MICHIGAN

THE 41ST ANNUAL MICHIGAN FAMILY MEDICINE RESEARCH DAY CONFERENCE

Thursday, May 24, 2018

The Johnson Center at Cleary University
3725 Cleary Drive, Howell, MI 48843

Sponsored By
Department of Family Medicine and Public Health Sciences, Wayne State University

In Collaboration with
Department of Family Medicine, Michigan State University
Department of Family and Community Medicine,
Oakland University Beaumont School of Medicine
Department of Family Medicine, University of Michigan
Department of Family and Community Medicine, Western Michigan University
Michigan Academy of Family Physicians Foundation

Welcome to Michigan Research Day XLI

Thursday, May 24, 2018

The Johnson Center at Cleary University

Welcome to Michigan Family Medicine Research Day XLI. Please enjoy our continental breakfast.

The day's events will begin with opening remarks at 8:45 a.m. Our first concurrent oral presentation session will be from 9:00 to 10:00 a.m. with each presenter having ten minutes to present and five minutes of question and answers. Each room's moderator and time keeper is responsible for keeping everyone on schedule. Feel free to move from room to room, but please be quiet and respectful of the speakers and other guests. Please set cell phones and pagers to vibrate mode. We encourage the participants to ask questions of the presenters, but remember this is a day of positive, constructive feedback and time constraints.

Take a break from 10:00 to 11:00 p.m. to review posters with your coffee. Each poster will have the author(s) present during this time to answer your questions. The poster session will be followed by a networking lunch that will provide the opportunity for you to connect with colleagues and meet new colleagues from across the state.

At 11:15 a.m. our Keynote Speaker is Dr. Philip Levy, M.D., M.P.H., Edward S. Thomas Endowed Professor of Emergency Medicine and Assistant Vice President of Translational Science and Clinical Research Innovation at Wayne State University. Dr. Levy's talk is "Nature, Nurture, Culture, Care - A Long View Approach to Health Outcomes." A networking lunch will follow from 12-1.

Following lunch, we will begin two more concurrent oral presentation sessions starting at 1:00 p.m. and 3:00 p.m and a second poster session at 2 (including a food break).

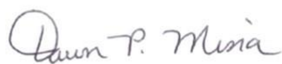
The day will conclude with the presentation of awards for the best poster and oral presentations.

Please note the list of people who have made this day possible. Without their hard work and volunteer effort every year, the Michigan Family Medicine Research Day would not continue as a successful and well-attended event.

Hosting of the Michigan Family Medicine Research Day rotates among interested Departments of Family Medicine within Michigan. Wayne State University had the honor of hosting the event this year. Your comments and suggestions are important to us and have shaped Michigan Family Medicine Research Day over the past 41 years.

Thank you for choosing to spend the day with us. I hope you will leave energized to pursue the development of new knowledge in our discipline. If we don't do it, then other experts will define the questions which may or may not be relevant to us or your patients.

Sincerely,



Dawn P. Misra, MHS, PhD
Chair, Michigan Research Day XLI Committee Associate Chair for Research
Family Medicine and Public Health Sciences
Wayne State University School of Medicine

Michigan Research Day XLI

PLANNING COMMITTEE

DAWN MISRA, Ph.D. (2018 Conference Chair)	Associate Chair for Research, Department of Family Medicine & Public Health Sciences, WSU
ELIE MULHEM, M.D.	Associate Professor & Vice Chair of Research, Department of Family & Community Medicine, OUWB
JENNIFER HAVENS	Conference Assistant, Department of Family and Community Medicine, OUWB
BLYTHE BIEBER	Conference Assistant, Department of Family Medicine, UM
SUSAN FULLER	Conference Assistant, Department of Family and Community Medicine, WMU
JESSICA HAUSER, Ph.D.	Director of Behavioral Science and Research, St. John Hospital Family Medicine Residency
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JUDGES

ELIZABETH TOWNDER, PhD	Department of Family Medicine, WSU
TESS A. MCCREADY, DO	Department of Family Medicine, WSU
JINPING XU, MD	Department of Family Medicine, WSU
DAWN MISRA, PhD	Department of Family Medicine, WSU
ANNE VICTORIA NEALE, PhD	Department of Family Medicine, WSU
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CAROLINE R. RICHARDSON, MD	Department of Family Medicine, UM
JUSTINE P. WU, MD/MPH	Department of Family Medicine, UM
PHILIP ZAZOVE, MD	Department of Family Medicine, UM
JIM AIKENS, PhD	Department of Family Medicine, UM
TIM GUETTERMAN, PhD	Department of Family Medicine, UM
THOMAS ANAN, MD	Department of Family Medicine, Providence Park Hospitals
ELIE MULHEM, MD	Department of Family Medicine, Beaumont Hospital

PLENARY SESSION SPEAKER

"Nature, Nurture, Culture, Care - A Long View Approach to Health Outcomes"

Dr. Phillip Levy, M.D., MPH

Assistant Vice President of Translational Science and Clinical Research Innovation and Associate Professor
Department of Emergency Medicine, Wayne State University

AWARD CATEGORIES

- Best Oral Presentation by a Student
- Best Oral Presentation by a Resident:
  - Practitioner Education
  - Quality Assurance
  - Patient Care/Clinical
  - Population Health
  - Works in Progress
- Best Poster by a Resident/Student – Case Report
- Best Poster by a Student – Research
- Best Poster by a Resident – Research
- Best Poster by a Faculty

Michigan Research Day XLI

Keynote Presentations

"Nature, Nurture, Culture, Care - A Long View Approach to Health Outcomes"

Dr. Phillip Levy, M.D., MPH

Associate Chair for Research and Associate Professor

Department of Emergency Medicine, Wayne State University

Michigan Research Day Historical List of Keynotes			
Year	**Speaker**	**Keynote Title**	**Institutional Affiliation**
1980	Jack Medalle, M.D. Professor and Chairman	*Family Epidemiology: What, Where, How, and Who?*	Department of Family Practice Case Western Reserve University
1981	Martin Bass, M.D. Director of Research	*Family Practice Research: The Canadian Point of View*	University of Western Ontario
1982	Ian McWhinney, M.D. Professor and Chairman	*The Principles of Family Medicine*	Department of Family Medicine University of Western Ontario
1983	Fitzhugh S.M. Mullan, M.D., FAAP Chief Medical Officer	*Community Oriented Primary Care*	Office for Medical Applications of Research National Institute of Health
1984	Larry Green, M.D. Director and Principal Investigator	*Family Practice Collaborative Research: A National Effort*	Ambulatory Sentinel Practice Network (ASPN)
1985	Paul Nutting, M.D. Director	*Federal Perspective of Primary Care Research*	Office of Primary Care Studies US HRSA
1988	Lorne A. Becker, M.D. Chief	*Is Family Practice Research Irrelevant?*	Department of Family Practice Toronto Hospital
1989	Anthony S. Dixon, M.D. Associate Professor	*Primary Care, Epidemiology, and a World Turned Upside-Down*	Department of Family Medicine McMaster University
1990	David A. Katerndahl, M.D., M.A. Associate Professor	*Beyond 2000: Family Practice Research*	Department of Family Practice University of Texas Health Science Center
1991	Paul Nutting, M.D., M.S.P.H. Director	*Challenges and Opportunities for Research in Family Practice*	Division of Primary Care AHCPR
1992	William C. Wadland, M.D., M.S. Professor and Chair	*Health Screening: What are the Costs and Benefits?*	Department of Family Practice Michigan State University
1994	Richard G. Roberts, M.D., M.S. Associate Professor	*AAFP Development of Practice Guidelines*	Department of Family Medicine and Practice University of Wisconsin-Madison
1995	Michael Hagen, M.D. Nicholas J. Pisacano Professor and Associate Chair		Department of Family Practice University of Kentucky
1996	Lance Lang, M.D. Director of Clinical Planning and Improvement	*Managed Care: Living and Teaching Within the Guidelines*	Group Health Cooperative of Puget Sound
1997	Bernard Ewigman, M.D. Associate Professor and Director	*Doing Research – Fire in the Belly*	Department of Family and Community Medicine University of Missouri-Columbia
1998	David Slawson, M.D. Associate Professor and Director of Research	*Information Mastery and Evidence-Based Medicine*	Department of Family Practice University of Virginia
1999	Kurt C. Stange, M.D. Associate Professor	*Research into the Value of Family*	Department of Family Medicine Case Western Reserve University
2000	Larry A. Green, M.D. Director	*Why an International Practice-Based Research Project is Such and Good and Bad Idea: A True Story*	Policy Center American Academy of Family Physicians
2001	Gary Ruoff, M.D. Family Physician	*Why Do Clinical Research?*	Private Practice Kalamazoo, Michigan
2002	Douglas McKeag, M.D., M.S. Chair and Director of Sports Medicine	*Somethin's Happenin' Here: Why Family Physicians Make the Perfect Scientists*	Department of Family Medicine Indiana University
2003	James Mold, M.D., M.S. Director of Research Division	*Best Practices Research: Combining the Best of Research and Quality Improvement Methods*	Department of Family and Preventive Medicine University of Oklahoma
2004	Thomas C. Rosenthal, M.D.	*Answering Your Research Questions Through Practice*	University at Buffalo
2005	Pamela Whitten, Ph.D.	*An Intderdisciplinary Approach to the Study of Telehealth*	Department of Telecommunications Michigan State University
2005	Brian Mavis, Ph.D.	*National Trends in Family Medicine Involvement in Research*	Office of Medical Education, Research and Development

