families, students, trainees, peers and other health professionals
- Communicate effectively with colleagues within one's profession or specialty, other health professionals, and health-related agencies
- Organize and document a history, physical exam, assessment and plan
- Recognize and describe the role of self and others in an interprofessional team
- Identify how various team roles interact to provide patient and population-centered care
- Identify situations in which additional assistance is required
- Demonstrate responsiveness to patient needs that supersedes self-interest
- Demonstrate accountability to patients, society, and the profession
- Arrive on time for all required activities and remains for the duration of the activity
- Demonstrate ability to self-reflect about one's interaction with diverse patient populations
- Implement approaches to understanding and working effectively with patients from diverse backgrounds

- Use the knowledge of one's own role and the roles of other health professionals to appropriately assess and address the health care needs of the patients and populations served
- Communicate with other health professionals in a responsive and responsible manner that supports the maintenance of health and the treatment of disease in individual patients and populations
- Demonstrate trustworthiness that makes colleagues feel secure when one is responsible for the care of patients
- Contribute to ethical decision making in a team setting
- Maintain confidence and focus while approaching assessments and examination

SL Policies

- All requests for one time or ongoing SL project approval must be submitted 5 business days BEFORE the project date
- SL activities must be open and available to all Tulane students in order to count for SL hours, and therefore must be advertised to the classes via Facebook and/or Email.
- Limits on the number of people participating, requiring training, etc. are all acceptable
- Students are not allowed to advocate for any particular political or religious beliefs, but are able to participate in service learning opportunities for such organizations as long as the opportunity is open and available to all Tulane students.
- Example: glucose screenings at a health fair at a church, mosque, synagogue, etc. are acceptable. Handing out religious texts is not.
- Standard of care must always be met for any SL projects
- Example, medical students cannot run clinics without having an attending present, but can take vitals, counsel patients, and do glucose screenings
- Medical students cannot serve alcohol as part of their service learning
- Any events canceled *24 hours* or less before it was supposed to start qualifies people for half of the expected hours.
- Example: An event planned for 4 hours of service learning canceled 2 hours before would count for 2 hours of SL
- All clinical SL activities will follow the policies and procedures set out by the Student Clinic Council.

Reflective Practice

Reflection is an invitation to think deeply about our actions so that we may act with more insight and effectiveness in the future. It is probably something you do already: processing, analyzing, and integrating your experiences through writing, discussions with friends, art, etc. As related to service, reflection is the use of creative and critical thinking skills to help prepare for, succeed in, and learn from service experience, and to examine the larger picture and context in which service occurs.

You will need to enter your reflections on the assignments below directly into eMedley prior to the end of phase 2.

Objectives:

- Identify strengths, deficiencies, and limits in one's knowledge and expertise
- Set learning and improvement goals
- Develop the ability to use self-awareness of knowledge, skills, and emotional limitations to engage in appropriate help-seeking behaviors
- Demonstrate ability to self-reflect about one's interaction with diverse patient populations

Assignment:

- Choose the **one** SL objective for which you feel you most improved through your experiences with service

learning. Did a particular SL opportunity most contribute to this improvement? How will your competency with this objective impact your future career?

- Choose the one SL objective that you feel you most need to improve upon in the future. What will your next step be to achieve competence in this area?

SPECTRUM

This curriculum will explore a few of the multitude of issues that may impact our patients' health (aka Social Determinants of Health):

Sexual orientation/gender identity
Poverty
Education
Culture
Translation need
Race & religion
Underrepresentation
Medical literacy & mental health

These issues, and too many more to list here, impact the health of patients you'll care for throughout your life. It would be arrogant to presume that I can teach you everything you need to know to provide culturally competent care for every patient you'll encounter in your career. Instead, we'll focus on the concept of cultural humility, which I hope provides a framework for your interactions with those whose background differs from yours throughout your life.

Media Club: Anti-racism in medicine

Overview: Small group discussions of the media source (book, documentary, podcast, etc) that you signed up for, facilitated by upper class students, focused on understanding structural racism in medicine and how you can build anti-racism into your career and life
Estimated time: 1.5 hours
Expectations: see eMedley for assignment details
Objectives:

- Recognize that race was created as a social construct and is not a biological risk factor for disease
- Describe how race is used and misused in medical education, scientific research, and clinical care

Independent Study: LGBTQ+ modules

Overview: Complete a series of online modules introducing key concepts in the care of LGBTQ+ patients
Estimated time: 6 hours over two sessions
Expectations: see eMedley for assignment details

LGTBQ panel

Overview: Attend a panel discussion with community members that identify as LGTBQ, about their interactions with the healthcare system
Estimated time: 1 hour
Expectations: see eMedley for assignment details
Objective:

- Explain how gender identity and sexual orientation may affect a patient's health and their experience navigating the healthcare system

Workshop: Cultural Humility & Implicit Bias

Overview: Explore the concepts of implicit bias and cultural humility as they relate to a series of patient cases, in small groups

Session objectives:

- Demonstrate awareness that conscious and unconscious biases exist
- Discuss methods of mitigating one's own biases

Estimated time: 2 hours

Expectations for all students:

- Sign-in
- Participate actively in group discussion
- Complete peer evaluations after session

✓ Required pre-work: See eMedley for updated assignments and links

1. *Watch*: IHI video on cultural humility (takes about 3 minutes)
2. *Read*: Institute of Medicine report on disparities in healthcare
3. *Take*: Harvard implicit bias test (takes about 10 minutes)
    - Click "I wish to proceed"
    - You may choose which implicit bias test(s) you would like to complete
    - Come to seminar prepared to discuss your reactions to the results
4. *Read:* Brooks KC. A Silent Curriculum. JAMA 2009;313(19):1909-10.

Workshop: Social determinants of health (Interprofessional Education Session)

Overview: Working in small groups, students from both schools will discuss mock patient cases addressing individuals with health problems related to various social determinants, including poverty, education, insurance status, neighborhood violence, toxin exposure, nutrition availability, and incarceration. Small groups will each be presented with a patient case, for which they will discuss which social determinants may impact their patient's health, and community resources available to help that individual. They will then present their findings to the larger group. Students will discuss the roles of physicians and social workers in improving the health of individuals and populations, and brainstorm ways to improve health through collaboration.

Objectives:

- Describe the role of the physician and social worker on an interprofessional team
- Participate effectively as a member of an interprofessional team
- Describe the social determinants of health and identify how they create barriers to wellness for underserved
- Describe the impact of family, community, social circumstance, culture, and policy on an individual's health
- Describe the network of programs, services and community organizations that address health disparities in the community

Estimated time: 2 hours

Expectations for all students:

- Sign-in
- Participate actively in group discussion

✓ Required pre-work: See eMedley for updated assignments and links

1. Complete the IHI module TA 102: Improving Health Equity (estimated time to complete 2 hours)
2. Upload your certificate
3. Review the cases and supplementary materials for the session

Cross-cultural humility and working with interpreters (Phase 2)

Overview: As a physician, you will often be working with and treating people with backgrounds different from your own. In preparation for and during this session, you will gain skills in interacting with people from distinct cultural backgrounds and learn the basics of working with medical interpreters.

Objectives:

- Understand the fundamentals of cross-cultural skills and how they apply to health care
- Recognize the importance of language in communication with persons from different cultures from one's own
- Gain skills that will allow application of concepts of cultural humility to interactions with patients and families

Estimated time: 90 minutes

✓ Required pre-work: (see eMedley for updated assignments and links)

Practice obtaining a medical history from a patient with limited English proficiency (LEP) with the help of a medical interpreter.

1. Independent Study

Overview: complete assignments and quiz posted to eMedley to prepare you for the SP session
Estimated time: 2 hours

2. Application: SP session

Overview: Work in small groups to obtain a history from a patient with LEP
Estimated time: 1 hour
Session objectives:

1. Demonstrate appropriate use of an interpreter for a patient with limited English proficiency.
2. Demonstrate communication skills with the interpreter that enhance the effectiveness of the clinical encounter.
3. Conduct an appropriate history or counseling session with a patient with LEP using generic communication skills that are also appropriate for an English-speaking patient.
4. Recognize limitations of using an interpreter in the clinical encounter.

3. Reflection: in small groups after SP session

Overview: Reflect on your SP session with your small group. See eMedley for assignment.
Estimated time: 2 hours

4. Documentation: completion of H&P document

Overview: Having seen a patient, physicians must document their encounters. If it's not documented, it didn't happen; documentation drives physician reimbursement, communicates with other providers, and protects you, medical-legally. See eMedley for assignment.
Estimated time: 1 hour
Session objectives:

- Document a history, physical, assessment, and plan using the appropriate format

Teaching Kitchen

Expectations:

- You will receive pre-readings and a pretest from the Teaching Kitchen to review and complete in advance of your session
    - Your pretest grade will count towards the "quizzes" portion of your final grade
- Professionalism is expected in the Teaching Kitchen (as in all other aspects of FiM). Student professionalism will be monitored, and any students demonstrating outstanding professionalism, or professionalism lapses, will be reported, and the professionalism portion of their grade adjusted accordingly. A reminder of our professionalism expectations:
    - Show up to required activities, on time, and participate fully
    - Turn in assignments complete and on time
    - Treat others with respect
    - Do your best
    - Recognize your limitations & admit your mistakes
    - Seek out and accept feedback and instruction
    - Use them to improve
    - Foster an environment where others feel comfortable doing the same
    - Support one another

Session 1: Disease Implications of Diet: An Introduction to Culinary Medicine

Overview: This module presents an outline of both the Mediterranean and DASH diets, and examines recent sources and studies examining the effectiveness of both in terms of treating diet-related illnesses. This module also briefly reviews methods of communicating these principles to patients. An introduction to basic kitchen safety and knife handling skills is also included.

Estimated time: 3 hours

Objectives:

- ✓ Comprehend the basics of the Mediterranean Diet with a focus on the nine primary dietary components
- ✓ Analyze the evidence-based research pertaining to implications associated with consuming the Mediterranean diet and use authoritative data to explain any health assertions
- ✓ Review the literature on weight loss concerning various fad diets to emphasize the importance of quality and moderation of food consumed rather than quantity
- ✓ Identify core principles of mindful eating and how practicing mindfulness can achieve positive outcomes primarily by improving mental stability and reinforcing advantageous dietary behaviors
- ✓ Evaluate the concept Blue Zones and possible benefits gained from examining activities and diets in recognized Blue Zone territories
- ✓ Understand the importance of physicians' roles with regards to nurturing healthy lifestyles and alleviating diet-related illness in their patients
- ✓ Explore the social and philosophical implications of eating habits regarding cost, availability of ingredients, and knowledge barriers
- ✓ Practice effectively conveying nutritional information to an audience/patient in relatable and mutually-understood terms
- ✓ Practice basic culinary abilities, techniques, and principles, including knife skills and culinary terms
- ✓ Demonstrate comprehension of food safety and sanitation principles, including hand-washing technique, food storage and labeling, prevention of cross-contamination, and proper cooking and cooling techniques
- ✓ Understand and exhibit behaviors that will promote safety in the kitchen and prevent injuries such as cuts and burns
- ✓ Demonstrate capacity to read and prepare recipes with an emphasis on proper measuring techniques and methods to minimize possible errors
- ✓ Practice organization techniques that will optimize time and efficiency in the kitchen
- ✓ Express the fundamental goals surrounding healthy diets emphasized by the course

Session 2: Hypertension and Nutrition: Low Sodium Diets and Flavor Building (Phase 2)

Overview: This module examines the physiological effects of high-sodium diets and their prevalence in American culture, while providing a more in-depth overview of the DASH diet, including studies examining its efficacy in reducing the need for medication in hypertensive subjects. In the kitchen, the purpose of salt is examined, and cooking principles of flavor building and balancing without added sodium are practiced while making reduced-sodium dinner options.

Estimated time: 3 hours

Objectives:

- Understand the mechanisms of hypertension in the body while focusing on financial and health-related implications
- Describe the connection between sodium intake and hypertension
- Recall common sources of sodium in the American diet
- Discuss how potassium intake relates to cardiovascular and chronic kidney disease
- Explain potassium needs, potassium homeostasis, and why these values may change throughout the lifecycle
- List major dietary sources of potassium
- Review the JNC-8 and JNC-8 guidelines for lifestyle management of hypertension
- Discuss the research-supported aspects of the DASH Diet that have been linked to improved cardiovascular health outcomes
- Understand the components of the DASH Diet and how they relate to the treatment of hypertension
- State the UL of sodium for Americans as advised by the USDA
- Analyze and explain the underlying causes high sodium intake in the typical American diet
- Identify foods that are the most concentrated sources of phosphorus
- Outline the general dietary goals for chronic kidney disease patients, paying particular attention to how and why diet changes in more advanced stages
- Summarize practical changes that can be made to eating and shopping habits to reduce sodium intake
- Recall the five primary tastes, listing common flavor-building techniques and ingredients that help to achieve umami flavors
- Understand how the utilization of umami replace salt as a way to enhancement flavor
- Articulate the difference between “taste” and “flavor”
- Describe ingredients that are associated with each of the five flavors
- Identify ingredients and techniques that can be used to effectively balance tastes when preparing meals
- List synthetic and natural flavor enhancers, illustrating how they can be utilized to reduce sodium content in cooking and food preparation

Tulane Learning Communities (TLC)

Throughout Foundations in Medicine, you will participate in small group activities with your Tulane Learning Community (TLC) groups. Participation in required TLC activities like social events and mentor meetings counts towards the attendance portion of your grade, and several sessions addressing wellness and professionalism are considered part of the TLC component of the curriculum

Intro to Teamwork, Professionalism & Feedback

Presenters: Jessica DeBord, MD/MPH, Director, Foundations in Medicine
Ronald Slipman, MD, Co-director, Foundations in Medicine
Karen Weissbecker, PhD, Director of Student Support and Wellness

Overview: An introduction to the SOM competencies involving teamwork, professionalism and feedback

Estimated time: 1.5 hours

Objectives:

- Demonstrate compassion, integrity, and respect for others
- Demonstrate accountability to patients, society, and the profession
- Arrive on time for all required activities and remains for the duration of the activity
- Prepare for and be involved in team activities
- Demonstrate an awareness of professional values; maintain professional behavior when personally challenged
- Describe the components of effective feedback
- Recognize how feedback is part of the learning process for individuals, groups, and the overall learning community

Intro to TLC

Overview: An introduction to the structure and function of the Tulane Learning Communities

Estimated time: 1 hour

Objectives:

- Understand the structure and function of the TLC program
- Get to know the leaders and T1 members of your TLC group

Intro to Wellness & Resiliency

Overview: An introduction to the concepts of wellness and resiliency, and how students can incorporate them into their lives as medical students.

Estimated time: 2 hours

Expectations for all students:

- Upload your personal wellness contract to eMedley after the session

Objectives:

- Pursue personal awareness and participate in reflective practice
- Reflect on own response to stress
- Describe healthy coping mechanisms to respond to stress

QI workshop

Overview: In this workshop, you'll apply the principles of QI to revising your wellness contract
Estimated time: 1.5 hours

Expectations for all students:

- Sign-in
- Participate actively in group discussion
- Complete peer evaluations after session

Session objectives:

- Explain the goals of quality improvement put forth by the Institute of Medicine
- Explain systems-based approaches to provide high quality care
- Systematically analyze practice using quality improvement methods and implement changes with the goal of practice improvement

Mental Health and Wellness Panel

Overview: Further explore concepts in wellness and mental health with a panel of upper-class medical students
Estimated time: 1 hour
Expectations for all students:

- Sign-in via

Session objectives:

- Demonstrate insight into personal limitations and seek help when needed
- Identify conflicting personal and professional responsibilities and justify the importance of the competing principles
- Develop the ability to use self-awareness of knowledge, skills, and emotional limitations to engage in appropriate help-seeking behaviors

Media Club: Professionalism

Overview:
Estimated time: 1 hour
Expectations for all students:
Session objectives:

- Demonstrate an awareness of professional values
- Describe ways of maintaining professional values in the face of personal challenges
- Identify conflicting personal and professional responsibilities and justify the importance of the competing principles

Mentoring meetings

You will meet with your TLC mentor as a TLC group as well as individually over the course of the year. Submit a mentoring plan to eMedley by the end of the year to document your participation.

Participation in regular mentoring meetings is required to earn full attendance credit for FiM. It is YOUR responsibility to reach out to your mentor to schedule meetings at times that are mutually convenient.

Session objectives:

- Identify strengths, deficiencies, and limits in one's knowledge and expertise
- Set learning and improvement goals
- Identify and perform learning activities that address one's gaps in knowledge, skills, and/or attitudes
- Develop healthy coping mechanisms to respond to stress
- Develop the ability to use self-awareness of knowledge, skills, and emotional limitations to engage in appropriate help-seeking behaviors
- Manage conflict between personal and professional responsibilities
- Practice flexibility and maturity in adjusting to change with the capacity to alter one's behavior

Mandatory Trainings

As healthcare professionals, we are held to certain professional responsibilities. You are required to keep various licenses and training certifications up to date and if these lapse, your licensing is forfeited. In Louisiana, medical licenses are required to be renew yearly. Federal DEA numbers must be renewed every three years. If you have completed these certificates recently (and they don't expire before the end of the current year), you can upload your certificates rather than completing again.

HIPAA

Overview: Complete HIPAA (Health Insurance Portability and Accountability) training, which is required prior to performing patient care responsibilities.

Estimated time: less than 1 hour

Expectations:

- See eMedley for details of accessing and completing HIPAA training

Objectives:

- Describe principles of HIPAA

Blood-Borne Pathogens

Overview: Complete BBP training, which is required prior to performing patient care responsibilities.

Estimated time: 1 hour

Expectations:

- See eMedley for details of accessing and completing BBP training

Objectives:

- Describe the basic principles of universal precautions and appropriate hand hygiene in all settings

CITI

Overview: Earn CITI certification, which is required prior to submitting a research proposal to an Institutional Review Board (IRB) for approval, and which provides an introduction to the **scientific method** which you will employ throughout your career as a physician, whether or not you're involved in research.

Estimated time: 4.5 hours

Expectations:

- See eMedley for details of accessing and completing CITI certification
- Complete the CITI (Collaborative Institutional Training Initiative) training by registering for the course through the CITI website: https://www.citiprogram.org/index.cfm?pageID=154&icat=0&clear=1&_ga=2.66360039.859902288.1506544267-1856259688.1506544267
- Complete **Group 1: Biomedical Research Investigators and Key Personnel.**

Objectives:

- Identify the risks from non-biomedical research methods and some of the ways these risks can be minimized
- Identify the types of review that apply to records-based research and note examples of records-based research that are appropriate for the different levels of review
- Identify some of the risks associated with genetic research that should be disclosed during the consent process
- Identify the requirements for waiving the requirement for obtaining signed informed consent forms (documentation)
- State HIPAA's additional privacy protections for individually identifiable health data that are used for human subjects research
- Identify the PHS' and the FDA's rules regarding financial conflicts of interest and the disclosure requirements

Basic Life Support

Overview: Learn skills in basic life support

Estimated time: 3 hours

Expectations:

- **You are required to sign up for BLS classes ON YOUR OWN. Most classes are in the evenings. The FIM office will provide a schedule of available classes, or you can contact the SIM center.**
- Please arrive at your scheduled skills practice and testing session ON TIME.
- Students who sign up for a session and fail to attend that session will be required to pay for the make-up session out of their own pocket.

Objectives:

- Name the links in the American Heart Association (AHA) adult Chain of Survival and state the importance of each link
- Tell and show the basic steps of CPR for Adults, Infants, and Children
- Demonstrate the use of Automated External Defibrillator for adults, infants, and children
- Perform CPR with an advanced airway
- Relieve choking in responsive and unresponsive victims

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_Module Evaluation

Module Evaluation

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	The modules in eMedley were organized and complete.	0%	2%	3%	11%	53%	30%	178/178	4.07
2	Learning objectives were clear.	0%	0%	1%	11%	57%	31%	178/178	4.19
3	Independent study modules enhanced my learning.	0%	2%	3%	21%	44%	30%	178/178	3.98
Group Mean								534/534	4.08
Mean Total Points								12.24/15.00	82%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_CV_Module_22-23

Please indicate whether the following sessions were beneficial and contributed to overall learning.

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	SP: Cardiovascular Workshop	0%	1%	2%	7%	48%	41%	178/178	4.26
2	Sim: Cardiovascular Workshop	0%	1%	0%	5%	49%	46%	178/178	4.39
Group Mean								356/356	4.32
Mean Total Points								8.65/10.00	87%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_Module Evaluation

Module Evaluation

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	The modules in eMedley were organized and complete.	0%	1%	4%	15%	54%	26%	177/177	4.00
2	Learning objectives were clear.	1%	1%	3%	11%	58%	26%	176/177	4.06
3	Independent study modules enhanced my learning.	1%	1%	5%	21%	46%	26%	175/177	3.92
Group Mean								528/531	3.99
Mean Total Points								11.91/14.92	80%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_EndoRepro_Module_22-23

Please indicate whether the following sessions were beneficial and contributed to overall learning.

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	Ethical Issues in Genetics	1%	2%	1%	14%	50%	33%	173/174	4.12
2	Teaching Kitchen	1%	2%	2%	21%	42%	33%	173/174	4.04
Group Mean								346/348	4.08
Mean Total Points								8.11/9.94	82%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_Module Evaluation

Module Evaluation

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	The modules in eMedley were organized and complete.	0%	1%	7%	7%	58%	27%	180/180	4.04
2	Learning objectives were clear.	1%	0%	0%	4%	64%	31%	179/180	4.27
3	Independent study modules enhanced my learning.	1%	1%	4%	19%	52%	24%	179/180	3.94
Group Mean								538/540	4.09
Mean Total Points								12.21/14.94	82%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_FHB_Module_22-23

Please indicate whether the following sessions were beneficial and contributed to overall learning.

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	Introduction to FiM	0%	0%	2%	12%	60%	26%	179/179	4.10
2	Introduction to Teamwork, Professionalism, & Feedback	0%	0%	4%	18%	57%	21%	179/179	3.96
3	The Structure of the Medical Interview	0%	0%	1%	2%	53%	44%	179/179	4.40
4	Borrowing Strategies	0%	5%	6%	22%	44%	24%	179/179	3.76
5	Introduction to TLC	1%	0%	2%	15%	59%	23%	177/179	4.03

6	Introduction to Student Clinic Council	1%	1%	3%	11%	56%	28%	178/179	4.08
7	Vital Signs	1%	0%	2%	9%	47%	41%	177/179	4.28
8	History of New Orleans and Health Disparities	0%	0%	1%	4%	37%	59%	179/179	4.54
9	SP: Medical Interviewing	0%	0%	0%	3%	39%	58%	179/179	4.54
10	Introduction to Wellness & Resiliency	0%	2%	6%	18%	48%	26%	179/179	3.92
11	Antiracism Media Club	0%	1%	2%	9%	49%	39%	179/179	4.22
12	Code Green: Budgeting and Money Mindfulness	1%	6%	7%	19%	45%	23%	178/179	3.72
13	T2 Advice Panel	0%	1%	2%	10%	49%	37%	179/179	4.20
14	Introduction to Service Learning & Basic Life-saving	1%	1%	2%	15%	53%	30%	178/179	4.10
Group Mean								2499/2506	4.13
Mean Total Points								57.68/69.80	83%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_Module Evaluation

Module Evaluation

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	The modules in eMedley were organized and complete.	0%	3%	3%	7%	58%	28%	174/174	4.03
2	Learning objectives were clear.	0%	1%	2%	8%	58%	30%	174/174	4.14
3	Independent study modules enhanced my learning.	1%	1%	2%	14%	54%	28%	173/174	4.05
Group Mean								521/522	4.07
Mean Total Points								12.20/14.97	81%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_GI_Module_22-23

Please indicate whether the following sessions were beneficial and contributed to overall learning.

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	Cultural Humility	1%	1%	3%	15%	50%	31%	172/173	4.09
2	Cultural Humility & Implicit Bias Workshop	0%	1%	3%	17%	46%	34%	173/173	4.08
3	Healthcare System Finance and Reform	0%	1%	2%	16%	46%	35%	173/173	4.12
4	Healthcare Finance & Reform Workshop	0%	1%	3%	17%	47%	32%	173/173	4.07
5	Big Charity Q&A	1%	1%	1%	13%	40%	45%	172/173	4.27
6	Applying Patient Safety: Interprofessional Education (IPE)	1%	2%	3%	20%	43%	32%	172/173	4.00
7	Ethics of Research and Consent	0%	2%	5%	13%	47%	33%	173/173	4.04

8	SIM: Suturing & Knot Tying	1%	1%	1%	8%	40%	50%	172/173	4.40
9	SP: Patient Education & Counseling	1%	1%	1%	6%	44%	49%	172/173	4.40
Group Mean								1552/1557	4.16
Mean Total Points								37.34/44.86	83%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_Module Evaluation

Module Evaluation

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	The modules in eMedley were organized and complete.	0%	0%	3%	12%	57%	28%	180/180	4.09
2	Learning objectives were clear.	1%	0%	3%	9%	61%	27%	179/180	4.13
3	Independent study modules enhanced my learning.	1%	2%	4%	17%	56%	21%	179/180	3.89
Group Mean								538/540	4.04
Mean Total Points								12.07/14.94	81%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_MSK I_Module_22-23

Please indicate whether the following sessions were beneficial and contributed to overall learning.

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	Introduction to Matas	0%	5%	13%	20%	44%	18%	181/181	3.56
2	Introduction to Student-Run Clinics	0%	0%	3%	11%	57%	29%	181/181	4.12
3	Simulation: Hand-washing and Phlebotomy (Scrub/IV)	1%	1%	3%	8%	48%	40%	180/181	4.26
4	Principles of Medical and Professional Ethics	0%	1%	2%	9%	63%	25%	181/181	4.08
5	SP Session: Vital Signs	1%	0%	1%	5%	52%	41%	180/181	4.34

6	SP Session: Musculoskeletal Exam	1%	0%	4%	7%	49%	40%	179/181	4.26
7	IM/PPD Training	2%	1%	0%	6%	48%	44%	178/181	4.35
Group Mean								1260/1267	4.14
Mean Total Points								28.81/34.81	83%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_Module Evaluation

Module Evaluation

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	The modules in eMedley were organized and complete.	0%	1%	5%	15%	53%	26%	171/171	3.98
2	Learning objectives were clear.	0%	0%	3%	15%	58%	25%	171/171	4.04
3	Independent study modules enhanced my learning.	1%	2%	5%	24%	46%	22%	170/171	3.82
Group Mean								512/513	3.95
Mean Total Points								11.82/14.97	79%

Foundations in Medicine I

FiM I_Module Evaluation

FiM I_MSK II_Module_22-23

Please indicate whether the following sessions were beneficial and contributed to overall learning.

#	Criteria	No Response	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total Responses	Mean Score
1	Institute of Healthcare Improvement: Patient Safety Modules	0%	2%	8%	26%	43%	21%	169/169	3.75
Group Mean								169/169	3.75
Mean Total Points								3.75/5.00	75%

PURPOSE AND NEED

The Tulane Combined Internal Medicine-Pediatrics Residency Program (Tulane Med-Peds) will develop and implement a new program, **B**ehavioral and Mental Health for **A**dolescents and **Y**oung Adults with **O**pioid **U**se and Other Stressors (BAYOU) **Bridges**, whose purpose is to address growing disparities in access to mental and behavioral health care by training primary care residents in the prevention, identification, diagnosis, treatment, and referral of series for mental health and behavioral health conditions for pediatric, adolescent, young adult, and other populations who are at-risk or have experiences abuse, trauma, or mental health and/or substance use disorders (SUD), including those related to the effects of gun violence. A pathway toward improving access is to expand training in mental and behavioral health for primary care residents, to increase the number of primary care physicians that are competent in the delivery of integrated mental and behavioral health care services. The BAYOU Bridges program will introduce a didactic and experiential curriculum that emphasizes an integrated, person-centered, socially contextualized, and trauma-sensitive approach to the diagnosis and management of behavioral and mental health conditions in the primary care setting, incorporating the latest science on addiction, mental health, violence prevention, and best practices in teaching and learning.

Residency program needs and gaps in mental and behavioral health resources

Need for mental health and substance use treatment is rising nationwide, especially among young people. The prevalence of behavioral and mental health conditions increased by over 20% in the last decade, while chronic medical illness decreased by nearly 12% in the same time period.[1] Current data demonstrate increasing prevalence of depression and anxiety, suicide, and mental health-related emergency department visits.[2-4] Mental health disorders in childhood and adolescence can impede healthful transitioning into adulthood and increases risk for a constellation of adverse outcomes later in life, including future mental, emotional, and behavioral problems, functional status and participation in health risk behaviors.[5-6] While youth and adults experiencing a diagnosable mental disorder in the US is increasing, traditional mental health systems and substance use treatment centers fail to reach and/or adequately treat a significant number of those in need. [7] Recently, the COVID-19 pandemic has exacerbated already-pervasive mental health conditions in the U.S.[8] Compounding this crisis is a severe shortage of mental and behavioral health providers who receive formal training in trauma, abuse, mental health and SUD, trauma, abuse and violence.[9]

Seventy-five percent of children diagnosed with mental disorders are seen in primary care setting, making this setting well positioned to detect problems; however, only a small fraction of recent pediatric residency graduates report high levels of competence in assessment and treatment of behavioral and mental health conditions.[1]The critical national shortage of mental health providers and resources has pressured many primary care providers to extend their practice into treating mental and behavioral health conditions, but they often report feeling uncomfortable with child mental health and substance abuse treatment, due to a lack of formal training and mentorship.[10] Training residents to competently provide integrated mental and behavioral healthcare services in the primary setting has the potential to meaningfully impact the urgent gaps in access facing patients with mental and behavioral health conditions.

Med-Peds training compresses two 3-year primary care residency training programs (Internal Medicine and Pediatrics) into a 4-year residency. Graduates of Med-Peds residency programs are eligible to complete the board certification exams in both Internal Medicine and Pediatrics. Med-Peds residencies are accredited independently from categorical residency programs by the Accreditation Council for Graduate Medical Education (ACGME) and have separate ACGME requirements. While the ACGME program requirements for categorical pediatric residency programs include the expectation that residents "must demonstrate the ability to provide behavioral and mental health care across all clinical settings that is sensitive to the developmental stage of the patient and the cultural context of the patient and family," and "identify, manage, co-manage, and appropriately refer patient with common behavioral and mental health issues to specialists and resources when indicated," Med-Peds does not have such a requirement. Currently, the Tulane Med-Peds residency program has no requirement for training in mental health. Residents may request electives in adult and/or child mental health through the categorical residency programs, but there is no expectation that they do so, and no guarantee that requests will be honored. Most training in mental and behavioral health currently happens informally and inconsistently, in the context of caring for patients in the primary care or inpatient setting with mental or behavioral health concerns in consultation with subspecialty providers.

Community mental and behavioral health needs

While the supply of mental and behavioral health specialists in inadequate to meet need nationwide, the situation is particularly dire in Louisiana, where all but one Parish (country) in the state is designated as a medically underserved area, and the state's per capita poverty rate is the second highest in the country.[11] HRSA data indicate that Louisiana's mental health professional shortage is significantly higher than the national average: while about 37% of the U.S. population as a whole are living in areas experiencing mental health professional shortages, this rate is 73.5% for those living in Louisiana.[12]

Louisiana's comparatively higher shortage of mental and behavioral health providers is also reflected in data from the National Survey of Children's Health, which found that half of the estimated 7.7 million US children with a treatable mental health disorder did not receive needed treatment from a mental health professional, with estimates varying by state. [13] Louisiana was in the second highest quartile for mental health disorder prevalence (at 17.8 – 19.9%), and also in the second highest quartile for the prevalence of children with a mental health disorder who did not receive needed treatment (at 46.7 – 53.1%).[13]

Substance abuse and addiction, in particular opioids, are a parallel pandemic in our city and state. In 2021, there were 492 accidental drug deaths in New Orleans, a 35% increase compared to 2020; 94% tested of fatalities where testing was available were positive for fentanyl.[14] Drug overdose deaths were up 56% statewide in the year after the pandemic began, compared with a 30% increase nationally.[15]

Louisiana's gun violence, mass shootings and youth incarceration rates - all higher than the national averages - show another side of the mental health crisis in our region.[16,17] Louisiana's

gun homicide rate has remained almost twice the national average for over two decades.[17] A 2020 report from the New Orleans Children and Youth Planning Board titled "Called to Care" relayed the results of a survey of over 5000 youth residing in the Central City neighborhood, which lies midway between Tulane's uptown and downtown campuses. 1 in 5 youth had witnessed murder, 1 in 3 were witnesses to domestic violence, and more than half had someone close to them murdered. The report includes a series of recommendations for addressing childhood trauma in New Orleans that includes increasing cross-sector collaboration: "specifically promote and establish collaborations with educational institutes and mental health professionals to better address trauma."[18]

Need to address health inequity though residency training

The Tulane Med-Peds residency program's website states that "the Tulane Medicine-Pediatrics Residency Program aims to train healers. We recruit diverse and adaptable residents eager to master both the science and art of medicine while caring for the vibrant, diverse, and adaptable people of New Orleans. Our residents are advocates, leaders, thinkers, and educators who embrace the challenges inherent in working in an under-resource system and strive to provide community-engaged, evidence-based, and person-centered medical care from the moment of birth through the end of life." This mission drives all current residency program activities and informs plans for growth of the curriculum. Recognizing the mounting need for mental and behavioral health services in our under-resourced and at-risk community, the program has developed the BAYOU Bridges curriculum to expand graduates' capabilities in the provision of trauma-informed, contextualized mental and behavioral healthcare services integrated into the primary care setting.

To achieve our goal, the BAYOU Bridges team recognizes the importance of multi-disciplinary collaboration, including input from stakeholders across academic and community sectors. The city of New Orleans is diverse culturally, ethnically, socioeconomically, linguistically, and educationally. It will be critical that we prepare residents to care for patients from diverse backgrounds and responds appropriately to the inequities and trauma that are so pervasive in our community. The Tulane Med-Peds Equity, Diversity, & Inclusion Statement is as follows: "The Tulane Med-Peds Residency Program aims to train physician-healers adept at caring for diverse and historically marginalized patient populations. Our residents have the unique privilege to learn from the diverse and vibrant people of New Orleans, from the moment of birth through the end of life. They embrace the challenges inherent in working in under-resourced systems and strive to provide evidence-based, person-centered, community-engaged, and comprehensive medical care that mitigates health inequities. We are a work in progress. Tulane's complex history is filled with examples of outstanding service to the New Orleans community, and painful examples of falling short. The Tulane Med-Peds Residency Program is committed to developing and growing a workforce that reflects the diversity of race, of gender, of religious belief, of national origin, of ethnicity, of age, of ability, and of sexual orientation found in the unique community and culture of New Orleans." That emphasis on equity, diversity, inclusion, and representation will carry over to the BAYOU Bridges program.

Rotation sites

The BAYOU Bridges curriculum will train residents to provide comprehensive, integrated primary care and mental and behavioral health care for pediatric, adolescent, young adult, and other populations who are at-risk or have experienced abuse, trauma, or mental health and/or SUD, including those related to the effects of gun violence. To accomplish this, the program will employ both didactic and experiential training. Didactic training will be developed and delivered by program investigators and faculty with extensive experience and expertise in their fields, including faculty from the Tulane section of Child and Adolescent Psychiatry, the Tulane Addiction Medicine fellowship, and the Tulane School of Social Work. The program will incorporate the latest mental health, SUD and opioid use disorder (OUD) treatment models, including SBIRT (Screening, Brief Intervention, and Referral to Treatment) and Youth-SBIRT.[19,20]

BAYOU Bridges team members have strong existing relationships with several community-based adolescent service providers that will provide experiential training opportunities for participating residents. For example, our partnership with Covenant House will provide a valuable opportunity for trainees to engage with at-risk adolescent populations and enable residents to apply their newly gained skills in motivational interviewing, cultural humility, cultural competency, and implicit bias. Our partnership with Tulane's Collegiate Recovery Center (TRC), where Tulane Social Work faculty work with university students struggling with substance use and addiction disorders, will expose residents to a population of young adults from different sociodemographic groups facing similar challenges. Participating in the treatment of addiction in adolescents and young adults from diverse backgrounds - from those struggling with homelessness to those with economic privilege - will broaden and strengthen residents' ability to provide contexualized care to patients from diverse backgrounds, while also providing valuable training in the management of substance abuse and addiction.