			Michigan State University
2005	Vince WinklerPrins, M.D. Brian Rayala, M.D.	*Writing for PEPID: Nuts and Bolts and Perspectives from a Resident/Author*	Department of Family Practice Michigan State University
2005	Karen Mitchen, M.D. Steve Dosh, M.D., M.S. Trissa Torres, M.D., M.S.P.H.	*Maintenance of Certification for Family Physicians: Quality Improvement in Real Practice*	Providence Family Practice OSF Medical Group Genesys Regional Medical Center
2006	Thomas Schwenk, M.D. Professor and Chair Kent Sheets, Ph.D. Director of Educational Development	*Back to the Future of Family Medicine* *The Life Cycle of the Family Medicine Clerkship*	Department of Family Medicine University of Michigan
2007	Margaret Meyers, M.D. Rodrigo Tobar, D.O. Patricia West, Ph.D., R.N.	*Practice-Based Research: Why We Do It*	Mercy Primary Care Center Family Physicians, PC St. Johns Hospital
2008	Joseph J. Gallo, M.D., M.P.H. Associate Professor	*Many Ways to Answer Questions: Putting Mixed Methods to Work*	Department of Family and Community Medicine University of Pennsylvania
2009	Caroline R. Richardson, M.D. Assistant Professor	*Conducting Behavioral Intervention Research on the Internet – Advantages and Challenges*	Department of Family Medicine University of Michigan
2009	Katherine Gold, M.D. Clinical Lecturer	*What Do You Study? Navigating the Path From a Single Project to a Research Portfolio*	Department of Family Medicine University of Michigan
2010	Denise White Perkins, M.D., Ph.D. Director, Institute on Multicultural Health Senior Staff Physician Marla Rowe Gorosh, M.D. Educational Consultant, Healthcare Equity Campaign. Senior Staff Physician	*Unnatural Causes: Unraveling the Mystery of Racial and Ethnic Disparities in Health and Healthcare*	Department of Family Medicine Henry Ford Health System
2010	Victoria Neale, Ph.D, M.P.H. Professor	*By the Researchers for the Researchers: The PRIMER Research Toolkit*	Department of Family Medicine and Public Health Sciences Wayne State University
2011	Rebecca A. Malouin, Ph.D. Assistant Professor	*Journey to the Center of the Health Services System*	Department of Family Medicine Michigan State University
2011	Jodi Summers Holtrop, Ph.D. Assistant Professor	*Transforming Primary Care through Quality Improvement Research*	Department of Family Medicine Michigan State University
2012	John M. Boltri, M.D.	*Twelve Steps to Turning a Research Idea Into a Publication*	Department of Family Medicine and Public Health Sciences Wayne State University
2012	Jean M. Malouin, M.D. Assistant Professor Clare Tanner, Ph.D. Program Director	*The Michigan Primary Care Transformation Project*	Department of Family Medicine University of Michigan Michigan Public Health Institute
2012	James F. Peggs, M.D. Professor	*A Family Physician's View From the Dean's Office*	Department of Family Medicine University of Michigan
2013	Lisa Gorman, Ph.D Program Director	Citizen Soldiers: What do they Mean for my Medical Practice?	Michigan Public Health Institute
2013	John H. Porcerelli, Ph.D., A.B.P.P. Professor	*Dependency, Healthcare Utilization, Costs & Doctor-Patient Relationship*	Department of Family Medicine and Public Health Sciences Wayne State University
2014	Rebecca Malouin, Ph.D. Associate Chair	*Networks for Networking and Scholarship: Opportunities in Michigan*	Department of Family Medicine Michigan State University
2014	Andrea Wendling, M.D. Associate Professor William Wadland, M.D. Professor and Chair	*Research as a Life-long Practice – Interview Results and Reports*	Department of Family Medicine Michigan State University
2015	Grant M. Greenberg, M.D., M.H.S.A. Associate Chair	*Aligning Quality Improvement With Priorities and Requirements*	Department of Family Medicine University of Michigan
2016	Carl D. Shrader Jr., M.D., Ph.D Assistant Residency Director and Faculty Senate	*Integrating Research in a Clinical Practice*	Department of Family Medicine West Virginia University
2017	Richard H. Kennedy, Ph.D., FAHA Vice President and Director Associate Dean for Research	*Plans for a Population Health Research Program: Lessons Learned from CAPriCORN (Chicago Area Patient-Centered Outcomes Research Network)*	Beaumont Research Institute, Oakland University Beaumont School of Medicine
2018	Phillip Levy, MD., MPH. Associate Chair for Research and Associate Professor	*Nature, Nurture, Culture, Care - A Long View Approach to Health Outcomes*	Department of Emergency Medicine Wayne State University

Keynote Speaker: Dr. Phillip Levy, M.D., MPH

Our distinguished keynote speaker is Dr. Phillip Levy, MD, and MPH. Dr. Levy is currently the Associate Chair for Research in the Department of Emergency Medicine, an Associate Professor of Emergency Medicine and the Assistant Vice President of Translational Science and Clinical Research Innovation at Wayne State University, and a Fellow of the American College of Emergency Physicians and the American Heart Association. He is also a reviewer for the NIH CHAS study section, a member of the Grants Advisory Panel for the Blue Cross Blue Shield of Michigan Foundation as well as a serving member of the Scientific Review Committee for the American College of Emergency Physicians. Dr. Levy is recognized as an expert concerning cardiovascular research and has prior experience serving the National Heart, Lung, and Blood Institute's Working Group on Management of Acute Heart Failure in the Emergency Department: Research Challenges and was previously a member of the American Heart Association Scientific Statement Writing Group on Acute Heart Failure Syndromes – Emergency Department Presentation, Treatment, and Disposition. His research interests revolve around heart failure and hypertension in addition to acute management and early disease detection.

Dr. Levy completed his undergraduate education at the University of Pennsylvania. He then proceeded to obtain his Master of Public Health at the University of Michigan, before completing his doctorate at New York Medical College

Michigan Research Day XLI Master Schedule

8:00a-8:45a	Registration and Breakfast			
8:45a-9:00a	Welcome			
9:00a-10:00a	***Practitioner Education*** Location: Room 5 Room Moderator: Emily Yagihashi Judges: Dr. Thomas Anan and Dr. Bengt Arnetz Timekeeper: Emily Yagihashi	***Quality Assurance*** Location: Room 6 Room Moderator: Dr. Misra Judges: Dr. Michael D. Fetters and Dr. Jim Aikens Timekeeper: Dr. Misra	***Patient Care/Clinical*** Location: Room 7 Room Moderator: Michaila Paulateer Judges: Dr. Caroline R. Richardson and Dr. Justine P Wu Timekeeper: Michaila Paulateer	***Population Health*** Location: Room 8 Room Moderator: Inara Ismailova Judges: Dr. Elizabeth Towner and Dr. Julie Gleason-Comstock Timekeeper: Inara Ismailova
9:00a	**Full Spectrum: What Should We Teach Family Medicine Residents About Lesbian, Gay, Bisexual, Transgender, and Queer Health?** Presenter: Nicolas Johnson, MD University of Michigan Resident	**Value of Documentation Assistance in Primary Care Office Setting- A Quality Improvement Project** Presenter: Alysia Hogan, MD Beaumont Health Resident	**A Cohort Analysis of a Family Medicine based on Obstetrical Panel… Can we Bridge the Gap?** Presenter: Zeeshan Sharif, M.D. Wayne State University Resident	**Rapid Repeat Pregnancy Among Women Seeking Pregnancy Termination: A Descriptive Study** Presenter: Tong Liu, MD University of Michigan Resident
9:15a	**Assessing the Impact of Teaching Electronic Medical Record Efficiency Features on Perceived Time Spent Using Electronic Medical Record and Work-Life Balance of Primary Care Resident Physicians** Presenter: Christina Doulaverakis, MD Providence Hospitals and Medical Centers Resident	**Which Should Go First? Satisfaction of Family Practice Resident and Faculty to Change of Inpatient Note to Assessment Plan Subjective Objective Format: A Quality Improvement Study** Presenter: Joseph Nettleman, MD Sparrow Hospital Resident	**Antibiotic Prescription Patterns for Urinary Infections in Obstetrical Triaged Patients** Presenter: Rajiv Deochand, MD Midland Family Medicine Residency Resident	**Stillbirth in Ghana: Determining Cause of Death** Presenter: Jennifer N. Angell University of Michigan Student
9:30a	**Sexual Health Education and the Primary Care Physician: Bridging the Gap** Presenter: Ashley Tabi, MD Wayne State University Resident	**Pediatric Developmental Screening in Family Medicine Clinic** Presenter: Kaitlin Zeytuncu, MD Wayne State University Resident	**Evaluation and Management of Direct Oral Anticoagulants in Special Populations with Atrial Fibrillation** Presenter: Nicole A. Fabiilli, PharmD Beaumont Hospital	**Disparities in Diagnosis, Treatment, and Prognosis of Prostate Cancer in Flint, Michigan** Presenter: Kevin Johnston, B.S, B.A Michigan State University Student
9:45a	**How Do Family Medicine Residents Approach Contraceptive Counseling?** Presenters: Monica Benedikt, MD and Kaila Queen, MD University of Michigan Resident	**HIV & HCV Rapid Testing in an Urban Emergency Department: Results from a Focus Group for Quality Improvement** Presenter: Syed Umer Mohsin, MD Wayne State University Resident	**Efficacy of Area Under the Curve (AUC) Dosing of Vancomycin in Patient with Serious Methicillin Resistant *Staphylococcus Aureus* (MRSA) Infection** Presenter: Nicholas A. Cinto, PharmD Beaumont Hospital	**Prevalence of Prediabetes in Women Diagnosed with PCOS** Presenter: Susan Kim, MD University of Michigan Resident

10:00a-11:00a	Poster Presentations			
Number	**Title**	**Presenter(s)**	**Affiliation**	**Faculty Resident Student**
1	**Impact of Tightly Controlled Blood Pressure on Cardiovascular Outcomes: A Retrospective Cohort-Study**	Pamela A. Castro-Camero, DO	Henry Ford Hospital	Resident
2	**Outcomes for Infants Born to Mothers with Diabetes in Rural Michigan**	Amy Beauchamp	Michigan State University College of Human Medicine	Student
3	**Retrospective Chart Review of Symptoms of Patients Tested for Clostridium Difficile Infection**	Julia Buck	Michigan State University College of Human Medicine	Student
4	**Opioid Use and Treatment Outcomes for an Interdisciplinary Program**	Adam Kudirka and Courtney Cave	Michigan State University College of Human Medicine	Student
5	**An "Antiquated" Bias Held by a New Generation: Biases in Sexual History Taking**	Ali Haque, B.S.	Michigan State University College of Human Medicine	Student
6	****WITHDRAWN** Do Athletes Who Return to Sport At Least Less than 6 Months Following ACL Reconstruction Have an Increase Risk of Retear or Contralateral ACL Tear?**	Joon Sung Yoo	Michigan State University College of Human Medicine	Student
7	**Family Psychosocial Environment, Internalizing Behavior, and Childhood Obesity: A Structural Equation Model**	Liying Zhang, PhD	Wayne State University Integrative Biosciences Center	Faculty
8	**The Potential for Grocery Store Based Interventions in Decreasing Chronic Diseases Prevalence in the City of Detroit**	Ameen A. Masoodi, MD	Wayne State University	Resident
9	**Prevalence of Symptoms of Depression and Anxiety in Children with Cystic Fibrosis Based on the PHQ-9 and GAD-7 in a Single Cystic Fibrosis Center**	Ayaz Khan	Michigan State University College of Human Medicine	Student
10	**Multiple Myeloma Can Hit Early - A Case Report**	Ahmed Aldabdob	McLaren Family Medicine	Resident
11	**Polychondritis with Crohn Disease and Genital Ulcers**	Danielle Ortega, DO	Henry Ford Hospital	Resident
12	**Immunoglobulin A Nephropathy (IgAN) with Microscopic Hematuria and Nephrotic Syndrome**	Bhanu Swarmy	St. John Hospital	Student
13	**Community Acquired Clostridium Difficile: A New Etiology to a Classic Pathology**	Ryan Toews	St. John Hospital and Medical Center	Resident