To effectively care for the at-risk patients in our region, primary care residents need to be not only well trained on the "hard skills", i.e., knowledge and expertise on identification and diagnoses of mental health and substance use disorders, but also on the "soft skills" gained through training in empathic communication, motivational interviewing, implicit bias, and trauma-informed care.[21,22] These skills will enable residents to both understand and effectively engage with their patients, by meeting them where they are to build rapport. Residents completing the BAYOU Bridges curriculum will learn to obtain a patient's history in a way that first recognizes each patient's unique strengths and helps to increase patient self-efficacy while also helping to establish trust.[23,24] Such a relationship has been positively associated with treatment outcomes and patient adherence with physician recommendations.[25] Experts on the trauma caused from community violence, systemic racism, persistent poverty, and the fear that comes with living in uncertain and/or unsafe environments will also participate in development and delivery of program didactic content.

In addition to the trainings detailed above, residents will participate in a robust and multi-faceted didactic and experiential curriculum that will place them on inpatient mental and behavioral health consult services, inpatient and outpatient addiction medicine teams, and in community sites providing integrated mental and behavioral health and primary care to New Orleans youth.

All planned rotation sites where residents train in mental and behavioral health are included in **Attachment 4,** Table 1; additional details follow:

- **Tulane Addiction Medicine Inpatient Consult Service:** The Addiction Medicine consultation service includes a Board-Certified Addiction Medicine specialist, as well as an Addiction Medicine fellow and a Social Work intern. Consults include evaluation for substance use disorder and need for treatment, initiation of treatment including induction to medication therapy, withdrawal management, initiation of psychosocial treatment, referral to post hospital care for addiction and physician follow up in the addiction medicine continuity clinic. The goals of the consultation service are to assist primary care and specialist providers by evaluating patients for substance use disorders, initiation of treatment and referral to appropriate post-hospital care. While rotating at this site, residents will identify, diagnose, treat, and refer patients for services for substance abuse and addiction.
- **Tulane Addiction Medicine Continuity Clinic:** Continuity clinic patients present following referral from the inpatient addiction medicine consultation service, outpatient physician referral, or self-referral. Patients often present with co-occurring medical and psychiatric conditions and trauma along with addiction. Physician functions include initial assessment, diagnosis, prescription of medication (including MOUD), recommendations for concurrent professional therapy, and/or referral to community resources where appropriate. Treatment is individualized, to account for co-morbid medical and psychiatric conditions and social determinants of health, and frequency and length of visits are prescribed considering these variables. While rotating at this site, residents will identify, diagnose, treat, and refer patients for services for substance abuse and addiction.
- **Tulane Addiction Medicine Intensive Outpatient Treatment Program:** Intensive Outpatient Treatment Program (IOP) is licensed, accredited, structured programmatic treatment for addiction, conducted by a multidisciplinary team of licensed professionals and peer support specialists, including physicians credentialed in Addiction Medicine. The structure includes 9-12 hours per week of group education and psychotherapy focused on addiction for six to eight weeks, in addition to weekly sessions with a master's level therapist and an initial physician evaluation with follow up visits as necessary, all discussed in a multidisciplinary setting. While rotating at this site, residents will treat patients for services for substance abuse and addiction.
- **Children's Hospital New Orleans Inpatient Child Psychiatry Consult Service:** Residents will rotate on the inpatient child psychiatry consult service, where they will identify, diagnose, treat, and refer patients for services for mental and behavioral health conditions including suicidal ideation, depression, and anxiety, often complicated by trauma, abuse, gun violence, and other SDOH.
- **Covenant House:** Residents will rotate in the Covenant House integrated primary care clinic, where they will identify, diagnose, treat, and refer adolescent and young adult patients for services for mental and behavioral health conditions, including young people facing homelessness and survivors of trafficking.
- **Access Health Louisiana (AHL):** Residents will participate in telehealth appointments with AHL clinicians who are treating student's mental health and substance use needs via telemedicine. Residents will identify, treat, and refer children and adolescents with

mental and behavioral health conditions in an integrated primary care-behavioral health setting.

- **TRC:** Residents will participate in sessions with TSSW faculty as they support university students struggling with substance use and addiction disorders.

REPONSE TO PROGRAM PURPOSE

The primary purpose of the Tulane Med-Peds BAYOU Bridges program is address growing disparities in access to mental and behavioral health care by training primary care residents in the prevention, identification, diagnosis, treatment, and referral of series for mental health and behavioral health conditions for pediatric, adolescent, young adult, and other populations who are at-risk or have experiences abuse, trauma, or mental health and/or substance use disorders (SUD), including those related to the effects of gun violence. The overall goal is further specified via the following three objectives:

1. Increase the number of primary care physicians who are trained in the prevention, identification, diagnosis, treatment, and referral of services for mental and behavioral health conditions,
2. Develop and expand partnerships with integrated behavioral health and primary care settings and community-based organizations to provide clinical rotations for at least one month in duration for primary care residents, and
3. Develop culturally and linguistically competent mental and behavioral health content in didactic and clinical training for primary care residents including suicide prevention, trauma informed care including abuse and gun violence.

The ***target population*** of the BAYOU Bridges program will be combined Internal Medicine-Pediatrics residents at Tulane University School of Medicine (TUSOM). In the first year of the grant period, the program will develop and implement a required rotation in mental and behavioral health for all Med-Peds residents. In subsequent years, the project team intends to open the rotation to Internal Medicine, Pediatrics, and Family Medicine residents. The primary geographic region that BAYOU Bridges will serve are the two counties surrounding New Orleans (Orleans and Jefferson Parishes), both designated priority areas. The project will also serve youth in two rural counties (Plaquemines and Washington) through our HRSA-22-109 partner, AHL. The areas targeted for the proposed grant are designated as Health Professional Shortage Areas in either mental or primary healthcare, due to geographic and/or low-income federal MUA/P and/or HPSA designations https://ldh.la.gov/index.cfm/newsroom/detail/2568 or rural and medically underserved https://www.utrgv.edu/pa/about/index.htm.

(a) WORK PLAN

The Tulane Med-Peds Residency BAYOU Bridges work plan is provided in Attachment 1. The overall goal of the program is to train primary care residents in the prevention, identification, diagnosis, treatment, and referral of services for mental health and behavioral health conditions for pediatric, adolescent, young adult, and other populations who are at-risk or have experiences abuse, trauma, or mental health and/or substance use disorders, including those related to the effects of gun violence, via the following objectives: 1) Increase the number of primary care physicians who are trained in the prevention, identification, diagnosis, treatment, and referral of services for mental and behavioral health conditions, (2) Develop and expand partnerships with

mental and behavioral health conditions in an integrated primary care-behavioral health setting.

- **TRC:** Residents will participate in sessions with TSSW faculty as they support university students struggling with substance use and addiction disorders.

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1. Increase the number of primary care physicians who are trained in the prevention, identification, diagnosis, treatment, and referral of services for mental and behavioral health conditions,
2. Develop and expand partnerships with integrated behavioral health and primary care settings and community-based organizations to provide clinical rotations for at least one month in duration for primary care residents, and
3. Develop culturally and linguistically competent mental and behavioral health content in didactic and clinical training for primary care residents including suicide prevention, trauma informed care including abuse and gun violence.

The ***target population*** of the BAYOU Bridges program will be combined Internal Medicine-Pediatrics residents at Tulane University School of Medicine (TUSOM). In the first year of the grant period, the program will develop and implement a required rotation in mental and behavioral health for all Med-Peds residents. In subsequent years, the project team intends to open the rotation to Internal Medicine, Pediatrics, and Family Medicine residents. The primary geographic region that BAYOU Bridges will serve are the two counties surrounding New Orleans (Orleans and Jefferson Parishes), both designated priority areas. The project will also serve youth in two rural counties (Plaquemines and Washington) through our HRSA-22-109 partner, AHL. The areas targeted for the proposed grant are designated as Health Professional Shortage Areas in either mental or primary healthcare, due to geographic and/or low-income federal MUA/P and/or HPSA designations https://ldh.la.gov/index.cfm/newsroom/detail/2568 or rural and medically underserved https://www.utrgv.edu/pa/about/index.htm.

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integrated behavioral health and primary care settings and community-based organizations to provide clinical rotations for at least one month in duration for primary care residents, and (3) Develop culturally and linguistically competent mental and behavioral health content in didactic and clinical training for primary care residents including suicide prevention, trauma informed care including abuse and gun violence. **The overall goal and corresponding objectives, outcomes, and deliverables are described in greater detail in the Standardized Work Plan.**

Workplan Appropriateness and Collaboration

The goals, objectives, and corresponding work plan (Attachment 1) are appropriate in that all activities build toward HRSA's over-arching goal of training primary care residents in the prevention, identification, diagnosis, treatment, and referral of services for mental health and behavioral health conditions for pediatric, adolescent, young adult, and other populations who are at-risk or have experiences abuse, trauma, or mental health and/or substance use disorders, including those related to the effects of gun violence. The work plan specifically and directly supports HRSA objectives related to increasing the number of primary care physicians who are trained in the prevention, identification, diagnosis, treatment, and referral of services for mental and behavioral health conditions; developing and expanding partnerships with integrated behavioral health and primary care settings and community-based organizations to provide clinical rotations for at least one month in duration for primary care residents; and developing and expanding mental and behavioral health content in didactic and clinical training for primary care residents including suicide prevention and trauma informed care, including abuse and gun violence, which is culturally and linguistically competent. BAYOU Bridges key personnel come from diverse backgrounds and perspectives, and share a common goal of training primary care residents in the prevention, identification, diagnosis, treatment, and referral of services for mental health and behavioral health conditions for pediatric, adolescent, young adult, and other populations who are at-risk or have experiences abuse, trauma, or mental health and/or substance use disorders, including those related to the effects of gun violence. They have the skill set and resources to make the project both feasible and effective, including extensive experience with curriculum development, implementation, and evaluation, and expertise in education, primary care, child, adolescent, and young adult mental and behavioral health, substance abuse and addiction, trauma, social determinants of health, and health equity; they also have a track record of working together collaboratively to create and implement curricula.

As soon as an award determination is made, Tulane Med-Peds will begin developing faculty and curricula to effectively train primary care residents in the prevention, identification, diagnosis, treatment, and referral of services for mental health and behavioral health conditions for pediatric, adolescent, young adult, and other populations who are at-risk. Evaluation metrics will be integrated into every step of this process. In order to meet the program goal, curriculum development will include collaboration across schools (TSSW and TUSOM), between programs (internal medicine, pediatrics, addiction medicine, and child and adolescent psychiatry), and with community organizations (Covenant House and AHL). The BAYOU Bridges rotation in mental and behavioral health will be launched with the first year of the grant period, in month 7; the rotation will contain both block and longitudinal components grounded in adult learning theory which will ensure that residents learn, retain, and apply rotation content to prepare them to prevent, identify, diagnose, treat, and refer mental and behavioral health conditions, including

content on suicide prevention, trauma informed care, abuse, and gun violence, which is culturally and linguistically competent. During years 2-5 of the grant period, program personnel will iteratively and continuously review and revise the curriculum to maximize effectiveness and will expand the program to provide training for additional primary care residents and to incorporate additional training sites.

To accomplish its overarching goal, Tulane Med-Peds will partner with community consultants that will provide opportunities for clinical training and assistance with curriculum development and dissemination. Consultants have a wealth of experience managing transparency of funds and working with evaluators to document participation and effort. Their collaboration will be documented through an electronic evaluation log to ensure the success of the BAYOU Bridges program. Tulane has policies and procedures in place that meet or exceed the requirements in 45 CFR part 75 regarding subrecipient monitoring and management. The capacity of the prime institution, partnering groups, and the personnel will allow for the training of primary care residents in the prevention, identification, diagnosis, treatment, and referral of services for mental and behavioral health conditions.

All key personnel are experienced in provision of services during the COVID-19 pandemic, and Tulane University has adopted extensive **protocols to ensure continuation of services during public health emergencies**. These strategies include staggering of providers during periods of increased community infectious illness outbreak, and provision of PPE to patients and staff, incorporation of telehealth approaches for patient care and training.

(b) METHODOLOGY/APPROACH

The BAYOU Bridges program is an initiative of the Tulane University Med-Peds Residency Program, in partnership with the Tulane School of Social Work (TSSW), Tulane Addiction Medicine Fellowship Program, and Tulane Child and Adolescent Psychiatry, as well as integrated behavioral health and primary care settings and community-based organizations. The program's overall goal **is to train primary care residents in the prevention, identification, diagnosis, treatment, and referral of services for mental health and behavioral health conditions for pediatric, adolescent, young adult, and other populations who are at-risk or have experiences abuse, trauma, or mental health and/or substance use disorders, including those related to the effects of gun violence.**

The methods and approach the BAYOU Bridges team will use to achieve the program's objectives are detailed below.

1. Strategy for developing and implementing rotations:

Faculty development and expertise
In order to ensure that primary care faculty preceptors are prepared to train residents in mental and behavioral health, two Med-Peds primary care faculty members (investigators Jessica DeBord and Vy Anh Mai) will enroll in and attend the Patient-Centered Mental Health in Pediatric Primary Care (PPP) training provided through the REACH Institute during the first three months of the grant period. The course includes a 3-day, in-person, interactive course

focused on building skills and confidence in diagnosing and treating pediatric behavioral health problems, and a six-month case-based follow-up program that includes bimonthly, one-hour group conference calls with national primary care and child/adolescent psychiatry experts. In addition, the BAYOU Bridges team includes multiple faculty members with extensive training and expertise in mental and behavioral health, including faculty from the Tulane Department of Psychiatry and Behavioral Sciences, section of Child and Adolescent Psychiatry, faculty from the Tulane Addiction Medicine program, and faculty from the Tulane School of Social Work.

The Tulane Med-Peds program director (Jessica DeBord, also BAYOU Bridges PI) has extensive experience in residency leadership and curriculum development. As associate program director of curriculum and evaluation for the Pediatrics residency program, she developed, implemented, and revised the academic half-day conference curriculum that the Pediatrics residency program uses to deliver the majority of the program's structured educational content; it includes 80 half-day sessions that take place over a two year period. She is currently a co-investigator on a multi-center study of the academic half day format through the Association of Pediatric Program Directors (APPD) Longitudinal Educational Assessment Research Network (LEARN). In addition to her roles in graduate medical education, she directs the Foundations in Medicine course, which serves as the introduction to clinical medicine for pre-clinical Tulane medical students. In that role, she has developed and implemented curricula addressing social determinants of health, cultural humility and implicit bias, quality improvement, cross-cultural communication and working with medical interpreters, anti-racism, health systems reform, shared medical decision-making, and evidence-based medicine.

Existing framework for curriculum development

The BAYOU Bridges program will use the curricular framework developed for pediatric residents at the New York-Presbyterian/Columbia University Irving Medical Center as a model for our curriculum in behavioral and mental health care for primary care residents.[26] Of fifty residents completing the curriculum between 2017-2021, only one reported behavioral and mental health issues as a current gap in the curriculum, and zero preceptors identified behavioral and mental health as a current curricular gap. The curriculum is described as feasible and adaptable to a variety of academic settings. BAYOU Bridges faculty will adapt the curriculum to conform to the needs of Tulane residents and the New Orleans community, including incorporating content addressing adolescent depression and suicidality, trauma resulting from abuse and violence, substance use disorder, addiction, Medication for Opioid Use Disorder, and the impacts of poverty, systemic oppression, violence, and health inequities on mental and behavioral health.

Logistics

During the first two quarters of the initial budget period the interprofessional team will collaborate to develop and implement a rotation for primary care. Faculty members will take responsibility for specific areas of the curriculum corresponding to their training and expertise; weekly meetings will take place, to ensure collaboration and integration of all curricular content. Residents will begin the curriculum in month 7 of the initial budget period.

3. Key partners and teaching resources:

The Tulane University Med-Peds Residency Program will partner with additional departments and schools within the University, including the Tulane School of Social Work, Tulane Addiction Medicine Fellowship Program, and the Section of Child and Adolescent Psychiatry to develop didactic training and clinical experiences within existing University-affiliated training sites, including Tulane University Hospital and Children's Hospital New Orleans. In addition, the program will develop and expand partnerships with integrated behavioral health and primary care settings and community-based organizations including AHL school-based integrated behavioral health centers and Covenant House, and will partner with the New Orleans Juvenile Justice Intervention Center during grant year two.

Table 1: Key partners in program development and implementation with roles

Partner	Role in program development and implementation
Tulane School of Social Work	Faculty will provide didactic training to primary care residents, to include psychosocial issues including the impacts of trauma and trauma-informed care, adverse & beneficial childhood experiences, depression screening, working with patients with low health literacy, suicide prevention, violence, communication skills, substance abuse screening, systemic oppression, health equity, and home visits and safety. Faculty will participate in weekly multidisciplinary case conferences and will supervise residents rotating at the Collegiate Recovery Center. BAYOU Bridges faculty and trainees will benefit from Tulane's HRSA workforce resiliency program, RETAIN (HRSA-22-109) awarded to coinvestigator Dr. Tonya Hansel to increase mental health and wellbeing and reduce burnout among the healthcare workforce. This ongoing project offers numerous mental health resources to support individual and community wellbeing, including a self-care resource website https://selfcaretips.tulane.edu/ that will continue to support the healthcare workforce and community stakeholders. A primary partner in RETAIN is Access Health Louisiana (AHL), who will also collaborate with us on BAYOU Bridges.
Tulane Addiction Medicine Fellowship	Faculty will provide training in substance use/abuse and prevention, diagnosis, and treatment of addiction, including Medication for Opioid Use Disorder; faculty will supervise resident clinical experiences on addiction medicine consult service, addiction continuity clinic, and intensive outpatient program. Faculty will participate in weekly multidisciplinary case conferences.
Tulane Section of Child and Adolescent Psychiatry	Faculty will provide training in mental and behavioral health, including psychiatric disorders and disorders of cognition, and mental health & behavioral issues in adolescents; faculty will supervise resident clinical experiences on inpatient child psychiatry consult service. Faculty will participate in weekly multidisciplinary case conferences.

Children's Hospital New Orleans Inpatient Child Psychiatry consult service	Residents will rotate on the inpatient child psychiatry consult service, under the supervision of faculty in Child Psychiatry.
Covenant House	Residents will rotate in the Covenant House adolescent integrated primary care clinic under the supervision of Covenant House preceptors.

Tulane School of Social Work (TSSW) is a key partner in BAYOU Bridges and shares a history of productive collaboration with both Tulane School of Medicine (TUSOM) and with the Med-Peds residency program. TSSW and TUSOM faculty collaborate on the interprofessional Social Determinants of Health elective, which partners medical and social work students with medically underserved members of the New Orleans community; students perform home visits and health literacy support for participating community members. TSSW and TUSOM faculty also collaborated to develop a SDOH workshop for all medical and social work students that takes place annually; TSSW and TUSOM faculty teach and facilitate small group discussion together during each workshop. BAYOU Bridges will also integrate faculty expertise from TSSW's Traumatology Institute, dedicated to research, innovation, and interventions that help those that have been traumatized to thrive despite their challenges.

Through the BAYOU Bridges program, TSSW faculty will provide didactic training to primary care residents, to include psychosocial issues including the impacts of trauma and trauma-informed care, adverse & beneficial childhood experiences, depression screening, working with patients with low health literacy, and home visits and safety. Faculty will participate in weekly multidisciplinary case conferences.

BAYOU Bridges faculty and trainees will also benefit from TSSW's HRSA workforce resiliency program, RETAIN (HRSA-22-109) awarded to coinvestigator Dr. Tonya Hansel to increase mental health and wellbeing and reduce burnout among the healthcare workforce. This ongoing project offers numerous mental health resources to support individual and community wellbeing, including a self-care resource website https://selfcaretips.tulane.edu/ that will continue to support the healthcare workforce and community stakeholders. A primary partner in RETAIN is AHL, who will also collaborate with us on BAYOU Bridges. AHL maintains 387 clinics and school-based health centers, all of which are Federally Qualified Health Centers (FQHC) service sites approved by HRSA, throughout Louisiana. They represent a major provider in both urban and rural areas, all of which are medically underserved, the base tenet for FQHC development. AHL operates nineteen school-based health centers within eight Louisiana parishes, providing primary care and behavioral health services to students from elementary through high school. BAYOU Bridges residents will assist AHL School-Based Health Centers by participating in telehealth appointments with AHL clinicians who are treating student's mental health and substance use needs via telemedicine.

In addition, BAYOU Bridges trainees will benefit from Tulane's Violence Prevention Institute (VPI), a CDC-funded center to address the city's serious youth gun violence epidemic. Youth gun violence is associated with intergenerational trauma,[27] and Tulane VPI is using a public health approach to control the epidemic systemically. Two VPI scholars, Samantha Francois

from Tulane's School of Social work and Julia Fleckman from Tulane's School of Public Health and Tropical Medicine will lead the violence and suicide prevention modules. Dr. Francois, VPI's Executive Director, will share her expertise on adolescent suicide, systemic oppression, and resilience. Dr. Fleckman, VPI's Associate Director, will share her expertise on primary, secondary, and tertiary prevention of child maltreatment and family violence. This module, centered on understanding the factors that drive youth violence, will prepare residents to appreciate the emotional challenges facing at-risk youth in survival mode, and to develop trust and effective therapeutic partnerships.

Tulane Addiction Medicine Fellowship is another key partner in BAYOU Bridges. The program provides well-rounded education and clinical training in the prevention, evaluation, diagnosis, treatment, and recovery of individuals with the disease of addiction, substance use related health conditions, and those who are exhibiting an unhealthy use of substances. Training will impart skills to recognize and treat pathological use of nicotine, alcohol, prescription medication and other legal drugs, and addictive use of illicit drugs. The goal of the program is to train the next generation of leaders to advance evidence-based clinical care and academic understanding of addiction by striving for continuous enrichment of the training experience.

Addiction Medicine faculty will provide training in substance use/abuse and prevention, diagnosis, and treatment of addiction, including Medication for Opioid Use Disorder; faculty will supervise resident clinical experiences on addiction medicine consult service, addiction continuity clinic, and intensive outpatient program. Faculty will participate in weekly multidisciplinary case conferences.

Tulane's section of Child and Adolescent Psychiatry (CAP) is housed under the Department of Psychiatry and Behavioral Sciences and works in conjunction with the Department of Pediatrics. Section faculty bring diverse perspectives to bear on the problems of children and adolescents and their families. The section's vision is to meaningfully improve the mental health and well-being of children and their families and actively work to dismantle systems of oppression. They are dedicated to the discovery, dissemination, and application of knowledge to promote the mental health and well-being of children and adolescents locally, regionally, nationally, and internationally. They respect all persons, appreciate diverse cultures, and recognize the essential role of families in the healthy development of children.

CAP faculty will provide training in mental and behavioral health, including psychiatric disorders and disorders of cognition, and mental health & behavioral issues in adolescents; faculty will supervise resident clinical experiences on the **Children's Hospital New Orleans Inpatient Child Psychiatry consult service**. Faculty will participate in weekly multidisciplinary case conferences.

Covenant House builds a bridge to hope for young people facing homelessness and survivors of trafficking through unconditional love, absolute respect, and relentless support. Through a strengths-based, trauma-informed practice model, they help young people discover and develop their power to overcome adversity and achieve their dreams. Covenant House has an existing partnership with TUSOM which allows Covenant House residents and adolescents in the community to access free healthcare; in the past year, 2,078 residents and community youth

benefited from on-site adolescent healthcare provided in partnership with TUSOM. TUSOM and Covenant House also partner to offer professional counseling and behavioral health services; last year 98% of their youth received mental and behavioral health service, and 81% of those treated showed improved daily functioning in jobs, school, and interpersonal relationships. Their staff is regularly trained on the latest models of trauma-informed care and positive youth development.

Residents will rotate in the Covenant House adolescent integrated primary care clinic under the supervision of Covenant House preceptors, including Dr. Lauren Teverbaugh, a member of the Tulane CAP faculty.

Teaching Resources:

In quarters 1 and 2 of budget period 1, program faculty will develop and finalize the structure and content of the curriculum for the BAYOU Bridges curriculum, using the HRSA objectives, American Academy of Pediatrics and American Board of Internal Medicine Content Outlines, and the curricular framework developed for pediatric residents at the New York-Presbyterian/Columbia University Irving Medical Center to guide content. BAYOU Bridges faculty will meet weekly to review curriculum development and discuss challenges to implementation, and the project's EDI expert will join meetings monthly to ensure that all material developed is culturally and linguistically competent.

All didactic content will be developed and delivered by faculty from TUSOM, TSSW, and Tulane's Associate Provost Diversity, and Inclusion. All material created will be reviewed by the project EDI expert to ensure it is culturally and linguistically competent.

Table 2: Didactic teaching resources and person(s) responsible for curriculum oversight

Didactic content area	Person(s) responsible
Psychiatric disorders - Anxiety, Depression, Psychogenic disorders, Suicide prevention	Myo Myint Brittnie Fowler Tonya Hansel Julia Fleckman
Substance use/abuse - Addiction, Medication for Opioid Use Disorder - Screening, Brief Intervention, Referral to Treatment (SBIRT and Youth-SBIRT) program	A. Kenison Roy, III Patrick Bordnick
Mental health & behavioral issues in adolescents - Risk taking, self-harm, eating disorders, violence	Myo Myint, Brittnie Fowler
Trauma-informed care	Tonya Hansel
Psychosocial issues - Violence (including gun violence), abuse, trauma, family issues, adverse and beneficial childhood experiences, resilience	Susan Davies Samantha Francois Julia Fleckman
Social determinants of health - Socio-economic, immigration, low health literacy, incarceration, health equity, oppression	Susan Davies Anneliese Singh Samantha Francois
Communication and patient education skills	Jessica DeBord

- Motivational interviewing - Empathetic communication - Implicit bias - Shared medical decision making	Susan Davies Anneliese Singh
Home visits and safety	SW and child psychiatry faculty TBD

In addition to the didactic resources developed for trainees, the BAYOU Bridges program will sponsor a series of Grand Rounds through the Departments of Internal Medicine and Pediatrics, with the goal of **increasing the skill and comfort level of primary care providers in the prevention, identification, diagnosis, treatment, and referral of services for mental health and behavioral health conditions for pediatric, adolescent, young adult, and other populations who are at-risk or have experiences abuse, trauma, or mental health and/or substance use disorders, including those related to the effects of gun violence.** BAYOU Bridges Grand Rounds will take place twice yearly, once each in the departments of Internal Medicine and Pediatrics.

Over the course of the grant BAYOU Bridges will develop and implement approximately 10 hours of asynchronous training content accompanied by a course syllabus, which will be shared with HRSA and made available to residency programs nationwide that are interested in expanding their curricula in integrated mental and behavioral health. Feedback from participants and faculty will be used as a process evaluation to further improve the course. All material created for dissemination will be reviewed by the project EDI expert to ensure it is culturally and linguistically competent. The curricula will be revised according to feedback, prior to national dissemination.

In addition to didactic curricula, the BAYOU Bridges program will incorporate experiential learning beginning early in residency and continuing through Med-Ped residency graduation *(sub-objective 2.3).* In month 7 (July 2023), Med-Peds residents will begin rotating through the BAYOU Bridges curriculum. The curriculum will include both longitudinal and block components. Residents in all four years of training will rotate through the clinical training sites listed in Table 3 and **Attachment 4** one half-day during each ambulatory Internal Medicine week (one session per five weeks throughout the Internal Medicine portion of their training).

During each of these weeks, residents will attend a multi-disciplinary team meeting with the BAYOU Bridges key personnel (including Med-Peds, child psychiatry, psychiatry, addiction medicine, and social work faculty). In addition, residents will have 3 weeks of the rotation in block format: 2 weeks in October 2023 and 1 week in February 2024 (comprised of 10 sessions per week, or 30 total sessions). Training sites, proposed learning activities, and person(s) responsible for oversight of each training site are listed in Table 3. **Attachment 4,** Table 1 includes additional information about rotation sites.

Table 3: Experiential teaching resources and person(s) responsible for clinical oversight

Clinical rotation site	Proposed activities	Person(s) responsible
Tulane Addiction Medicine Inpatient Consult Service	The Addiction Medicine consultation service includes a Board-Certified Addiction Medicine specialist, Dr. Robert Limbaugh, as well as an Addiction Medicine fellow and a Social Work intern. Consults include evaluation for substance use disorder and need for treatment, initiation of treatment including induction to medication therapy, withdrawal management, initiation of psychosocial treatment, referral to post hospital care for addiction and physician follow up in the addiction medicine continuity clinic. The goals of the consultation service are to assist primary care and specialist providers by evaluating patients for substance use disorders, initiation of treatment and referral to appropriate post-hospital care. While rotating at this site, residents will identify, diagnose, treat, and refer patients for services for substance abuse and addiction.	A. Kenison Roy, III
Tulane Addiction Medicine Continuity Clinic	Continuity clinic patients present following referral from the inpatient addiction medicine consultation service, outpatient physician referral, or self-referral. Patients often present with co-occurring medical and psychiatric conditions and trauma along with addiction. Supervising faculty include A. Kenison Roy, III, MD, Smita Prasad, MD or Robert Limbaugh, MD. Physician functions include initial assessment, diagnosis, prescription of medication (including MOUD), recommendations for concurrent professional therapy, and/or referral to community resources where appropriate. Treatment is individualized, to account for co-morbid medical and psychiatric conditions and social determinants of health, and frequency and length of visits are prescribed considering these variables. While rotating at this site, residents will identify, diagnose, treat, and refer patients for services for substance abuse and addiction.	A. Kenison Roy, III
Tulane Addiction Medicine Intensive Outpatient Treatment Program	Intensive Outpatient Treatment Program (IOP) is licensed, accredited, structured programmatic treatment for addiction, conducted by a multidisciplinary team of licensed professionals and peer support specialists, including physicians	A. Kenison Roy, III

	credentialed in Addiction Medicine. Faculty for IOP include A. Kenison Roy, III, MD and/or Smita Prasad, MD. The structure includes 9-12 hours per week of group education and psychotherapy focused on addiction for six to eight weeks, in addition to weekly sessions with a master's level therapist and an initial physician evaluation with follow up visits as necessary, all discussed in a multidisciplinary setting. While rotating at this site, residents will treat patients for services for substance abuse and addiction.	
Children's Hospital New Orleans Inpatient Child Psychiatry Consult Service	Residents will rotate on the inpatient child psychiatry consult service, where they will identify, diagnose, treat, and refer patients for services for mental and behavioral health conditions including suicidal ideation, depression, and anxiety, often complicated by trauma, abuse, gun violence, and other SDOH.	Myo Myint, Brittnie Fowler
Covenant House	Residents will rotate in the Covenant House integrated primary care clinic, where they will identify, diagnose, treat, and refer adolescent and young adult patients for services for mental and behavioral health conditions, including young people facing homelessness and survivors of trafficking.	Jessica DeBord
Access Health Louisiana	Residents will participate in telehealth appointments with AHL clinicians who are treating student's mental health and substance use needs via telemedicine. Residents will identify, treat, and refer children and adolescents with mental and behavioral health conditions in an integrated primary care-behavioral health setting.	Tonya Hansel
Tulane Collegiate Recovery Center (TRC)	Residents will participate in sessions with TSSW faculty as they support university students struggling with substance use and addiction disorders.	Susan Davies

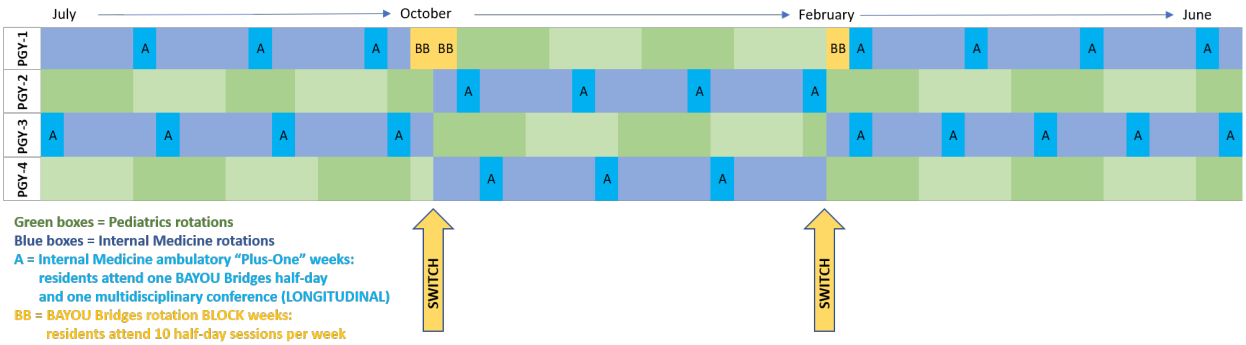
Rotation structure

In grant year 1, the BAYOU Bridges curriculum will be piloted as a core rotation for all Tulane Med-Peds residents (6 PGY-1, 6 PGY-2, 6 PGY-3, and 6 PGY-4 residents). The structure of Med-Peds residency training involves switching back and forth between Internal Medicine and Pediatrics training on a predetermined schedule; Tulane Med-Peds residents "switch" specialties every four months (in October, February, and June). For the purposes of the BAYOU Bridges curriculum, we will divide residents into two groups:

- Group 1: rotating on Internal Medicine in July 2023
- Group 2: rotation on Pediatrics in July 2023

Rotations in Internal Medicine follow a 4+1 structure, wherein residents spend 4 weeks on an inpatient or subspecialty rotation, followed by one week in ambulatory clinics, which they are assigned to attend longitudinally over the entire academic year during each of these "Plus-One" weeks. **Figure 1** illustrates the Tulane Med-Peds resident rotation structure after the introduction of the BAYOU Bridges rotation.

Figure 1. Sample Tulane Med-Peds Group 1 resident schedule after introduction of BAYOU Bridges rotation



BAYOU Bridges Block Component: Each participating resident will complete three weeks of the **block component** of the BAYOU Bridges curriculum during their first year of participation. The block rotations will be scheduled during the weeks that residents switch between Internal Medicine and Pediatrics, and vice versa. Twenty-four total residents who are new to the program will participate in three weeks of block rotations during each year of the grant period.

In addition to the block rotation components, residents will also participate in a **longitudinal component.** All participating residents will begin the longitudinal component in 2023; residents in Group 1 will begin in July 2023, and residents in Group 2 will begin in October 2023.

BAYOU Bridges Longitudinal Component: One half-day session and one 1-hour multidisciplinary conference during each "Plus-One" week will be dedicated to the BAYOU Bridges rotation. Each resident averages 5 "Plus-One" weeks each academic year, so each Med-Peds resident will spend on average 3 full days per academic year participating in the longitudinal component of the rotation, or 12 full days over four years of residency training. In program year 2 and beyond, participating residents from categorical primary care residency programs will have their longitudinal component compressed into 1 year.

Sample schedule, year 1:

- *July 2023-mid-October 2023:* Group 1 (12 residents) participates in BAYOU Bridges **longitudinal component**, attending on average attending 3 half days of combined didactic and experiential training utilizing the teaching resources outlined in Tables 2 and 3, and 3 multidisciplinary conferences during this time period.
- *Mid-October 2023:* Groups 1 and 2 (24 residents) participate in BAYOU Bridges **block component 1**, attending 10 full days of combined didactic and experiential training utilizing the teaching resources outlined in Tables 2 and 3.