14	**Spontaneous Osteonecrosis of the Knee in Young Female Masquerading as Medial Meniscal Injury**	Akruti Patel	Michigan State University College of Human Medicine	Student
15	**Multiple Myeloma: An Atypical Presentation on Protein Electrophoresis**	Heba Osman	Michigan State University College of Osteopathic Medicine	Student
16	**Chronic Cough as the Initial Presentation of Polymyalgia Rheumatica and Interstitial Lung Disease: A Case Report with Literature Review**	Johnny Wu	Wayne State University	Student
17	**Collapsing-Type FSGS and the Questionable Appearance of Syphilis: A Case Report**	Andre Halabu	Detroit Medical Center Harper University Hospital	Student

11:00a-11:15a	Break			
11:15a-12:00p	Keynote Speaker - Dr. Philip Levy			
12:00p-1:00p	Networking Lunch			
1:00p-2:00p	***Practitioner Education*** Location: Room 5 Room Moderator: Dr. Kim Campbell Voytal Judges: Dr. Kim Campbell-Voytal and Dr. Marget Chadwell Timekeeper: Dr. Misra	***Quality Assurance*** Location: Room 6 Room Moderator: Dr. Elie Mulhaum Judges: Dr. Elie Mulhaum and Dr. Philip Zazove Timekeeper: William Costello	***Patient Care/Clinical*** Location: Room 7 Room Moderator: Taylor Bays Judges: Dr. Thomas Anan and Dr. Bengtz Arnetz Timekeeper: Taylor Bays	***Population Health*** Location: Room 8 Room Moderator: Dr. Anne Victoria Neele Judges: Dr. Nadia Saadat and Dr. Anne Victoria Neele Timekeeper: Emily Yagihash
1:00p	**Nutrition Knowledge of Family Medicine Physicians: Effect of a Resident-Driven Lecture Series** Presenter: Heidi Hilton, DO, MPH Beaumont Health Resident	**How a Primary Care Lens Cuts Cost** Presenter: Darby Martin, DO Henry Ford Health System Resident	**Is a Diet and Exercise Screener Useful During a Health Maintenance Examination?** Presenters: Erica Martin, MD and David Schrock, MD University of Michigan Resident	**The Prevalence of Substance Use Disorder Among Arab American Young Adults** Presenter: Ali Nasrallah University of Michigan Student
1:15p	**Telemetry Utilization Review: Before and After Implementation of AHA Guideline Orders** Presenter: Amanda Waterman, MD Central Michigan University Resident	**Examining Access to Psychiatric Care in Michigan's Upper Peninsula** Presenter: Jenna Bernson, BS Michigan State University Student	**Blood Pressure Control Through a Randomized Controlled Trial in an Urban Emergency Department Population** Presenter: Shayla Patton Wayne State University Student	**No One Should be Afraid of the Water - Somatic Symptom Disorder and Illness Anxiety Disorder in the Aftermath of the Flint Water Crisis** Presenter: Syed Zaidi, MD McLaren Family Medicine Resident
1:30p	**Snapshots: A Family Medicine Residency in 55 Word Essays** Presenter: Timothy Tellez, MD University of Michigan Resident	**Interventions to Increase Rates of Prevnar Vaccinations: A Quality Improvement Study** Presenter(s): Daniel Goodin, MD and Melissa Weckessar, MD Midland Family Medicine Resident	**Testosterone Deficiency, Muscular Weakness, and Multimorbidity in Men: Not Just an Old Man's Game** Presenter: Aleksandr Belakovskiy, MD University of Michigan Resident	**Acute Sleep Deprivation on Academic Performance** Presenter: Neil Joshi, BS Michigan State University Resident
1:45p	**Evaluation of Resident Learner Engagement in a Family Medicine Residency Program** Presenter: Jamuna Manoharan, MD Central Michigan University Resident	**Assessing and Improving Continuity of Care in a Residency Based Family Medicine Center** Presenter: Marco Peterson, MD Wayne State University Resident	*****WITHDRAWN***** **Improving Patient Education and Adherence to Institute of Medicine Guidelines for Weight Gain in Pregnancy - A Quality Improvement Initiative** Presenter: Zeeshan Sharif, M.D. Wayne State University Resident	

2:00p-3:00p	Poster Presentations			
Number	**Title**	**Presenter(s)**	**Affiliation**	**Faculty Resident Student**
18	**Incorporating Evidence-Based Medicine Into OMT Didactics in a Family Medicine Residency**	Abigail Richeson, DO	Sparrow Health	Resident
19	**Proposal for the Implementation of an Integrative Medicine-Based Resident Wellness Curriculum in a Community Focused Family Medicine Residency**	Jennifer Kowalkowski, PhD	Beaumont Health	Faculty
20	**Evaluation of Maternity Care Training in Michigan State University Family Residency Programs Compared to the 2013 National Survey**	Harmeet Dhaliwal, MD	Sparrow Health	Resident
21	**Utilization of Home Healthcare and Risk Factors of Adverse Events After Hospitalized Discharge**	Liying Zhang, PhD	Wayne State University	Faculty
22	**Refugee Access to Healthcare: Syrian Refugees in Michigan**	Susan Edlibi	Michigan State University College of Human Medicine	Student
23	**A Preliminary Assessment to Identify Needed Medical Supplies and Services at the Zaatari Refugee Camp of the Syrian American Medical Society Clinic**	Abdul Yassin-Kassab	Michigan State University College of Human Medicine	Student
24	**Long-Term Participant Evaluation of Interactive-Participatory Mixed Methods Workshops: A Mixed Methods Analysis**	Rae Sakakibara	University of Michigan	Student
25	**Searching for Answers: Assessing Medical Student Usage of Point of Care Applications**	Miguel Joaquin & Tyler Leppek	Michigan State University College of Human Medicine	Student
26	**Factors That Influence the Decision to Practice Medicine in Canada Versus USA For Canadians Who Completed US Residency Training Programs**	Rohin Khanna, MD & Ravinder Dhillon, MD	Sparrow Health	Residents
27	**Programs that Reduce Contraceptive Costs Lower Teen Pregnancy Rates: A Scoping Review**	Sarah Hagle, MD	Sparrow Hospital	Resident
28	**Factors Associated with Severe Perineal Lacerations**	Jacquelyn Davis & Justin Yoshida	Michigan State University College of Human Medicine	Students
29	**Through the Eyes of a Medical Student: Addressing Barriers to Reproductive Health Care for Latina Patients**	Meaghan Mormann	Michigan State University College of Human Medicine	Student
30	**Improving Hospital Discharge Time Through Expedited Teaching Rounds**	Khac On Le, MD	ProMedica Monroe Family Medicine	Resident
31	**Quality Improvement Project: COPD Readmission Reduction**	Lilia Peress, MD	Wayne State University/Crittenton Family Medicine	Resident

32	**Acceptability and Feasibility of a Multicomponent Group Intervention for Health Behavior Change: The Kickstart Health Program**	Carina Crookston, MD	Beaumont Health Center Resident	Resident
33	**Golden Hours in Sepsis Management: A Prospective Study**	Nitika Bansal, MD	Pontaic General Hospital, Family Medicine	Faculty
34	**Thyrotoxicosis – Great Coronary Artery Disease (CAD) Mimic!**	Nirav Patel, MD	Pontiac General Hospital, Family Medicine	Faculty
35	**A Fast Growing Right Atrial Myxoma with Coexistent Coronary Artery Disease**	Vikas Sacher, MD	Pontiac General Hospital, Family Medicine	Faculty
36	**Psoriasis on My Sole?**	Arnab Bose	Pontiac General Hospital, Family Medicine	Student
37	**Glioblastoma Multiforme**	Nathan Cozman	Pontiac General Hospital, Family Medicine	Student

3:00p-4:00p	***Practitioner Education*** Location: Room 5 Room Moderator: Dr. Jinping Xu Judges: Dr. Jinping Xu and Dr. Philip Zazove Timekeeper: Taylor Bays	***Works in Progress*** Location: Room 6 Room Moderator: Leigha Thomas Judges: Dr. Elie Mulhaum and Dr. Tim Guetterman Timekeeper: Leigha Thomas	***Patient Care/Clinical*** Location: Room 7 Room Moderator: Dr. Tess A. McCready Judges: Dr. Kim Campbell-Voytal and Dr. Tess A. McCready Timekeeper: Sarah McNally	***Room 8***
3:00p	**Obesity Education in the Family Medicine Clerkship: A US and Canadian Survey of Clerkship Directors' Beliefs, Barriers, and Curriculum Content** Presenter: Ian Drobish, BS Michigan State University Student	**Comparing Breastfeeding Rates in Women Attending Obstetric Shared Medical Appointments vs. Traditional Prenatal Care Only** Presenter: Christina Gramith, DO and Michelle Stone, MD Beaumont Health Center Resident	**Adult Attention Deficit Hyperactivity Disorder (ADHD): Under-Diagnosed in Primary Care?** Presenter: Roohi Kahlon, M.D. Sparrow Family Medicine Resident	Not In Use
3:15p	**A Mixed Methods Analysis of Interprofessional Education in Michigan Medical Schools** Presenter: Anne Drolet, MS Michigan State University Student	**Independent Resident Driven Point of Care Ultrasound in an Academic Residency Program** Presenter: Philip Riley, MD Wayne State University Resident	**Self Harm and its Impact on Trauma Services** Presenter: Rohit Nallani, BS Michigan State University Student	
3:30p		**Quality Improvement Project to Improve Advance Directive Rates** Presenter: Patrick Gramith, DO Beaumont Health Center Resident	**Patient Perception of Sleep Disturbance and the Currently Recommended Insomnia Treatment Modalities in a Primary Care Setting** Presenter: Jeanette Wilson, MD St. John's Hospital and Medical Center Resident	
3:45p		**Effectiveness of Screening for Type 2 Diabetes Mellitus in Patients with Prior Gestational Diabetes Mellitus in Primary Care** Presenter: Afrin Burney, MD University of Michigan	**Effect of Inpatient Osteopathic Manipulation of Patient Experience: Retrospective Study of HCAPHS Outcomes** Presenter: Justin Rutt, DO Sparrow Family Medicine Resident	
4:15p-5:00p	Awards Presentation			

Michigan Research Day XLI

Oral Presentation

Title of Presentation:

Presenter:

Presenter Category:

- ❑ Student: Medical/Nursing/Graduate
- ❑ Resident Physician
- ❑ Fellow
- ❑ Practitioner: Physician/Physician Assistant, Nurse/Nurse Practitioner, Faculty or Teacher

Directions: Please place comments under each factor. Use this scale for scoring presentations: 0=Unacceptable; 1=Poor; 2=Satisfactory; 3=Good; 4=Outstanding

Factors	Score	x	Weight	=	Weighted Score
Topic Selection					
Significance to Primary Care.	___	x	5	=	_____
Originality of research.	___	x	2	=	_____
Quality of Research					
Soundness of research methods	___	x	7	=	_____
Validity of conclusions.	___	x	6	=	_____
Quality of Presentation					
Clarity and flow of presentation	___	x	4	=	_____
Proper use of audiovisual aids	___	x	1	=	_____

Total Score . . . . = _______

(100 possible)

Penalty *(Oral presentations exceeding ten minutes – minus five points)* - _______

Total Score . . . . = _______

Next step suggestions to presenter:

> This form is used to assist the reviewers in providing feedback to the presenters regarding the research presentations provided; however, reviewers are not bound by these scores in determining awards.

Judge: ____

Michigan Research Day XLI

Research Poster

Title of Presentation:

Presenter:

Presenter Category:

- ❑ Student: Medical/Nursing/Graduate
- ❑ Resident Physician
- ❑ Fellow
- ❑ Practitioner: Physician/Physician Assistant, Nurse/Nurse Practitioner, Faculty or Teacher

Directions: Please place comments under each factor. Use this scale for scoring presentations: 0=Unacceptable; 1=Poor; 2=Satisfactory; 3=Good; 4=Outstanding

Factors	**Score**	**x**	**Weight**	**=**	**Weighted Score**
<u>Topic Selection</u>					
Significance to Primary Care.	___	x	5	=	_____
Originality of research.	___	x	2	=	_____
<u>Quality of Research</u>					
Soundness of research methods	___	x	7	=	_____
Validity of conclusions.	___	x	6	=	_____
<u>Quality of Presentation</u>					
Clarity and flow of poster	___	x	4	=	_____
Proper use of figures and graphs	___	x	1	=	_____

Total Score . . . . = _______

(100 possible)

Penalty *(Poster larger or smaller than 4 ft. X 3 ft. – minus five points)* - _______

Total Score . . . . = _______

Next step suggestions to presenter:

> This form is used to assist the reviewers in providing feedback to the presenters regarding the research presentations provided; however, reviewers are not bound by these scores in determining awards.

Judge: ____

Michigan Research Day XLI

Case Report Review Guidelines

Title of Presentation:

Presenter:

Presenter Category: ❑ Student: Medical/Nursing/Graduate ❑ Resident Physician ❑ Fellow ❑ Practitioner: Physician/Physician Assistant, Nurse/Nurse Practitioner, Faculty or Teacher

	Unacceptable /Missing	Poor	Satisfactory	Good	Outstanding	**Total**
1. Case/disorder/disease succinctly introduced: why the case is worth presenting;	**0**	**1**	**2**	**3**	**4**	
2. Presented a critical summary or a systematic review of the literature	**0**	**1**	**2**	**3**	**4**	
3. Tables, graphs and illustrations effectively make the main point of the case	**0**	**1**	**2**	**3**	**4**	
4. The case is unique or potentially important to the areas of pathology, epidemiology, natural history or treatment	**0**	**1**	**2**	**3**	**4**	
5. Presented the value, importance of primary care and primary care principles						
6. Conclusion(s) are appropriate to the material presented	**0**	**1**	**2**	**3**	**4**	
7. Suggestions regarding future research in this area are Provided	**0**	**1**	**2**	**3**	**4**	
8. Take home message is appropriate and valuable	**0**	**1**	**2**	**3**	**4**	
9. The presenter knew the information presented; knew the appropriate literature; fielded questions well	**0**	**1**	**2**	**3**	**4**	
10. Presentation aspects: Slides/poster text readable and succinct; Presenter spoke loudly enough and interacted with guests; Presenter conveyed his/her excitement about their work (Judges are required t o talk with presenter)	**0**	**1**	**2**	**3**	**4**	
Penalty *(Poster larger or smaller than 4 ft. X 3 ft. – minus five points)*						
Total Score (40 possible)						

Next step suggestions to presenter:

Judge: ____

Michigan Research Day XLI

Oral Presentations
Location: Room 5

9:00 a.m. to 10:00 a.m.	
Room Moderator	Emily Yagihashi
Judges	Dr. Thomas Anan and Dr. Bengt Arnetz
Timekeeper	Emily Yagihashi
Practitioner Education	
9:00	Full Spectrum: What Should We Teach Family Medicine Residents About Lesbian, Gay, Bisexual, Transgender, and Queer Health? Nicolas Johnson, MD, University of Michigan
9:15	Assessing the Impact of Teaching Electronic Medical Record Efficiency Features on Perceived Time Spent Using Electronic Medical Record and Work-Life Balance of Primary Care Resident Physicians Christina Doulaverakis, MD, Providence Hospitals and Medical Centers
9:30	Sexual Health Education and the Primary Care Physician: Bridging the Gap Ashley Tabi, MD, Wayne State University
9:45	How Do Family Medicine Residents Approach Contraceptive Counseling? Monica Benedikt, MD and Kaila Queen, MD, University of Michigan
1:00 p.m. to 2:00 p.m.	
Room Moderator	Dr. Kim Campbell-Voytal
Judges	Dr. Kim Campbell-Voytal and Dr. Margit Chadwell
Timekeeper	Dawn Misra
Practitioner Education	
1:00	Nutrition Knowledge of Family Medicine Physicians: Effect of a Resident-Driven Lecture Series Heidi Hilton, DO, MPH, Beaumont Health
1:15	Telemetry Utilization Review: Before and After Implementation of AHA Guideline Orders Amanda Waterman, MD, Central Michigan University
1:30	Snapshots: A Family Medicine Residency in 55 Word Essays Timothy Tellez, MD, University of Michigan
1:45	Evaluation of Resident Learner Engagement in a Family Medicine Residency Program Jamuna Manoharan, MD, Central Michigan University
3:00 p.m. to 4:00 p.m.	
Moderator	Dr. Jinping Xu
Judges	Dr. Jinping Xu and Dr. Liying Zhang
Timekeeper	Taylor Bays
Practitioner Education	
3:00	Obesity Education in the Family Medicine Clerkship: A US and Canadian Survey of Clerkship Directors' Beliefs, Barriers, and Curriculum Content Ian Drobish, BS, Michigan State University
3:15	A Mixed Methods Analysis of Interprofessional Education in Michigan Medical Schools Anne Drolet, MS, Michigan State University

Full Spectrum: What Should we Teach Family Medicine Residents About Lesbian, Gay, Bisexual, Transgender, and Queer Health?

Nicolas A. Johnson MD, Melissa A. Plegue MA, Katherine J. Gold MD
Presenter: Nicolas Johnson, MD
University of Michigan

Context: Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning (LGBTQ) patients experience healthcare disparities and barriers to receiving comprehensive healthcare. The level of education and comfort regarding management of LGBTQ patients within Family Medicine residency programs is unknown. **Research Question:** What is the state of medical education regarding health care for LGBTQ patients in Family Medicine residency programs? What are the attitudes of both third-year residents and program directors toward LGBTQ health education in their curriculum? **Methods:** Approximately 412 Family Medicine Program Directors and up to 3,500 third year residents across the United States were distributed quantitative surveys via email from January 2017-June 2017. Participants were identified from an online database and by review of individual residency program websites. Responses were anonymous. **Results:** An analysis of n= 65/412 (16%) program directors and n=81/3500 (2%) third-year resident was performed. Within LGBTQ health care topics, formal curricula regarding "coming out" and gender transitioning were taught less frequently. Overall residents reported feeling less comfortable with counseling patients regarding gender transitioning relative to other topics. Time and knowledge of faculty were the main perceived barriers to curriculum inclusion. Both residents and program directors overall agreed that the ACGME should mandate LGBTQ curriculum during Family Medicine training. **Conclusion:** Regardless of an ACGME mandate whether or not to include these topics, programs should strive to evaluate their own curriculum as Family Medicine physicians are positioned to be leaders in improving the delivery of healthcare to LGBTQ patients.

Assessing the Impact of Teaching Electronic Medical Record Efficiency Features on Perceived Time Spent Using Electronic Medical Record and Work-Life Balance of Primary Care Resident Physicians

Christina Doulaverakis, MD
Presenter: Christina Doulaverakis, MD
Providence Hospitals and Medical Centers

Background: Use of Electronic Medical Records in the outpatient setting has been associated with an increase in time spent on patient medical charts and on administrative time. This has led to a negative impact on work-life balance in Primary Care Physicians, increased stress, burnout, and arguably, a decreased desire to for medical students to enter ambulatory Primary Care as a specialty. Increasing efficient use of Electronic Medical Records may decrease these negative effects on primary care physicians. Our objective was to explore the impact of learning Electronic Medical Record efficiency tools on perceived time spent on Electronic Medical Record and work-life balance. **Methods:** 28 FM residents at Providence and Providence Park Hospital were asked to fill out 2 surveys regarding time spent on several aspects of Electronic Medical Records and its impact on work-life balance 75 days apart. One survey was prior to watching instructional videos on how to use efficiency features of AthenaNet© and one was after. **Results:** Time per encounter note in office and encounter turnaround time was perceived as increased, but not statistically significantly. Time spent on Electronic Medical Record at home per day was reported as decreased but not statistically significantly. Impact on work-life balance was not reported as improved after learning the efficiency features. Of note, however, is that comments were unanimously positive about the instructional videos. **Conclusion:** There was not a statistically significant improvement of perceived time spent on patient notes using Electronic Medical Record in the setting of this Primary Care Residency Program or on a perceived improvement of work-life balance.