- *Late October 2023-mid-February 2024*: Group 2 (12 residents) participates in BAYOU Bridges **longitudinal component**, attending on average attending 3 half days of combined didactic and experiential training utilizing the teaching resources outlined in Tables 2 and 3, and 3 multidisciplinary conferences during this time period.
- *Mid-February 2024*: Groups 1 and 2 (24 residents) participate in BAYOU Bridges **block component 2**, attending 5 full days of combined didactic and experiential training utilizing the teaching resources outlined in Tables 2 and 3.
- *Late February 2024-June 2024:* Group 1 (12 residents) participates in BAYOU Bridges **longitudinal component**, attending on average attending 3 half days of combined didactic and experiential training utilizing the teaching resources outlined in Tables 2 and 3, and 3 multidisciplinary conferences during this time period.

During year two, Groups 1 and Group 2 will have opposite specialty assignments, meaning that Group 2 will participate in on average 6 sessions + 6 multidisciplinary team conferences during the longitudinal component of BAYOU Bridges, and group 1 will participate in on average 3 sessions + 3 multidisciplinary team conferences.

In years 2-4, Med-Peds residents will continue to participate in the longitudinal component of the BAYOU Bridges curriculum, rotating through the clinical training sites presented in Table 3 during each ambulatory Internal Medicine "Plus-One" week. **By the end of 4 years of Med-Peds residency training, each resident will participate in at least 27 full days of the BAYOU Bridges curriculum.** Residents from other primary care residencies that elect to participate in the rotation will complete at least **20 full days in 1 year**, in both block and longitudinal components. Tulane Med-Peds, Internal Medicine, Pediatrics, and Family Medicine resident rotations are structured in 1-4 week blocks; **20 full week days is considered equivalent to a 1-month rotation.**

Attachment 5 contains a Resident Mental Health and Behavioral Health Trainee Table.

4. <u>Promoting collaboration across sectors to address social determinants of health (SDOH), low health literacy, health equity, and culturally and linguistically appropriate care and service</u>

The Tulane Med-Peds BAYOU Bridges program will promote collaboration across sectors both through its structure and through teaching resources. BAYOU Bridges in interdisciplinary by design; faculty come the departments of Internal Medicine, Pediatrics, and Psychiatry within Tulane University School of Medicine (TUSOM) and from the Tulane School of Social Work (TSSW). Faculty from each department and school will collaborate during weekly meetings to create the rotation curriculum and will hold weekly multidisciplinary case conferences with primary care residents beginning in July 2023. The modeling of collaboration between professionals will be reinforced by didactic teaching on the social determinants of health, low health literacy, and health equity, which will be provided by faculty from both TUSOM and TSSW. After a completing a series of trainings, residents will rotate through community-based clinical sites where collaboration across sectors to address SDOH is critical, including Covenant House and AHL's school-based health centers.

Beginning in grant year two BAYOU Bridges intends to add two additional training sites, which will further the HRSA objective of collaboration across sectors to address SDOH, and low health literacy. These sites are further detailed below.

Planned Program Expansion in Year Two and Beyond

Didactic teaching materials addressing the impacts of incarceration on physical and mental health will be included in the BAYOU Bridges rotation curriculum beginning in year one; in year two, the program plans to partner with the **New Orleans Juvenile Justice Intervention Center** to provide residents with experiential learning in collaboration with the juvenile justice sector. The New Orleans Juvenile Justice Intervention Center provides safe and secure pre-trial detention to youths who are charged with committing a delinquent offence. Their purpose is to provide quality evidence-based juvenile detention practices and programming with a focus on public safety, accountability, and individual treatment needs of the juvenile, and to provide educational, medical, mental health and evidence-based treatment programming that supports every juveniles' capacity to learn.

Also in grant year two, Tulane Med-Peds plans to launch the **BAYOU Bridges home visit program**, intended to bridge the inpatient-outpatient transition for adolescents and young adults admitted to inpatient services with mental and/or behavioral health conditions. Inpatient child and adolescent psychiatry and addiction medicine teams will refer patients with mental and behavioral health conditions, including patients with suicide attempts, victims of trauma or abuse (including gun violence), and substance use disorders and/or addiction. Residents, supervised by Med-Peds primary care faculty, will perform home visits with referred patients focusing on assessing social determinants of health, identifying and mitigating risk factors, assisting with health literacy, and aiding the transition from inpatient to outpatient primary care and mental health providers. Eighteen PGY2-4 Med-Peds residents will attend a total of 90 home visit half-days sessions per year under the supervision of Med-Peds faculty; at least 250 patient encounters will take place each year through the BAYOU Bridges home visit program. Patients referred to the BAYOU Bridges home visit program will be surveyed upon referral and biannually, to measure satisfaction with the program as well as attitudes regarding mental and behavioral healthcare and providers.

Finally, Tulane Med-Peds plans to **offer the BAYOU Bridges rotation to 18 primary care residents in additional primary care specialties (Internal Medicine, Pediatrics, and Family Medicine) beginning in year 2;** they will join 6 incoming Med-Peds interns each year. The rotation will remain core curriculum for the Med-Peds residency. Residents from other specialties will complete the block and longitudinal curriculum in one year; Med-Peds residents will continue the longitudinal component throughout all four years of residency training.

5. Training methods in the prevention, identification, diagnosis, treatment, and referral of services for mental and behavioral health conditions

All training activities will be guided by the goal and objectives of HRSA and the Tulane Med-Peds BAYOU Bridges program, and by evidence-based educational best practices and adult

learning theory. BAYOU Bridges will capitalize on the extensive mental and behavioral health expertise of our faculty and community partners to deliver a state-of-the-art curriculum for trainees. Content will be introduced through interprofessional, interactive didactic sessions, and then reinforced through clinical experiences in which the content is applied and refined. The addition of a longitudinal component to integrated mental health training in primary care residency has been shown to increase utilization of integrated mental health services.[28] The block format of year one rotations will provide an early introduction to the content, and residents will have the opportunity to apply the material using spaced repetition during the longitudinal component of the curriculum. Weekly multi-disciplinary conferences will allow for reflection and consolidation of content; a similar format has been shown to be feasible, and to enhance primary care residents' understanding and confidence in providing collaborative and holistic care for patients with mental health conditions.[26,29]

We will utilize best practices for online learning methods to develop electronic training content to capture the expertise of our mental and behavioral health content experts by recording their didactic lectures. Working with the Tulane University Center for Engaged Learning and Teaching, a valuable free resource available to all Tulane faculty, we will build in supplemental resources into each of our eight didactic content areas described earlier in Table 2 (*Psychiatric disorders; Substance use disorders; Mental health and behavioral issues in adolescents; Trauma and trauma-informed care; Psychosocial issues; Social determinants of health inequity; Home visits and safety; and Mental and behavioral health Grand Rounds*). Supplemental training tools include case studies, readings, exercises, and interactive video segments. These videos will record patient-provider interactions with simulated patients experiencing a range of mental health symptoms and/or issues related to substance misuse. They will be followed by a Q & A phase to enable trainees to consider potential responses to the patient before witnessing various clinician responses – some helpful, some not – and the subsequent reactions to each by the simulated patient and the supervising clinician. These scenarios will be invaluable before trainees rotate through community partner sites.

Figure 2 depicts curricular elements of the BAYOU Bridges curriculum (adapted from Meyers et al 2022). **Table 4** details BAYOU Bridges content areas and corresponding training methods to be employed.

Figure 2. Curricular elements

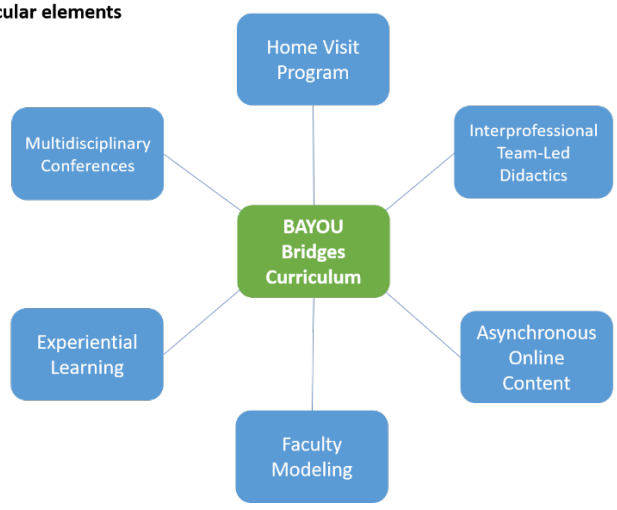


Table 4. Training methods

Content area	Training methods
Psychiatric disorders - Anxiety, Depression, Psychogenic disorders, Suicide prevention	Didactic training Inpatient child psychiatry consult service Multidisciplinary case conferences BAYOU Bridges home visit program*
Substance use/abuse - Addiction, Medication for Opioid Use Disorder - Screening, Brief Intervention, Referral to Treatment (SBIRT and Youth-SBIRT) program	Didactic training Inpatient addiction medicine consult service Addiction medicine continuity clinic Intensive Outpatient Treatment Program Tulane Collegiate Recovery Center Multidisciplinary case conferences BAYOU Bridges home visit program*
Mental health & behavioral issues in adolescents - Risk taking, self-harm, eating disorders, violence	Didactic training Covenant House AHL School-Based Health Centers Multidisciplinary case conferences BAYOU Bridges home visit program*
Trauma-informed care	Didactic training Covenant House Multidisciplinary case conferences BAYOU Bridges home visit program*
Psychosocial issues - Violence (including gun violence), abuse, trauma, family issues, adverse and beneficial childhood experiences	Didactic training Inpatient child psychiatry consult service Covenant House AHL School-Based Health Centers Multidisciplinary case conferences BAYOU Bridges home visit program*
Social determinants of health inequity - Socio-economic, immigration, low health literacy, incarceration, systemic oppression, health equity	Didactic training Covenant House Multidisciplinary case conferences New Orleans Juvenile Justice Intervention Center* BAYOU Bridges home visit program*

*to be introduced in year 2

(c) Resolution of Challenges

Prior experience of BAYOU Bridges key personnel and partners and Tulane University grants management suggests several areas of potential challenges to program implementation. First, Med-Peds residents might experience concerns about additional required curricula in an already demanding residency program. The BAYOU Bridges primary investigator is also the Med-Peds residency director and has close relationships with current residents and program leadership. This will ensure that residents are well informed regarding the planned rotation requirements and how requirements will fit in with existing residency curriculum. The PI and the Med-Peds residency administrator will also will ensure that the BAYOU Bridges curriculum will not

interfere with other Accreditation Council for Graduate Medical Education (ACGME) requirements. In addition, Med-Peds residents are typically spread out between specialties and training sites and do not have any other dedicated Med-Peds rotations. We expect that they will appreciate the protected time to learn and work together provided by the block rotation component timed around Internal Medicine-Pediatrics switches.

Second, we realize that scheduling the block rotation components may pose an inconvenience for the categorical residency programs (Internal Medicine and Pediatrics), who manage the rest of the residents' rotation schedules. As the Med-Peds residency director, the primary investigator has longstanding relationships with both categorical program leadership and has discussed the BAYOU Bridges rotation with them to achieve buy-in prior to applying for the grant. They share the program's goal of training primary care residents in the prevention, identification, diagnosis, treatment, and referral of series for mental health and behavioral health conditions for pediatric, adolescent, young adult, and other populations who are at-risk or have experiences abuse, trauma, or mental health and/or substance use disorders and support plans to introduce a new rotation in mental and behavioral health. The categorical programs also support giving their residents additional opportunities to train in mental and behavioral health, and we plan to make the BAYOU Bridges rotation available to categorical residents in year 2.
Third, we realize that coordination of faculty across schools, departments, and settings may pose challenges. We are encouraged by the history of successful collaboration between our schools, departments, and faculty. We have also included administrators from each participating department in the development of this project and have included substantial administrative support in the grant budget.

Finally, the purpose of the BAYOU Bridges program involves engagement with and from the New Orleans community, in particularly those community members that come from historically oppressed and marginalized backgrounds. We recognize that justified mistrust of academia and the medical community is widespread in our community, and that poverty, low health literacy, safety, and other social determinants of health my impact engagement. To mitigate this potential challenge, BAYOU Bridges will partner with organizations that already meaningfully and bidirectionally engage with the community we intend to serve. In addition, we will work closely with our Equity, Diversity, and Inclusion expert to ensure that we consider and address the perspectives and priorities of the New Orleans community, and we will include community stakeholders in our evaluation and improvement processes.

IMPACT

(a) EVALUATION AND TECHNICAL SUPPORT CAPACITY

Evaluation of BAYOU Bridges will be conducted using a mixed methods design to capture every aspect of the program. **Formative research activities** will measure program development and preliminary evaluation; **process evaluation activities** will monitor program implementation, so that corrections can be made in real time if needed. **Impact evaluation activities** will use multi-informant methods to assess program impact from multiple perspectives including faculty, trainees, program staff and community partners. Because we also aim to create change in the overall climate to support greater commitment to mental and behavioral health in practice over

time, we will engage in **translation and sustainability evaluation activities**. This will be measured by assessing perceptions of mental and behavioral health integration before and after program implementation among faculty not directly involved in BAYOU Bridges as well as program faculty. The text and tables below describe the various process and impact measures we will use to assess program implementation, acceptability, and overall impact.

To determine and demonstrate the extent to which BAYOU Bridges has the projected impact on resident training in all mental and behavioral health outcomes (*prevention, identification, diagnosis, treatment, and referral of services for mental and behavioral health conditions*) in each priority population we aim to serve (*pediatric, adolescent, young adult, and other vulnerable populations, including the effects of mental and behavioral health related to gun violence*), Table 5 below describes how and when our comprehensive evaluation activities will collect the following performance measures: (1) curriculum changes to reflect mental and behavioral health didactic and clinical training; (2) the incorporation of mental and behavioral health competencies into curricular objectives (3) providing faculty with mental and behavioral health expertise either supported by grant funds or in kind to ensure evidenced based didactic and clinical teaching; (4) faculty training in mental and behavioral health competencies (5) recruitment of additional clinical training sites that train in mental and behavioral health and; (6) development of preceptors for resident clinical training. The program evaluation plan will emphasize key areas that align with overall program goals: Specific project performance indicators associated with these goals will include both quantitative and qualitative data as detailed below.

Table 5. Project Objectives and Methods of Evaluation

BAYOU Bridges Program Goals	**HRSA Performance Measures**	**Evaluation data to determine program impact**
Objective 1*:* Increase the number of primary care physicians trained in mental and behavioral health outcomes Assess knowledge, attitudes and skills related to key mental and behavioral health competencies	Curriculum changes to reflect mental and behavioral health didactic and clinical training Provide faculty with mental and behavioral health expertise to ensure evidenced based didactic and clinical teaching Incorporate mental and behavioral health competencies into curricular objectives	Training materials, DEI review comments/ways addressed, CAB comments/ways addressed, meeting minutes, crosswalk of final curriculum and clinical best practices guidelines, evaluation log Program-specific behavioral health knowledge survey, EMR MH screenings & referrals review/comparison to pre-implementation data, Qualtrics Form
Objective 2: Develop and expand partnerships with community agencies for trainee rotations	Recruitment of additional clinical training sites that train in mental and behavioral health Development of preceptors for resident clinical training	Pre-post implementation training sites comparison, survey of community clinical partners

Objective 3: Develop culturally and linguistically competent mental and behavioral health content in didactic and clinical training for primary care residents	Faculty training in mental and behavioral health competencies	Review and approval of EDI Office; Integration of feedback from all stakeholders; Faculty training records, Evaluation Log Training logs, post-training outcome measures
Sustainability Objective: Systems level change through development of sustainable integrated behavioral health practices and resources	Maintenance of curriculum changes to reflect mental and behavioral health didactic and clinical training	Pre-post comparison of EMR data related to MH (e.g., note content, MH referrals pre-post program implementation, etc.)

Formative research activities

To ensure optimal impact and broadest reach, we will engage in an iterative process to gather input from all stakeholders, pilot program components, and revise based on feedback. BAYOU Bridges will recruit and invite members to participate in our Advisory Group to provide input on our curriculum and on adapting existing tools and training resources.

A Qualtrics form (BAYOU Bridges Feedback and Feasibility Form) will be created and shared with all stakeholder groups to help us identify strengths, weakness, and gaps in the curriculum content, as well as to identify any potential implementation barriers of administrative issues that may impede clinical and/or community practice rotations. After the program Equity, Diversity and Inclusion expert and her team reviews all curricula to ensure cultural and linguistic competence, the advisory group will review training materials for professional relevance and cultural adaptability, if needed, to best meet the unique needs of specific population subgroups. Once the initial survey form is created, all program stakeholders will be asked to provide feedback using a Qualtrics survey link. This link will remain open throughout the project to continue to inform implementation and long-term sustainability. This data gathering method ensures confidentiality and encourages accurate reporting.

Process evaluation activities

Process evaluation activities are essential not only to document that projected activities were implemented as intended, but also to measure aspects of program delivery not captured in impact evaluation metrics but that are also essential to determining overall program impact. Most importantly, they identify potential challenges early in the implementation process, so that corrections can be made at once. The evaluation staff will maintain a rigorous internal process to ensure measurement quality. In addition to Qualtrics data collected on all stakeholders, evaluators will maintain an Evaluation Log chronicling all project activities over the funding period. Together these data will enhance efforts to develop innovative training and implementation to benefit and support both the mental and behavioral health workforce and the populations we serve. All data collected will be utilized to meet HRSA requirements including progress, annual and final reports.

BAYOU Bridges will devote the resources necessary to ensure successful capture, analysis, and reporting within these parameters, as well as indicators of achievement of goals and objectives.

The project evaluator will oversee all evaluation activities, working closely with key personnel to ensure quality data are collected, safely stored, cleaned, and monitored quarterly. All BAYOU Bridges program and/or evaluation activities with direct human participant involvement will be approved by the Tulane University IRB. Data management, analysis, and reporting plans are described below.

Data Collection	Database creation (Excel and SPSS (Statistical Program for the Social Sciences); use of on-line survey systems (Qualtrics); collection of data as trainees log into/participate in program activities; basic demographic indicators such as race, ethnicity, religion, sexual orientation, gender identity, age, smallest residential geographic unit available, socioeconomic status, primary language, literacy level, education level, profession, employment type and length, and disability status will be collected
Data Management	Managed on ongoing basis with internal reviews conducted quarterly, descriptive statistics run monthly, evaluation log, preliminary data reports reviewed by evaluation staff quarterly; at least two staff members will review quantitative and qualitative results, and preliminary results will be reviewed by stakeholders and Advisory Group to inform decisions regarding needed steps to improve performance and achievement of goals and objectives
Data Analysis	SPSS (quantitative analysis); transcription software (qualitative); descriptive statistics; quantitative—appropriate parametric/non-parametric given the level of the data; qualitative case studies/content analysis

Impact evaluation activities

To determine program impact, we will rigorously evaluate implementation and impact of all program components using biannual data checks to allow for correction if indicated to ensure we meet stated program objectives while also being responsive to the needs of our patients, residents, faculty, community partners, funder, and institutional stakeholders.

Trainee and Community Stakeholder Evaluation Measures

Mental and Behavioral Health Competency Assessment

Input will be sought from our project team, content experts and community partners in developing training resources, including simulated patient scenarios. Lectures will also be piloted for feedback by this same group in Year 1, with feedback used as process evaluation data to refine the content and fill any gaps. Data from online trainings will provide knowledge checks, satisfaction feedback, and other evaluation metrics to demonstrate trainee competence in these eight key practice areas.

Qualtrics Survey for Continuous Quality Improvement of the BAYOU Bridges Curriculum

While rigorous evaluation of all curriculum content is critical to determine its ability to adequately prepare/ build trainee competency in mental and behavioral health, it is also important to ensure that no content areas are lacking and/or identify any knowledge and skill needs that are not met by the curriculum. To do this, we will develop a Qualtrics form for all stakeholders (trainees, faculty, community partners) to provide feedback on content that is

missing from these eight training modules. For example, if trainees feel inadequately prepared to address a topic they see in practice (i.e., vaping), or if our community site worries that our trainees lack expertise in responding to an issue they see regularly (i.e., cutting), we want to know about it so that these elements can be added to the curriculum. All evidence-based practices are built on – and iteratively strengthened by – a commitment to continuous quality improvement. While the BAYOU Bridges curriculum will be based on the latest research and practice guidelines, it will continue to evolve over the grant period with multi-stakeholder input.

Qualtrics will also be used to collect data on program impact. Electronic surveys will be sent to all stakeholders (faculty, trainees and their supervisors, and community partners) twice annually to assess progress in meeting each program objective. This form (BAYOU Bridges Impact and Acceptability Form) will be created and shared with all stakeholder groups to help us identify Qualtrics data of program impact will be analyzed biannually so that recommendations can be made if implementation changes are needed. BAYOU Bridges faculty, other Tulane collaborators, and community partners are all invited to provide input to ensures that BAYOU Bridges best meets the needs of the diverse multi-need population we aim to serve.

Translation and sustainability activities
Because we also aim to create change in the overall climate to support greater commitment to mental and behavioral health in practice over time, we will engage in **translation and sustainability evaluation activities**. This will be measured by assessing perceptions of mental and behavioral health integration before and after program implementation among faculty not directly involved in BAYOU Bridges as well as program faculty. Below we describe our evaluation activities to ensure a high level of project sustainability.

(b) PROJECT SUSTAINABILITY

We will build sustainability efforts into all our activities, beginning with curriculum development in Year 1. Tulane is committed to expanding our capacity to provide state-of-the-art mental and behavioral health to all populations we serve but particularly youth who are most in need and currently underserved for such care. Our curriculum development plan includes assessment of all implementation activities needed to ensure BAYOU Bridges' long-term adoption in residency training as well as scale up to other training programs within Tulane and in partnership with our many community and institutional partners. With any change comes resistance and regression to the previous processes and procedures. To identify and counter this natural challenge to the change process, we will engage in the following activities to increase the likelihood of full-scale institutionalization of BAYOU Bridges into all training programs by year 5, and ensure continued sustainability after the funding period ends: First, we will actively seek input from ALL program stakeholders – whether engaged in the program or merely affected by its integration into Tulane training systems. Giving everyone that is affected by the new program a voice in its development, delivery and evaluation will not only make implementation easier and more successful – it will also enhance the relevance, acceptability and overall quality of the developed curriculum. Second, we will use an iterative process for development, implementation, and impact evaluation, so that we can integrate what we learn and address problems and challenges as soon as they are identified, significantly increasing sustainability as new procedures become the *new* norm. And third, we will share data on program outcomes regularly with all stakeholders. Whether interim results are demonstrating progress and positive

changes or new challenges yet to be addressed, it is important to obtain and integrate stakeholder input across all phases of program implementation ad adoption. Together these activities will help ensure sustainability of BAYOU Bridges implementation procedures within all Tulane clinical practice settings. For further sustainability of curriculum content, that will enable widespread dissemination to our institutional partners and collaborators, we will create online learning tools that capitalize on and extend the reach of our mental and behavioral content experts.

Creating asynchronous online learning tools prioritizes BAYOU Bridges long-term sustainability in several ways: it capitalizes on our content expert's expertise by enriching didactic lectures with more in-depth learning; it increases fidelity to the curriculum, by ensuring all trainees receive extended training opportunities (even if they are unable to attend the initial lecture), and supports BAYOU Bridges dissemination to other faculty and staff while also ensuring long-term sustainability of the curriculum for future trainees. Asynchronous online tools provide an effective and convenient means of training, allowing the learner to access and navigate through the course on their own time, and at their own pace. Prior needs assessments conducted by Tulane consistently show that online asynchronous courses represent the format most desired by learners because of their 24/7/365 availability and expanded accessibility to all from office or home computers, tablets and cell phones. Asynchronous training components overcome scheduling barriers making the training widely available and accessible to trainees; it is the most widely accessible training and most enduring format for sustainability. Asynchronous course content can also offer opportunities for active learning with interactive applications. Finally, well-designed asynchronous learning tools are effective for building knowledge and applied skills for trainees.

ORGANIZATIONAL INFORMATION, RESOURCES, AND CAPABILITIES

1. Project personnel qualifications

The Tulane Med-Peds program director and BAYOU Bridges PI, Jessica DeBord, has over 10 years of experience in residency leadership. She served as a pediatric chief resident following Med-Peds residency and was appointed as an associate program director of curriculum and evaluation for the Pediatrics residency program immediately following chief residency. She was named program director of the Med-Peds residency in February 2021. In her role as associate program director she developed and implemented the academic half-day conference curriculum that the Pediatrics residency program continues to employ to deliver structured educational content. She is currently a co-investigator on a multi-center study of the academic half day format through the Association of Pediatric Program Directors (APPD) Longitudinal Educational Assessment Research Network (LEARN). Dr. DeBord has completed local and national faculty development programs in medical education leadership, including the competitive, year-long APPD Leadership in Educational Academic Development (LEAD) program, and has held leadership roles in national organizations, including serving as co-chair of the Med-Peds subcommittee of the Pediatric Hospital Medicine section of the American Academy of Pediatrics, and serving on the APPD Vision 2020 Leadership & Collaboration Strategic Planning Committee. In addition to her roles in graduate medical education, she directs the Foundations in Medicine course, which serves as the introduction to clinical medicine for pre-clinical Tulane medical students. In that role, she has developed and implemented curricula addressing social

determinants of health, cultural humility and implicit bias, quality improvement, cross-cultural communication and working with medical interpreters, anti-racism, health systems reform, shared medical decision-making, and evidence-based medicine. She has extensive experience in curriculum development, implementation, and evaluation, as well as a history of productive collaboration with TSSW to develop and implement curricula.

Co-investigators in BAYOU Bridges include faculty with a wide breadth and depth of experiences, a wealth of knowledge, and a history of successful collaboration. Experience and responsibilities of project co-investigators and other personnel are detailed in **Attachment 2** (Staffing Plan and Job Description for Key Personnel) and **Attachment 3** (Project Organizational Chart). Co-investigators include faculty leaders from Tulane Addiction Medicine, Tulane Child and Adolescent Psychiatry, and TSSW. Together they possess decades of experience identifying and treating mental and behavioral health conditions, including substance abuse and addiction, and trauma resulting from the effects of abuse and gun violence, in the community where our residents will be training.

2. Management capacity

The faculty assigned to this project have extensive professional experience in mental and behavioral health; curriculum development, implementation, and evaluation; project management; and health disparities. Substantial administrative support is also included in our staffing plan, including administrative support from the Med-Peds residency program as well as from the Departments of Internal Medicine and Psychiatry and the Addiction Medicine program. **Attachment 2** Table 1 provides a **s**taffing plan and job descriptions for key personnel. Through the BAYOU Bridges program, Tulane Med-Peds will partner with TSSW to build on existing partnerships with Covenant House, AHL, Tulane's Collegiate Recovery Center, and the Tulane University School of Public Health and Tropical Medicine–Center for Applied Environmental Public Health (CAEPH), while also building new partnerships and programs, including the New Orleans Juvenile Justice Intervention Center and the BAYOU Bridges home visit program. BAYOU Bridges will operate under a collaborative management approach. The team centric design focuses on ensuring that objectives are set for the program and individuals or small groups are assigned to certain tasks for completion, adherence, and to facilitate discussion for changes needed. The team centric design allows for stronger project management, as accomplishment of objectives does not rely on one or two individuals. While the larger responsibility for grant success falls to the primary investigator, the collaborative approach is apparent in the percent efforts and number of individuals specified.

3. Mission, structure, and scope of organization

The **Tulane Med-Peds Residency** Program's mission is to train healers, through the recruitment, retention, and development of diverse and adaptable residents eager to master both the science and art of medicine while caring for the vibrant, diverse, and adaptable people of New Orleans. Our residents are advocates, leaders, thinkers, and educators who embrace the challenges inherent in working in an under-resource system and strive to provide community-engaged, evidence-based, and person-centered medical care from the moment of birth through the end of life. The Tulane Med-Peds leadership team includes a program director, two associate program

directors, and 4 core faculty that oversee training for 24 Med-Peds residents (six residents in each of four classes). The program director and one of the associate program directors are PI and co-investigator on this application.

Tulane Med-Peds will engage several partners to develop and implement the BAYOU Bridges curriculum, both with TUSOM and TSSW.

TUSOM is the second oldest medical school in the Deep South and the 15th oldest medical school in the United States. TUSOM has been fully accredited by the Liaison Committee on Medical Education (LCME) since 1942, with the most recent accreditation valid through 2027. TUSOM Graduate Medical Education program is currently accredited with warning by the ACGME. TUSOM has the following core values: Accountability, Compassion, Quality, Collaboration, Integrity, Diversity, and Creativity. The TUSOM mission is to improve human health and foster health communities through discovery and translation of the best science into clinical practice and education; to deliver the highest quality patient care and prepare the next generation of distinguished clinical and scientific leaders.

Within TUSOM, the Med-Peds program will collaborate with the Addiction Medicine fellowship and the section of Child and Adolescent Psychiatry to develop the BAYOU Bridges program.

- The **Addiction Medicine fellowship program** is a one-year ACGME accredited and ABMS sponsored fellowship program. The program provides well-rounded education and clinical training in the prevention, diagnosis, treatment, and recovery of individuals with the disease of addiction, substance use related health conditions, and those who are exhibiting an unhealth use of substances. The goal of the program is to train the next generation of leaders to advance evidence-based clinical care and academic understanding of addiction by striving for continuous enrichment of the training experience.
- The section of **Child and Adolescent Psychiatry** is housed under the Department of Psychiatry and Behavioral Sciences and works in conjunction with the Department of Pediatrics. The section's vision is to meaningfully improve the mental health and well-being of children and their families and actively work to dismantle systems of oppression. They are dedicated to the discovery, dissemination, and application of knowledge to promote the mental health and well-being of children and adolescents locally, regionally, nationally, and internationally. They respect all persons, appreciate diverse cultures, and recognize the essential role of families in the healthy development of children.

TSSW provides exceptional facilities, high research and federal grant activity, research infrastructure and expertise in substance abuse, mental health, resilience, and family violence. As the oldest school for social work in the Deep South, the Tulane SSW enjoys newly renovated and modernized facilities in Downtown New Orleans, just a few steps from Canal Street. Ranked 19th among the 50 best Master of Social Work Programs and 20th among U.S. Social Work/Welfare Programs by the Gourman Report and 28th according the U.S. News and World Report in 2022, TSSW and its faculty provide a rich research environment with numerous resources. Fully accredited by the Council on Social Work Education (CSWE) since 1927, the Tulane SSW focuses on educating social workers to engage in relationship-centered, evidence-informed, empowering practice across contexts and cultures.

TSSW has strong local partnerships with a variety of community. With over 50 partner sites, including AHL, Covenant House, Tulane Collegiate Recovery Center, The Kingsley House, Children's Bureau, and the New Orleans Early Education Network, students and practitioners provide direct services to local communities addressing their social work needs.

The TSSW mission is to enhance the well-being and equitable treatment of diverse individuals and communities through transformative education, generation of knowledge, service, and community engagement. Currently TSSW offers multiple courses on mental health, addiction, and self-care components at the undergraduate and graduate levels. The Tulane Center for Lifelong Learning, under TSSW guidance, also provides behavioral health promotion.

Attachment 3 provides a project organization chart describing service delivery, management, and oversight.

4. Institutional procedural and accounting policies

Tulane University's financial accounting policies and procedures follow the generally accepted accounting principles of Fund Accounting as prescribed by the National Association of College and University Business Officers (NACUBO), the American Institute of Certified Public Accountants and the Financial Accounting Standards Board (FASB). To ensure observance of limitations and restrictions placed on the use of resources available to the University, such resources are classified for accounting purposes into funds according to activities or objectives specified. Research, inclusive restricted purpose contracts, and grants have their own fund in Tulane's accounting system. Within the research fund, separate accounts are maintained for each research project. The annual audit of the University's Financial Statements is performed in accordance with generally accepted auditing standards of the AICPA by an independent public accounting firm. For Federally funded grants and contracts, the public accounting firm uses the Coordinated Audit Approach described in OMB Circular A-133. Audit reports and management letters are presented to the Audit Committee of the Board of Trustees. The University's internal audit staff performs continuous reviews of financial procedures and policies. They report the results of their audits to the Audit Committee and the Independent Auditors.

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Department of Health and Human Services
Health Resources and Services Administration

Notice of Award
FAIN# TA248935
Federal Award Date: 12/20/2022

Recipient Information

1. Recipient Name
Administrators of the Tulane Educational Fund, The
1430 Tulane Ave
New Orleans, LA 70112-2632

2. Congressional District of Recipient
02

3. Payment System Identifier (ID)
1720423889A2

4. Employer Identification Number (EIN)
1720423889A2

5. Data Universal Numbering System (DUNS)
053785812

6. Recipient's Unique Entity Identifier
XNY5ULPU8EN6

7. Project Director or Principal Investigator
Jessica DeBord
Assistant Professor of Medicine and Pediatric
jdebord@tulane.edu
(504)988-7518

8. Authorized Official
Kathleen M Kozar
Director of Sponsored Projects Administration
elecnotf@tulane.edu
(504)988-5613

Federal Agency Information

9. Awarding Agency Contact Information
Reginal J Baker
Grants Management Specialist
Office of Federal Assistance Management (OFAM)
Division of Grants Management Office (DGMO)
RBaker@hrsa.gov
(301) 945-3937

10. Program Official Contact Information
Svetlana Cicale
Project Officer
Bureau of Health Workforce (BHW)
scicale@hrsa.gov
(301) 443-7271

Federal Award Information

11. Award Number
1 TA2HP48935-01-00

12. Unique Federal Award Identification Number (FAIN)
TA248935

13. Statutory Authority
42 U.S.C. § 293k(a)
Bipartisan Safer Communities Act (BSCA) (P.L. 117-159)

14. Federal Award Project Title
Primary Care Training and Enhancement - Residency Training in Mental and Behavioral Health

15. Assistance Listing Number
93.884

16. Assistance Listing Program Title
Primary Care Training and Enhancement

17. Award Action Type
New

18. Is the Award R&D?
No

Summary Federal Award Financial Information

19. Budget Period Start Date 12/31/2022 - End Date 09/29/2023	
20. Total Amount of Federal Funds Obligated by this Action	$500,000.00
20a. Direct Cost Amount	
20b. Indirect Cost Amount	
21. Authorized Carryover	$0.00
22. Offset	$0.00
23. Total Amount of Federal Funds Obligated this budget period	$500,000.00
24. Total Approved Cost Sharing or Matching, where applicable	$0.00
25. Total Federal and Non-Federal Approved this Budget Period	$500,000.00
26. Project Period Start Date 12/31/2022 - End Date 09/29/2027	
27. Total Amount of the Federal Award including Approved Cost Sharing or Matching this Project Period	$500,000.00

28. Authorized Treatment of Program Income
Addition

29. Grants Management Officer – Signature
Bruce Holmes on 12/20/2022

HRSA
Health Resources & Services Administration

Notice of Award
Award Number: 1 TA2HP48935-01-00
Federal Award Date: 12/20/2022

Bureau of Health Workforce (BHW)

31. APPROVED BUDGET: (Excludes Direct Assistance)

[X] Grant Funds Only

[ ] Total project costs including grant funds and all other financial participation

a.	Salaries and Wages:	$193,665.00
b.	Fringe Benefits:	$36,389.00
c.	Total Personnel Costs:	$230,054.00
d.	Consultant Costs:	$0.00
e.	Equipment:	$0.00
f.	Supplies:	$17,778.00
g.	Travel:	$39,000.00
h.	Construction/Alteration and Renovation:	$0.00
i.	Other:	$21,000.00
j.	Consortium/Contractual Costs:	$138,600.00
k.	Trainee Related Expenses:	$0.00
l.	Trainee Stipends:	$16,531.00
m.	Trainee Tuition and Fees:	$0.00
n.	Trainee Travel:	$0.00
o.	TOTAL DIRECT COSTS:	$462,963.00
p.	INDIRECT COSTS (Rate: % of S&W/TADC):	$37,037.00
q.	TOTAL APPROVED BUDGET:	$500,000.00
	i. Less Non-Federal Share:	$0.00
	ii. Federal Share:	$500,000.00

32. AWARD COMPUTATION FOR FINANCIAL ASSISTANCE:

a.	Authorized Financial Assistance This Period	**$500,000.00**
b.	Less Unobligated Balance from Prior Budget Periods	
	i. Additional Authority	$0.00
	ii. Offset	$0.00
c.	Unawarded Balance of Current Year's Funds	$0.00
d.	Less Cumulative Prior Award(s) This Budget Period	$0.00
e.	AMOUNT OF FINANCIAL ASSISTANCE THIS ACTION	**$500,000.00**

33. RECOMMENDED FUTURE SUPPORT:
(Subject to the availability of funds and satisfactory progress of project)

YEAR	TOTAL COSTS
02	$500,000.00
03	$500,000.00
04	$500,000.00
05	$500,000.00

34. APPROVED DIRECT ASSISTANCE BUDGET: (In lieu of cash)

a. Amount of Direct Assistance	$0.00
b. Less Unawarded Balance of Current Year's Funds	$0.00
c. Less Cumulative Prior Award(s) This Budget Period	$0.00
d. AMOUNT OF DIRECT ASSISTANCE THIS ACTION	**$0.00**

35. FORMER GRANT NUMBER

36. OBJECT CLASS
41.21

37. BHCMIS#

38. THIS AWARD IS BASED ON THE APPLICATION APPROVED BY HRSA FOR THE PROJECT NAMED IN ITEM 14. FEDERAL AWARD PROJECT TITLE AND IS SUBJECT TO THE TERMS AND CONDITIONS INCORPORATED EITHER DIRECTLY OR BY REFERENCE AS:
a. The program authorizing statue and program regulation cited in this Notice of Award; b. Conditions on activities and expenditures of funds in certain other applicable statutory requirements, such as those included in appropriations restrictions applicable to HRSA funds; c. 45 CFR Part 75; d. National Policy Requirements and all other requirements described in the HHS Grants Policy Statement; e. Federal Award Performance Goals; and f. The Terms and Conditions cited in this Notice of Award. In the event there are conflicting or otherwise inconsistent policies applicable to the award, the above order of precedence shall prevail. Recipients indicate acceptance of the award, and terms and conditions by obtaining funds from the payment system.