Sexual Health Education and the Primary Care Physician: Bridging the Gap

Nicole Lopez, MD; Ashley Tabi, MD; Tess McCready, DO; Rhonda Dailey, MD
Presenter: Ashley Tabi, MD
Wayne State University

Background: The discussion of sexual health is often under addressed by primary care clinicians during patient encounters. This may be due to the physician's level of knowledge, comfort, and educational exposure on the subject. Our objective was to evaluate the levels of comfort and knowledge on sexual health before and after an educational intervention. **Methods**: This quality improvement project involved a total of 65 residents (N=55) and faculty (N=10) from the Wayne State University Family and Internal Medicine residency programs at Ascension Crittenton Hospital. Three didactic sessions on Sexual Dysfunction, Sexually Transmitted Diseases, and Contraception were provided. Participants were asked to complete a 35-question survey before and after the lecture series assessing levels of knowledge and comfort on discussing sexual health with patients. Data was analyzed using SPSS version 25. Cronbach's alpha was used to test reliability and the Paired-samples *t*-test was use to detect differences in the means. **Results:** Twenty-six physicians completed both surveys. Perceived knowledge was somewhat high pre (63%) vs post (57%) intervention and perceived comfort was high (89% vs 93%), but no significant differences were detected. Statistically significant results ($p < 0.05$) were detected for the knowledge of: the types of sexual dysfunction (SD) in females; work-up for SD, medications prescribed for male and female SD; drugs that can cause SD; and drug to SD drug interactions. **Conclusion**: Sexual dysfunction knowledge improved significantly post educational intervention. Future implementation of sexual health education in the residency program curriculum will help physicians address these sensitive topics with patients.

How Do Family Medicine Residents Approach Contraceptive Counseling?

Monica Benedikt, MD and Kaila Queen, MD
Presenters: Monica Benedikt, MD and Kaila Queen, MD
University of Michigan

Background: Research shows that contraceptive counseling through a shared decision making process is associated with decreased decisional conflict, improved patient knowledge, and increased contraceptive use. In addition, motivational interviewing has been shown to help patients make behavioral changes, but is not consistently incorporated into patient visits. It is not known to what extent family medicine residents incorporate shared decision making and motivational interviewing into their approach to contraception counseling during preventive visits.

Study objective: To document and describe approaches to contraceptive counseling provided by family medicine residents in an academic residency program.

Methods: We collected qualitative data by audio recording patient-provider discussions during routine health maintenance visits for premenopausal women aged 18-50 who are patients at two family medicine clinics. The population at the Ypsilanti site is more predominantly urban and underserved with a larger proportion of black and Latino patients, whereas the population at the Chelsea site is more predominantly rural with a larger proportion of white patients. Goal recruitment is 10 recorded visits. Residents were consented via written consent for the study and demographic information including gender and residency class year was collected. Patients were consented via verbal consent with gender as the only demographic information collected. No incentives were provided for participation in this study. Visits were transcribed verbatim. Each research team member (KQ, MB) independently coded the first two transcripts and created a consensus coding template based upon discussion to resolve any differences. After all transcripts have been coded, the data will be analyzed to identify common themes and outliers, with a focus on counseling style. We will conduct data transformation of qualitative data to obtain quantitative scores of shared decision making using the OPTION scale, a validated scale to assess shared decision making.

Results: Study still in progress. Preliminary data analysis reveal that although contraception is reliably discussed during health maintenance visits, a shared decision making model is not consistently employed by resident physicians.

Conclusions: Our results suggest that resident education can be adjusted in order to provide appropriate training for residents in shared decision making and motivational interviewing to improve effectiveness in preventative counseling.

Nutrition Knowledge of Family Medicine Physicians: Effect of a Resident-Driven Lecture Series

Heidi Hilton D.O., M.P.H., Erik Weitz D.O., Sarah Wilson M.D.
Presenter: Heidi Hilton, DO, MPH
Beaumont Health

Background: The American Academy of Family Physicians recommends all family physicians should understand the general principles of nutrition and be able to provide evidence-based nutritional counseling to patients. However, training in and assessment of nutrition knowledge in residency is frequently lacking. Resident-driven teaching has been shown to be beneficial to medical students and residents, as well as to patient communication and clinical outcomes. We set out to observe if resident-driven education would improve nutrition knowledge examination scores. **Methods:** Over a period of two months in 2017, two family medicine residents delivered a series of six nutrition lectures to the residency program at the Family Medical Center. Preceding the start of the series, all potential attendees completed a 20-question pre-test. After the conclusion of the final lecture, a post-test was given to measure changes in nutrition knowledge. A control group comprised of a nearby Family Medicine residency program not exposed to the lecture series were also asked to complete the pre- and post-tests for comparison. **Results:** The pre-test was sent to 44 participants and was completed by 27. Ultimately, we had an n=22 for attendance of at least one lecture. The post-test was later completed by 15 participants. Our data demonstrated improved scores on all but two questions, with a 45% average increase in percent correct answers. Limited post-test response rate significantly limited our data collection. The control group response rate was zero. Additional qualitative data was sought. **Conclusions:** We demonstrated that resident-driven nutrition education can improve nutrition knowledge. We were limited in our analysis due to low post-test participation and lack of control group. Future research should focus on physician-driven nutrition education by residents with implementation and validated questionnaire design.

Telemetry Utilization Review: Before and After Implementation of AHA Guideline Orders

Berny Bastiampillai, MD, James Putman, MD, Amanda Waterman, MD, Tony Lyle, MBA, Bernard Noveloso, MD
Presenter: Amanda Waterman, MD
Central Michigan University

Background

Telemetry monitoring is an important part of hospitalization for many patients. However, as with all things in medicine, there must be a careful balance between cost and quality of care provided. In other words, steps should be taken to ensure that not only is the medical care provided evidence based but that there is an awareness of the monetary costs to both organizations and patients.

Methods

In October 2016, three Family Medicine residents performed a review of 347 charts for patients admitted to Covenant Healthcare, Saginaw campus, from August 2015 through January 2016. Patients were randomly selected from the hospital population utilizing telemetry. Purpose of review was to determine appropriateness of orders based on AHA Guidelines for Class I & Class II telemetry. This period was prior to the July 2016 implementation of AHA guideline orders being established in EPIC.

In February, 2017, the same three FM residents performed a second review, consisting of 347 random charts for admitted patients with telemetry orders from October through December 2016. Again, the purpose being to determine appropriateness of telemetry orders based on AHA Guidelines.

Both sets of charts provided the Residents with patient information including MRN, Admission Diagnosis, Date & type of Telemetry Order.

The review served to answer three primary questions:

1. DOES ADMITTING DX WARRANT TELEMETRY ORDER?
2. DURING THIS ADMISSION, WAS LENGTH OF TIME ON TELEMETRY APPROPRIATE?
3. AT TIME OF TELEMETRY ORDER, IN WHAT AHA CATEGORY WOULD YOU PLACE THE ORDER? (Class I, Class II, Does not meet criteria)

Results

Question 1: Both reviews indicated that the telemetry order was warranted from the Admitting Diagnosis approximately 2/3rds of the time.

Question 2: The implementation of AHA guidelines in EPIC, coupled with organizational education, showed an 8% increase in appropriate length of time on telemetry.
Question 3: There was no significant change in the classification of telemetry orders between the two reviews. Both reviews show approximately 1/3rd of patients placed on telemetry were evaluated as NOT meeting criteria of either AHA Class.

Conclusions
A combination of changes in the ordering process and institutional education did show an effect on the proper use of telemetry as related to length of use. However, there was no difference appreciated in the appropriateness of original telemetry orders with approx. 1/3 of patients placed on telemetry not meeting AHA guidelines

Significance
Telemetry use continues to be an area in need of improvement related to both the quality and cost of care at Covenant Healthcare in Saginaw, MI. This project shows that changes in provider education combined with evidence based order sets can make a difference. Further improvement is to be expected in both telemetry use and other quality measures if these strategies are used.

Snapshots: A Family Medicine Residency in 55 Word Essays

Tim Tellez, M.D.
Presenter: Timothy Tellez, MD
University of Michigan

Physician burnout and conversely physician wellness have become increasingly important topics, particularly among residency training programs for clear reasons. Several negative consequences can result from resident physician burnout including increased rates of depression, risk of medical errors, and potential negative effects on patient safety. A strong link has been demonstrated between self-awareness and resiliency. Narrative Medicine which utilizes art and literature as vehicles to explore the complicated work of physician training and practice, as one of many vantage points, may offer some tools to residents for self-reflection and cultivation of resilience. The 55-word essay is one such narrative form which allows the writer the opportunity to reflect upon and create a narrative of one's unique experience. This study is a qualitative, thematic analysis of 55-word essays written and submitted voluntarily by Family Medicine resident participants at various levels of training at the University of Michigan. The analysis aimed to explore and highlight common themes among Family Medicine residents by means of thematic analysis of written essays and several brief, written prompts. I gathered and compiled 13 essays during a single 45-minute writing workshop conducted during the summer of 2017. Several major themes emerged among the residents' submissions including reflections on professional identity and development as physicians, burnout, experiences regarding birth and end of life care/death, and deep identification with their patients' various problems. One resident poignantly chose to write about this particular experience because the topic, namely the personal impact of patients' deaths, was not something he felt was discussed openly. Notably, 3 participants stated that they would likely use this narrative form again with 5 reporting that they might use this type of narrative tool in the future. Though the number of essays is relatively few, the cumulative content is rich in detailed accounts of one program's residents' experiences highlighting the shared challenges and joys of this formative period. The findings suggest the need for more robust discussion and focus during residency training on the thematic areas surrounding the emotional/psychological toll of dealing with death and birth, burnout, professional identity and the personal impacts of caring for vulnerable patients. Specifically, this discussion might be directed in efforts for resident wellness and resiliency.

Evaluation of Resident Learner Engagement in a Family Medicine Residency Program

Jamuna Manoharan MD, NIharika Perni MD, Trina Hara MD, Bernard Noveloso MD, Kristen Weber PhD, Sarah Yonder
Presenter: Jamuna Manoharan, MD
Central Michigan University

1. **Background**- Central Michigan University Family Medicine residency is a university-affiliated, community-based, three-year primary care training program that allots 4 hours on Friday afternoons for didactics, some of which involves team-based learning activities. Our residents have the option to evaluate individual didactic session presenters/facilitators although this option is rarely exercised. Moreover, we currently do not have a structure for self-assessment or presenter-assessment of resident engagement during didactic sessions.
The primary aim of this quality improvement project is to study whether self-assessment and presenter-

assessment of resident engagement during didactics improve when residents know they will be evaluated on their participation in didactics.

2. **Methods-** Two didactic sessions, each consisting of three 30-minute presentations, were used to assess residents. Family medicine residents attending each didactic session completed a survey about their engagement during didactics and a short quiz assessing medical knowledge from the topics covered during the didactic session. A third-party evaluator was present at each session, assessing each resident on level of engagement with the didactic session. The major difference between the two didactic sessions was that residents explicitly were made aware they were being evaluated before the second (intervention) session and not with the first (control) session.

3. **Results-** Results suggested that resident engagement with didactics improved when they were aware they would be evaluated. The anticipation of self and group evaluations were equally motivating. Paired samples t-tests revealed that faculty evaluations of residents' meaningful contributions increased from the control (M = 3.67, SD = 1.53) to the intervention (M = 5.33, SD = 1.53), $t(2)$ = 5.00, $p < .05$. Similarly, third party evaluators' perceptions of residents' meaningful contributions increased from the control (M = 5.28, SD = 1.56) to the intervention (M = 6.22, SD = 1.20), $t(8)$ = 2.51, $p < .05$. Paired samples t-test revealed that residents reported that other residents were more engaged during the intervention (M = 5.89, SD = 0.78) as opposed to the control (M = 5.33, SD = 1.12), $t(8)$ = 3.16, $p < .05$. Similarly, residents self-reported being significantly less distracted during the intervention (M = 2.33, SD = 0.87) as opposed to the control (M = 3.44, SD = 2.07), $t(5)$ = 1.97, $p < .10$.

4. **Conclusions-** Resident engagement did improve from the first to second didactic session when they were made aware of being evaluated on their engagement.

Obesity Education in the Family Medicine Clerkship: A US and Canadian Survey of Clerkship Directors' Beliefs, Barriers, and Curriculum Content

Harland Holman, MD; Sumi Dey, MD; Ian Drobish, BS; Leora Aquino, BA; Alan T. Davis, PhD; Tracy J. Koehler, PhD; Rebecca Malouin, PhD

Presenter: Ian Drobish, BS

Michigan State University

BACKGROUND: Despite concerns regarding the increasing obesity epidemic, little is known regarding obesity curricula in medical education. Medical school family medicine clerkships address common primary care topics during clinical training. However, studies have shown that many family physicians feel unprepared at addressing obesity. The purpose of this study was to evaluate factors related to obesity education provided during family medicine clerkships as well as identify future plans regarding obesity education. **METHODS:** Data were collected through the 2017 Educational Research Alliance (CERA) survey of Family Medicine Clerkship Directors (CDs) in the United States and Canada. Survey items included the level of importance of obesity education, teaching methods, barriers to teaching, and obesity related topics taught during the clerkship. Survey data were summarized and analyzed. **RESULTS:** The survey response rate was 71.2%. The most frequent barrier to teaching obesity related topics was time constraints (89%). The most commonly taught topics were co-morbid conditions (82.1%), diet (76.9%), and exercise (76.9%). The least commonly taught topics were addressed less than 30% of the time, and included cultural aspects, obesity bias, medications that can cause weight gain, medications to treat obesity, and bariatric surgery. Over half of CDs (59%) are not planning to change existing curriculum, with 39% planning to add to the current curriculum. The CDs' perceptions of the importance of obesity education were significantly associated with the number of topics covered during clerkship ($p<0.001$). No relationship was found between clerkship duration and the number of obesity topics taught. **CONCLUSION:** The majority of clerkship directors are planning no changes to their existing curricula which consist of three common topics: obesity related co-morbid conditions, diet, and exercise. While time was the largest self-rated barrier in teaching obesity related topics, clerkship duration didn't impact the number of topics taught. However, the relative amount of importance placed by CDs upon obesity was significantly associated with the number of topics covered during clerkship.

A Mixed Methods Analysis of Interprofessional Education in Michigan Medical Schools

Anne Drolet MS[1], Adam Kudirka BA[1], Miriam Rienstra Bareman MPH[1], Ryan Cosgrove BA[2], Erin Barletta MS[3], Brandon Moretti BA[4], Nadia Sion BS[5], and John O'Donnell MD[1].

Presenter: Anne Drolet, MS

Michigan State University

Background

Interprofessional education (IPE) involves students from different professions learning with, from, and about each other. This allows for greater understanding of roles within the health care team and is predicted to improve teamwork and patient outcomes in the future. However, medical schools have been slow to engage in IPE with great variation between programs. Our study aims to better understand the implementation of and attitudes towards IPE within Michigan medical schools.

Methods

Our study was comprised of quantitative medical student surveys and qualitative medical school faculty interviews. We focused on preclinical students to understand their attitudes and experiences prior to full time clinical involvement. Student surveys included questions on previous health care experience, involvement with IPE, and validated instruments to assess student attitudes. Faculty surveys included questions on the role of IPE in medical schools and how it may impact teamwork and patient outcomes.

Results

The survey has been distributed to four medical schools (n=406). The majority of students have experienced some form of IPE, with simulations (n=142) and clinic experiences (n=136) being most commonly reported. Students spend an average of 1.9 hours per week engaging in IPE activities, and rate IPE as mildly important (2.16/5). While 45.8% of respondents had previous health care experience, this had no impact on how important they found IPE (p=.069). Students found increased familiarity with other professionals to be the main benefit of this education (n=354). Additionally, there was great variation within faculty interviews (n=6). While some found IPE to be integral to medical education, others found it to have no lasting benefit.

Conclusions

While medical students seem to be engaging in IPE, there is no experience that is standardized throughout the state. While many students do find benefits, they may not fully appreciate the importance of this education.

Michigan Research Day XLI

Oral Presentations
Location: Room 6

9:00 to 10:00 a.m.	
Moderator	Dr. Dawn Misra
Judges	Dr. Michael D. Fetters and Dr. Jim Aikens
Timekeeper	Dr. Dawn Misra
Quality Assurance	
9:00	Value of Documentation Assistance in Primary Care Office Setting- A Quality Improvement Project Alysia Hogan, MD, Beaumont Health
9:15	Which Should Go First? Satisfaction of Family Practice Resident and Faculty to Change of Inpatient Note to Assessment Plan Subjective Objective Format: A Quality Improvement Study Joseph Nettleman, MD, Sparrow Hospital
9:30	Pediatric Developmental Screening in Family Medicine Clinic Kaitlin Zeytuncu, MD, Wayne State University
9:45	HIV & HCV Rapid Testing in an Urban Emergency Department: Results from a Focus Group for Quality Improvement Syed Umer Mohsin, MD, Wayne State University
1:00 p.m. to 2:00 p.m.	
Moderator	William Costello
Judges	Dr. Elie Mulhaum and Dr. Philip Zazove
Timekeeper	William Costello
Quality Assurance	
1:00	How a Primary Care Lens Cuts Cost Darby Martin, DO, Henry Ford Health System
1:15	Examining Access to Psychiatric Care in Michigan's Upper Peninsula Jenna Bernson, BS, Michigan State University
1:30	Interventions to Increase Rates of Prevnar Vaccinations: A Quality Improvement Study Daniel Goodin, MD and Melissa Weckessar, MD, Midland Family Medicine
1:45	Assessing and Improving Continuity of Care in a Residency Based Family Medicine Center Marco Peterson, MD, Wayne State University
3:00 p.m. to 4:00 p.m.	
Moderator	Leigha Thomas
Judges	Dr. Elie Mulhaum and Dr. Tim. Guetterman
Timekeeper	Leigha Thomas
Works in Progress	
3:00	Comparing Breastfeeding Rates in Women Attending Obstetric Shared Medical Appointments vs. Traditional Prenatal Care Only Christina Gramith, DO, and Michelle Stone, MD, Beaumont Health Center
3:15	Independent Resident Driven Point of Care Ultrasound in an Academic Residency Program Philip Riley, MD, Wayne State University
3:30	Quality Improvement Project to Improve Advance Directive Rates Patrick Gramith, DO, Beaumont Health Center
3:45	Effectiveness of Screening for Type 2 Diabetes Mellitus in Patients with Prior Gestational Diabetes Mellitus in Primary Care Afrin Burney, MD, University of Michigan

Value of Documentation Assistance in Primary Care Office Setting- A Quality Improvement Project

Alysia Hogan, MD, Sarah Gammouh, MD
Presenter: Alysia Hogan, MD
Beaumont Health

Background: For every hour physicians provide direct face-to-face time with patients, two more hours are spent on documentation. Additionally, studies have shown PCPs spend more time working in the electronic medical record (EMR) than they spend with patients during clinic visits. This study aimed to assess if documentation assistance (DA) provided by medical assistants would improve chart closing efficiency in a primary care office setting. **Methods:** The data was collected using a retrospective chart review using EPIC EMR. Two attending physician's charts were audited with and without DA over a 6 month period. 100 charts were audited before and after DA. Physicians were provided with a medical assistant (MA) acting as both a MA and a scribe. Charts were audited for rooming time, physician time spent in encounter, and chart closure within 48 hours. The data was used to calculate frequencies of chart closure time with and without DA for each physician as well as an average for both physicians. **Results:** Of the 185 audited charts 100 encounters were performed with DA. With DA 60% of charts were closed within 48 hours versus 40 percent of those without DA. Of the 100 DA encounters 34 with provider A and 86 with provider B. With DA Provider A closed 73.5% charts versus 0% without DA. Provider B closed 54% of charts with DA versus 50% without. There was no difference seen in median rooming time or median duration of time in room between encounters performed with DA or without. **Conclusion:** The use of DA did improve chart closing efficacy within 48 hours. The implementation of DA did not effect in office efficiency as measured by rooming time and in room time.