39. ACCOUNTING CLASSIFICATION CODES

FY-CAN	CFDA	DOCUMENT NUMBER	AMT. FIN. ASST.	AMT. DIR. ASST.	SUB PROGRAM CODE	SUB ACCOUNT CODE
23 - 372RTMB	93.884	23TA2HP48935	$500,000.00	$0.00	N/A	23TA2HP48935

HRSA Electronic Handbooks (EHBs) Registration Requirements

The Project Director of the grant (listed on this NoA) and the Authorizing Official of the grantee organization are required to register (if not already registered) within HRSA's Electronic Handbooks (EHBs). Registration within HRSA EHBs is required only once for each user for each organization they represent. To complete the registration quickly and efficiently we recommend that you note the 10-digit grant number from box 4b of this NoA. After you have completed the initial registration steps (i.e.,created an individual account and associated it with the correct grantee organization record), be sure to add this grant to your portfolio. This registration in HRSA EHBs is required for submission of noncompeting continuation applications. In addition, you can also use HRSA EHBs to perform other activities such as updating addresses, updating email addresses and submitting certain deliverables electronically. Visit https://grants3.hrsa.gov/2010/WebEPSExternal/Interface/common/accesscontrol/login.aspx to use the system. Additional help is available online and/or from the HRSA Call Center at 877-Go4-HRSA/877-464-4772.

Terms and Conditions

Failure to comply with the remarks, terms, conditions, or reporting requirements may result in a draw down restriction being placed on your Payment Management System account or denial of future funding.

Grant Specific Term(s)

1. This award is governed by the post-award requirements cited in Subpart D-Post Federal Award Requirements, standards for program and fiscal management of 45 CFR Part 75 except when the Notice of Award indicates in the “Remarks” section that the grant is included under “Expanded Authority”. These recipients may take the following actions without prior approval of the Grant Management Officer:
   Section 75.308 c(2)(d)(1) Incur pre-award costs up to 90 calendar days before the award. See also 75.458.
   Section 75.308 c(2)(d)(2) Initiate a one-time extension of the period of performance by up to 12 months unless one or more of the conditions outlined in paragraphs (d)(2)(i) through (iii) of this section apply. For one-time extensions, the recipient must notify the HHS awarding agency in writing with the supporting reasons and revised period of performance at least 10 calendar days before the end of the period of performance specified in the Federal award. This notification must be submitted through the Electronic Handbooks (EHB). This one-time extension may not be exercised merely for the purpose of using unobligated balances.
   Section 75.308 c(2)(d)(3) Carry forward unobligated balances to subsequent periods of performance.
   Except for funds restricted on a Notice of Award, grantee organizations are authorized to carry over unobligated grant funds up to the lesser of 25% or $250,000 of the amount awarded for that budget period remaining at the end of that budget period. If the unobligated balance is in excess of 25% of the total amount awarded, or $250,000, whichever is less, and the grantee wishes to carry the funds forward, the grantee must obtain prior approval from the Grants Management Officer.
   The grantee must notify the GMO when it has elected to carry over unobligated balances under Expanded Authority and the amount to be carried over. The notification must be provided under item 12, “Remarks”, on the initial submission of the Federal Financial Report (FFR).
   For all other Post Award request refer Standard Term 5 below.
2. Recipients are responsible for meeting all requirements as outlined in Notice of Funding Opportunity Announcement HRSA-23-099, and must continue to be in compliance with all grant requirements throughout the project period. Failure to meet grant requirements may result in action taken against the grant award, up to and including grant termination.
3. 45 CFR Part 75 applies to all federal funds associated with the award. Part 75 has been effective since December 26, 2014. All references to prior OMB Circulars for the administrative and audit requirements and the cost principles that govern Federal monies associated with this award are superseded by the Uniform Guidance 2 CFR Part 200 as codified by HHS at 45 CFR Part 75.
4. As required by the Federal Funding Accountability and Transparency Act of 2006 (Pub. L. 109–282), as amended by section 6202 of Public Law 110–252, recipients must report information for each subaward of $30,000 or more in Federal funds and executive total compensation, as outlined in Appendix A to 2 CFR Part 170. You are required to submit this information to the FFATA Subaward Reporting System (FSRS) at https://www.fsrs.gov/ by the end of the month following the month in which you awarded any subaward. The FFATA reporting requirements apply for the duration of the project period and so include all subsequent award actions to aforementioned HRSA grants and cooperative agreement awards (e.g., Type 2 (competing continuation), Type 5 (non-competing continuation), etc.). Subawards to individuals are exempt from these requirements. For more information, visit: https://www.hrsa.gov/grants/ffata.html.
5. All post-award requests, such as significant budget revisions or a change in scope, must be submitted as a Prior Approval action via the Electronic Handbooks (EHBs) and approved by HRSA prior to implementation. Grantees under “Expanded Authority,” as noted in the Remarks section of the Notice of Award, have different prior approval requirements. See “Prior-Approval Requirements” in the DHHS Grants Policy Statement: http://www.hrsa.gov/grants/hhsgrantspolicy.pdf
6. The funds for this award are in a sub-account in the Payment Management System (PMS). This type of account allows recipients to specifically identify the individual grant for which they are drawing funds and will assist HRSA in monitoring the award. Access to the PMS account number is provided to individuals at the organization who have permissions established within PMS. The PMS sub-account code can be found on the HRSA specific section of the NoA (Accounting Classification Codes). Both the PMS account number and sub-account code are needed when requesting grant funds. **Please note that for new and competing continuation awards issued after 10/1/2020,**

the sub-account code will be the document number.
You may use your existing PMS username and password to check your organizations' account access. If you do not have access, complete a PMS Access Form (PMS/FFR Form) found at: https://pmsapp.psc.gov/pms/app/userrequest. If you have any questions about accessing PMS, contact the PMS Liaison Accountant as identified at:
http://pms.psc.gov/find-pms-liaison-accountant.html

7. The awardee must submit a progress report to HRSA on an **annual** basis. The Bureau of Health Workforce (BHW) will verify that approved and funded applicants' proposed objectives are accomplished during each year of the project. The BHW Progress Report has two parts. The first part demonstrates awardee progress on program-specific goals. Awardees will provide performance information on project objectives and accomplishments, project barriers and resolutions, and will identify any technical assistance needs. The second part collects information providing a comprehensive overview of awardee overall progress in meeting the approved and funded objectives of the project, as well as plans for continuation of the project in the coming budget period. The awardee is also expected to report on dissemination activities in the annual progress report.
8. The recipient must submit a Quarterly Performance Update (QPU) to HRSA via the EHBs at the completion of each quarter. The QPU will be automatically generated and allows recipients to document progress on their activities based on the information submitted in the Standardized Work Plan. An email notification will be sent as a reminder that a report is due, including instructions on how to provide the reports through the EHB system.

Standard Term(s)

1. Your organization is required to have the necessary policies, procedures, and financial controls in place to ensure that your organization complies with all legal requirements and restrictions applicable to the receipt of federal funding, per HRSA Standard Terms (unless otherwise specified on your Notice of Award), and Legislative Mandates. The effectiveness of these policies, procedures, and controls is subject to audit.

Reporting Requirement(s)

1. **Due Date: Annually (Budget Period) Beginning: Budget Start Date Ending: Budget End Date, due 90 days after end of reporting period.**
The recipient must submit, within 90 days after budget period end date, an annual Federal Financial Report (FFR). The report should reflect cumulative reporting within the project period of the document number. **All FFRs must be submitted through the Payment Management System (PMS).** Technical questions regarding the FFR, including system access should be directed to the PMS Help Desk by submitting a ticket through the self-service web portal (**PMS Self-Service Web Portal**), or calling 877-614-5533.
2. **Due Date: Within 90 Days of Project End Date**
A final report is due within 90 days after the project period ends. The final report collects program-specific goals and progress on strategies; core performance measurement data; impact of the overall project; the degree to which the grantee achieved the mission, goal and strategies outlined in the program; grantee objectives and accomplishments; barriers encountered; and responses to summary questions regarding the grantee's overall experiences over the entire project period. The final report must be submitted on-line by awardees in the Electronic Handbooks system at https://grants.hrsa.gov/webexternal/home.asp.
3. **Due Date: 07/31/2023**
Performance data for the recently completed academic year must be reported for each budget period annually no later than July 31. An email notification will be sent as a reminder that a report is due, including instructions on how to provide the report through the EHB system. The Bureau of Health Workforce (BHW) requirements and performance measures will be available at

   http://bhw.hrsa.gov/grants/reporting/index.html.

   Contact your BHW project officer for additional information.

Failure to comply with these reporting requirements will result in deferral or additional restrictions of future funding decisions.

Contacts

NoA Email Address(es):

Name	Role	Email
Kathleen M Kozar	Authorizing Official, Point of Contact	elecnotf@tulane.edu
Jessica Debord	Program Director	jdebord@tulane.edu

Note: NoA emailed to these address(es)

40-year-old man with sickle cell disease and abdominal pain:
https://www.humandx.org/o/5tbuo3j4xjfna3haepi74n3sz

3-month-old boy with fever and cough: https://www.humandx.org/o/5na7g09iabrp8g0r21tpwdrsc

4-month-old girl with fever and diarrhea for one week:
https://www.humandx.org/o/4e5hqk11j4wy7b2q09cyf0haz

12 y/o boy with acute onset of generalized weakness:
https://www.humandx.org/o/bn1e2bt0mrnl23chjyt8g43tz

45-year-old man with loss of consciousness and ventricular tachycardia:
https://www.humandx.org/o/eo55bbfscgx2r75uvbai1x7c7

70 y/o F with worsening abdominal pain and nausea after recent diagnosis of portal venous thrombosis:
https://www.humandx.org/o/d0f84rcf6sobsku0fge9xibm0

10-day-old male with left arm and leg jerking: https://www.humandx.org/o/663gyp21lsh7urovsdzja7fnj

11-month-old boy with fever and skin flushing:
https://www.humandx.org/o/5zhmswdbi3o65as9n0bpvh7k2

45-year-old man with HIV presenting with diffuse lymphadenopathy, wrist & foot drop:
https://www.humandx.org/o/5r83aw6omia9inzlfar590axr

15 year old girl with hypokalemia and elevated serum bicarbonate:
https://www.humandx.org/o/de1t0t8xlph960npk3k2wiz5f

7-year-old boy with vomiting and lethargy: https://www.humandx.org/o/9jv4ukv0zhm3jsnkjy8qjoni1

31-year-old man with nausea and vomiting: https://www.humandx.org/o/baz2owin9nq5kj0qmxck6jyft

11-year-old girl with chest pain: https://www.humandx.org/o/3mrmr6fg149lx7ac3kn75zaro

54-year-old male with right sided arm and leg weakness:
https://www.humandx.org/o/8mdrfzaywr6wifv1r1m4xhcne

Don't Just Pump & Dump: Managing Breastfeeding Mothers on Medications and More

Blair Dickinson, MD, MS, CLC
St. Christopher's Hospital for Children
Philadelphia, PA

Rebecca Cantu, MD, MPH
Arkansas Children's Hospital
Little Rock, AR

Jessica DeBord, MD, MPH
Children's Hospital New Orleans
New Orleans, LA

1

Disclosures

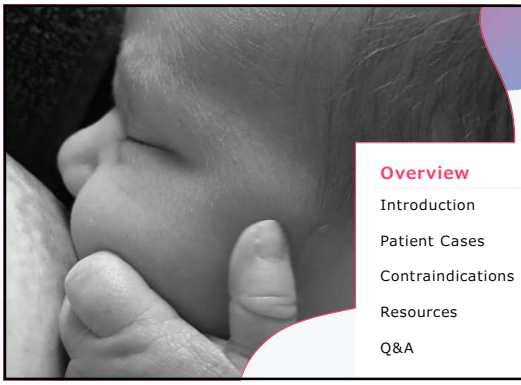
- We have no conflicts to disclose
- Several breastfeeding photos in this presentation come from physician members of DrMILK.org
- Not all people who give birth and lactate identify as female; it is critical to ask your patients their preferred pronouns and words with which they identify
- We support the use of commercial infant formula when medically necessary and when preferred by families

2

Objectives

- List maternal medications and medical conditions that are compatible with breastfeeding
- Recognize commonly encountered scenarios in which mothers may be inappropriately advised to stop breastfeeding
- Identify resources that clinicians can use to answer questions regarding continuation or discontinuation of breastfeeding

3



Overview

Introduction

Patient Cases

Contraindications

Resources

Q&A

4

Why Is This a Topic at PHM?

Pediatricians play a critical role in hospitals, their practices and communities as advocates of breastfeeding...

-American Academy of Pediatrics (2022)

5

Why Is This a Topic at PHM?

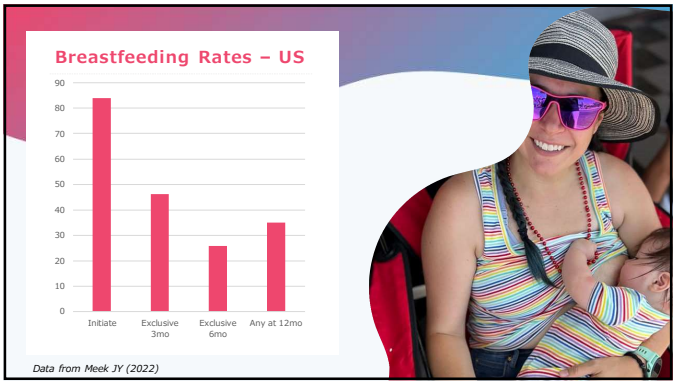
...hospitalization of a breastfeeding mother or child can result in disruption of breastfeeding and unintended weaning, as well as other complications...

-Academy of Breastfeeding Medicine (2021)

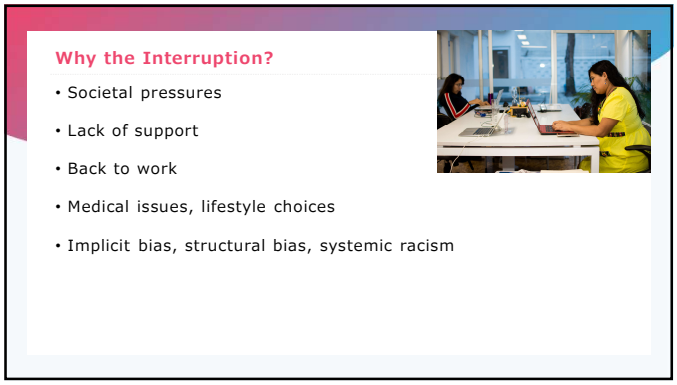
6


Recommendations
✓ Exclusive breastfeeding for 6 mos
✓ Continued breastfeeding as long as mutually desired for 2 years or beyond

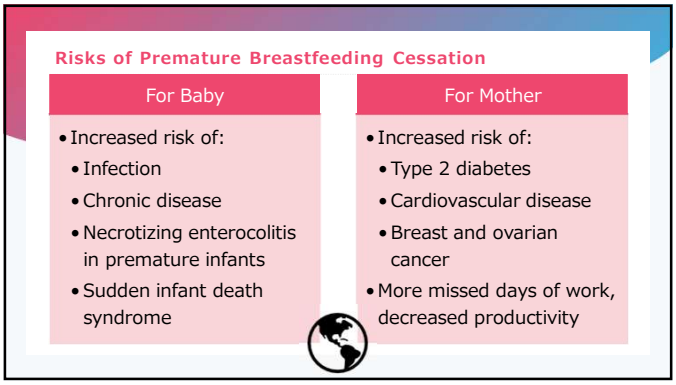
7


Breastfeeding Rates – US
90
80
70
60
50
40
30
20
10
0
Initiate
Exclusive 3mo
Exclusive 6mo
Any at 12mo
Data from Meek JY (2022)

8


Why the Interruption?
• Societal pressures
• Lack of support
• Back to work
• Medical issues, lifestyle choices
• Implicit bias, structural bias, systemic racism

9


Risks of Premature Breastfeeding Cessation
For Baby
• Increased risk of:
• Infection
• Chronic disease
• Necrotizing enterocolitis in premature infants
• Sudden infant death syndrome
For Mother
• Increased risk of:
• Type 2 diabetes
• Cardiovascular disease
• Breast and ovarian cancer
• More missed days of work, decreased productivity

10


Patient Cases

11


Case 1
Your last admission of the day is a 5-month old breastfed baby with RSV bronchiolitis. In your social history, you elicit that mother smokes one pack of cigarettes daily. How do you proceed?
A. Recommend cessation; refer her to the state quitline and consider prescribing nicotine patch and gum.
B. Tell her to stop breastfeeding; the benefits of breastmilk do not outweigh the risks of nicotine passing to the child through milk.
C. Recommend "pumping and dumping" after each cigarette.

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Breastfeeding and Tobacco

- Nicotine levels in breastmilk are 3x higher than serum levels
- Smoking reduces milk production and decreases the lactation period
- Smoking cessation should be recommended

Napierala 2016

13

Smoking Cessation

Be a STAR

- ★ Set a quit date
- ★ Tell your friends & family
- ★ Anticipate challenges
- ★ Remove all tobacco products

14

Smoking Cessation Products

- May be used while breastfeeding
  - The smoker is already using nicotine; NRT is appropriate for a hospitalist to prescribe
- May be covered by insurance or offered by the state Quitline, accessed at 1-800-QUIT-NOW

Medication				
Nicotine Replacement Patches	21 mg (pack +/day)	14mg (10-15 cig/day)	7mg (<10 cig/day)	Initial: 1 patch/16-24 hrs Max: Same as above Treatment: 8 weeks
Nicotine Replacement Gum	4 mg (>20 cig/day)	2mg (<20 cig/day)		Initial: 1 piece every 1-2 hrs Max: 24 pieces/24 hours Treatment: 8-12 weeks

Excerpt from CEASE Tobacco

15

Case 2

You are about to discharge a baby from the newborn nursery when the mother calls you back in the room to ask if she can smoke marijuana "every once in awhile" when she gets home, since breastfeeding is going well so far. What do you tell her?

A. "It's ok to keep smoking; marijuana is legal in our state."

B. "You should ask your OB."

C. "The data are limited, but from what we know, it's strongly recommended that you do not smoke marijuana. If you do, do not smoke near the baby."

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Breastfeeding and Marijuana

- "Current data are insufficient"
  - Levels in breastmilk up to 8x higher than in plasma
  - Metabolites are found in infant stool
  - Long half-life
  - Potency increasing
- Marijuana use should be discouraged
  - Second-hand smoke exposure should be avoided
- Lactating women should be informed of possible risks
  - Neurodevelopmental outcomes are unknown

FDA 2022

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Case 3

You're admitting a 5-day-old infant to the gen peds wards for jaundice. His mother began taking an unknown antibiotic yesterday for mastitis and has been pumping and dumping since then. She had 40 oz of expressed milk saved, but she expects to run out by tomorrow.

What do you advise?

A. Antibiotics are not excreted into breastmilk and will not impact the infant

B. Many antibiotics pose high risks to breastfeeding infants and should be avoided

C. The benefits of breastmilk outweigh the risks for most short-term courses of maternal antibiotics

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Antibiotics: To pump and dump or not to pump and dump?

- Lactating patients with bacterial infections should be encouraged to take appropriate medications as indicated
- If an infant may be safely prescribed a particular antibiotic, it is safe for the mother to use that medication while breastfeeding
  - Meds with **long half-lives** are more likely to accumulate in milk
  - Meds with **high oral bioavailability** are more easily absorbed by infant
- For up-to-date information, use LactMed, InfantRisk Center, e-lactancia.org

ABM Protocol #4 2014; Gupta 2022

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Case 4

You're admitting a 1-day-old infant as a transfer to monitor for NAS. The baby's mother has a remote history of heroin abuse and has been successfully enrolled in a methadone program since before becoming pregnant. The neonatologist at the outside hospital told her that she would be unable to breastfeed if she continues to use methadone. She would like to breastfeed if possible.

What do you recommend?

A. Mother can continue methadone as prescribed and begin breastfeeding
B. Mother should stop using opioids if they want to breastfeed the baby
C. Mother should switch to a short acting opioid if they want to breastfeed the baby

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Substance abuse: To pump and dump or not to pump and dump?

- Infants of mothers with SUD may benefit substantially from breastfeeding and human milk, as can their mothers
- Evidence supports reduction in severity and duration of treatment of NAS when mothers on methadone maintenance therapy breastfeed
- Concentrations of methadone in human milk is low
- Encourage mothers under the following circumstances to breastfeed their infants:
  - Engaged in substance abuse treatment; counselor recommends breastfeeding
  - Plans to continue in substance abuse treatment in the postpartum period
  - Abstinence from drug use for 90 days prior to delivery
  - Maternal urine toxicology testing negative at delivery
  - Engaged in prenatal care and compliant
  - Stable dose, regardless of amount

ABM Clinical Protocol #21 2015

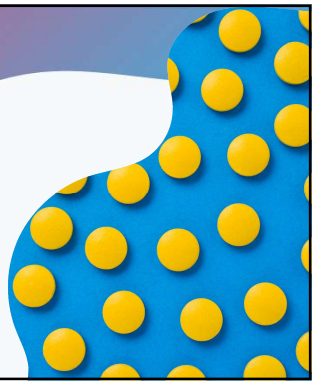
21

Case 5

You're admitting an 8-week-old infant for poor weight gain. The mother was recently diagnosed with PPD and prescribed an unknown antidepressant which she has not yet started taking. She has been breastfeeding exclusively and is concerned that the antidepressant will impact the baby. She would like to continue to breastfeed if possible.

What is your advice?

A. Antidepressants are not excreted in human milk, and should not impact the baby
B. It's safest to pump (to maintain supply) and dump (to avoid exposing baby to antidepressant)
C. Discuss concerns with the prescribing physician; it is likely safe to start antidepressant as prescribed and continue to breastfeed
D. Initiate formula and stop breastfeeding, as medication will likely be needed long-term



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Antidepressants: To pump and dump or not to pump and dump?

- Breastfeeding difficulties and perinatal depression often present together, and management should include a discussion of the mother's experience with breastfeeding
  - Some mothers find that BF enhances bonding and improves mood; others find BF to be difficult
  - Sleep disruption can trigger mood symptoms
- All antidepressants are present in human milk to some extent
  - Exposure to the infant via breastfeeding is much lower than during pregnancy
  - Not all antidepressants are subsequently detectable in infant serum
  - (1) Sertraline and (2) paroxetine are the best studied and have good safety profiles
- Untreated maternal depression can have serious and long-term effects on mothers and infants, and treatment may improve outcomes

Gupta 2022; ABM Clinical Protocol #18 2015

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Case 6

You're attending in the newborn nursery and one of the neonates was born to a mother with an incidental positive COVID-19 test. The baby was immediately isolated upon birth. The mother successfully breastfed 3 older children beyond 1 year and would like to initiate breastfeeding with this baby as quickly as possible.

What do you recommend?

A. The baby can breastfeed directly with no need for respiratory precautions
B. It's safest to pump (to maintain supply) and dump (to avoid exposing baby to COVID-19) while maintaining isolation
C. The baby can be given expressed breastmilk but should remain isolated from the mother until at least 5 days after diagnosis
D. The mother can elect to breastfeed directly; respiratory precautions are advised (face mask, hand washing)

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COVID-19: To pump and dump or not to pump and dump?

- The choice to breastfeed is the mother's and family's
- In limited studies on mothers with COVID-19 and SARS-CoV the virus has not been detected in breastmilk
- Given low rates of transmission of respiratory viruses through breast milk, the WHO states that mothers with COVID-19 can breastfeed
- Respiratory precautions are advisable; ideally there should be another adult who cares for the infant
- If the severity of mother's illness necessitates temporary separation, they should be encouraged to express milk to establish and maintain supply (if mother intends to breastfeed/continue to breastfeed)

ABM Statement on Coronavirus 2019 2020

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Case 7

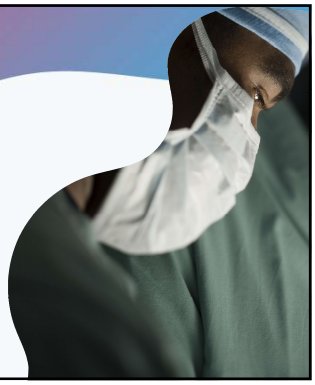
A 2-month-old healthy, term infant's mother requires surgery under general anesthesia. When can she resume breastfeeding?

A. 6 hours post-operatively

B. When she is awake and alert

C. 12 hours post-operatively

D. It depends on the anesthesia used



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Case Discussion - Anesthesia

- Mothers of healthy term or older infants – **if you can find the baby, feed the baby**
  - Resume breastfeeding once awake, stable, and alert
- If infant is at risk for apnea, hypotension, hypotonia – consider brief (6-12hr) interruption of breastfeeding after maternal anesthesia
  - Express and store milk – use when infant is older *or* mix with fresh milk to dilute any medications present
- Opioids: transfer into milk and can cause infant sedation, apnea – judicious use for short periods is likely safe for most breastfeeding mothers and infants

ABM Protocol #15 2017, ABM Protocol #28 2018

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Specific Anesthesia Considerations

- Local anesthetics
  - -Can help minimize need for additional systemic meds
  - -Do not easily transfer into milk (large polarized molecules)
  - -Poor oral absorption
- Regional anesthesia (spinal, epidural, peripheral nerve block) should be considered if possible for intraop or postop analgesia
- **Schedule as first case if possible to minimize fasting times**
  - -Breastfeed or express milk immediately before surgery
  - -Pump or help with hand expression post-op if infant not allowed in recovery room

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Specific Anesthetic Agents

- Induction meds (e.g., propofol, midazolam, etomidate, thiopental) enter milk compartment minimally so have low to no milk transfer
- Anesthetic gases have brief plasma distribution phases, likely little to no milk transfer
- Ketamine: Consider avoiding large doses and monitor exposed infants after
- Dexmedetomidine: RID <0.1%
- Antiemetics: Most considered safe during breastfeeding
  - Ondansetron, dexamethasone, metoclopramide may be preferred as less sedating
  - Promethazine, scopolamine may adversely affect milk supply if given repeatedly

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Generally Safe

- NSAIDs: Limited transfer into milk
  - Avoid in mothers of infants with ductal-dependent cardiac lesions
  - Ibuprofen – considered ideal
  - Ketoralac – fine if no risk for hemorrhage
  - Celecoxib – very low milk transfer, short-term use safe
  - Naproxen – low milk transfer, GI disturbances reported in infants with prolonged therapy – short-term use (1 wk) likely safe
- Acetaminophen: Low transfer to milk, less than usual dosage given to infants
- Gabapentin: likely safe, especially in single or short-term doses – monitor infant for weight gain and drowsiness

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Specific Opioids

- Morphine, hydromorphone: possible safer choices for breastfeeding women over other opioids – poor oral bioavailability
- Fentanyl: very low levels in breast milk after 2 hours
  - Same for remifentanil, sufentanil
- Meperedine/pethidine: low transfer into milk, but consistently associated with dose-related neonatal sedation → avoid in breastfeeding mothers; monitor for sedation, cyanosis bradycardia in infants with repeated exposures
- Butorphanol: Very low milk levels, not usually part of periop regimens – AAP suggests as a reasonable choice for breastfeeding mothers

ABM Protocol #15 2017

31

Opioids to Limit or Avoid

- Hydrocodone: Neonatal sedation rare, generally dose-limited – limit maternal doses to 30mg/day
- Oxycodone: RID up to 8% - monitor infants for drowsiness – max daily maternal dose 30mg (LactMed) or avoid use (AAP)
- Codeine: FDA advisory in 2017 against use in breastfeeding mothers in US – potential for unexpected significant elevated levels of morphine in rapid metabolizers
- Tramadol: Previously considered a safe choice for breastfeeding mothers (RID <1%); FDA now advises against use in US breastfeeding mothers

ABM Protocol #15 2017

32

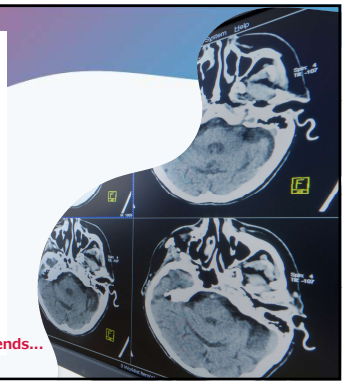
Case 8

A breastfeeding person requires diagnostic imaging. Is an interruption in breastfeeding indicated?

A. CT scan with IV iodinated contrast **NO!**

B. MRI with IV gadolinium-based contrast **NO!**

C. Nuclear medicine scan **It depends...**



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Screening Breast Imaging

- Initiating or continuing screening mammography should be considered dependent on patient's individual risk and expected duration of lactation
- **There is no contraindication to obtaining a mammogram during lactation**
  - Nurse or express milk prior to mammography → decreases parenchymal density for improved sensitivity of mammography
- Lactation causes **physiologic increased vascularity** → marked increase in background parenchymal enhancement of breast on MRI
  - For high-risk women breastfeeding for short periods of time, plan for MRI 3 months after cessation of lactation
  - If longer periods of breastfeeding planned, MRI may be considered in addition to mammography for screening

ABM Protocol #31 2019

34

Diagnostic Breast Imaging

- Diagnostic breast imaging is the same during lactation as for non-lactating women
- Ultrasound is often initial modality for evaluation of palpable area of concern of persistent bloody nipple discharge
  - Additional mammography may be indicated
- Radiation associated with imaging has no effect on breastmilk
- **Do not interrupt breastfeeding for plain film, fluoroscopy, mammography, or computed tomography (CT)**

ABM Protocol #31 2019

35

Common Nuclear Medicine Imaging Agents

Interruption recommended	No interruption recommended

• Thyroid Imaging
  • I-131: cessation for this infant
  • I-123: varies, up to 3 weeks
  • Tc-99m pertechnetate: up to 24 hours, depending on dose
• MUGA
  • Tc-99m RBCs in vivo: Up to 12 hours, depending on dose
• VQ Scan
  • Tc-99m MAA: 12 hours
	• Noncontrast radiographs
	• Nonvascular administration of iodinated contrast
	• CT with iodinated IV contrast
	• MRI with gadolinium-based IV contrast
	• PET
	• Bone scan
	• Renal imaging: Tc-99m DTPA, MAG3, DMSA, glucoheptonate
	• Cardiac imaging: T-99m Sestamibi, Tetrofosmin
	• MUGA: Tc-99m RBCs in vitro
	• Breast imaging
	  • Screening or diagnostic mammography
	  • Ultrasound
	  • MRI with gadolinium-based IV contrast

Adapted from ABM Protocol #31 2019

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Contraindications to Breastfeeding

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Contraindications to Breastfeeding

- Maternal meds
- Maternal medical conditions
- Maintaining supply when interruptions in lactation are indicated

ABM Protocol #35 2021

38

Maternal Medications

- For up-to-date information, use LactMed, InfantRisk Center, e-lactancia.org
- Few medications are truly contraindicated in lactation or associated with adverse effects in breastfeeding infants
- Medications with **long half-lives** are more likely to accumulate in milk
- Medications with **high oral bioavailability** are more easily absorbed by infant
- Infant factors: prematurity, underlying chronic medical conditions
- Relative infant dose (RID) – percent of weight-adjusted maternal dose

Hari 2013

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Maternal Medications

- Antianxiety, antidepressants, mood stabilizers
  - Many have low (<2%) RID
  - RID ≥10% have been reported for bupropion, diazepam, fluoxetine, citalopram, lithium, lamotrigine, venlafaxine
  - Up to 1/3 have no data on drug excretion into human milk
  - Long-term effects of possible exposure are unknown
  - Balance with benefits of breastfeeding and maternal mental health!

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Maternal Medications

- Herbal Products
  - Reliable safety information on many is lacking
  - Adverse events reported in breastfeeding infants
    - Yohimbe: reported fatalities
    - St. John's wort: colic, drowsiness, lethargy
    - Prolonged use of fenugreek "may require monitoring of coagulation status and serum glucose concentrations"

Sachs 2013

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Maternal Medical Conditions

Condition	Expressed milk okay?	Notes
Human T-cell lymphotrophic virus +	No	
Untreated brucellosis	No	
Active untreated tuberculosis	Yes	Can resume breastfeeding after treatment for minimum 2 weeks and documented no longer infectious
Active herpes simplex lesions on breast	Yes	
Varicella developing 5 days before through 2 days after delivery	Yes	Recommended to separate mother from infant
HIV-positive	No*	*In industrialized countries with safe formula alternative

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Not Contraindicated

- **CMV+** mother of full-term infant
  - Potential for CMV acquired from mother's milk associated with late-onset sepsis-like syndrome in extremely low birth weight (<1500g) preterm infant – not associated with long-term abnormalities – value of routinely feeding human milk to preterm infants outweighs risks of clinical disease
    - Freezing milk reduces but does not eliminate CMV
- Maternal **substance abuse** – if adequately nourished and enrolled in a supervised methadone maintenance program, negative screening for HIV and illicit drugs

Meek 2022

43

Maintaining Supply

- **Expect to express milk as often as she would normally breastfeed**
- Important for maintaining ongoing supply; preventing discomfort, engorgement, and mastitis; and to provide milk for the child
- Exclusively breastfed infants <6 months may nurse 8-12 times per 24 hours
  - 6-12 months may nurse 5-6 times daily
  - >12 months may nurse 3-4 times daily
- Normal volumes of goal milk expression
  - 700-980 mL (25-35 oz) per day by day 10-14
  - This is volume is maintained the first 6 months of life!