Which Should Go First? Satisfaction of Family Practice Resident and Faculty to Change of Inpatient Note to Assessment Plan Subjective Objective Format: A Quality Improvement Study

Joseph Nettleman, MD, Amy Odom, DO, James Olson, MD, Frank Animikwam, MD, Julie Phillips, MD, MPH
Presenter: Joseph Nettleman, MD
Sparrow Hospital

Background: All physicians have some frustrations with electronic health records (EHR), commonly with efficiency, quality, and the growing size of notes. In addition, clinicians report the greatest time is spent reviewing Assessment and Plan. To cater to this, many outpatient clinics have switched notes from SOAP (Subjective Objective Assessment and Plan) notes to APSO (Assessment Plan Subjective Objective). The aim of our study was to assess the impact of changing to the APSO note format in the inpatient setting.

Methods: This was a single center quality improvement study based out of the Sparrow/MSU family medicine Residency. IRB approved surveys were sent to resident and attending physicians that assessed overall satisfaction with notes, amount of scrolling, note accuracy, and time to review note. Participants were also asked to describe the most useful and least useful aspects of the note. Using this information, the note was switched to an APSO format and improved by removal of least useful sections. Results of the surveys were analyzed across three time points (pre-change, initial change to APSO, and after first set of changes) using Pearson correlation coefficients. Responses to most and least useful sections were categorized by topics.

Results: The baseline survey had 29 responses for an overall rate of 58%, the survey after initial change had 11 responses (21.5%), and the final survey had 14 responses (27.4%)Analyzing each set of surveys showed correlation with overall note satisfaction (Pearson 0.435 Sig 0.001), acceptability of scrolling (Pearson 0.705 Sig <0.001), and note reflects daily changes (Pearson 0.370 Sig 0.006).The least useful portion of the initial note format was identified as the lab section and the most useful was the assessment and plan.

Conclusions: Residents and faculty found changing daily progress notes from SOAP to APSO format improved overall satisfaction, scrolling, and accuracy to daily changes. Given the ease of these changes and increase in satisfaction, this format of note should be trialed with other groups and hospitals.

Pediatric Developmental Screening in Family Medicine Clinic

Kaitlin Zeytuncu MD, Michael Duarte MD, Cortney Cole MD, Hassan Baiz MD, Rachel Klamo DO (mentor), Elizabeth Towner PhD (mentor)
Presenter: Kaitlin Zeytuncu, MD
Wayne State University

Background:
In the United States, as many as 1 in 4 children are at risk for developmental delay; however, many are not diagnosed until school age. The focus of this quality improvement project is to improve the rate of completion of pediatric developmental screenings at Wayne State University Family Medicine Clinic (WSU FMC). Goal was to increase use of validated developmental screening tools to 50% or more of all well child encounters for patients aged 2 months to 5 years, and to increase physician confidence in interpretation.

Methods:
Before intervention, physicians were surveyed regarding confidence interpreting developmental screenings. Additionally, a retrospective cohort analysis of well child encounters from our clinic over a two-month span was performed. For intervention, the Ages and Stages Questionnaire (ASQ), a well-validated tool, was given to guardians checking in for well care appointments. Education was also provided to physicians and staff. After two months, charts were again reviewed and physicians surveyed.

Results:
Pre-intervention analysis of 52 encounters revealed only 8% documented a validated screening, 54% used the non-validated EHR tool, and 38% did not document screening. Pre-intervention survey analysis showed average confidence of 7 for interpreting developmental screenings, with range of 3 – 10 (N = 21).
Post-intervention, retrospective cohort review of 32 encounters showed increased use of a validated tool (34%), and decreases in EHR screening (44%) and no documented screening (19%). Post-intervention survey showed improved confidence, with mean of 8.8, range of 7 – 10 (N = 13). Technical difficulties and time constraints were the most frequent barriers listed to completion of any developmental screening.

Conclusions:
Through education and workflow interventions, it is possible to increase completion rates of validated developmental screenings at WSU FMC, and to increase interpreting confidence. Time constraints and the multi-step process are possible obstacles to a higher completion rate. Further intervention, potentially with a longer run-time or different tool, is indicated. Streamlining the process and integration with EHR may also be beneficial.

HIV & HCV Rapid Testing in an Urban Emergency Department: Results from a Focus Group for Quality Improvement

Presenter: Syed Umer Mohsin, MD
Wayne State University

Background:
Human Immunodeficiency Virus (HIV) and Hepatitis C (HCV) are major public health concerns in the United States (US). According to the Centers for Disease Control and Prevention (CDC), in 2016 1.1 million people were infected with HIV and 3.5 million people were living with chronic HCV infection. Counseling and testing for persons at high risk for HIV/HCV and linkage to care are public health goals. Community health technicians in a hospital setting are frontline providers who can contribute to the improvement of HIV and HCV counseling and testing. The Rapid HIV Testing Program within Detroit Receiving Hospital (DRH) Emergency Department (ED) is part of the CDC Expanded Testing Initiative begun in 2004 that promotes HIV screening which was expanded in 2015 to include HCV screening.

Methods:
To provide recommendations for quality improvement, a focus group was conducted with community health technicians working in the DRH ED regarding their experiences with patients and their perception of patients' preferences during HIV and HCV rapid testing.

Results:
Participants suggested rapid testing for HIV and HCV counseling and testing has challenges, e.g., patients in denial of their diagnosis and some patient preference for interacting with ED physicians rather than the community health technicians. Lack of transportation was a barrier to patient linkage to care. Advantages of the rapid testing protocol included shorter time duration for preliminary results vs conventional testing/blood draw, and designated time to educate patients about HIV and HCV risk factors.

Conclusion:
Recommendations included more training for technicians on techniques to educate patients on risk reduction, and increasing public awareness of HIV and HCV disease prevention and screening.

How a Primary Care Lens Cuts Cost

Darby Martin D.O., Katarzyna Budzynska M.D. MSc, Della A. Rees PhD LPC, Raghavendra Vemulapalli M.D.
Presenter: Darby Martin, DO
Henry Ford Health System

Introduction – Primary care teams in hospitals manage a spectrum of diagnoses and, when necessary, consult other specialties for assistance. This case discusses how one primary care team managed a patient with nine admissions over six months for bacteremia. Our patient had E. coli bacteremia with different bacteria growing in the urine without other signs of infection. By integrating our knowledge with the recommendations of other specialties, we focused our primary care lens to improve the patient's quality of life while simultaneously reducing medical costs.

Case description – A 67 y/o female with a history of recurrent bacteremia and an extensive genitourinary surgical history presented with two days of left flank pain and fevers. She had multiple admissions for bacteremia, most recently caused by VRE. Linezolid and Cefepime were prophylactically started. Blood cultures grew E. coli and urine cultures grew pseudomonas and candida. ID initially stated her pelvic imaging was improving. The Family Medicine team sought the source of the patient's bacteremia and revisited the CT.

A new vaginal fluid collection was found. Upon questioning, the patient admitted to chronic vaginal leakage. Urology identified the fluid as urine from an unknown source. The patient underwent an IR procedure to place a right ureteral stent and replace her left ureteral stent. Her vaginal leakage stopped. Her repeat blood culture was negative. Her leukocytosis resolved, she remained afebrile, and she was discharged.

Discussion – This case demonstrates the importance of primary care teams in patient's care and the importance of a detailed history. The team recognized the patient's multiple readmissions, need for improved source control, and a chronic, debilitating medical issue. The team viewed their own imaging and coordinated her care to address the patient's concerns while treating her Diagnosis. By accomplishing this, the patient has only been re-admitted four times and had corrective surgery in 3/2018 with substantially decreased vaginal leakage. This saves the patient and the healthcare system time and resources. With the increasing national healthcare costs, this decrease is vital. Additionally, it exemplified the importance questioning specialties and maintaining wide differentials.

Examining Access to Psychiatric Care in Michigan's Upper Peninsula

Jenna Bernson, BS; Temmy Brotherson, BS; Peter Hederrich, BA; Andrea Wendling, MD
Presenter: Jenna Bernson, BS
Michigan State University

Background: Rural communities in the US have an acute shortage of mental health services. Nearly three-fourths of rural counties with populations 2,500-20,000 lack a psychiatrist, and 95% lack a child psychiatrist. Barriers to accessing psychiatric care include accessibility, availability and acceptability. This study aims to identify barriers of accessing psychiatry services for the fifteen rural counties that make up Michigan's Upper Peninsula (UP).
Methods: This descriptive study was performed in two phases. *Phase 1*: Information was obtained regarding psychiatrists and inpatient psychiatric units utilizing Medicaid data and Community Mental Health departments. The data was mapped; 'high-risk' areas were identified. *Phase 2*: Primary care physicians (PCPs) were anonymously surveyed in the high-risk regions concerning comfortability providing mental health services and perceived patient barriers to obtaining care. **Results**: All 15 counties were identified as high-risk. 39 inpatient beds and 8 full-time in-county psychiatrists serve the population of 311,000, which warrants 155 beds and 31 psychiatrists. PCPs are attempting to fill this gap. They are comfortable with treating depression and anxiety, but are less comfortable with services for bipolar disorder and substance abuse. Nearly 100% of PCPs communicated that their patients encounter barriers in accessing mental health resources with long waitlists being the most cited barrier. 70% of PCPs do not have psychiatric providers to which they can readily refer. **Conclusion**: Suggestions include:

1. <u>Access</u>: Increase numbers of psychiatric care providers and better distribute care throughout the UP via increased recruitment or telemedicine use.
2. <u>Focus</u>: Focus care from psychiatrists on diagnoses PCPs are less comfortable providing (bipolar disorder and substance abuse).
3. <u>Training</u>: Develop advanced training for PCPs that need to provide mental health services, focusing on bipolar disorder and substance abuse.
4. <u>Pairing</u>: Consider pairing PCPs with consultative psychiatric services, allowing phone or video consults for challenging cases.