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Maintaining Supply

- Ensure appropriate breast pump is available – ideally hospital-grade double electric pump
- Milk storage
  - Room temperature up to 4 hours, then refrigerated
  - Can store in insulated cooler bag with gel packs up to 24 hours
  - Label with date of expression and patient identifying information

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Resources

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Infant Risk

- Call Center at Texas Tech University Health Sciences Center
  - Monday – Friday 8am – 5pm CT
  - (806) 352-2519
  - Led by Dr. Thomas Hale and staffed by nurses
- InfantRisk app for healthcare professionals
- MommyMeds app for families

InfantRisk Center

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Compatability Websites

- LactMed (NIH)
- e-lactancia (Spanish & English)
- Trash the Pump & Dump

e-lactancia

TRASH THE PUMP + DUMP

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Academy of Breastfeeding Medicine

- COVID-19 resources
- Annual meeting
- *Breastfeeding Medicine* journal
- Protocols, statements
  - #35: Supporting Breastfeeding During Maternal or Child Hospitalization

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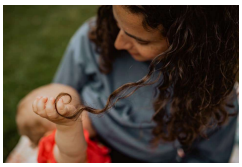
DrMILK.org

- "Provides evidence-based support and education for physician women to reach their breastfeeding goals and apply that knowledge to their medical practice"



Dr. MILK

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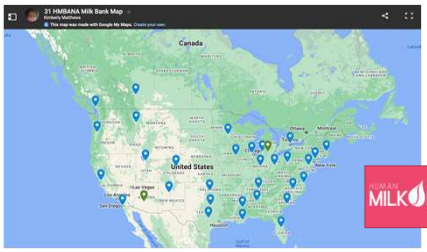
Human Milk Banking Association of North America

- Advances nonprofit milk banking through accreditation processes



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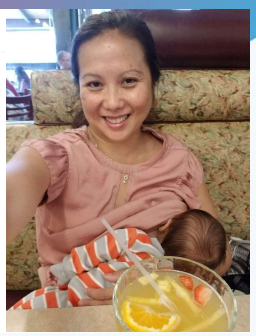
Final Thoughts

- Often, it is not necessary to "pump and dump" or to discontinue a breastfeeding relationship
- Many resources exist to support clinicians in making evidence-based (or educated) recommendations
- Be open to changing your mind about your practice
- You may be the person that prevents premature cessation of breastfeeding, by educating your colleagues or your patients and their families



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What questions do you have?

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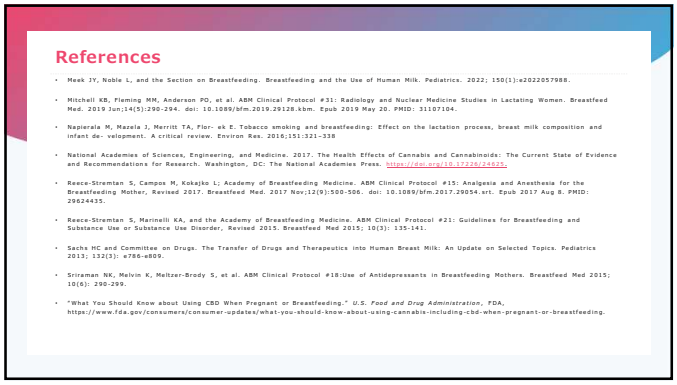

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April 13, 2023

Jessica DeBord, MD
1430 Tulane Avenue
New Orleans, LA 70112-2632

Dr DeBord:

I am writing to thank you for serving as *Chair of the Subcommittee on Med-Peds* (term ending 2022) with the American Academy of Pediatrics Section on Hospital Medicine (SOHM). As a rapidly evolving field within pediatrics, pediatric hospital medicine requires innovation and creativity in numerous areas, including education, research, quality improvement, patient safety, and practice performance. The Section continues to provide the best opportunities for pediatric hospitalists, pediatricians, and other clinicians to test theories, challenge assumptions, and generally think outside the box.

SOHM represents the largest number of pediatric hospitalists in the country – and is one of the most active groups at the Academy with nearly 2,800 members. The Section Executive Committee recruits talented individuals from diverse backgrounds to lead national as well as international efforts in improving the care of hospitalized children. Your efforts were instrumental in helping us achieve many of our goals – and your work was always handled professionally and effectively.

Again thank you for your invaluable service to the Section, ongoing commitment to the AAP, and dedication to the health and well-being of all children.

Sincerely,

Geeta Singhal, MD, MEd, FAAP
Chair, Section on Hospital Medicine

WILD: Neuro I (Headache, Congenital Malformations and CNS infections)
September 26, 2014
LESSON PLAN

SCHEDULE

- Topics will be addressed primarily in 3 small groups, who will be expected to teach the large group their findings
- Some questions will be posed to the large group

1:00-1:30 PREP ?s (30 min)

1:30-2:30 Part 1: HA (60 min)

2:30-3:00 Part 2: Congenital Malformations (30 min)

3:00-3:10 BREAK (10 min)

3:10-4:00 Part 3: CNS Infections (50 min)

4:00-5:00 Dr. Zamora: Neuroimaging overview (60 min)

Part 1: Headache

❖ It's another afternoon in continuity clinic, and you're getting tired of kids with runny noses. Unusually, however, your schedule for today is different … every kid has "headache" listed as their reason for visit.

You decide to start by tackling the patient in room B, a 14-year-old boy with "frequent headaches" listed as his reason for visit. Upon entering the room, you find a comfortable, well-appearing young man and his mother.

LEADER: Break into 3 small groups here, and have them each discuss the three tasks below. Give them about 10 minutes to discuss, then ask Group 1 to present their answer to task 1. Ask if the other groups have alternate approaches they'd like to share. Then proceed to group 2 to answer task 2, and group 3 to answer task 3.

All small groups:

❖ Consider possible etiologies, and discuss a method for working systematically through the differential to reach the most likely diagnosis. [XVIII.A.1.a]

One possible approach to headache: Anatomic (slide has drawing of layers of head)

- *Consider the layers of the head – from the outside (scalp) in, down to the ventricles (only anatomy not pictured in the slide)*
    - *Scalp: infection (viral [herpes zoster], bacterial)*
    - *Muscles: tension headache*
    - *Bone: fractures, lytic lesions*
    - *Epidural space: hematoma*
    - *Subdural space: hematoma*
    - *Meninges: meningitis*
    - *Brain: encephalitis*
    - *Blood vessels: migraine, cluster HA*
    - *Subarachnoid space: hematoma*
    - *Ventricles: hydrocephalus, pseudotumor*
- *Can also approach by chronicity, frequency, duration, location*

❖ What red flags should you look for as you begin to work up a child with a headache? [XVIII.A.1.b, XVIII.A.1.c]
    - *Slide include table of red flags*

❖ What elements of a history are particularly important to assess when interviewing a patient with headache? [XVIII.A.1.a]
    - *Slide includes list of questions to ask*

LEADER: Assign each of 3 small groups a headache type as listed below, and distribute Handout #1 with headache type and pertinent content specifications. Each group should discuss their subtype of headache, including presenting symptoms and management. They should be ready to teach the other groups about their headache type in 10 minutes.

Group 1: Migraine

❖ Which are the diagnostic criteria for pediatric migraine with aura? Without aura? [XVIII.A.1.a, XVIII.A.1.b]

- *Migraine without aura*
    - *A. At least 5 attacks fulfilling B-D*
    - *B. Attacks last 1-72 hrs*
    - *C. Headache has at least 2 of the following:*
        - *Unilateral location*
        - *Pulsing quality*
        - *Moderate or severe intensity*
        - *Aggravation by or causing avoidance of physical activity*
    - *D. At least one of the following during headache:*
        - *Nausea and/or vomiting*
        - *Photophobia and phonophobia*
    - *E. Not attributed to another disorder*

- *Migraine with aura*
  - *A. At least 2 attacks fulfilling B-D*
  - *B. Aura consisting of at least one of the following:*
    - *Fully reversible visual symptoms (positive or negative)*
    - *Fully reversible sensory symptoms (positive or negative)*
    - *Fully reversible dysphasic speech disturbance*
  - *C. At least 2 of the following:*
    - *Homonymous visual symptoms and/or unilateral sensory symptoms*
    - *At least one aura symptom develops over >5 min and/or different aura symptoms occur in succession over >5 min*
    - *Each symptom lasts >5 min and <60 min*
  - *D. Headache fulfilling criteria B-D that begins during aura or follows aura within 60 minutes*
  - *E. Not attributed to another disorder*

❖ Describe the neurologic defects that can accompany a migraine. [XVIII.A.1.b]

- *Blurred vision is common in all types of migraine*
- *Aura: scotoma, blurred vision, scintillations, Alice in Wonderland syndrome, sensory changes, confusion, weakness, amnesia, or aphasia*
- *Basilar migraine: aura characterized by vertigo, ataxia, nystagmus, dysarthria, tinnitus/hyperacusis, bilateral paresthesias, diplopia, or visual disturbance*
- *Confusional migraine: altered mental status, aphasia, impaired speech*
- *Hemiplegic migraine: prolonged hemiplegia, numbness, aphasia and confusion (rare)*

❖ What abortive treatment options exist for acute migraine? [XVIII.A.1.d]

- *Early treatment is most likely to be effective*
  - *However, pts should not use acute treatments more than 2-3 days/wk to avoid developing medication overuse headaches*
- *Studies in adolescents suggest that ibuprofen and acetaminophen are as effective as the triptans, with fewer adverse effects*
- *2nd line: NSAID + caffeine*
- *3rd line: triptans*
- *Adjuncts: antinausea medications (promethazine, metoclopramide, prochlorperazine, ondansetron) have been shown to be effective in the emergency setting but have higher risk of toxicity*

❖ When should a patient be offered prophylactic therapy, and what options exist for prophylaxis? [XVIII.A.1.e]

- *Patients who experience >= 4 days of disabling headaches per month*

- *Cyproheptadine: particularly helpful in younger children or those with environmental allergies and migraine (weight gain, sedation)*
- *TCAs (sedation, weight gain, EKG changes, mood changes/suicidality)*
- *Antiepileptics (topiramate: weight loss; valproate: weight gain, hepatotoxicity; gabapentin: fatigue, depression)*
- *Antihypertensives (propranolol: depression, hypotension, bronchoconstriction; verapamil: weight gain, hypotension)*

Group 2: Tension HA, med rebound

- ❖ What elements of history characterize a headache due to stress/tension/emotion? [XVIII.A.1.a]
  - *Pain is mild-moderate*
  - *Lasts from 1 hr to several days*
  - *Described as "band-like," pressure, or tightening*

- ❖ What treatment options exist for the management of tension headache? [XVIII.A.1.f]
  - *Analgesics such as ibuprofen, acetaminophen and naproxen*
  - *Lifestyle interventions, such as regular aerobic exercise, massage or physical therapy, ensuring adequate and regular sleep, eating regular and nutritious meals, limiting caffeine intake, maintaining adequate fluid intake, managing or avoiding stressors*

- ❖ Which headache treatments are most strongly associated with medication rebound headaches, and how are they treated? [XVIII.A.1.f]
  - *Opiates and barbituates are more likely than NSAIDS, caffeine, or triptans to cause rebound headaches*
  - *Most medication rebound headaches are secondary to NSAIDs, because they are the most commonly used agents for headaches*
  - *The only effective treatment is withdrawal of the medication*

Group 3: Idiopathic intracranial hypertension/pseudotumor cerbri

- ❖ How does idiopathic intracranial hypertension(IIH) generally present in an adolescent? Young child? [XVIII.A.1.a, XVIII.A.4.a]
  - *Most common symptoms is daily headache*
  - *May be associated with nausea & vomiting*
  - *Classic symptoms: transient obscuration of vision, tinnitus, diplopia due to cranial nerve dysfunction*
  - *In young children: stiff neck, strabismus, irritability, apathy, somnolence, dizziness and ataxia*

- ❖ What are the risk factors for and secondary causes of IHH/pseudotumor cerebri? [XVIII.A.4.d]
  - *Risk factors include female sex, obesity and rapid weight gain*

- *Secondary causes include cerebral venous thrombosis, medications (thyroid replacement, steroids, GH, lithium, OCPs, sulfa abx, tetracyclines, vitamin A, isotretinoin), lyme disease, anemia, antiphosholipid Ab syndrome, craniosynostosis, sarcoidosis, sleep apnea, SLE*

❖ What findings on PE suggest idiopathic intracranial hypertension, and how is it diagnosed? [XVIII.A.4.a, XVIII.A.4.b]
- On PE:
  - Swollen optic nerves with blurry disc margins
  - CN VI palsy may be present
  - Visual field defects
- Diagnosis is based upon history, normal brain imaging and measurement of an elevated CSF opening pressure (normal in children is approximately 18-20 cm H2O)

Leader: ask the large group to volunteer answers to this question before displaying answers

❖ When is head imaging useful in the workup of headache? [XVIII.A.1.c]
- *Abnormal neurologic examination and/or seizures*
- *Recent onset of severe headache*
- *Change in type or character of headache (for children with recurrent or chronic headaches)*
- *Suspicion of meningitis, encephalitis, or sinusitis with intracranial extension*
- *Severe headache in a child with underlying disease process that predisposes to intracranial pathology (eg immune deficiency, sickle cell disease, neurofibromatosis, history of neoplasm, coagulopathy, hypertension)*

❖ When is lumbar puncture useful in the workup of headache? When is it contraindicated? [XVIII.A.4.c]
- *Perform LP:*
  - *If suspicion exists for meningitis or encephalitis*
  - *If suspicion exists for elevated ICP and neuroimaging is normal, LP with opening pressure measurement is appropriate*
- *Contraindicated if:*
  - *Mass effect is present*
  - *The patient is hemodynamically unstable or rapidly deteriorating*

Leader: Ask small groups to take 10 minutes to find a study that answers this question:

❖ *How often is head imaging abnormal in a patient with a headache and a normal neurologic exam?*

Once they've each found an article ask them to present their findings to the large group. [XVIII.A.1.c]

Leader: Next are two multiple choice questions addressing (1) symptoms of increased ICP in a neonate, and (2) symptoms of arteriovenous malformations. Ask each learner to give their answer and an explanation of why they chose it before displaying the correct answer.

- Large group: PREP 2013:13 (ICP in a neonate) [XVIII.A.4.1]
  - *Answer: A*
- Large group: PREP 2014:30 (AVM) [XVIII.H.2.a)
  - *Answer: B*

Part 2: Congenital Malformations

Leader: This section is primarily carried out in the large group setting, with one small group break-out. Encourage group discussion whenever possible.

- You get pulled from your clinic unexpectedly by one of the newborn nursery nurses – the newborn nursery attending is at a meeting downtown this afternoon, and the PICU residents, attending and NNPs are all at a delivery for 27 wga quadruplets in the OR. Twins were just born in L&D after having received no prenatal care, the nurses are concerned about them.

- Photo of neonate with myelomeningocele. *What is this?* [XVIII.D.1]
- What complication is most commonly associated with myelomeningocele, and what symptoms are associated? [XVIII.D.1, XVIII.E.1, XVIII.E.2]
  - *Chiari type II malformations present in almost all children with myelomeningocele above the level of the sacrum*
    - *Associated with dysphagia, hoarseness or stridor, aspiration, breath-holding spells, apnea, stiffness, weakness*
  - *Hydrocephalus occurs in 60-95% of children with myelomeningocele*
    - *More common in higher-level lesions*
    - *Symptoms of increased ICP including headache, irritability, lethargy, vomiting, anorexia, esotropia, diplopia, paralysis of upward gaze*

- Orthopaedic complications of myelomeningocele [XVIII.D.1]
  - *Loss of motor function in the lower extremities leads to loss of mobility and to deformities such as flexion contractures or torsion*
  - *Vertebral bony anomalies lead to scoliosis and kyphosis*
  - *Regular evaluations by an orthopedist to determine joint mobility, positioning of the extremities, and spinal curves are indicated*

- What other complications are often associated with myelomeningocele? [XVIII.D.1]
  - *Other abnormalities of the brain:*

    - *Agenesis of the corpus callosum*
    - *Hypoplasia of cranial nerve nuclei*
- *Associated with learning disabilities, ADHD, and problems with executive function*
- *Stabismus (20%)*
- *Seizure disorder (15%)*
- *Neurogenic bowel & bladder*
- *Tethered spinal cord*
    - *Symptoms include weakness in lower extremities, deterioration of gait, pain in back or legs, atrophy of LE muscles, sensory loss or change in LE, change in DTRs, change in bowel or bladder function, local swelling in back, new orthopedic contracture, rapidly progressive scoliosis, new decubitus ulcer*

❖ Spina bifida occulta photo: What is this? [XVIII.D.2]
❖ Diagram: spina bifida occulta vs myelomeningocele [XVIII.D.2]
❖ How common are sacral dimples? Should all children with a lumbosacral cutaneous abnormality be evaluated for spina bifida occulta? [XVIII.D.2]
- *5% of neonates have sacral dimples*
- *MRI of the entire spine for infants and children who have:*
    - *Neurologic symptoms suggestive of tethered cord syndrome*
    - *Two or more cutaneous lumbosacral spine lesions*
    - *Subcutaneous back mass*
    - *Isolated midline cutaneous lumbosacral spine lesion that is potentially high-risk for the development of closed spinal dysraphism (CSD)*
    - *Atypical dimples (those >5 mm in size or located >2.5 cm from the anus)*
    - *Hemangiomas*
    - *Cutis aplasia*
    - *Upraised lesions (ie, masses, tails, and hairy patches)*

❖ Clinical features and radiographic features of spina bifida occulta [XVIII.D.2]
- *Cutaneous*
    - *Dermal sinus tracts, dimples or pits, hypertrichosis, hyperkeratosis, hyper/hypopigmentation, hemangiomas, port wine stains, subcutaneous lipomas, caudal appendages, isolated deviation of the intergluteal cleft*
- *Neurologic*
    - *Patients most often present with signs and symptoms related to lumbosacral spinal dysfunction, with autonomic and sphincteric dysfunction being more common and occurring earlier than sensorimotor deficits in the legs*
    - *Risk for tethered cord*
- *Urologic*
    - *Neurogenic bladder or urogenital malformations*

- *Musculoskeletal*
    - *Scoliosis, kyphosis, lordosis, leg length discrepancy, and foot deformities*

❖ Images: Cutaneous findings in spina bifida occulta [XVIII.D.2]

Leader: Split into 3 small groups for the following case. Take 5 minutes to discuss the questions and 10 minutes to teach the large group.

❖ You return to clinic and go in to see your next patient. What are the odds … she's a two-year-old with a history of myelomeningocele repaired in Honduras in infancy presenting to your clinic to establish care after immigrating to the US with her parents. Her parents report she also had a VP shunt placed shortly after birth, and had several UTIs during infancy, though none recently. She hasn't seen a doctor in at least a year, and for the past week she's been fussier than usual and frequently holds her head, making them worried she's having headaches.

Group 1:

❖ You know that children with myelomeningocele are at risk for acute deterioration due to shunt malfunction or new problems in the brainstem or spinal cord.

❖ What symptoms might you advise the parents should alert them to possible complications? [XVIII.D.2, XVIII.E.3]
- *Myelomeningocele is a nonprogressive condition, so any neurologic deterioration should be evaluated for shunt failure or tethered cord*
- *Shunt failure: irritability, confusion, headache, vomiting*
- *Tethered cord: worsening of gait, pain in the back or legs, worsening bowel or bladder function, increasing spasticity, increasing scoliosis*

Group 2:

❖ What further evaluation should she have at this time? [XVIII.D.2]
- *Concern for VP shunt dysfunction leading to headaches*
- *CT scan should be obtained urgently, along with a radiographic shunt series*
    - *CT will assess for acute hydrocephalus due to shunt dysfunction*
    - *Shunt series will assess for disconnections in shunt tubing*

Group 3:

❖ What urologic evaluation should she have? Should she receive UTI prophylaxis? What are the risks and benefits? [XVIII.D.2]
- *Kidney and bladder ultrasound*
    - *Assess for hydronephrosis or hydroureter*
    - *Assess bladder wall thickness and distention*

- *Urodynamics*
  - *Meaure bladder pressures during filling and voiding and the function of the bladder neck and external sphincter during filling and voiding*
- *Voiding cystourethrogram (VCUG)*
  - *Will rule out or document vesicoureteral reflux*
  - *Assess the bladder wall (smooth versus trabeculated), bladder capacity, and post void residual*
- *UTI prophylaxis in myelomeningocele is controverial*
  - *No evidence for long term benefit of antibiotic prophylaxis in myelomeningocele with or without VUR*
  - *Risks include anaphylaxis, idiosyncratic reactions (liver failure), diarrhea, candidal infections, and resistance*

Leader: The remainder of the slides in this section will be reviewed in the large group. Continue to encourage learner participation. For the multiple choice questions, ask each learner to give their answer and an explanation of why they chose it before displaying the correct answer.

- PREP question: folate supplementation [XVIII.F.2]
  - *Answer:*
- PREP 2011:118 (CP risk factors) [XVIII.F.2]
  - *Answer: D*
- Risk factors associated with CP [XVIII.F.2]
  - *Prematurity (78 percent)*
  - *Intrauterine growth restriction (34 percent)*
  - *Intrauterine infection (28 percent)*
  - *Antepartum hemorrhage (27 percent)*
  - *Severe placental pathology (21 percent)*
  - *Multiple pregnancy (20 percent)*
  - *Intrapartum complications/hypoxia are seldom the cause of CP*

- CP clinical features and classifications [XVIII.F.1]
  - *Spastic*
    - *Diplegia*
      - *Good hand funtion*
      - *Poor hand function*
      - *Asymmetric*
    - *Hemiplegia*
      - *Arm involved more than leg*
      - *Leg involved as much as or more than arm*
    - *Quadriplegia*

- *Dyskinetic*
  - *Mainly dystonic*
  - *Mainly athetoid*
- *Ataxia*
  - *Simple ataxia*
  - *Ataxic diplegia*

❖ PREP 2011:11 (CP disability) [XVIII.F.1]
  - *Answer: C*

❖ Disabilities associated with CP [XVIII.F.1]
- *Gastrointestinal symptoms are particularly common, and feeding problems occur in 50%*
- *May lead to significant undernutrition*
- *Cognitive disability (~50%)*
- *Seizures (~30%)*
- *Spasticity (~75%); dystonia in 10-15% (dyskinetic CP)*
- *Sensory impairment*
- *Limitation of movement*
- *Scoliosis*
- *Joint instability*
- *Bladder dysfunction*
- *Difficulties with communication*

❖ PREP 2012:81 (CP mgmt) [XVIII.F.1]
  - *Answer: B*

Part 3: Meningitis, encephalitis, ICP, abscess {review PIR on meningitis, headache, encephalitis}

Leader: This section you'll go through the case with the large group, then have the residents break into small groups periodically to answer questions and report back to the large group.

❖ As you exit your last patient's room, the clinic nurse grabs you to ask you to quickly assess the 18-year-old girl in room A – she says that she looks sick. When you enter the room, you find a very ill-appearing young lady sitting on the bed, holding her head, moaning and mumbling incoherently. She's unaccompanied – the nurse tells she called yesterday to make any appointment for worsening headache, vomiting and fevers since returning from a camping trip last weekend, and that the only history she reported at the time was seasonal allergies and recurrent sinusitis. She started college last month and is in the market for a new PCP here in town. Her immunization status is unknown.

- Her vital signs are as follows: temp 39.4 C, HR 122, BP 142/92, RR 20, SpO2 99% on room air. On exam, you find her to be awake but confused and difficult to understand. You're able to get her to give you her name, but you're otherwise unable to assess her degree of orientation. She clearly has a headache, as she's holding the sides of her head and moaning. Her heart and lung exams are remarkable only for tachycardia, her abdominal exam is benign, she has no rashes or other skin lesions, and her skin is warm to the touch with brisk capillary refill. Her neurologic exam is limited by lack of cooperation, but you do note normal pupillary size and response to light, a midline tongue, intact gag reflex, brisk reflexes throughout and equal strength in all extremities.

Leader: Break into 3 small groups, and have each discuss the next question for 5 minutes, then spend 5 minutes having the groups review their approach to altered mental status. Two approaches are detailed on the next slide: the mnemonic AEIOU TIPS, and an approach by etiology.

- What is your approach to a patient with altered mental status? [XVIII.A.2.a]
  - *Slide gives approaches by AEIOUTIPS mnemonic and etiologies (structural vs medical)*

Leader: Ask the large group to consider answers to each of the following questions, and call on individuals to volunteer.

- What ingestions are most commonly associated with neurologic toxicity? [XVIII.A.2.a]
  - *Slide gives list of common medications and illicit drugs associated with neurologic effects*

- What underlying diagnoses are most likely for this patient? [XVIII.A.1.a, XVIII.A.1.b, XVIII.A.1.c, XVIII.A.2.a, XVIII.B.1.c, XVIII.B.1.d, XVIII.B.2.a, XVIII.B.3.a]
  - *Infection, given fever (though neuroleptic malignant syndrome could also present with AMS and fever; her PE does not support NMS)*

- What sorts of infections does the limited history she provided (recurrent sinusitis, camping, college, unknown vaccination status) put her at risk for? [XVIII.B.1.c, XVIII.B.2.a, XVIII.B.3.a, XVIII.B.3.d]
  - *Sinusitis: intracranial abscess*
  - *Camping: rickettsial infection, arboviral infection, rabies*
  - *College: meningococcemia, HIV, HSV*
  - *Unknown vaccination status: meningitis, septicemia (pneumococcal, H. influenza, meningococcal)*

- How does the presentation of meningitis generally differ from that of encephalitis? Brain abscess? [XVIII.B.1.c, XVIII.B.2.a, XVIII.B.3.a]
  - *Meningitis: older children and adolescents often experience malaise, myalgia, headache, photophobia, neck stiffness, anorexia, and nausea; some present with acute and fulminant onset of sepsis and multiorgan involvement*

- *Encephalitis: any combination of altered mental status, seizures, behavioral changes, weakness, sensory disturbances, movement disorders*
- *Brain abscess: signs and symptoms of increased ICP, fever, unilateral headache, cranial nerve palsies*

❖ How would you like to proceed with management of this patient? [XVIII.A.2.b, XVIII.A.4.a, XVIII.A.4.b, XVIII.B.1.d, XVIII.B.2.b, XVIII.B.3.b]

- *Emergent workup of AMS:*
  - *ABCs*
  - *Glucose level*
  - *IV access*
  - *CT brain (if structural lesion or bleed suspected)*
  - *Empiric antibiotics after blood culture obtained (if infectious etiology suspected)*
  - *Laboratory workup can follow stabilization:*
    - *Electrolytes*
    - *CBC*
    - *Toxicology screening*
    - *Ammonia level*
    - *Lumbar puncture*
    - *Consider EKG if reason to suspect cardiac cause*
    - *Consider EEG if status epilepticus or Todd's paralysis suspected*
    - *Consider MRI*

❖ When is head imaging indicated urgently in the workup of altered mental status or suspected meningitis? [XVIII.A.2.b, XVIII.A.4.a, XVIII.A.4.b, XVIII.B.1.d, XVIII.B.2.b, XVIII.B.3.b]

- *If a structural lesion is suspected based upon focal neurologic findings*
- *Caveat: there are structural disorders that may present without focality*
- *Acute hydrocephalus (symptoms of increased ICP)*
- *Bilateral subdural hematomas (symptoms of increased ICP)*
- *Acute bilateral cerbrovascular disease (rare in children)*

❖ You elect transfer the patient to the ED for further workup; your clinic staff suggests you accompany the patient, and you happily agree. A stat head CT is ordered, and the patient is wheeled off to radiology.

❖ If the CT is negative, what is your next step? [XVIII.B.1.d, XVIII.B.2.b]

- *LP*

❖ As you wait for the CT results, you decide to review the management of some of the diagnoses you're considering ….

Leader: Ask the residents to break into 3 small groups and take 5 minutes to answer the following questions, then teach each other their findings.

Group 1:

- If she has a brain abscess, what organisms should you suspect? What underlying conditions predispose a child to brain abscess? How is a brain abscess managed? [XVIII.B.3.c, XVIII.B.3.a, XVIII.B.3.d]
  - *Frequently polymicrobial*
  - *Because of her history of sinusitis, you should suspect extension from frontal sinusitis:*
    - *S. pneumonia*
    - *H. influenza*
    - *Streptococcus sp.*
    - *Anaerobes*
    - *S.aureus*
  - *Risk factors include sinus or dental infection, endocarditis, cyanotic heart disease, and pulmonary infection*
  - *Treatment generally involves a combination of antimicrobial therapy (6-8 weeks) and surgical drainage*

Group 2:

- What are some common causes of encephalitis? [XVIII.B.2.a]
  - *Viral*
    - *Herpes*
    - *Enterovirus*
    - *Adenoviruses*
    - *Arboviruses*
    - *Mumps, rabies, rubella, HIV, influenza*
  - *Bacterial*
    - *Listeria, tularemia, rickettsia, mycoplasma, chlamydia*
  - *Fungal*
    - *Crytococcus, blastomyces, histoplasma*
  - *Parasitic*
    - *Naegleria, toxocara*
  - *Immune-mediated*
    - *ADEM, post-infectious cerebellitis*
  - *Systemic inflammatory*
    - *SLE*
  - *Malignancies*
    - *Paraneoplastic*

- ❖ How does herpes encephalitis generally present, and what do you expect to find on CSF analysis? [XVIII.B.2.a]
  - *Fever, headache, psychiatric symptoms, seizures, vomiting, focal weakness, memory loss*
  - *Temporal lobe involvement on MRI*
  - *CSF: hemorrhagic pleocytosis*

Group 3:

- ❖ What additional diagnostic workup is indicated when you suspect encephalitis? How is encephalitis managed? [XVIII.B.2.c, XVIII.B.2.b]
  - *Initial workup: brain imaging (preferably MRI with contrast), LP, EEG*
  - *Additional testing to consider:*
    - *Viral PCR testing, antibody assays, fungal culture/india ink stain on CSF (HSV, enterovirus, HHV, VZV, measles, cryptococcus)*
    - *Nasopharyngeal/throat swab for PCR (mycoplasma, enterovirus, adenovirus, RSV, influenza)*
    - *Serology (EBV, parvo, measles, arboviruses, mycoplasma, influenza, adenovirus, SLE, HSV)*
  - *Care is primarily supportive*
    - *High dose steroids for ADEM*
    - *Empiric acyclovir if HSV is suspected*
    - *Maintain cerebral perfusion pressure*
    - *Manage increased ICP (head elevation, hyperventilation, fluid resuscitation)*
    - *Treatment of seizures*

Leader: Return to discussing these questions in the large group.

The read on your head CT is back, and it's normal. After discussing with the ED staff, you offer to perform the LP, which goes off without a hitch. While awaiting results, you decide to review indications and contraindications to LP, and the findings you might anticipate on CSF fluid analysis.

- ❖ What are the contraindications to lumbar puncture? [XVIII.A.4.c]
- ❖ What might you expect to find in bacterial meningitis? Viral? Fungal? [XVIII.B.1.c]
- ❖ What are possible causes of culture-negative meningitis? [XVIII.B.1.b]

- ❖ Preliminary CSF studies have returned …
  Opening pressure: 36 cm H2O
  Glucose: 12 mg/dL
  Protein: 172 mg/dL

WBC: 1230 (90% neutrophils, 3% lymphs, 7% monos)
RBC: 92

- What diagnosis do you suspect at this time? [XVIII.B.1.c]
- What organisms are the most likely culprits? How would the likely pathogens differ if this were a neonate? Young child? [XVIII.B.1.b]
- You feel like you should be relieved that she doesn't have petechiae or purpura … but you're not sure whether or not that's accurate. How might your differential change if she were to develop either skin finding? [XVIII.B.1.c]
- Does this patient require empiric antibiotics? If so, which will you use? [XVIII.B.1.c, XVIII.B.2.c, XVIII.B.3.c]

Leader: Ask the small groups to discuss the following two questions and present their findings to the large group:

- Given your suspected diagnosis, what acute complications should you be on the watch for? [XVIII.B.1.a]
- What electrolyte abnormalities might you anticipate? [XVIII.B.1.c]

Leader: These questions can be presented to the large group.

- You start empiric antibiotics and transfer the patient to the PICU. The next morning is Saturday, and you happen to be on call in the PICU. As you're getting sign-out from the night shift resident, you hear the alarm going off on your patient's monitor and look over to see that her blood pressure is up to 165/115. The remainder of her vitals are as follows: HR 58, RR 12, SpO2 96% on room air. You head over to examine her and find that no longer responding to verbal cues, though she does withdraw to pain. Her pupils are also dilated compared to yesterday; they do respond equally to light.
- What is your primary concern at this point? [XVIII.A.4.a]
- What is your next step? Do you need repeat imaging? Explain your rationale, and what underlying causes you're considering. [XVIII.A.4.b, XVIII.B.1.c]
- How is a subdural effusion managed? [XVIII.B.1.c]
- CT findings: cerebral edema

Leader: Ask the small groups to discuss the following two questions and present their findings to the large group:

- How can you treat this patient's increased intracranial pressure? [XVIII.B.1.c, XVIII.A.4.b]
- Does this patient require any long-term follow-up testing after resolution of her acute illness? What long-term complications should you consider? [XVIII.B.1.a]

Leader: These multiple choice questions and information slides can be presented to the large group.

- Long-term sequelae of encephalitis [XVIII.B.2.c]
- PREP 2013:13 (ICP in a neonate) [XVIII.A.4.a]
- PREP 2013:11 (nh3 and organic acids in neonatal coma)

WILD: Neurology I

September 26, 2014

Jessica DeBord, MD, MPH

1

- It's another afternoon in continuity clinic, and you're getting tired of kids with runny noses. Unusually, however, your schedule for today is different … every kid has "headache" listed as their reason for visit.
- You decide to start by tackling the patient in room B, a 14-year-old boy with "frequent headaches" listed as his reason for visit. Upon entering the room, you find a comfortable, well-appearing young man and his mother.

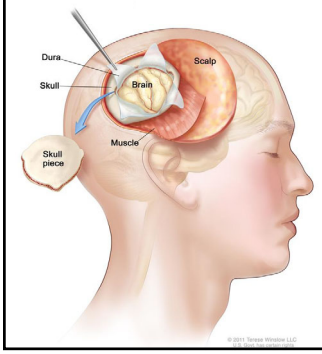
2

Part 1

- Please split into 4 small groups and discuss your approach a child with a headache
- *Task 1:* Consider possible etiologies, and discuss an approach to working systematically through the differential to reach the most likely diagnosis
- *Task 2:* What red flags should you look for as you begin to work up a child with a headache?
- *Task 3:* What elements of a history are particularly important to assess when interviewing a patient with headache?
- Be prepared to teach your approach to the group in 20 minutes

3

Approach to Headache



Primary or secondary?

More likely primary:
- Acute recurrent (or episodic)
- Chronic nonprogressive

Potentially secondary:
- Chronic progressive

4

Red Flags

Clinical features that may indicate intracranial pathology in children with headache

Headache characteristics
Headache awakens the child or occurs upon waking
Sudden severe headache ("thunderclap" headache, "worst headache of my life")
Associated neurologic signs and symptoms (eg, persistent nausea/vomiting, altered mental status, ataxia, etc)
Headache worsened in recumbent position or by cough, micturition, or defecation
Absence of aura
Chronic progressive headache pattern
Change in quality, severity, frequency, or pattern of headache
Occipital headache
Recurrent localized headache
Lack of response to medical therapy
Headache duration of less than six months
Examination findings
Abnormal neurologic examination (eg, ataxia, weakness, diplopia, abnormal eye movements)
Papilledema or retinal hemorrhages
Growth abnormalities (increased head circumference, short stature or deceleration of linear growth, abnormal pubertal progression, obesity)
Nuchal rigidity
Signs of trauma
Cranial bruits
Skin lesions that suggest a neurocutaneous syndrome (neurofibromatosis, tuberous sclerosis complex)
Patient history
Risk factor for intracranial pathology (eg, sickle cell disease, immune deficiency, malignancy or history of malignancy, coagulopathy, cardiac disease with right-to-left intracardiac shunt, head trauma, neurofibromatosis type 1, tuberous sclerosis complex)
Age <3 years
Family history
Absence of family history of migraine

Source: UpToDate.com, "Approach to the child with a headache"

5

Historical clues

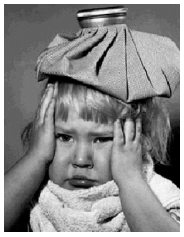
- How many different types of headache does the child have?
- When did the headaches begin? Was anything associated with headache onset?
- Are the headaches getting worse, staying the same, or improving? Are they getting more or less frequent? Are they more or less intense?
- Are there any triggers for the headaches?
- What are the headaches like? Where is the pain located? What does the pain feel like?
- Does the headache wake the child from sleep?
- Are there any headache patterns or triggers?
- Are there any other symptoms associated with the headache, or warning signs that a headache is coming (aura)?
- What does the child do during a headache?
- How long does the headache last?
- What makes the headache better or worse?
- ALSO: Past medical history, family history, medications, social history, lifestyle factors

Source: PIR 2012;33:562

6

Common types of headache

- Return to your small groups – each will be given a handout with a questions pertaining to headache etiologies
- Each group should discuss their subtype(s) of headache, including presenting symptoms and management
- Be sure to address the included questions, and be ready to teach the group about your headache type(s) in 20 minutes



7

Group 1: Migraine

Which are the diagnostic criteria for pediatric migraine with aura? Without aura?

- Migraine without aura
  - A. At least **5 attacks** fulfilling B-D
  - B. Attacks last 1-72 hrs
  - C. Headache has at least 2 of the following:
    - **Unilateral location**
    - **Pulsing quality**
    - **Moderate or severe intensity**
    - **Aggravation by or causing avoidance of physical activity**
  - D. At least one of the following during headache:
    - Nausea and/or vomiting
    - Photophobia and phonophobia
  - E. Not attributed to another disorder

- Migraine with aura
  - A. At least **2 attacks** fulfilling B-D
  - B. **Aura** consisting of at least one of the following:
    - Fully reversible visual symptoms (positive or negative)
    - Fully reversible sensory symptoms (positive or negative)
    - Fully reversible dysphasic speech disturbance
  - C. At least 2 of the following:
    - Homonymous visual symptoms and/or unilateral sensory symptoms
    - At least one aura symptom develops over >5 min and/or different aura symptoms occur in succession over >5 min
    - Each symptom lasts >5 min and <60 min
  - D. Headache fulfilling criteria B-D that begins during aura or follows aura within 60 minutes
  - E. Not attributed to another disorder

Source: PIR 2012;33:562

8

Describe the neurologic defects that can accompany a migraine

- Blurred vision is common in all types of migraine
- Aura: scotoma, blurred vision, scintillations, Alice in Wonderland syndrome, sensory changes, confusion, weakness, amnesia, or aphasia
- Basilar migraine: aura characterized by vertigo, ataxia, nystagmus, dysarthria, tinnitus/hyperacusis, bilateral paresthesias, diplopia, or visual disturbance
- Confusional migraine: altered mental status, aphasia, impaired speech
- Hemiplegic migraine: prolonged hemiplegia, numbness, aphasia and confusion (rare)

Source: PIR 2012;33:562

9

What abortive treatment options exist for acute migraine?

- Early treatment is most likely to be effective
  - However, pts should not use acute treatments more than 2-3 days/wk to avoid developing medication overuse headaches
- Studies in adolescents suggest that ibuprofen and acetaminophen are as effective as the triptans, with fewer adverse effects
- 2nd line: NSAID + caffeine
- 3rd line: triptans
- Adjuncts: antinausea medications (promethazine, metoclopramide, prochlorperazine, ondansetron) have been shown to be effective in the emergency setting but have higher risk of toxicity

Source: PIR 2012;33:562, PREP 2012:40

10

When should a patient be offered prophylactic therapy, and what options exist for prophylaxis?

- **Patients who experience >= 4 days of disabling headaches per month**
- Cyproheptadine: particularly helpful in younger children or those with environmental allergies and migraine (weight gain, sedation)
- TCAs (sedation, weight gain, EKG changes, mood changes/suicidality)
- Antiepileptics (topiramate: weight loss; valproate: weight gain, hepatotoxicity; gabapentin: fatigue, depression)
- Antihypertensives (propranolol: depression, hypotension, bronchoconstriction; verapamil: weight gain, hypotension)

Source: PIR 2012;33:562

11

Group 2: Tension HA, cluster headache, & med effect

What elements of history characterize a headache due to stress/tension/emotion?

- Pain is mild-moderate
- Lasts from 1 hr to several days
- Described as “band-like,” pressure, or tightening

Source: PIR 2012;33:562

12

What treatment options exist for the management of tension headache?

- Analgesics such as ibuprofen, acetaminophen and naproxen
- Lifestyle interventions, such as regular aerobic exercise, massage or physical therapy, ensuring adequate and regular sleep, eating regular and nutritious meals, limiting caffeine intake, maintaining adequate fluid intake, managing or avoiding stressors

Source: PIR 2012;33:562

13

Which headache treatments are most strongly associated with medication rebound headaches, and how are they treated?

- **Opiates and barbituates** are more likely than NSAIDS, caffeine, or triptans to cause rebound headaches
- Most medication rebound headaches are secondary to **NSAIDs**, because they are the most commonly used agents for headaches
- The **only effective treatment is withdrawal** of the medication

Source: PREP 2011:22

14

Group 3: Idiopathic intracranial hypertension

How does idiopathic intracranial hypertension generally present in an adolescent? Young child?

- Most common symptoms is daily headache
- May be associated with nausea & vomiting
- Classic symptoms: transient obscuration of vision, tinnitus, diplopia due to cranial nerve dysfunction
- **In young children**: stiff neck, strabismus, irritability, apathy, somnolence, dizziness and ataxia

Source: PIR 2012;33:562

15

What are the risk factors for and secondary causes of IHH/pseudotumor cerebri?

- Risk factors include **female sex, obesity and rapid weight gain**
- Secondary causes include cerebral venous thrombosis, medications (thyroid replacement, steroids, GH, lithium, OCPs, sulfa abx, **tetracyclines,** vitamin A, **isotretinoin**), lyme disease, anemia, antiphosholipid Ab syndrome, craniosynostosis, sarcoidosis, sleep apnea, SLE

Source: PIR 2012;33:562, PREP 2014:102

16

What findings on PE suggest idiopathic intracranial hypertension, and how is it diagnosed?

- On PE:
  - Swollen optic nerves with blurry disc margins
  - CN VI palsy may be present
  - Visual field defects
- Diagnosis is based upon history, **normal brain imaging and measurement of an elevated CSF opening pressure** (normal in children is approximately 18-20 cm H2O)

Source: PREP 2014:102, PIR 2007;28:c77

17

When to image?

- **Abnormal neurologic examination** and/or seizures
- Recent onset of severe headache
- Change in type or character of headache (for children with recurrent or chronic headaches)
- Suspicion of meningitis, encephalitis, or sinusitis with **intracranial extension**
- Severe headache in a child with **underlying disease process that predisposes to intracranial pathology** (eg immune deficiency, sickle cell disease, neurofibromatosis, history of neoplasm, coagulopathy, hypertension)

Source: UpToDate.com, "Approach to the child with a headache"

18

When should LP be performed? When is it contraindicated?

- Perform LP:
  - If suspicion exists for meningitis or encephalitis
  - If suspicion exists for elevated ICP and neuroimaging is normal, LP with opening pressure measurement is appropriate
- Contraindicated if:
  - Mass effect is present
  - The patient is hemodynamically unstable or rapidly deteriorating

Source: PIR 2012;33:562

19

Split into small groups and
LOCATE THE EVIDENCE:

How often is head imaging abnormal in a patient with a headache and a normal neurologic exam? How often does head imaging change management?

- Gandhi R et al. Investigating the necessity of computed tomographic scans in children with headaches: a retrospective review. CJEM 2014;16:33-38.
  - 99 children with headache and normal neurologic exam underwent CT; none were abnormal, and none resulted in changed diagnosis or management
- Lewis DW et al. Practice parameter: Evaluation of children and adolescents with recurrent headaches: Report of the Quality Standards Subcommittee of the American Academy of Neurology and the Practice Committee of the Child Neurology Society. Neurology 2002;59:490-498
  - Reviewed 6 studies of children with headache who underwent neuroimaging (n=605)
  - 14/605 children with headache undergoing imaging were found to have surgically treatable lesions; all had abnormalities on neurologic exam (papilledema, abnormal eye movements including nystagmus, and motor or gait dysfunction)
  - Variables that predicted the presence of a space-occupying lesion included:
    1) headache of less than 1 month duration; 2) absence of a family history of migraine; 3) abnormal neurologic findings on examination; 4) gait abnormalities; and 5) occurrence of seizures

20

PREP question

You are evaluating a 4-month-old boy for complaints of fussiness and decreased feeding for the past 24 hours. You have not previously seen the patient, but the mother states that he has had no previous illnesses, did not receive his immunizations, and is not taking any medications. On physical examination, the boy has a temperature of 37.6 C, a heart rate, of 160 beats/min, and a respiratory rate of 55 breaths/min. Physical examination findings are remarkable only for a lethargic infant who has a full anterior fontanelle and widened cranial sutures.

Of the following, the MOST appropriate initial test is

A. computed tomography of the head
B. electroencephalogram
C. lumbar puncture
D. plain radiograph of the skull
E. urine toxicology screen

Source: PREP 2013:13

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Answer:
Computed tomography of the head

- PE findings suggest increased ICP
- Must be recognized promptly to prevent permanent neurologic injury or death
- CT or MRI of the head is the first priority in evaluating suspected increased ICP after initial stabilization
- LP should be deferred in the presence of significant neurologic findings that might be consistent with impending brainstem herniation

Source: PREP 2013:13

22

PREP question

A 5-year-old boy complains of headache and neck pain and lies down for a nap. An hour later, his father tries to rouse him, but the boy can only mumble. He is brought to the ED, where on PE his BP is 125/90, HR is 78 beats/min, RR is 14 breaths/min, and temp is 37.4 C. The boy briefly opens his eyes but otherwise does not respond during the examination. There is no sign of head injury, no nuchal rigidity, and no rashes. Neurologic exam shows that the pupils are round and equally reactive to light, the limbs are flaccid, the deep tendon reflexes are brisk, and the toes are upgoing on plantar stimulation. The parents report that all medications in the home are secured and deny any ingestions. CT of the head without contrast is obtained (image on next slide) -

Of the following, the MOST likely cause of his symptoms is

A. arterial ischemic stroke
B. arteriovenous malformation
C. brain abscess
D. choroid plexus carcinoma
E. vein of Galen aneurysmal malformation

Source: PREP 2014:30

23

CT brain

24

PREP question

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A. arterial ischemic stroke
B. arteriovenous malformation
C. brain abscess
D. choroid plexus carcinoma
E. vein of Galen aneurysmal malformation

Source: PREP 2014:30

25

Answer: AV malformation

- Elevated BP and coma are consistent with increased ICP -> neurosurgical emergency
- CT shows intraventricular hemorrrhage, and the ventricles are enlarged from early, nonobstructive hydrocephalus
- When AVMs rupture, they produce a sudden, severe headache and loss of consciousness
- Vein of Galen aneurysmal malformation is a type of AVM that typically presents with high output heart failure in the neonatal period or infancy; hemorrhage on presentation is rare

26

Part 2

- You get pulled from your clinic unexpectedly by one of the newborn nursery nurses – the newborn nursery attending is at a meeting downtown this afternoon, and the PICU residents, attending and NNPs are all at a delivery for 27 wga quadruplets in the OR. Twins were just born in L&D after having received no prenatal care, the nurses are concerned about them.

27

Twin A: What is this?

28

What complication is most commonly associated with myelomeningocele, and what symptoms are associated?

- **Chiari type II malformations** present in almost all children with myelomeningocele above the level of the sacrum
  - Associated with dysphagia, hoarseness or stridor, aspiration, breath-holding spells, apnea, stiffness, weakness
- **Hydrocephalus** occurs in 60-95% of children with myelomeningocele
  - More common in higher-level lesions
  - Symptoms of increased ICP including headache, irritability, lethargy, vomiting, anorexia, esotropia, diplopia, paralysis of upward gaze

Source: PIR 2010;31:443

29

Orthopaedic complications of myelomeningocele

- Loss of motor function in the lower extremities leads to loss of mobility and to deformities such as **flexion contractures or torsion**
- Vertebral bony anomalies lead to **scoliosis and kyphosis**
- Regular evaluations by an orthopedist to determine joint mobility, positioning of the extremities, and spinal curves are indicated

Source: PIR 2010;31:443

30

What other complications are often associated with myelomeningocele?

- Other abnormalities of the brain:
  - Agenesis of the corpus callosum
  - Hypoplasia of cranial nerve nuclei
- Associated with learning disabilities, ADHD, and problems with executive function
- Stabismus (20%)
- Seizure disorder (15%)
- Neurogenic bowel & bladder
- Tethered spinal cord
  - Symptoms include weakness in lower extremities, deterioration of gait, pain in back or legs, atrophy of LE muscles, sensory loss or change in LE, change in DTRs, change in bowel or bladder function, local swelling in back, new orthopedic contracture, rapidly progressive scoliosis, new decubitus ulcer

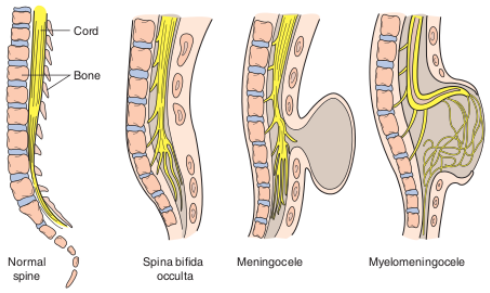
Source: PIR 2010;31:443

31

Twin B: What is this?

32

Spina bifida occulta



33

How common are sacral dimples? Should all children with a lumbosacral cutaneous abnormality be evaluated for spina bifida occulta?

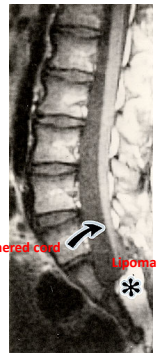
- 5% of neonates have sacral dimples
- MRI of the entire spine for infants and children who have:
  - Neurologic symptoms suggestive of tethered cord syndrome
  - Two or more cutaneous lumbosacral spine lesions
  - Subcutaneous back mass
  - Isolated midline cutaneous lumbosacral spine lesion that is potentially high-risk for the development of closed spinal dysraphism (CSD)
    - Atypical dimples (those >5 mm in size or located >2.5 cm from the anus)
    - Hemangiomas
    - Cutis aplasia
    - Upraised lesions (ie, masses, tails, and hairy patches)

Source: UpToDate.com, "Closed spinal dysraphism: Clinical manifestations, diagnosis, and management"

34

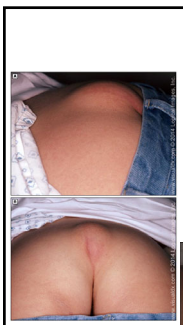
Clinical & radiographic features

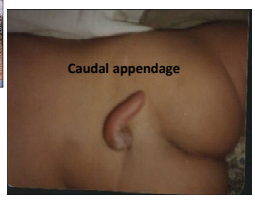
- Cutaneous
  - Dermal sinus tracts, dimples or pits, hypertrichosis, hyperkeratosis, hyper/hypopigmentation, hemangiomas, port wine stains, subcutaneous lipomas, caudal appendages, isolated deviation of the intergluteal cleft
- Neurologic
  - Patients most often present with signs and symptoms related to lumbosacral spinal dysfunction, with autonomic and sphincteric dysfunction being more common and occurring earlier than sensorimotor deficits in the legs
  - Risk for **tethered cord**
- Urologic
  - Neurogenic bladder or urogenital malformations
- Musculoskeletal
  - Scoliosis, kyphosis, lordosis, leg length discrepancy, and foot deformities



Source: UpToDate.com, "Closed spinal dysraphism: Clinical manifestations, diagnosis, and management"

35





36

- You return to clinic and go in to see your next patient. What are the odds … she's a two-year-old with a history of myelomeningocele repaired in Honduras in infancy presenting to your clinic to establish care after immigrating to the US with her parents. Her parents report she also had a VP shunt placed shortly after birth, and had several UTIs during infancy, though none recently. She hasn't seen a doctor in at least a year, and for the past week she's been fussier than usual and frequently holds her head, making them worried she's having headaches.

37

Split into 3 small groups for the following case. Take 5 minutes to discuss the following questions:

Group 1:
- You know that children with myelomeningocele are at risk for acute deterioration due to shunt malfunction or new problems in the brainstem or spinal cord. *What symptoms might you advise the parents should alert them to possible complications?*

Group 2:
- *What further evaluation should she have at this time?*

Group 3:
- *What urologic evaluation should she have?*
- *Should she receive UTI prophylaxis? What are the risks and benefits?*

38

Group 1:
You know that children with myelomeningocele are at risk for acute deterioration due to shunt malfunction or new problems in the brainstem or spinal cord.
What symptoms might advise the parents should alert them to possible complications?

- Myelomeningocele is a **nonprogressive** condition, so any neurologic deterioration should be evaluated for **shunt failure** or **tethered cord**
  - **Shunt failure:** irritability, confusion, headache, vomiting
  - **Tethered cord: worsening of gait**, pain in the back or legs, worsening bowel or bladder function, increasing spasticity, increasing scoliosis

Source: PIR 2010;31:443, PREP 2012:93

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Group 2:
What further evaluation should she have at this time?

- Concern for VP shunt dysfunction leading to headaches
- CT scan should be obtained urgently, along with a radiographic shunt series
  - CT will assess for acute hydrocephalus due to shunt dysfunction
  - Shunt series will assess for disconnections in shunt tubing

Source: PREP 2011:102

40

Group 3:
What urologic evaluation should she have?
Should she receive UTI prophylaxis? What are the risks and benefits?

- Kidney and bladder **ultrasound**
  - Assess for hydronephrosis or hydroureter
  - Assess bladder wall thickness and distention
- **Urodynamics**
  - Meaure bladder pressures during filling and voiding and the function of the bladder neck and external sphincter during filling and voiding
- **Voiding cystourethrogram** (VCUG)
  - Will rule out or document vesicoureteral reflux
  - Assess the bladder wall (smooth versus trabeculated), bladder capacity, and post void residual
- UTI prophylaxis in myelomeningocele is controverial
  - No evidence for long term benefit of antibiotic prophylaxis in myelomeningocele with or without VUR
  - Risks include anaphylaxis, idiosyncratic reactions (liver failure), diarrhea, candidal infections, and resistance

Sources: UpToDate.com, "Urinary tract complications of myelomeningocele", PIR 2010;31:443

41

PREP question: folate supplementation

42

PREP question

A 5-year-old boy who is new to your practice presents for a health supervision visit. His mother and preschool teachers are concerned about the possibility of ADHD or learning disabilities. On questioning, you learn that he achieved motor and language milestones within broad normal limits but has always been clumsy. However, his mother thinks his motor skills have not worsened over time. Physical exam reveals mild dolichocephaly (anterior/posterior skull elongation), hyperreflexia at the knees and ankles, and elevated tone at the ankles.

Of the following, this constellation of findings is MOST consistent with

A. elevated bilirubin in infancy
B. hypoxic-ischemic injury at term birth
C. lead intoxication in early childhood
➡ D. periventricular injury after second trimester birth
E. stroke in the third trimester

Source: PREP 2011:118

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Answer: D

- Findings consistent with mild cerebral palsy (spastic diplegia)
- Upper motor neuron findings of spasticity and hyperreflexia
- Elongated head is characteristic of children who have loss of brain volume in periventricular white matter
- **This pattern most commonly occurs in children born in the second trimester**
- Kernicterus presents with hearing loss, hyperkinetic movement disorder, and impaired upgaze; repetitive tongue thursting and truncal hypotonia are common
- HIE results in spastic CP or mixed spastic and dystonic CP, but symptoms do not affect legs more than arms
- Stroke results in hemiplegia
- Lead intoxication is chronic and associated with behavioral and intellectual deficits, not focal motor deficits

44

Risk factors associated with CP

- Prematurity (78 percent)
- Intrauterine growth restriction (34 percent)
- Intrauterine infection (28 percent)
- Antepartum hemorrhage (27 percent)
- Severe placental pathology (21 percent)
- Multiple pregnancy (20 percent)

➢ Intrapartum complications/hypoxia are seldom the cause of CP

Source: UpToDate.com, "Epidemiology and etiology of cerebral palsy"

45

CP clinical features and classifications

- Spastic
  - Diplegia
    - Good hand funtion
    - Poor hand function
    - Asymmetric
  - Hemiplegia
    - Arm involved more than leg
    - Leg involved as much as or more than arm
  - Quadriplegia
- Dyskinetic
  - Mainly dystonic
  - Mainly athetoid
- Ataxia
  - Simple ataxia
  - Ataxic diplegia

Source: UpToDate.com, "Diagnosis and classification of cerebral palsy"

46

PREP question

You are examining a 5-year-old boy who is unable to ambulate independently and uses a specialized walker. He speaks in full sentences, although he has an articulation disorder that affects the intelligibility of his speech. His developmental skills have been delayed, but no skills have been lost. When you lift him onto the examination table, his legs scissor. He has no dysmorphisms, and his skill is free of neurocutaneous stigmata. His head circumference is at the 50th percentile, and his weight and height are at the 10th percentile. On neurologic exam, his eyes intermittently deviate outward. He has brisk reflexes and sustained clonus. He has good eye contact and smiles at his parents while reaching toward a picture of a car on the wall. The nurse practitioner asks what other manifestations are associated with his underlying disorder.

Of the following, the MOST likely additional manifestation is

A. absence seizures
B. dystonia
➡ C. gastrointestinal symptoms
D. high-frequency hearing loss
E. tethered cord

Source: PREP 2011:11

47

Disabilities associated with CP

- Gastrointestinal symptoms are particularly common, and feeding problems occur in 50%
  - May lead to significant undernutrition
- Cognitive disability (~50%)
- Seizures (~30%)
- Spasticity (~75%); dystonia in 10-15% (dyskinetic CP)
- Sensory impairment
- Limitation of movement
- Scoliosis
- Joint instability
- Bladder dysfunction
- Difficulties with communication

Source: PREP 2011:11

48

PREP 2012:81

A 7-year-old child who has quadriplegia uses a wheelchair for mobility. He requires assistance for eating and dressing due to his delay in motor skills. He has difficulty articulating his words. His parents are concerned that he is becoming increasingly frustrated due to his difficulty expressing his needs. They ask your guidance in helping him to become a more effective communicator.

Of the following, the MOST appropriate intervention is to

A. evaluate him for an amplification system
B. evaluate him for an augmented communication device
C. focus on improving his fine motor skills
D. refer him for behavioral therapy
E. teach him American sign language

Source: PREP 2012:81

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Answer: B

- CP hinders the ability to communicate
- The use of an augmented communication device should help alleviate the boy's frustration
- Amplification systems help individuals with auditory processing difficulties and would not target expressive language
- Individuals with CP have motor planning difficulties that make learning sign language challenging

50

Part 3

- As you exit your last patient's room, the clinic nurse grabs you to ask you to quickly assess the 18-year-old girl in room A – she says that she looks sick. When you enter the room, you find a very ill-appearing young lady sitting on the bed, holding her head, moaning and mumbling incoherently. She's unaccompanied – the nurse tells she called yesterday to make any appointment for worsening headache, vomiting and fevers since returning from a camping trip last weekend, and that the only history she reported at the time was seasonal allergies and recurrent sinusitis. She started college last month and is in the market for a new PCP here in town. Her immunization status is unknown.

51

- Her vital signs are as follows: temp 39.4 C, HR 122, BP 142/92, RR 20, SpO2 99% on room air.
- On exam, you find her to be awake but confused and difficult to understand. You're able to get her to give you her name, but you're otherwise unable to assess her degree of orientation. She clearly has a headache, as she's holding the sides of her head and moaning. Her heart and lung exams are remarkable only for tachycardia, her abdominal exam is benign, she has no rashes or other skin lesions, and her skin is warm to the touch with brisk capillary refill. Her neurologic exam is limited by lack of cooperation, but you do note normal pupillary size and response to light, a midline tongue, intact gag reflex, brisk reflexes throughout and equal strength in all extremities.

52

Break into 3 small groups.
Discuss the next question for 5 minutes, and be prepared to share you approach with the large group.

- What is your approach to a patient with altered mental status?

53

Approach to a patient with altered mental status

MNEMONIC

- A: alcohol, abuse of substance
- E: epilepsy, encephalopathy, electrolyte abnormalities, endocrine disorders
- I: insulin, intussusception
- O: overdose, oxygen deficiency
- U: uremia
- T: trauma, temperature abnormality, tumor
- I: infection
- P: poisoning, psychiatric conditions
- S: shock, stroke, space-occupying lesions

BY ETIOLOGY

- Structural lesion
  - Mass
  - Bleed
- Medical cause
  - Infectious
  - Metabolic
    - Acid/base
    - Uremia
    - Seizure
    - Electrolyte
    - Oxygen delivery
    - Endocrine
    - Intussusception
    - Hepatic
    - Hyperthermia/hypothermia
    - Shock
    - Inborn error of metabolism
  - Toxic
  - Psychiatric

Source: PIR 2006;27:331

54

What ingestions are most commonly associated with neurologic toxicity?

- Amphetamines
- Anticholinergics
- Anticonvulsants
- Barbiturates
- Benzodiazepines
- Clonidine
- Cocaine
- Ethanol
- Haloperidol
- Narcotics
- Phenothiazines
- Salicylates
- SSRIs
- TCAs

Source: PIR 2006;27:331

55

What underlying diagnoses are most likely for this patient?

- Infection, given fever (though neuroleptic malignant syndrome could also present with AMS and fever; her PE does not support NMS)

56

What sorts of infections does the limited history she provided (recurrent sinusitis, camping, college, unknown vaccination status) put her at risk for?

- Sinusitis: intracranial abscess
- Camping: rickettsial infection, arboviral infection, rabies
- College: meningococcemia, HIV, HSV
- Unknown vaccination status: meningitis, septicemia (pneumococcal, H. influenza, meningococcal)

57

How does the presentation of meningitis generally differ from that of encephalitis? Brain abscess?

- Meningitis: older children and adolescents often experience malaise, myalgia, headache, photophobia, neck stiffness, anorexia, and nausea; some present with acute and fulminant onset of sepsis and multiorgan involvement
- Encephalitis: any combination of altered mental status, seizures, behavioral changes, weakness, sensory disturbances, movement disorders
- Brain abscess: signs and symptoms of increased ICP, fever, unilateral headache, cranial nerve palsies

Source: PIR 2008;29:417, PIR 2012;33:122, PREP 2013:8

58

How would you like to proceed with management of this patient?

- Emergent workup of AMS:
  - ABCs
  - Glucose level
  - IV access
  - CT brain (if structural lesion or bleed suspected)
  - Empiric antibiotics after blood culture obtained (if infectious etiology suspected)
  - Laboratory workup can follow stabilization:
    - Electrolytes
    - CBC
    - Toxicology screening
    - Ammonia level
    - Lumbar puncture
    - Consider EKG if reason to suspect cardiac cause
    - Consider EEG if status epilepticus or Todd's paralysis suspected
    - Consider MRI

Source: PIR 2006:27;337

59

When is head imaging indicated urgently in the workup of altered mental status or suspected meningitis?

- If a structural lesion is suspected based upon focal neurologic findings
  - Caveat: there are structural disorders that may present without focality
    - Acute hydrocephalus (symptoms of increased ICP)
    - Bilateral subdural hematomas (symptoms of increased ICP)
    - Acute bilateral cerbrovascular disease (rare in children)

Source: PIR 2006;27:331

60

- You elect transfer the patient to the ED for further workup; your clinic staff suggests you accompany the patient, and you happily agree. A stat head CT is ordered, and the patient is wheeled off to radiology.

61

If the CT is negative, what is your next step?

- LP

62

As you wait for the CT results, you decide to review the management of some of the diagnoses you're considering …

- Break into 3 small groups and take 5 minutes to answer the following questions, and prepare teach the large group your findings.

63

Group 1:
- If she has a brain abscess, what organisms should you suspect? What underlying conditions predispose a child to brain abscess?
- How is a brain abscess managed?

Group 2:
- What are some common causes of encephalitis?
- How does herpes encephalitis generally present, and what do you expect to find on CSF analysis?

Group 3:
- What additional diagnostic workup is indicated when you suspect encephalitis?
- How is encephalitis managed?

64

Group 1:
If she has a brain abscess, what organisms should you suspect? What underlying conditions predispose a child to brain abscess? How is a brain abscess managed?

- Frequently polymicrobial
- Because of her history of sinusitis, you should suspect extension from frontal sinusitis:
  - *S. pneumonia*
  - *H. influenza*
  - *Streptococcus* sp.
  - Anaerobes
  - *S.aureus*
- Risk factors include sinus or dental infection, endocarditis, cyanotic heart disease, and pulmonary infection
- Treatment generally involves a combination of antimicrobial therapy (6-8 weeks) and surgical drainage

Source: PREP 2013:8

65

Group 2:
What are some common causes of encephalitis?

- Viral
  - Herpes
  - Enterovirus
  - Adenoviruses
  - Arboviruses
  - Mumps, rabies, rubella, HIV, influenza
- Bacterial
  - Listeria, tularemia, rickettsia, mycoplasma, chlamydia
- Fungal
  - Crytococcus, blastomyces, histoplasma
- Parasitic
  - Naegleria, toxocara
- Immune-mediated
  - ADEM, post-infectious cerebellitis
- Systemic inflammatory
  - SLE
- Malignancies
  - Paraneoplastic

Source: PIR 2012;33:122

66

How does herpes encephalitis generally present, and what do you expect to find on CSF analysis?

- Fever, headache, psychiatric symptoms, seizures, vomiting, focal weakness, memory loss
- Temporal lobe involvement on MRI
- CSF: hemorrhagic pleocytosis

Source: PIR 2012;33:122

67

Group 3:
What additional diagnostic workup is indicated when you suspect encephalitis? How is encephalitis managed?

- Initial workup: brain imaging (preferably MRI with contrast), LP, EEG
- Additional testing to consider:
  - Viral PCR testing, antibody assays, fungal culture/india ink stain on CSF (HSV, enterovirus, HHV, VZV, measles, cryptococcus)
  - Nasopharyngeal/throat swab for PCR (mycoplasma, enterovirus, adenovirus, RSV, influenza)
  - Serology (EBV, parvo, measles, arboviruses, mycoplasma, influenza, adenovirus, SLE, HSV)
- Care is primarily supportive
  - High dose steroids for ADEM
  - Empiric acyclovir if HSV is suspected
  - Maintain cerebral perfusion pressure
  - Manage increased ICP (head elevation, hyperventilation, fluid resuscitation)
  - Treatment of seizures

Source: PIR 2012;33:122

68

- The read on your head CT is back, and it's normal. After discussing with the ED staff, you offer to perform the LP, which goes off without a hitch. While awaiting results, you decide to review the indications and contraindications to LP, and the findings you might anticipate on CSF fluid analysis.

69

What are the contraindications to lumbar puncture?

- Signs of increased ICP
  - Focal deficit
  - Papilledema
  - h/o CNS lesion
  - h/o CNS trauma
  - h/o CNS shunt
- Coagulopathy
- Hemodynamic instability

Source: PIR 2008;29:417

70

What might you expect to find in bacterial meningitis? Viral? Fungal?

	Glucose (mg/dL)	Protein (mg/dL)	White Blood Cell (μL)	Differential Count	Gram stain
Healthy child	40 to 80	20 to 40	<5	No PMNs	Negative
Bacterial meningitis	<1/2 serum Often <10 (0.6)	>100	>1,000	>50% PMNs Often > 90%	Variable
Enteroviral meningitis	>1/2 serum	40 to 60	50 to 500	>50% PMNs early (<48 h) <50% PMNs later (<48 h)	Negative
Lyme meningitis	>1/2 serum	50 to 150	50 to 500	Predominance of lymphocytes and monocytes	Negative
Tuberculous meningitis	<1/2 serum Often <10	>100	50 to 500	Lymphocyte predominance	Negative
Fungal memningitis	>1/2 serum	25 to 500	50 to 250	Lymphocyte predominance	Negative**

*Value should be used only as a guide, and none should be used in isolation because overlap between values in each of these categories is significant PMN=polymorphonuclear leukocytes. Adapted from Wubbel L, McCracken GH. Management of bacterial meningitis. *Pediatr Rev.* 1998;19:78-84. and Eppes, SC Nelson, DK, Lewis LL, Klein JD. Characterization of Lyme meningitis and comparison with viral meningitis is children. *Pediatrics.* 1999;103:957-960

**May be positive if Candida

Source: PREP:226

71

What are possible causes of culture-negative meningitis?

- Partially treated meningitis
- Viral
- Borellia
- Spirochetal
- M. tuberculosis
- Mycoplasma
- Ehrlichia
- Rickettsia
- Drug-induced (NSAIDS, IVIG, sulfa abx)
- SLE, Kawasaki

Source: PIR 2008:29;420

72

Preliminary CSF studies have returned …
Opening pressure: 36 cm H2O
Glucose: 12 mg/dL
Protein: 172 mg/dL
WBC: 1230 (90% neutrophils, 3% lymphs, 7% monos)
RBC: 92

What diagnosis do you suspect at this time?

- Bacterial meningitis

73

What organisms are the most likely culprits? How would the likely pathogens differ if this were a neonate? Young child?

- Bacterial meningitis in an adolescent:
  1. *Neisseria meningitidis*
  2. *Streptococcus pneumoniae*
- Bacterial meningitis in a young child:
  1. *Streptococcus pneumoniae*
  2. *Neisseria meningitidis*
- Bacterial meningitis in a neonate:
  1. *Group B Streptococcus*
  2. *Listeria monocytogenes*
  3. *Escherichia coli*

Source: PIR 2008;29:418

74

You feel like you should be relieved that she doesn't have petechiae or purpura … but you're not sure whether or not that's accurate.
How might your differential change if she were to develop either skin finding?

- Petechie and purpura may be present in invasive meningococcal or pneumococcal disease, but are often not present

75

Does this patient require empiric antibiotics? If so, which will you use?

- Yes!
- Vancomycin + ceftriaxone

76

Break into your small groups and take 5 minutes to answer the following 2 questions.
Be prepared to teach the large group your findings.

- Given your suspected diagnosis, what acute complications should you be on the watch for?
- What electrolyte abnormalities might you anticipate?

77

Given your suspected diagnosis, what acute complications should you be on the watch for?

- Shock
- Seizures
- Altered level of consciousness
- Increased ICP
- Subdural effusions
- Focal neurologic deficits (cranial nerve palsies, monoparesis, hemiparesis, gaze preference, visual field defets, aphasia, ataxia)
- Cerebral edema
- SIADH

Source: PIR 2008;29:417

78

What electrolyte abnormalities might you anticipate?

- SIADH -> Hyponatremia

79

- You start empiric antibiotics and transfer the patient to the PICU. The next morning is Saturday, and you happen to be on call in the PICU. As you're getting sign-out from the night shift resident, you hear the alarm going off on your patient's monitor and look over to see that her blood pressure is up to 165/115. The remainder of her vitals are as follows: HR 58, RR 12, SpO2 96% on room air. You head over to examine her and find that no longer responding to verbal cues, though she does withdraw to pain. Her pupils are also dilated compared to yesterday; they do respond equally to light.

80

What is your primary concern at this point?

- Increased ICP secondary to cerebral edema

81

What is your next step?
Do you need repeat imaging?
Explain your rationale, and what underlying causes you're considering.

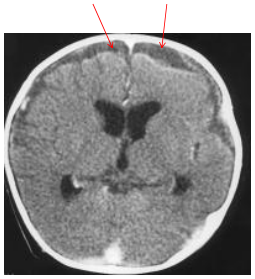
- Yes – you need to rule out impending herniation or mass effect
- Concern for cerebral edema or subdural effusion

Source: PIR 2008;29:417

82

How is a subdural effusion managed?

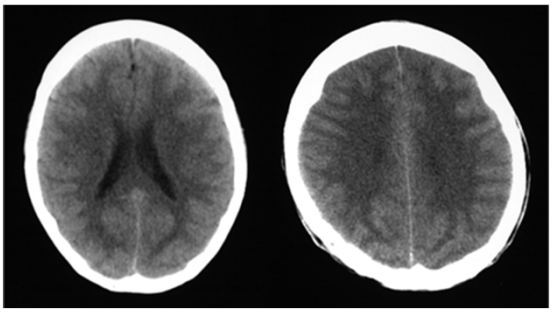
- Treatment for patients who are improving with therapy for meningitis is supportive
- Signs of increased ICP or in cases of suspected subdural empyema indicate the need for surgical drainage



Source: PIR 2008;29:417

83

CT results



Cerebral edema

84

Break into your small groups and take 5 minutes to answer the following 2 questions.
Be prepared to teach the large group your findings.

- How will you treat this patient's increased intracranial pressure?
- Does this patient require any long-term follow-up testing after resolution of her acute illness? What long-term complications should you consider?

85

How can you treat this patient's increased intracranial pressure?

- Consider:
  - Diuretics
  - Mannitol
  - Steroids
  - Invasive measurement of intracranial pressure
  - Serial imaging

Source: PIR 2008;29:417

86

Does this patient require any long-term follow-up testing after resolution of her acute illness?
What long-term complications should you consider?

- Severe hearing loss
  - 30% of pts with pneumococcal and 10% of pts with meningococcal meningitis
  - All children with bacterial meningitis should have hearing screens before hospital discharge
- Intellectual deficits
  - Developmental follow-up indicated
- Hydrocephalus
- Spasticity
- Blindness

Source: PIR 2008;29:417

87

Long-term sequelae of encephalitis

- Long term prognosis depends largely upon the causative agent
  - >60% of pts with HSV encephalitis develop some neurologic sequelae
  - <20% of pts with enteroviral encephalitis develop deficits
- Other contributing factors include other organ system involvement, seizure control, and cerebral perfusion

Source: PIR 2012;33:122

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PREP question

You are evaluating a 4-month-old boy for complaints of fussiness and decreased feeding for the past 24 hours. You have not previously seen the patient, but the mother states that he has had no previous illnesses, did not receive his immunizations, and is not taking any medications. On physical examination, the boy had a temperature of 37.6 C, a heart rate of 160 beats/min, and a respiratory rate of 55 breaths/min. Physical examination findings are remarkable only for a lethargic infant who has a full anterior fontanelle and widened cranial sutures.

Of the following, the MOST appropriate initial test is

➡ A. computed tomography of the head
B. electroencephalogram
C. lumbar puncture
D. plain radiograph of the skull
E. urine toxicology screen

Source: PREP 2013:13

89

Answer: A

- The infant has symptoms of increased ICP
  - Bulging fontanelle, widened sutures, increasing head circumference, sluggish or unequal pupils, impaired or absent upward gaze, papilledema
  - Increased HR and BP may improve cerebral perfusion pressure (Cushing's triad is a late finding that indicates impending brainstem herniation)
- CT will exclude mass effect and aid in determining need for neurosurgical intervention
- LP should be deferred in the presence of significant neurologic findings that might be consistent with impending brainstem herniation

90

PREP question

A full-term male newborn is admitted to the regular nursery after an uneventful delivery. Apgar scores are 8 at 1 minute and 9 at 5 minutes. He feeds well initially, but 32 hours after birth you are called by the nurse because he is feeding poorly and seems "lethargic." You arrange for transfer of the newborn to the intensive care nursery, where the resident on duty obtains a blood culture and provides appropriate antibiotic coverage.

Of the following, if sepsis is ruled out, the test MOST likely to be diagnostic in this newborn is

A. a complete blood cell count with differential
B. an electroencephalogram
C. head ultrasonography
D. liver function tests
➡ E. serum ammonia and urine organic acids

Source: PREP 2013:11

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Quality Improvement Workshop

Facilitator Guide

T1 PRE-WORK

Serious errors occur at the best hospitals and clinics — despite the best efforts of talented and dedicated providers. As the Institute of Medicine (IOM) declared in 2001, in words that still ring true, "*Between the health care we have and the care we could have lies not just a gap, but a chasm.*" This Unit launches you on your journey to becoming a health care change agent.

Through the IHI modules, you'll get a high-level picture of the current quality of care in the United States and other nations, including some common challenges; you'll see how six aims for improvement from the Institute of Medicine have created a sense of direction for improvement efforts all over the world; and you'll get your first introduction to the science of improvement, with a theory of how to change systems. You'll then apply what you learned in a session where you use the principles of QI to do a root-cause analysis and improve a system where an error occurred.

USMLE relevance:

- From the USMLE content outline: "Quality improvement: improvement science principles; variation and standardization; reliability, specific models of quality improvement; quality measurement, structure, process, outcome, and balancing measures; measurement tools; development and application of system and individual quality measures; strategies to improve quality; role of leadership; principles of change management"

Overview: Complete IHI modules covering topics in Quality Improvement to prepare for the application session

Estimated time: 8 hours

- Complete these Institute for Healthcare Improvement (IHI) Open School Modules and upload your certificates below: http://app.ihi.org/lms/onlinelearning.aspx (Links to an external site.)
  - QI 101: Intro to Health Care Improvement
    - QI 101: Introduction to Health Care
  - QI 102: How to Improve with the Model for Improvement
    - QI 102: How to Improve with the Model for Improvement
  - QI 103: Testing and Measuring Changes with PDSA Cycles
    - QI 103: Testing and Measuring Changes with PDSA Cycles
  - QI 104: Interpreting Data
    - QI 104: Interpreting Data: Run Charts, Control Charts, and Other Measurement Tools
  - QI 105: Leading QI
    - QI 105: Leading Quality Improvement

Application Session: Quality Improvement Workshop

Overview: Discuss the principles of quality improvement, and apply them to revising your Wellness Contract

Location: Zoom

Estimated time: 45 minutes

Expectations for T1s:

- Complete pre-work before session
- Participate actively in group discussion

Session objectives:

- Describe the epidemiology of medical errors
- Explain how human factors contribute to medical errors
- Explain the goals of quality improvement put forth by the Institute of Medicine
- Explain systems-based approaches to provide high quality care
- Describe safety design principles and methods to prevent errors
- Demonstrate effective use of information technology to communicate, prevent error, and support decision-making
- Systematically analyze practice using quality improvement methods and implement changes with the goal of practice improvement

Breakout session 1 *(5 minutes):*

Discuss with your group:

- Have you or any of your friends been involved in QI projects?
- Have you noticed something during your clinical rotations that you think would make for a good QI project?
- Did you hear anything about expectations for QI work in residency on the interview trail?

Breakout session 2 *(20 minutes):*

Give T1s ~10 minutes to revise the Wellness Contracts they developed during orientation on their own. Once they're done, you will lead a debrief.

Ask participants to share to the degree that they're comfortable:

- Have you met your SMART goals this year? Why or why not?
- What has surprised you about where you are now, compared with where you thought you'd be at this point?
- What are you going to do differently to foster wellness in the next stage of your training? What are you going to keep doing?

Breakout session 3 *(5 minutes):*

Discuss: A T1, feeling overwhelmed with preparing for an upcoming module exam, realizes that she hasn't had time to do the pre-work for the next day's small group FiM session. She considers the following options:

A. Submit a CHIT request and skip the FiM session
B. Attend the FiM session without completing the pre-work and hope no one notices
C. Stay up late tonight to complete the pre-work for the FiM session but lose time studying for the module exam, and risk being exhausted tomorrow
D. Email Dr. DeBord and explain the situation, and request to be excused from the FiM session

**There isn't necessarily a right answer to this one. Emphasize that you want the group to be honest about what they would do, what they think the right thing to do is, and why.*

Breakout session 4 (5 minutes):

Student report: "The preceptor we shadowed was an atrocious mentor. Acted tremendously unprofessionally (in the form of derogatory/offensive/inflammatory comments to and about patients). He showed no interest in teaching students and it was a very uncomfortable environment."

Discuss: What would you do if you were the student in this situation?

**Consider sharing personal experiences of professionalism lapses in faculty, residents, or fellow students. Did you report them? Why or why not? We will emphasize in the discussion that it is important to report, and that students shouldn't worry about causing someone to get into trouble/lose their job/get kicked out of school. The hope is that we can get them help and prevent future lapses.*

Breakout session 5 (5 minutes):

Discuss what it means to be professional outside the classroom/healthcare setting. Is it necessary to modify behavior now that you're part of a profession, even outside school/work? What professionalism challenges have arisen due to the pandemic? (Think about social distancing, role modeling, advocacy, virtual classroom professionalism)

Breakout session 6 (15 minutes):

Tell the T1s: Think about something from the T1 curriculum that you think needs to be improved. Take a few minutes to write down feedback for the teacher or module/course director, and be prepared to share with your group.

Give them a few minutes to jot down their feedback, then ask them to take turns sharing with the group. De-brief after each student presents.

De-brief: Ask the group: What was effective about that feedback? What could be improved?

Professionalism Workshop

Facilitator Guide

Overview: In this workshop, we will discuss what it means to be a professional, and how to address lapses in professionalism in yourself, your classmates and your faculty.

Location: Zoom

Estimated time: 45 minutes

Expectations for T1s:

- Participate actively in group discussion

Objectives:

- Demonstrate compassion, integrity, and respect for others
- Demonstrate accountability to patients, society, and the profession
- Arrive on time for all required activities and remains for the duration of the activity
- Prepare for and be involved in team activities
- Demonstrate an awareness of professional values; maintain professional behavior when personally challenged
- Describe the components of effective feedback
- Recognize how feedback is part of the learning process for individuals, groups, and the overall learning community

Breakout session 1 *(3 minutes):*

Discuss with your group: What does it mean to have a profession? How is it different than a job?

Breakout session 2 *(3 minutes):*

Discuss with your group: What is professionalism? What does it mean to be professional?

QI Mini-Workshop:
Applying what you've learned

FIM WEEK 2023

Tulane University
SCHOOL OF MEDICINE

1

Why are we teaching you about QI?

Describe the epidemiology of medical errors

Explain how human factors contribute to medical errors

Explain the goals of quality improvement put forth by the Institute of Medicine

Explain systems-based approaches to provide high quality care

Describe safety design principles and methods to prevent errors

Demonstrate effective use of information technology to communicate, prevent error, and support decision-making

Systematically analyze practice using quality improvement methods and implement changes with the goal of practice improvement

2

Why are we teaching you about QI?

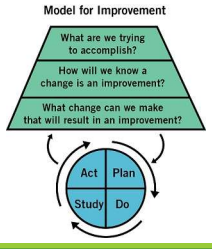
From the USMLE content outline: "Quality improvement: improvement science principles; variation and standardization; reliability, specific models of quality improvement; quality measurement, structure, process, outcome, and balancing measures; measurement tools; development and application of system and individual quality measures; strategies to improve quality; role of leadership; principles of change management"

3

Introduction & Review of QI

4

Model for Improvement: PDSA Cycles

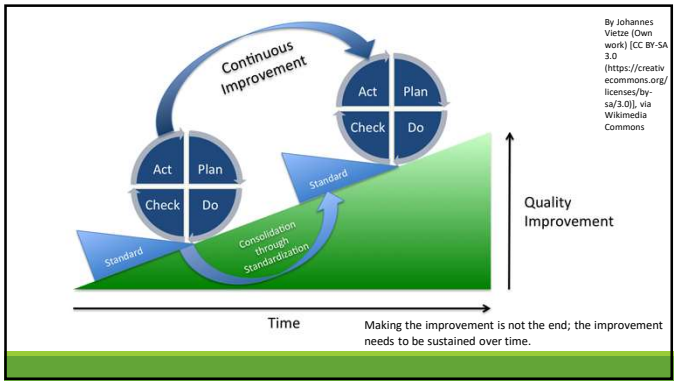


5

What are some key characteristics of PDSA cycles?

- Pilot-testing (small numbers)
- Measurement (collect useful data during each test)
- Rapid cycles – short period of time testing/adapting a change idea
- Multiple cycles
- Collaboration
- Not undertaken as official "research" project (not worried about statistical significance)
- Doesn't need committee approval
- Remember: improvement alone is not the end goal: rather, designing improvements that can be sustained over time!

6



7

Breakout rooms:
Discuss with your T4 leaders (5 minutes)

Have you or any of your friends been involved in QI projects?

Have you noticed something during your clinical rotations that you think would make for a good QI project?

Did you hear anything about expectations for QI work in residency on the interview trail?

8

Hannah's Overview of QI During Medical Training

- Medical school:
  - IHI modules / IRB requirements
  - Family med rotation*
- Interview trail:
  - "Tell us about a time where you worked on project…"
  - Program highlights - "six sigma certification" & "lean management"
- Residency:
  - ACGME requirement that we all do a QI project**

Credit: Hannah Daneshvar, Tulane SOM Class of 2022

Biggest QI Project:
- COVID PPE!

9

Hannah's QI Journey

T1year: IHI Modules/IRB

T2 year: Step 1 prep (??)

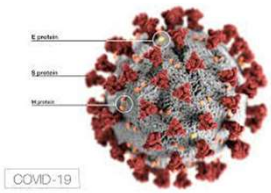
MPH Year: QI Semester-long class (!!)

Credit: Hannah Daneshvar, Tulane SOM Class of 2022

10

QI During COVID

Credit: Hannah Daneshvar, Tulane SOM Class of 2022



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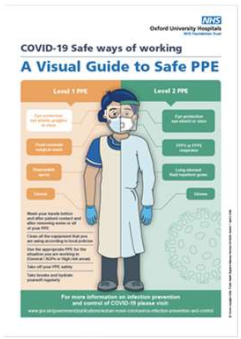
STUDENT CLINIC COUNCIL
TULANE UNIVERSITY
School of Medicine

Credit: Hannah Daneshvar, Tulane SOM Class of 2022

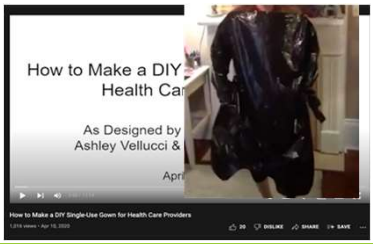
12



Credit: Hannah Daneshvar, Tulane SOM Class of 2022

13

Ultimately…



- Designed a gown from trash bags
- Met with hospital C Suite (!!)
- Youtube tutorial video
- Made 300 gowns for testing sites

Credit: Hannah Daneshvar, Tulane SOM Class of 2022

14

Emergency Medicine Example

Resident: access to an interpreter is a right, not a privilege, especially in the health care setting

↓ QI Project!

iPad translator services @ UMC!

Credit: Hannah Daneshvar, Tulane SOM Class of 2022

15

How to think about QI

How it's typically presented:

- There is a workflow problem
- There is "waste" in the workflow
- Inefficiencies hurt the system
- Fix the system, fix the problem

How I've heard it discussed:

- PDSA cycles!
- Root Cause Analysis!
- Six Sigma
- LEAN principles

Here's one way to make it more interesting:

Quality ~~improvement~~

↓

Quality Innovation *(not a real term)*

- Identify the need
- Find your people
- Do your research!
- Find your stakeholders
- Present a plan
- Stay confident, flexible, & organized
- Make it happen

Credit: Hannah Daneshvar, Tulane SOM Class of 2022

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"I have not failed. I've just found 10,000 ways that won't work."

- Thomas Edison

Credit: Hannah Daneshvar, Tulane SOM Class of 2022

17

Wellness PDSA

1. Plan
2. Do
3. Study
4. Act

18

STUDY: Review your wellness contract

Did you set SMART goals? Did they work?

19

ACT:

Revise your wellness contract

20

Activity

Take 10 minutes to review and revise your wellness contract

Meet back in your breakout rooms when you're done

Discuss to the degree that you're comfortable:

- Have you met your SMART goals this year? Why or why not?
- What has surprised you about where you are now, compared with where you thought you'd be at this point?
- What are you going to do differently to foster wellness in the next stage of your training? What are you going to keep doing?

21

Professionalism Mini-Workshop

FIM WEEK 2022

JESSICA DEBORD, MD, MPH
KAREN WEISSBECKER, PHD, LMSW

Tulane University
SCHOOL OF MEDICINE

22

Is this behavior professional?

23

Breakout Rooms (5 minutes): What is professionalism?

24

Professionalism in the SOM objectives

Demonstrate compassion, integrity, and respect for others

Demonstrate accountability to patients, society, and the profession

Arrive on time for all required activities and remains for the duration of the activity

Prepare for and be involved in team activities

Demonstrate an awareness of professional values; maintain professional behavior when personally challenged

Describe the components of effective feedback

Recognize how feedback is part of the learning process for individuals, groups, and the overall learning community

25

Code of Excellence:

The Tulane University School of Medicine community recognizes our multiple responsibilities to our patients, colleagues, communities, families, and ourselves. Realizing that it is a privilege and an honor to be a medical professional, we hold the following ideals:

- Patient welfare is our primary concern, for only by this commitment do we justify the trust placed in us by patients and the community at large.
- Relationships with our colleagues, faculty, and staff are an essential part of professional conduct.
- Integrating personal growth into our professional development is essential to our commitment to medicine.
- As medical professionals, we shall strive to be responsible citizens.

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Breakout rooms (5 minutes)

A T1, feeling overwhelmed with preparing for an upcoming module exam, realizes that she hasn't had time to do the pre-work for the next day's small group FiM session. She considers the following options:

A. Submit a CHIT request and skip the FiM session

B. Attend the FiM session without completing the pre-work and hope no one notices

C. Stay up late tonight to complete the pre-work for the FiM session but lose time studying for the module exam, and risk being exhausted tomorrow

D. Email Dr. DeBord and explain the situation, and request to be excused from the FiM session

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Notes about attendance and excused absences

EXCUSED ABSENCES:

The school understands people have lives, there are weddings and illnesses etc…

BUT team activities and active learning sessions are created for educational purposes beyond book-learning. And they do not work if people are not there.

Excused absences for after holidays – even if the schedule does not say there is a mandatory session will not be granted. (unless extraordinary circumstances)

You must submit the excused absence form in a timely manner

The Dean of Student Affairs will make the decision whether to approve or not

Excused absences for exams will be granted only for the most extenuating of circumstance (and documentation such as a doctor's note may be required)

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Excused Absence Policy – student handbook

Student Excused Absence Policy

Students are expected to attend all required pre-clinical sessions and to participate fully in clinical coursework. **Part of becoming a professional is to think beyond self and to work for the betterment of the medical profession and patients**. However, certain life events including sickness, family emergencies, marriages, presentations at meeting, etc. may necessitate missing class or patient care activities. Additionally, excused absences are appropriate for routine medical care including diagnostic, preventive or therapeutic health services.

Students in all years should not expect to extend breaks or holidays with Excused Absence requests. For example, travel costs to or from a Thanksgiving destination are not considered legitimate reasons for excused absence requests, and these requests are routinely denied.

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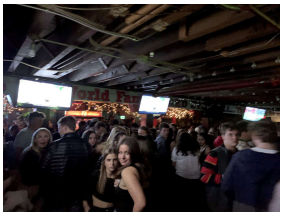
Breakout Rooms: COVID consequences



What are appropriate expectations of professionalism outside the classroom/clinic/Tulane in the context of a pandemic?

What new professionalism challenges exist in the virtual classroom?

30

Why Tulane tracks student professionalism:

1. Raise awareness of Tulane's commitment to a culture of professionalism
2. Monitor students' professional development and patterns of behavior over time
3. Identify students who may need support
4. Identify and recognize outstanding students

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How Tulane tracks student professionalism :

How?

- Peer evaluations
- Narrative assessment
- Clinical rotation evaluations
- Real time reports

32

How Tulane tracks Faculty & Staff professionalism :

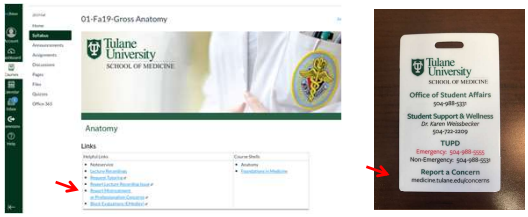
How?

- Module evaluations
- Clinical rotation evaluations
- Real time reports

33

Real time reporting:

Link on every canvas page to get to the reporting page

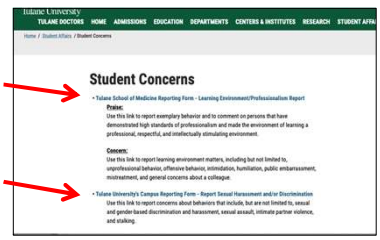


34

That link takes you to this page

School of Medicine concern

Tulane University or Title XI concern



35

Student Handbook – Student Conduct and Behavioral Expectations

Code of Student conduct (University Policy)

Conduct expected no matter who you are at the University (no weapons, no acts of violence, no lewd behavior)

Student Code of Professional Conduct (SOM)

- Patient welfare
- Relationships with colleagues, faculty, and staff
- Personal growth as part of professional development
- Medical professionals, responsible citizens

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Reporting a learning environment/professionalism concern

Allows for immediate input, can include concerns about a fellow student(s) or faculty/residents or staff

- Allows for anonymous reporting
- Can chose to have the report sent later (eg. Delay until after grades are in)
- Can choose to have it go to Director of Student Support and Wellness
- Will be seen by the Dean of Students Affairs and/or the Dean of Academic Affairs

If you do not want the Deans to see the report, or are unsure how to handle something, you can always reach out to Dr. Weissbecker directly.

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Faculty Professionalism

Student report: "The preceptor we shadowed was an atrocious mentor. Acted tremendously unprofessionally (in the form of derogatory/offensive/inflammatory comments to and about patients). He showed no interest in teaching students and it was a very uncomfortable environment."

38

Breakout Rooms (5 minutes)

What would you do if you were the student in this situation?

39

What happens if I/my fellow student/a faculty member/an attending/is not acting professionally?

We need to know about it

More detailed explanation of the process

https://medicine.tulane.edu/student-affairs/professionalismenvironment-learning-program

40

How we address lapses in professionalism:

It depends

Was someone just having a bad day?
Where they just unaware of the impact of their behavior?
Is this a teaching moment?
Does the person need support?
Is there a pattern?
Is the behavior egregious?

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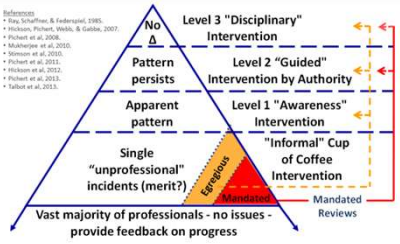
What happens next?



42

If the issue involves faulty, residents, staff

TRIO

Diane Bloke, PhD
Professor, Biochemistry & Molecular Biology
Co-Director, Graduate Program in BMS

Keith Ferdinand, MD
Professor of Medicine
Gerald Berenson Chair in Preventative Cardiology

David Doukas, MD
Professor, Family Medicine
James Knight Chair of Humanities & Ethics in Medicine

Tulane MEDICINE

6

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If the issue is between students

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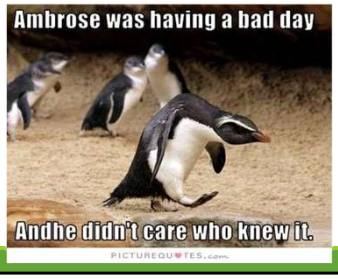
Anyone can have a bad day



45

Relationship between professionalism and feedback

Competency Domain	PERSONAL AND PROFESSIONAL DEVELOPMENT		
Sub Domain	Leadership and Followership		
Competency	Provide leadership skills that enhance team functioning, the learning environment, and/or the health care delivery system (8.6)		
End of T1	End of T2	End of T3	End of T4
Recognizes emotions in oneself and others and adapts responses to improve team functioning (8.6) Describes the components of effective leadership skills (8.6) Describes the components of effective feedback (8.6)	Demonstrates understanding of the impact of emotions on the effective operation of the team (8.6)	Demonstrates an understanding of when to lead and when to follow (8.6)	Demonstrates the ability to accept and reflect on emotional responses in oneself and others (8.6) Encourages the development of effective leadership skills in others (8.6) Provides effective feedback that is both specific and actionable (8.6) Clarifies roles and orients new team members* (8.6)

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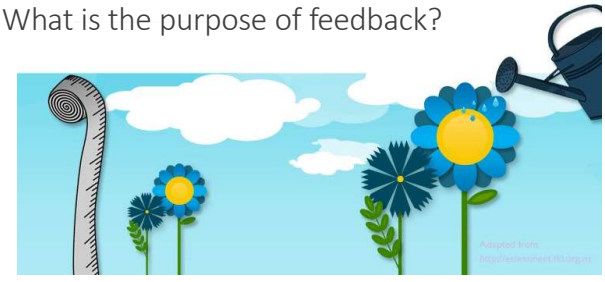
What is the purpose of feedback?



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SOAP Method for Feedback

S = **S**pecific

O = **O**bservable & **O**bjective

A = how it **A**ffects me, **A**ctionable

P = **P**lan for improvement

48

Feedback Activity

Choose your roles:

- Feedback provider
- Feedback recipient
- Observers

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Breakout Rooms: Feedback Activity (15 minutes)

Think about something from the T1 curriculum that you think needs to be improved. Take a few minutes to write down feedback for the teacher or module/course director, and be prepared to share with your group.

De-brief:

What was effective about that feedback?
What could be improved?

50

Bottom line

Our goal is to ensure that all Tulane graduates embody the personal attributes essential to the practice of medicine and are prepared to provide safe and quality medical care to patients.

51

Value in Diagnostic Testing Workshop

Student Guide

Overview: Work in small groups to discuss your approach to patient scenarios to maximize benefit and reduce harm in your diagnostic workup and treatment plan.

Estimated time: 2 hours

Expectations for all students:

- Submit pre-quiz during start of session to register your attendance
- Participate actively in group discussion

Session objectives:

- Identify and describe key drivers of the cost crisis in health care
- Identify, describe, select and utilize evidence, tools, and information technologies to support cost-effective medical decision-making
- Identify and describe strategies to support cost-effective clinical decision-making including utilizing test characteristics to minimize unnecessary diagnostic testing

Pre-work:

- Complete EBM exercise 5 (due during pulmonary module)
- Complete IHI Triple Aims 103 module and upload your certificate to eMedley
- Read: Morgan, Daniel J., et al. "Accuracy of practitioner estimates of probability of diagnosis before and after testing." *JAMA internal medicine* 181.6 (2021): 747-755.

Value in Diagnostic Testing workshop

CLASS OF 2025

JESSICA DEBORD, MD, MPH

Tulane University
SCHOOL OF MEDICINE

1

Outline

Individual quiz (not graded): 15 minutes

Group discussion: 15 minutes
- Select a group leader who will answer for your team

Review quiz

Case

2

The positive predictive value (PPV) of a test refers to which of the following?

A. the proportion of patients with disease who test positive

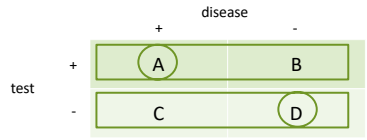
B. the proportion of patients without disease who test negative

C. the proportion of patients with a positive test who have the disease

D. the proportion of patients with a negative test who do not have the disease

3

Predictive value



PPV = what proportion of those with a positive test have the disease?

A / (A + B)

NPV = what proportion of those with a negative test are disease-free?

D / (C + D)

4

According to these results, what is the sensitivity of the cutoff value of 0.035 ng/mL on a standard troponin assay for detecting myocardial infarction?

A. 144/200

B. 144/438

C. 9,506/9,800

D. 9,506/9,562

	# pts with MI	# pts without MI	total
# test positive	144	294	438
# test negative	56	9,506	9,562
Total	200	9,800	10,000

5

According to these results, what is the **sensitivity** of the cutoff value of 0.035 ng/mL on a standard troponin assay for detecting myocardial infarction?

	# pts with MI	# pts without MI	total
# test positive	144	294	438
# test negative	56	9,506	9,562
Total	200	9,800	10,000

sensitivity = what proportion of those with disease are diagnosed correctly?

A / (A + C)

A. 144/200

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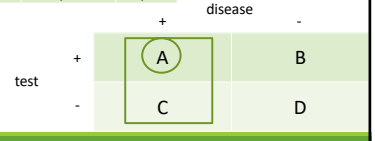

6

A new serum test for coronary artery disease is investigated in a sample of 1000 individuals, of whom 500 have coronary artery disease. The test yields 400 positive results in individuals with coronary artery disease and 30 positive results in those without. Which of the following calculations represents the specificity of the test for the diagnosis of coronary artery disease?

A. 400 / 430
B. 400 / 500
C. 470 / 500
D. 470 / 570

7

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test	disease +	disease -	
+	A	B	
-	C	D	

sensitivity = what proportion of those with disease are diagnosed correctly?

A / (A + C)

specificity = what proportion of those without disease are diagnosed correctly?

D / (B + D)

9

A low pretest probability of disease is most likely to lead to a lower value for which of the following test characteristics?

A. sensitivity, leading to more false negative results
B. specificity, leading to more false positive results
C. negative predictive value, leading to more false negative results
D. positive predictive value, leading to more false positive results

10

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A. sensitivity, leading to more false negative results
B. specificity, leading to more false positive results
C. negative predictive value, leading to more false negative results
D. positive predictive value, leading to more false positive results

PPV = true positive/test positive = A/(A+B)

test	disease +	disease -
+	A	B
-	C	D

11

A test with which of the following characteristics would be most likely to decrease the probability that patients will receive unnecessary treatment?

A. high sensitivity
B. high specificity

12

A test with which of the following characteristics would be most likely to decrease the probability that patients will receive unnecessary treatment?

A. high sensitivity
B. high specificity

13

Sensitivity & specificity

test	disease +	disease -
+	A	B
-	C	D

sensitivity = what proportion of those with disease are diagnosed correctly?

A / (A + C) *False negatives (C) are relatively unlikely*

specificity = what proportion of those without disease are diagnosed correctly?

D / (B + D) *False positives (B) are relatively unlikely*

14

What are they good for?

SnOUT: a **sensitive** test helps you "**rule out**" (conclude that disease is absent) when the test result is negative, since false negatives are relatively unlikely

SpIN: a **specific** test helps you "**rule in**" (conclude that disease is present) when the test result is positive, since false positives are relatively unlikely

15

Under which circumstance would it be most important to minimize false negatives?

A. the diagnosis is associated with substantial patient anxiety or stigma
B. the costs of follow-up therapy are high
C. the disease is not life-threatening
D. the disease can be treated more effectively at early stages

16

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17

The characteristics of a test were established in a study where 500 healthy volunteers and 500 patients with confirmed aortic dissection underwent the new test. For a given cutoff level of the serum marker, the investigators reports that the test had 80% sensitivity and 80% specificity for detecting aortic dissection, with positive predictive and negative predictive values both 80%. Compared to use of the test in normal clinical settings, these results probably overestimate which of the following?

A. negative predictive value
B. positive predictive value
C. sensitivity
D. specificity

18

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C. sensitivity
D. specificity

19

In patients presenting with acute decompensated congestive heart failure, chest radiography has 97% sensitivity and 10% specificity for making the diagnosis. This test is most appropriate for which of the following roles in a diagnostic process?

A. first step, with positive results confirmed by additional testing
B. first step, with negative results confirmed by additional testing
C. last step, to confirm that decompensated heart failure is present
D. last step, to confirm that decompensated heart failure is absent

20

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D. last step, to confirm that decompensated heart failure is absent

21

A study was made of physical findings in 247 patients with symptoms concerning for carotid artery stenosis. The final diagnosis was made with vascular ultrasound. Ninety-five patients had carotid artery stenosis, and 65 of those patients had carotid bruits present on exam. One hundred fifty-two did not have carotid artery stenosis, and 59 of these patients had carotid bruits present on exam. Based on these findings, which of the following best describes the utility of carotid auscultation for diagnosing carotid artery stenosis?

A. useful mainly to confirm presence of carotid artery stenosis ("rule in")
B. useful mainly to confirm absence of carotid artery stenosis ("rule out")
C. unlikely to be useful

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		disease +	disease -	
test	+	65	59	124
	-	30	93	123
		95	152	247

A. useful mainly to confirm presence of carotid artery stenosis ("rule in")
B. useful mainly to confirm absence of carotid artery stenosis ("rule out")
C. unlikely to be useful

PPV = TP/(TP+FP) = 65/124 = 52% (or basically a coin flip)

24

A 60-year-old man with no chronic medical problems presents with three days of left-sided headache, fever, jaw pain, and 1 day of double vision. Physical exam reveals temperature 38.3 C and tenderness over the left temporal artery. The physician, recalling that giant cell arteritis has about 80% prevalence in patients with this combination of findings, orders an ESR (sensitivity 80%, specificity 39%), which yields a normal result. He recalls that untreated giant cell arteritis can lead to blindness within a few days. What is the best next step?

A. recommend no further tests or treatment

B. Obtain a temporal artery biopsy, and schedule follow-up in 3 days for the results prior to starting treatment (sensitivity 90%, specificity 99.9% for giant cell arteritis)

C. Start treatment now

25

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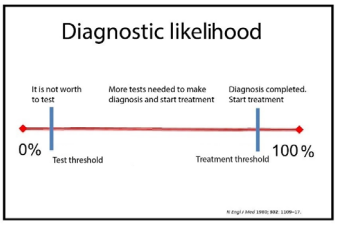


27

VALUE =

BENEFIT

COST

28

Why should you care about value?

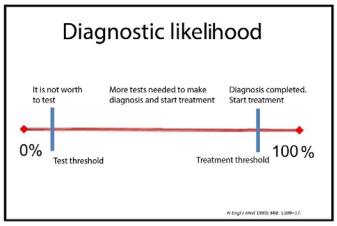
Clerkship evaluations:

- Faculty evals have 17 questions; faculty select "does not meet expectations," "meets expectations," or "exceeds expectations"
- High Pass/Honors are determined by % exceeding expectations
- Under Systems-Based Practice: "Student demonstrates cost-awareness and considers the value of the healthcare being delivered"

29

Value as it relates to diagnostic testing

Variables:
- Disease
- Test
- Treatment



30

When deciding whether to order a diagnostic test, what "costs" might you consider, other than $$?

31

Case 1

You are rotating in the emergency department (ED) with Dr. Xavier who asks you to see the next patient, Maria Rollo. You discover the following:

History

Previously healthy 25-year-old woman presents with a swollen right leg. She has been studying a lot over the past couple of days but has not been bedridden. No known trauma or cancer. No previous history of DVT. Does not smoke and takes no medications.

Source: Aquifer High Value Care

32

Physical examination

VS: 98.8, HR 75 bpm, RR 18, BP 116/72

General: Pleasant young woman, no acute distress

Extremities:

1+ pitting edema in her right ankle and lower leg up to mid shin

No tenderness or palpable cords

No redness or warmth

Left calf 38.86 CM, right calf is 39.9 CM

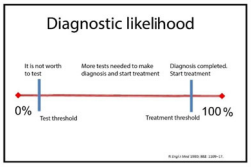
The remainder of her physical exam is normal.

Source: Aquifer High Value Care

33

Dr. DeBord's Success on the Wards Tip #1:

There are lots of scores & calculators that can help you determine pre-test probability!



34

Score >=2: probability of DVT 28%
Score 0-1: probability of DVT 6%

Wells score

Findings	Points
Active cancer (treatment within last 6 months or palliative)	+1
Calf swelling > 3cm compared to asymptomatic calf (measured 10cm below tibial tuberosity)	+1
Swollen unilateral superficial veins (non-varicose, in symptomatic leg)	+1
Unilateral pitting edema (in symptomatic leg)	+1
Previous documented DVT	+1
Swelling of entire leg	+1
Localized tenderness along the deep venous system	+1
Paralysis, paresis, or recent cast immobilization of lower extremities	+1
Recently bedridden > 3 days, or major surgery requiring regional or general anesthetic in past 12 weeks	+1
Alternative diagnosis at least as likely	-2

35

Since Ms. Rollo has a low risk of having a DVT, you ask Dr. Xavier if she needs further testing. She gives you the following information:

D-dimer
Cost: $84
Sensitivity: 95%
Specificity: 45%

LR (+)	LR (-)
1.7	0.1

Venous Doppler Ultrasound
Cost Unilateral: $738
Cost Bilateral: $1131
Sensitivity: 94%
Specificity: 94%

LR (+)	LR (-)
16	0.06

Source: Aquifer High Value Care

36

Questions

If Ms. Rollo has a negative D-dimer, what is her post-test probability of having a DVT?

A. 0-1%
B. 2-5%
C. 5-10%
D. 10-20%

Score 0-1: probability of DVT 6%

D-Dimer:
Sensitivity: 95%
Specificity: 45%

LR (+)	LR (-)
1.7	0.1

37

Dr. DeBord's Success on the Wards Tip #2:

Use test characteristics to impress your attendings & help your patients

38

Using predictive values

		disease +	disease -
test	+		
	-		

Score 0-1: probability of DVT 6%

D-Dimer:
Sensitivity: 95%
Specificity: 45%

39

Using predictive values

		disease +	disease -
test	+		
	-		
			10,000

Score 0-1: probability of DVT 6%

D-Dimer:
Sensitivity: 95%
Specificity: 45%

40

Using predictive values

		disease +	disease -
test	+		
	-		
		600	10,000

Score 0-1: probability of DVT 6%

D-Dimer:
Sensitivity: 95%
Specificity: 45%

41

Using predictive values

		disease +	disease -
test	+	570	
	-		
		600	10,000

Score 0-1: probability of DVT 6%

D-Dimer:
Sensitivity: 95%
Specificity: 45%

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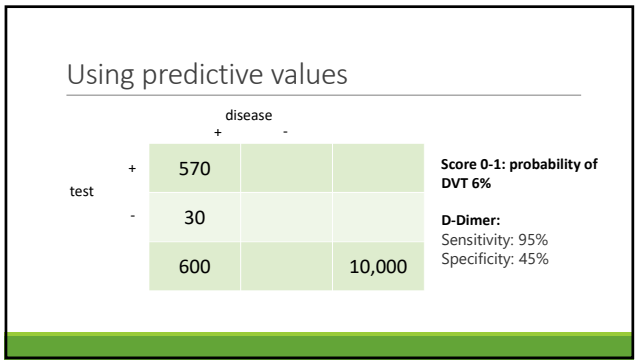

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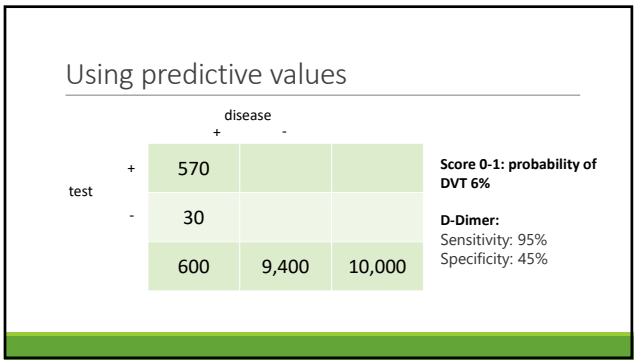

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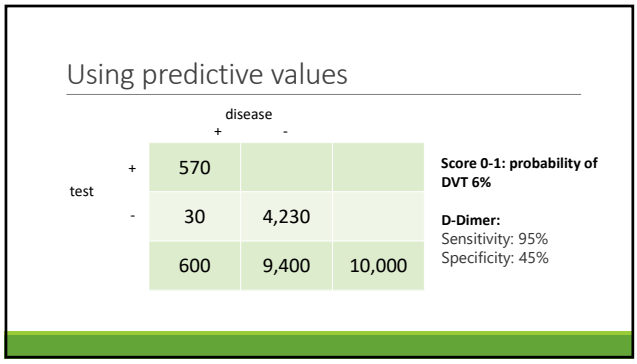

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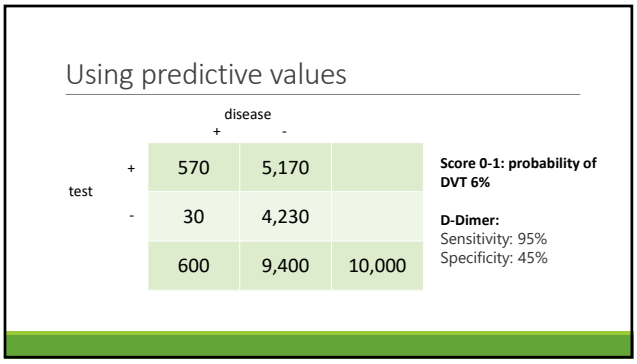

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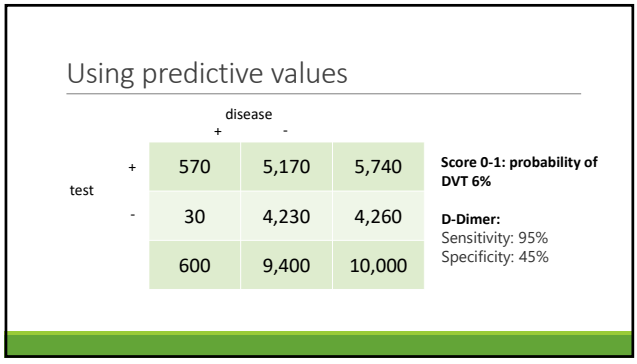

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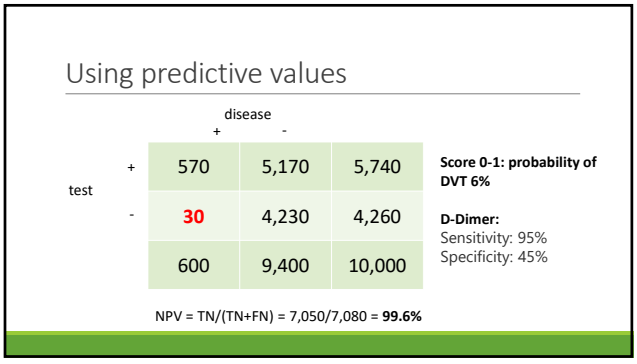
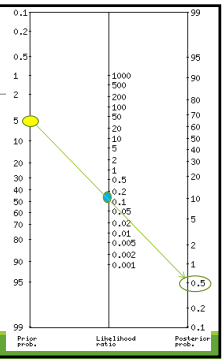


48

Using likelihood ratios

D-dimer
Cost: $84

LR (+)	LR (-)
1.7	0.1



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Question

If Ms. Rollo has a negative ultrasound, what is her post-test probability of having a DVT?

A. 0-1%
B. 2-5%
C. 5-10%
D. 10-20%

Score 0-1: probability of DVT 6%

Venous Doppler Ultrasound
Cost Unilateral: $738
Cost Bilateral: $1131
Sensitivity: 94%
Specificity: 94%

LR (+)	LR (-)
16	0.06

50

Using predictive values

		disease +	disease -	
test	+	564	564	1,128
	-	36	8,836	8,872
		600	9,400	10,000

Score 0-1: probability of DVT 6%

Venous Doppler Ultrasound
Cost Unilateral: $738
Cost Bilateral: $1131
Sensitivity: 94%
Specificity: 94%

NPV = TN/(TN+FN) = 8,836/8,872 = **99.6%**

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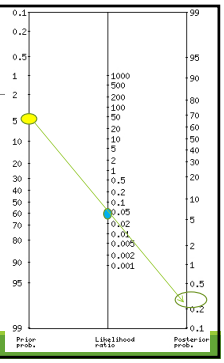
Using likelihood ratios

Venous Doppler Ultrasound
Cost Unilateral: $738
Cost Bilateral: $1131

LR (+)	LR (-)
16	0.04



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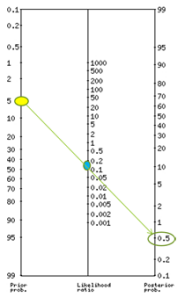
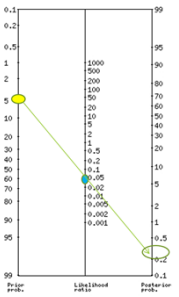
D-Dimer



Ultrasound



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Question

What is your next step?

A. Order a d-dimer
B. Order a venous Doppler
C. Order no further testing
D. Treat for DVT

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Small group discussion

You've finished evaluating Ms. Rollo and discussed your plan to obtain a D-dimer test with your resident, who agrees, and asks you to run the plan by your attending for final approval. After presenting a succinct H&P to your attending followed by a well-presented assessment and plan, your attending replies, "Thanks, sounds good. Let's go ahead and order a CT scan of her lungs as well to make sure she doesn't have a pulmonary embolus. I missed a PE in a patient who ended up having a cardiac arrest and dying last week, and I don't want that to happen again."

What do you do now?

55

Barriers to high value care

Established habit

Disapproval of "doing nothing"

Lack of feedback

Time pressure

Discomfort with diagnostic uncertainty

Ease of access to service

Incentives for overuse
- New technologies
- Patient requests and expectations
- Request from referring provider
- Financial incentives
- Defensive medicine
- Curiosity

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Dr. DeBord's Success on the Wards Tip #3:

Look for guidelines to quickly identify high and low value tests and treatments

Choosing Wisely®

An initiative of the ABIM Foundation

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Choosing Wisely

From the American College of Radiology:

Don't image for suspected pulmonary embolism (PE) without moderate or high pre-test probability of PE

While deep vein thrombosis (DVT) and PE are relatively common clinically, they are rare in the absence of elevated blood d-Dimer levels and certain specific risk factors. Imaging, particularly computed tomography (CT) pulmonary angiography, is a rapid, accurate and widely available test, but has limited value in patients who are very unlikely, based on serum and clinical criteria, to have significant value. Imaging is helpful to confirm or exclude PE only for such patients, not for patients with low pre-test probability of PE.

ACR® American College of Radiology

Quality is Our Image

58

Small group discussion

The d-dimer test you ordered returns negative. You return to Ms. Rollo's room to let her know that you feel very confident that she doesn't have a DVT, although you acknowledge you're not 100% sure. Ms. Rollo is not comfortable with even a very small chance that she has a DVT, though. She requests more testing to make absolutely sure that nothing is missed.

What do you do now?

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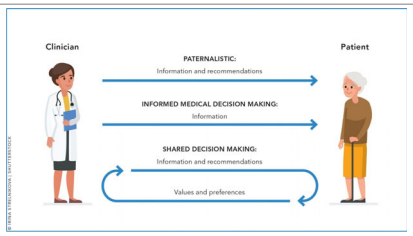
Dr. DeBord's Success on the Wards Tip #2:

Use test characteristics to impress your attendings & help your patients

60

Shared medical decision making



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Case 2

Your next patient in the ED is Alex Schiffenhauer, a 45-year-old man, who is also having swelling in his leg.

He recently had a femur fracture and his left leg was immobilized in a cast for six weeks; the cast was removed one week ago. Prior to the fracture, he was healthy and took no medications.

Source: Aquifer High Value Care

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Physical Exam

VS: HR: 82, RR: 16, BP: 130/78

Extremities:

Pitting edema from the ankle to the mid thigh on left

Left calf 48 CM, right calf is 42 CM

Superficial veins are swollen on left

Tender over the deep veins of his left leg.

The remainder of his physical exam is normal.

Source: Aquifer High Value Care

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Score >=2: probability of DVT 28%
Score 0-1: probability of DVT 6%

Wells score

Findings	Points
Active cancer (treatment within last 6 months or palliative)	+1
Calf swelling > 3cm compared to asymptomatic calf (measured 10cm below tibial tuberosity)	+1
Swollen unilateral superficial veins (non-varicose, in symptomatic leg)	+1
Unilateral pitting edema (in symptomatic leg)	+1
Previous documented DVT	+1
Swelling of entire leg	+1
Localized tenderness along the deep venous system	+1
Paralysis, paresis, or recent cast immobilization of lower extremities	+1
Recently bedridden > 3 days, or major surgery requiring regional or general anesthetic in past 12 weeks	+1
Alternative diagnosis at least as likely	-2

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Question

If you check Mr. Schiffenhauer's D-dimer, how would the results affect his post-test probability of having a DVT? (pre-test probability 28%)

	Positive D-dimer	Negative D-dimer
A.	30-40%	2-5%
B.	30-40%	10-20%
C.	80-90%	2-5%
D.	80-90%	10-20%

Score >=2: probability of DVT 28%

D-Dimer:

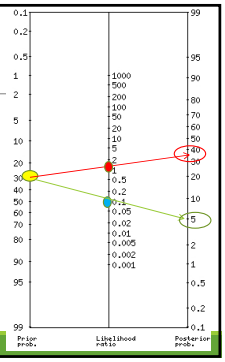
LR (+)	LR (-)
1.7	0.1

65

Using likelihood ratios

D-dimer
Cost: $84

LR (+)	LR (-)
1.7	0.1



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Question

If you obtain a venous doppler, how would the results affect his post-test probability of having a DVT?

	Positive D-dimer	Negative D-dimer
A.	30-40%	2-5%
B.	30-40%	10-20%
C.	80-90%	2-5%
D.	80-90%	10-20%

Score >=2: probability of DVT 28%

Doppler ultrasound:

LR (+)	LR (-)
16	0.04

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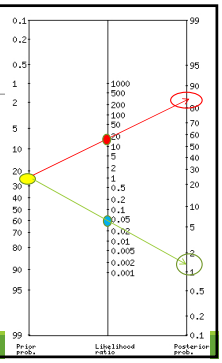
Using likelihood ratios

Venous Doppler Ultrasound
Cost Unilateral: $738
Cost Bilateral: $1131

LR (+)	LR (-)
16	0.04



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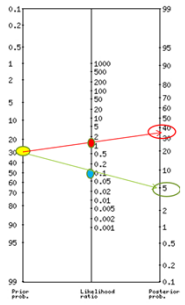
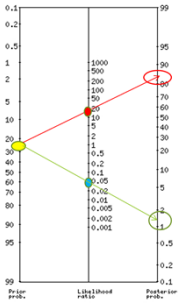
D-Dimer



Ultrasound



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Choosing Wisely
An initiative of the ABIM Foundation

For medical students…

- Don't suggest ordering the most invasive test or treatment before considering other less invasive options.
- Don't suggest a test, treatment, or procedure that will not change the patient's clinical course.
- Don't miss the opportunity to initiate conversations with patients about whether a test, treatment or procedure is necessary.
- Don't hesitate to ask for clarification on tests, treatments, or procedures that you believe are unnecessary.
- Don't suggest ordering tests or performing procedures for the sole purpose of gaining personal clinical experience.
- Don't suggest ordering tests or treatments pre-emptively for the sole purpose of anticipating what your supervisor would want.

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Take-home points

There are lots of scores & calculators that can help you determine pre-test probability!
- MedCalc app is a great source for many of them

Use test characteristics to impress your attendings & help your patients
- Sensitivity and specificity tell you how good a diagnostic test is at finding disease – not how likely a patient with a given test result is to have a disease
- PPV and NPV tell you how likely a patient with a given test result is to have a disease, but they vary with prevalence (so to apply values reported in a study requires that the patient you're caring for has the same risk factors for disease as patients in the study)
- Likelihood ratios don't require knowledge of prevalence and don't change with population demographics. You need to have an idea of your pre-test probability in order to apply a LR to generate a post-test probability.

Look for guidelines to quickly identify high and low value tests and treatments
- Check out Choosing Wisely!

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Questions?

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EBM Study Guide 3: Positive and Negative Predictive Values

Objectives

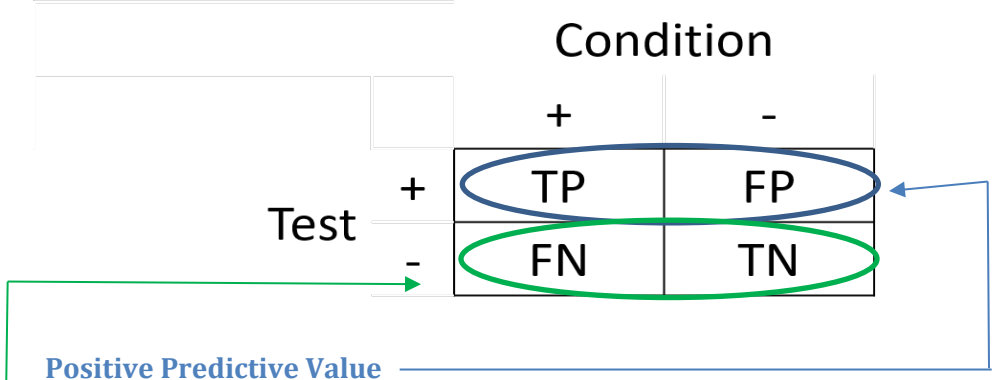
- Define positive and negative predictive values, both mathematically and in plain language
- Understand the relationship between predictive values and prevalence

Assignment

- Watch a video lecture on positive and negative predictive values by Meghan Althoff
- Review this study guide
- Suggested podcast: Rodman, Adam. *Bedside Rounds*. Episode 15: Innumeracy (EXTRA CREDIT)
- Take the EBM Exercise 3 quiz on eMedley by the midnight before the exam

Key Concepts

1. Positive and negative predictive values



Positive Predictive Value

Mathematically: the ratio of TRUE POSITIVES to TEST POSITIVES (aka true positives + false positives)

$$\frac{TP}{TP + FP}$$

Conceptually, **positive predictive value** is the probability of a patient having disease (true positive) if they have a positive test.

If the TEST is POSITIVE, what is the chance that the PATIENT is POSITIVE?

Negative Predictive Value

Mathematically: the ratio of TRUE NEGATIVES to TEST NEGATIVES (aka true negatives + false negatives)

$$\frac{TN}{TN + FN}$$

Conceptually, **negative predictive value** is the probability of a patient not having disease (true negative) if they have a negative test.

If the TEST is NEGATIVE, what is the chance that the PATIENT is NEGATIVE?

2. The relationship between predictive values and prevalence

Predictive values **vary with prevalence of disease**, unlike sensitivity and specificity, which are fixed test characteristics. PPV varies **directly** with prevalence, and NPV varies **inversely** with prevalence.

	High prevalence	Low prevalence
PPV		
NPV		

Example: Imagine I test 2 patients for syphilis with an RPR test:

- Patient 1: asymptomatic first-grader
- Patient 2: sexual partner of a person recently diagnosed with syphilis who has a painless genital ulcer

Remember than no test is perfect.

For patient 1, if the test returns positive, it is more likely than not a **false positive** result, because the prevalence of syphilis is very low in asymptomatic first-graders, so my clinical suspicion is low (and a negative test most likely represents a **true negative**)
For patient 2, if the test returns positive, it very likely represents a **true positive** result, because the prevalence of syphilis is very high in persons with high-risk sexual activity with painless genital ulcers, so my clinical suspicion is high (and a negative test most likely represents a **false negative**)

Even though the sensitivity (~80%) and specificity (~98%) of the RPR for the diagnosis of primary syphilis regardless of who is being tested (they are properties inherent to the test), the positive and negative predictive values change with the prevalence of disease in the population being tested.

3. Which test characteristics are most useful in a clinical setting?

Sensitivity and specificity:

- Tell you how good a test is at identifying people with disease
- Inherent to the test and do not vary with the population being studied
- Useful in determining which test to choose to rule in or rule out a diagnosis

PPV and NPV:

- In theory, useful in determining how likely a test result is to be accurate (a true positive/negative as opposed to a false positive/negative)
- Because they require you to know the prevalence of disease in the specific population being tested, difficult to apply clinically

Sources:

- Nelson A. An interactive workshop reviewing basic biostatistics and applying Bayes' theorem to diagnostic testing and clinical decision-making. *MedEdPORTAL*. 2018;14:10771. https://doi.org/10.15766/mep_2374-8265.10771
- Cantor A, Nelson HD, Daeges M, et al. Screening for Syphilis in Nonpregnant Adolescents and Adults: Systematic Review to Update the 2004 U.S. Preventive Services Task Force Recommendation [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2016 Jun. (Evidence Syntheses, No. 136.) Table 3, Sensitivity and Specificity of Commonly Used Syphilis Tests* Available from: https://www.ncbi.nlm.nih.gov/books/NBK368468/table/ch1.t3/

EBM Exercise 3

Use the following scenario for questions 1-6:

A 22-year-old previously healthy T1 notices that he is bruising more often than usual. Concerned, he googles his symptoms, and discovers that easy bruising can be a sign of leukemia. Because of the COVID-19 pandemic he is reluctant to see a physician in person, but he discusses his symptoms with his PCP over the phone, who reassures him that he has a very low likelihood of leukemia (based on her experience, she estimates his pre-test probability to be 1%). He finds a test online that claims to be able to accurately diagnose leukemia with a cheek swab. The website reports that the test has a 90% sensitivity and 98% specificity for the diagnosis of leukemia. He send in a cheek swab, and one week later gets a call that his test was abnormal.

1. What is the probability that the medical student has leukemia, given the abnormal test result?
    A. 90%
    B. 98%
    C. Neither A nor B

SENSITIVITY and SPECIFICITY tell you how good a test is a detecting people WITH (sensitivity) and WITHOUT (specificity) disease, but they do NOT tell you how likely a patient in front of you with a given test result is to have the disease. To determine the probability that a patient in front of you has a disease in the setting of a given test result, you need to calculate POSITIVE or NEGATIVE PREDICTIVE VALUE. PPV and NPV vary with the prevalence, or pre-test probability, of the disease in question. In order to interpret any patient's test results, you need to know the prevalence of disease in patients with similar characteristics, or you can use the given pre-test probability.

To help you interpret this meaning of the abnormal test result, we will use *natural frequencies.* Imagine the following scenario: You perform this test in a group of 1000 people with a 1% prevalence of leukemia. Use the test characteristics given above to fill in the table:

	Disease +	Disease -	TOTAL
Test +	9	20	29
Test -	1	970	971
TOTAL	10	990	1000

2. How many of test results are true positives?
   A. 1
   B. 9
   C. 10
   D. 20
   E. 29

   True positives are people with the disease who test positive.

3. How many of the test results are false positives?
   A. 1
   B. 9
   C. 10
   D. 20
   E. 29

   False positives are people without the disease who test positive.

4. What is the positive predictive value of this test?
   A. 31%
   B. 69%
   C. 90%
   D. 98%
   E. 99%

   PPV (or true positive rate) = true positives/test positives = 9/29 = 31%

   This is the probability that a positive test result means a patient in this group (or anyone with the same pre-test probability as the people in this group) has the disease.

5. Which of the following did you just calculate?
   A. The probability of having leukemia if you have a positive test
   B. The probability of having a positive test if you have leukemia
   C. The probability of not having leukemia if you have a negative test
   D. The probability of having a negative test if you don't have leukemia

   Positive predictive value or true positive rate is calculated by dividing true positives by test positives. It is the probability that a positive test result means a patient has the disease, or the rate of true positives (people with positive tests that have disease) out of all test positives.

6. Of the following, the positive result MOST likely represents a:
   A. True positive because of the high sensitivity
   B. True positive because of a high specificity
   C. False positive because of a low negative predictive value
   D. False positive because of a low positive predictive value

   Clinical suspicion is equivalent to pre-test probability on an individual level and high prevalence on a population level. The patient's physician's clinical suspicion (or pre-test probability) of disease is very low (you were given 1%). Positive predictive value is correlated with prevalence. In this case, a patient with a positive result is still unlikely to have the disease (true positive rate [PPV] is 31%, and false positive rate is 69%).

Use the following scenario for questions 7-8:

A national organization is re-evaluating their recommendations on prostate cancer screening, and would like to consider the effect of a change in the prostate-specific antigen (PSA) cut-off that is considered abnormal. In order to determine the ideal cut-off value, they refer to studies that have been published that report the number of patients with given PSA values that are subsequently diagnosed with prostate cancer. Below is a table from one study of PSA.

	#pts **with** prostate cancer	# pts **without** prostate cancer	Total
# pts with PSA > 4	190	6,830	7,020
# pts with PSA <= 4	40	2,940	2,980
Total	230	9,770	10,000

7. Based on the table, what is the positive predictive value of a PSA greater than 4 ng/mL in this study population?
   A. 190/230
   B. 6,830/7,020
   C. 6,830/9,770
   D. 190/7,020

Mathematically, PPV is the proportion of patients with true positive tests (190) out of all positive tests (7,020).

8. If the PSA cut-off value was increased to 5 ng/mL, which of the following would be the MOST likely effect on the positive predictive value of the test?
   A. The positive predictive value would increase

B. The positive predictive value would decrease
C. The positive predictive value would remain the same

If the cut-off value was increased, there would be less false-positive tests. Because PPV is equal to true positives/(true positives + false positives), if false positives decrease, PPV goes up.

9. A new serum test for acute lympoblastic leukemia (ALL) is investigated in a sample of 1000 individuals, of whom 500 have ALL. The test yields 400 positive results in individuals with ALL and 30 positive results in those without. What is the negative predictive value of the test?
   A. 400 / 430
   B. 470 / 500
   C. 400 / 500
   D. 470 / 570

NPV is the proportion of patients with true negative tests out of all negative tests, or how likely a negative test is to be accurate. In this example, 500/1000 patients have the disease, implying that the remaining 500 do not. Of those 500 patients without the disease, 30 test positive, implying that 470 test negative. So the negative predictive value is true negatives/test negatives = 470 true negative tests/570 patients with negative tests

	Disease +	Disease -	TOTAL
Test +	400	30	430
Test -	100	470	570
TOTAL	500	500	1000

Use the following information for questions 10 and 11:

A study on the utility of lactate dehydrogenase (LDH) testing in the diagnosis of *pneumocystis jirovecii* pneumonia (PJP) patients with HIV and hypoxia found the following, using a cutoff of 400 U/L:

- 566 patients had an LDH test as well as a bronchoscopy (gold standard)
- 91 patients were diagnosed with PJP by bronchoscopy *(16% prevalence)*

The investigators reported a 30% sensitivity and 68% specificity of an LDH > 400 U/L for the diagnosis of PJP.

10. What is the positive predictive value of the chosen LDH cutoff in this population?
    - **A. 15%**
    - B. 16%
    - C. 81%
    - D. 83%
    - E. 84%

Create a 2x2 table. There are 566 total patients, of whom 91 are disease positive (and thereby 475 disease negative). Use the mathematical equations for sensitivity and specificity to fill in the table:

Sensitivity = 0.30 = True positives/Disease positives = TP/91
TP = 91 x 0.30 = 27

Specificity = 0.68 = True negatives/Disease negatives = TN/475

TN = 475 x 0.68 = 323

	Disease +	Disease -	TOTAL
Test +	27	*151*	*178*
Test -	*63*	*323*	*386*
TOTAL	***91***	*475*	**566**

PPV = TP/Test positives = 27/178 = 15%

11. If the investigators were to perform the same study in a population of patients visiting a primary care clinic for any reason, which the following would they be MOST likely to find?
    - **A. The positive predictive value would decrease**
    - B. The positive predictive value would increase
    - C. The positive predictive value would be unchanged

A primary care clinic would be expected to have a lower prevalence of PJP than the study, which was done in patients with HIV and hypoxia. Prevalence is directly correlated with PPV, so if prevalence decreases, so does PPV.

12. A medical student on her first day of wards notices that her assigned patient has a low ferritin level. She is curious about what that means, and finds an article about the use of ferritin in the diagnosis of iron deficiency anemia that includes values for the sensitivity and specificity of the test. Which of the following statements about interpreting the patient's low ferritin level is MOST accurate?

a. Sensitivity would be most useful in determining the probability of iron deficiency in this patient
b. Specificity would be most useful in determining the probability of iron deficiency in this patient
c. In order to interpret the results, we would need to know the pre-test probability of iron deficiency for this patient
d. Sensitivity and specificity are not useful in determining the accuracy of the test

SENSITIVITY and SPECIFICITY are test characteristics that do NOT change with the prevalence of disease in a given population (or with pre-test probability for a given patient). They tell you how good a test is a detecting people with (sensitivity) and without (specificity) disease (so they tell you a lot about test accuracy), but they do NOT tell you how likely a patient in front of you with a given test result is to have the disease. To determine the probability that a patient in front of you has a disease in the setting of a given test result, you need to calculate POSITIVE or NEGATIVE PREDICTIVE VALUE. PPV and NPV vary with the prevalence, or pre-test probability, of the disease in question. In order to interpret any patient's test results, you need to know the prevalence of disease in patients with similar characteristics, or you can estimate your own pre-test probability.

Remember than in the equations for sensitivity and specificity, the denominator is DISEASE STATE (disease positive or disease negative). In PPV and NPV, the denominator is TEST RESULT (test positive or test negative). Sensitivity and specificity are useful in determining how good a test is at finding disease. PPV and NPV are useful in determining the probability that a patient with a given test result actually has the disease.

13. EXTRA CREDIT: Who said "statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write"?

A. Winston Churchill
B. Alexander Hamilton
C. Florence Nightingale
D. HG Wells
E. David Sackett

APPENDIX R: BAYOU BRIDGES HRSA CURRICULUM OVERVIEW AND FORMAT

SESSION	DOMAIN	TOPICS	OBJECTIVES	DURATION	FORMAT *(asynchronous in italics)*
A	Psychiatric disorders	Anxiety	Identify validated methods for screening for anxiety disorders Discuss pharmacologic and non-pharmacologic interventions for treating anxiety disorders	2 hrs	*Virtual modules*
B		Depression	Identify validated methods for screening for depression Discuss pharmacologic and non-pharmacologic interventions for treating depression	2 hrs	*Virtual modules*
C		ADHD	Identify validated methods for screening for ADHD Discuss pharmacologic and non-pharmacologic interventions for treating ADHD	2 hrs	*Virtual modules*
D		Mental health & behavioral issues in adolescents	Describe the findings associated with oppositional defiant or conduct disorders, and plan initial evaluation and management Recognize the various environmental contributors to the development and maintenance of aggressive behaviors Plan the appropriate management of aggressive behavior or bullying in patients of various ages, including those who are victims of such behavior Recognize warning signs and describe risk factors associated with suicidal behavior/completed suicide Assess and manage suicidal ideation in patients of all ages Identify factors that are protective against suicidal behavior	2 hrs	*Virtual modules*
E	Substance use/abuse & addiction		Describe patterns and stages of use/abuse of various substances Identify validated methods of screening for substance use/abuse/addiction in patients of various ages Describe the primary care physician's role in referral for substance use/abuse/addiction treatment	1 hr	*Virtual module*
F			Describe indications for the initiation of Medication for Opioid Use Disorder (MOUD) Describe strategies for initiation and maintenance treatment with MOUD	1 hr	*Virtual module*
G			Screening/Brief Intervention, Referral to Treatment (SBIRT) program		In-person training
H	Trauma-informed care		Define trauma and trauma-informed care Describe the prevalence of trauma and adversity nationally, locally, and within specific populations List the principles of Trauma-Informed Care Describe practical strategies to assist in working with adolescents and young adults who have experienced trauma	1 hr module 1 hr (SP)	*Virtual module*, SP session

APPENDIX R: BAYOU BRIDGES HRSA CURRICULUM OVERVIEW AND FORMAT

I	Social Determinants of Health	Structural competency & humility	Identify the influences of structures on health and the physician-patient relationship Generate strategies to respond to the influences of structures on health and the healthcare system Describe structural humility as an approach to apply in and beyond the clinic	4 hrs	MedEd Portal training module, in-person
J		Adverse & beneficial childhood experiences, resilience	Explain the science behind the effects of adverse childhood experiences (ACEs) and toxic stress on the heatlh and development of children Recognize the interactions and behaviors of patients and families who have been affected by toxic stress Describe approaches to helping parents and children who have been affected by toxic stress Describe beneficial childhood experiences Discuss techniques for fostering resiliency in children, adolescents, and young adult patients	1 hr	*Virtual module*
K		Violence & violence prevention	Describe the elements that comprise a culture of violence, including the social and environmental factors that contribute to violence in a family or community Discuss the role of the physician in recognizing risk factors and intertervening with patients at risk of violence	1 hr	*Virtual module*
L		Specific situations: incarceration, immigration	Describe the current state and historical context of mass incarceration in the United States Describe the health inequities experienced by the incarcerated population Describe the health inequities experienced by immigrant populations in the United States	1 hr module + 1 hr panel	*Virtual module,* patient panel
M	Communication & patient education skills	Motivational interviewing	Describe the stages of behavior change, and how motivational interviewing can help move patients through these stages Describe a brief motivational interviewing framework appropriate for a primary care visit	1 hr module, 1 hr (SP)	*Virtual module*, SP
N		Implicit bias	Define implicit bias and microaggression and give examples of these concepts in action Examine your own biases and their effects on yourself and others Discuss ways of mitigating the impact of implicit bias on your patients	2 hrs	In-person workshop
O		Patient-centered & empathetic communication, shared medical decision making	Discuss and demonstrate the use of clear language, teach-back, and open-ended questions while communicating with patients Explain the link between empathy and patient health outcomes and perceptions of care Give examples and demonstrate specific acts and statements of empathetic communication Describe five key elements of patient-centered education for diagnoses and medications Describe the elements of shared decision making	1 hr module + 2 hr workshop	*Virtual module,* workshop
P	Home visits & safety		Discuss the risks and benefits associated with providing medical and mental health care in the home setting Describe strategies to mitigate risks and maximize benefits for both providers and patients during home visits	1 hour	Lecture, Q&A

APPENDIX R: BAYOU BRIDGES HRSA CURRICULUM OVERVIEW AND FORMAT

Online module format:

1. Intro lecture: 15 minutes
2. Case 1: straightforward patient presentation
   - Learner answers a series of questions about how they would approach the case, using provided reference materials (screening tools, algorithms, guidelines, etc)
     - For cases on screening/diagnosis:
       - DDx: complete a free text list
       - Choose appropriate screening tool(s): MCQ
       - Score screening tool(s)
       - Dx: MCQ
3. Case 2: more complex presentation (again followed by questions)
4. Wrap-up: 15 minute Q&A with audience (Jessica, Vy Anh, available resident(s))
   a. Presenter discusses how they would approach cases, audience asks questions (pre-determined)
   b. Finish with 3-5 take-away points

VIRTUAL MODULE TOPIC	FACULTY	DUE DATE	LAUNCH DATE
Screening and diagnosis of anxiety in the primary care setting	Hansel	May 15	July 1
Treatment of anxiety in the primary care setting	Fowler	May 15	July 1
Screening and diagnosis of depression in the primary care setting	Hansel	June 15	August 1
Treatment of depression in the primary care setting	Myint	June 15	August 1
Screening for ADHD in the primary care setting	Fowler OR Myint	Oct 15	Dec 1
Treatment of ADHD in the primary care setting	Fowler OR Myint	Oct 15	Dec 1
ODD & Conduct disorders, aggression, and bullying	Fowler OR Myint	July 15	Sept 1
Suicide	Francois	July 15	Sept 1
Pathophysiology, epidemiology, and presentation of substance abuse disorders & addiction	Roy	August 15	Oct 1
Screening, diagnosis, and referral of substance use disorders and addiction in the primary care setting	Prasad	August 15	Oct 1
Medication for opioid use disorder	Limbaugh	August 15	Oct 1
Trauma-informed care	Hansel	Sept 15	Nov 1
Adverse & beneficial childhood experiences	Davies, Teverbaugh?	Sept 15	Nov 1
Violence & violence prevention	Fleckman	Sept 15	Nov 1
Mental and behavioral health issues related to incarceration & immigration	Niyogi & Mukerjee	Dec 15	Feb 1
Motivational interviewing	Fowler OR Myint	Dec 15	Feb 1
Patient centered & empathetic communication, shared medical decision making	DeBord	Dec 15	Feb 1