Interventions to Increase Rates of Prevnar Vaccinations: A Quality Improvement Study

Daniel Goodin, MD, and Melissa Weckessar, MD
Presenter(s): Daniel Goodin, MD and Melissa Weckessar, MD
Midland Family Medicine Residency

Introduction: *Streptococcus pneumoniae is a* bacteria responsible for many cases of serious illness, including bacteremia, meningitis, and pneumonia worldwide. The ACIP recommends sequential administration of both PCV13 and PPSV23 for all adults aged 65 years and older who have not previously received a pneumococcal vaccine. However, many elderly individuals remain unvaccinated. One of the primary reasons that people remain unvaccinated is likely due to lack of discussion with the primary care physician.
Methods: This is a quality improvement study assessing the effectiveness of physician led education and physician initiated telephone contact with patients to increase the rate of Prevnar vaccination. Active FPC patients age 65 and older who had not received the vaccination and had a PCP from the class of 2018 were included in the study, comprising115 subjects. The trial had two interventions: mailing an educational brochure to unvaccinated elderly FPC patients and subsequently, the physician calling patients and initiating a discussion about the benefits of vaccination and the upcoming vaccination clinics.
Results: 115 unvaccinated patients were initially enrolled. Of those patients, 62 received only an informational brochure and 53 received a brochure and phone call. Of the 62 patients who received brochures, 7 of them subsequently received vaccinations (11.2%), and of the patients who received both the brochure and the phone call, 9 were vaccinated (16.9%). The difference in vaccinations given among those two groups is not statistically significant.
Conclusion: There does appear to be a mild improvement in the vaccination rate among the subset of patients who received both a brochure and phone call as compared to those who only received a brochure.

Assessing and Improving Continuity of Care in a Residency Based Family Medicine Center

Marco Peterson, MD, Cortney Cole, MD, Philip Riley, MD, Tess McCready, DO, & Elizabeth Towner, PhD.
Presenter: Marco Peterson, MD
Wayne State University

Background: Continuity of care endorses quality patient care by establishing a long-term doctor-patient relationship. In a recent evaluation, 25% of patients seen in our residency-based family medicine clinic over a 1-week period reported not being seen by their primary care provider (PCP). Of this group, 66% scheduled appointments through the call center and were not given the option to select the provider they would see for follow-up. The remaining 34% scheduled in clinic, but did not have availability overlap with their PCP. The purpose of this quality improvement initiative was to examine the impact of increasing the frequency of scheduling follow-up appointments during clinic visits as a pathway for improving continuity of care. **Method:** Patients were encouraged by residents to schedule follow-up visits prior to leaving clinic as warranted. Residents completed a notecard after each patient to document if they were the patient's PCP and if follow-up was recommended. Pictures of resident teams were printed and posted in exam rooms and by the checkout desk to help patients and staff identify alternative members of resident teams if a PCP was not available at the date and time the patient requested for follow-up. **Results:** Data were collected over a 2-week period. Of the 172 patients seen, 88% were recommended to schedule a follow-up visit with their PCP. Of this group, 80% were scheduled to see the same resident and 2% with a different resident on the same treatment team. **Conclusions:** Encouraging patients to schedule follow-up visits prior to leaving clinic and providing visual cues of resident treatment teams appear to be promising strategies for minimizing barriers to providing continuity of care within residency-based family medicine clinics.

Comparing Breastfeeding Rates in Women Attending Obstetric Shared Medical Appointments vs. Traditional Prenatal Care Only

Presenter(s): Christine Gramith, DO & Michelle Stone, MD
Beaumont Medicine

Group shared medical appointments have become more popular amongst obstetric providers in the last few decades. Centering Pregnancy is the most widely practiced model of group prenatal care and has been shown to increase breastfeeding initiation rates and to extend duration of breastfeeding in the postpartum period. We utilize a unique model in our residency-based office, which is a combination of Centering Pregnancy and group education classes. We hypothesize that our easily-implemented and more affordable model with one obstetric

shared medical appointment (OBSMA) during pregnancy improves breastfeeding initiation at discharge and continuation into the postpartum period. We are in the process of doing a retrospective chart review in Epic electronic medical record system comparing breast feeding rates in patients who have attended an OBSMA at the Beaumont Family Medicine Center between January 2016 and April 2018 and patients who received traditional prenatal care only in the same resident office during this time. We will be looking at the patient's hospital encounter to see if they were breastfeeding at discharge and then if they were breastfeeding at their postpartum visit in office. Those women who are breastfeeding will be counted as a score of 1 and those who are not breastfeeding will receive a score of 0. A comparison of the two means will then take place using a t-test to evaluate whether there is a difference in breastfeeding rates between those who attended an OBSMA and those who did not.

Independent Resident Driven Point of Care Ultrasound in an Academic Residency Program

Dr Minh Chau Ha, MD; Dr Mitul Mehta, MD; Dr Philip Riley, MD
Presenter: Philip Riley, MD
Wayne State University

BACKGROUND

Point-of-care-ultrasound (PoCUS) is effective in providing rapid diagnostic accuracy of pathologies in many clinical settings. Integration of PoCUS in an academic environment can reinforce understanding of anatomy along with correlation of clinical symptoms, with the goal of speeding up diagnosis. It is more frequently being adopted as standard of care due to its popularity and safety. Ultrasound carries no known risk of harmful radiation and can be performed at bedside. This pilot project aimed to evaluate interest, learning, and testing feasibility of family medicine residents to independently learn PoCUS at Wayne State University School of Medicine Family Medicine Residency Program without the guidance of an experience PoCUS user.

METHODS

A questionnaire was administered to family medicine residents in the program to gauge interest in learning PoCUS. The primary learners were three family medicine residents (one PGY-1, two PGY-3) that underwent training to become proficient in basic foundations of PoCUS and through self-study modules with faculty supervision. Predesigned modules from the Ultrasound Division of the Department of Emergency Medicine at the University of California San Diego were used as the primary learning guide. Primary learners then practiced ultrasound techniques to become proficient with DVT and biliary PoCUS. Upon dissemination of their knowledge to secondary learners, primary and secondary learners underwent a post-training survey to assess knowledge and comfort with PoCUS.

RESULTS

A questionnaire showed that family medicine residents were interested in learning PoCUS in an independent manner through online self-study modules rather than lectures in-person. It was found that primary learners were able to teach secondary learners PoCUS under faculty supervision effectively.

CONCLUSION

It was determined that a self-study curriculum could effectively train family medicine residents in PoCUS, and that there is interest from Family Medicine Residents to learn PoCUS.

Quality Improvement Project to Improve Advance Directive Rates

Presenter: Patrick Gramith, DO
Beaumont Family Medicine Center

Background-Advance Directives (ADs) are an integral piece of health care decision making. Our Family Medicine Center (FMC) has low enrollment rates in ADs. This quality improvement project aims to initiate a program to improve AD enrollment in our center. We theorize that the addition of the AD forms to the patient folder with encouragement to physicians to discuss ADs will result in higher rates of AD completion by patients, and documentation in the electronic medical record (EMR).
Method- A standardized AD form and a brief letter explaining the importance of s and the process for sending completed AD's back to the FMC were provided to patients 18 years of age and older during all visits for specific providers for two weeks (4/2/2018 – 4/13/2018). Other provider's patients were chosen to not receive the materials and were designated a control group. The percentages of AD completion among the intervention group vs the control group will be compared and an increase in rates of 10% in the intervention group will be considered to be significant.
Results-Data Collection is in process and entails comparing rates of AD signup from the intervention group vs AD signup for the control group.
Conclusions-If the rate of signup in the intervention group exceeds 10% it will be considered significant and future AD

"Effectiveness of screening for type 2 diabetes mellitus in patients with prior gestational diabetes mellitus in primary care"

Afrin Burney, MD Elizabeth Paluga, MD Missy Plegue
Mentor: Masahito Jimbo, MD
Presenter: Afrin Burney, MD
Univeristy of Michigan

Background: In the United States, Gestational Diabetes Mellitus (GDM) has been reported to affect 1-14% of all pregnancies each year, with recent study estimating GDM prevalence up to 9.2%2. GDM predisposes women to gestational diabetes in future pregnancy as well as risk of developing type 2 diabetes mellitus. Both American diabetes Association (ADA) and American College of Obstetrics and Gynecology (ACOG) recommend testing women with GDM in the early postpartum period (ADA at 4- 12 weeks postpartum and ACOG at 6-12 weeks postpartum) and thereafter lifelong screening for the development of prediabetes or diabetes at least every 3 years if testing is normal, or annually initial screening is abnormal. Despite these guidelines, post-partum screening has been demonstrated to be inadequate, with 23%-73% of GDM patients undergoing follow up screening in the short term.
Objective: This study seeks to define the prevalence of short-term and long term postpartum screening for GDM at the UMHS health system. In addition, factors associated with decreased screening were defined.
Methods: The study is a retrospective cohort analysis. Descriptive statistics will be used to characterize screening type and subsequent results for screens completed. Associations between demographic, health and other characteristics and screening will be evaluated using multivariable logistic regression, with screening completed as the outcome.
Anticipated Results: This investigation provides targets for intervention in order to decrease the number of patients with GDM who do not follow up after diagnosis.

Michigan Research Day XLI

Oral Presentations
Location: Room 7

9:00 to 10:00 a.m.	
Moderator	Michaila Paulateer
Judges	Dr. Caroline R. Richardson and Dr. Justine P. Wu
Timekeeper	Michaila Paulateer
Patient Care/Clinical	
9:00	A Cohort Analysis of a Family Medicine based on Obstetrical Panel… Can we Bridge the Gap? Zeeshan Sharif, M.D, Wayne State University
9:15	Antibiotic Prescription Patterns for Urinary Infections in Obstetrical Triaged Patients Rajiv Deochand, MD, Midland Family Medicine
9:30	Evaluation and Management of Direct Oral Anticoagulants in Special Populations with Atrial Fibrillation Nicole A. Fabiilli, PharmD, Beaumont Hospital
9:45	Efficacy of Area Under the Curve (AUC) Dosing of Vancomycin in Patient with Serious Methicillin Resistant *Staphylococcus Aureus* (MRSA) Infection Nicholas A. Cinto, PharmD, Beaumont Hospital
1:00 p.m. to 2:00 p.m.	
Moderator	Taylor Bays
Judges	Dr. Thomas Anan and Dr. Bengtz Arnetz
Timekeeper	Taylor Bays
Patient Care/Clinical	
1:00	Is a Diet and Exercise Screener Useful During a Health Maintenance Examination? Erica Martin, MD and David Schrock, MD, University of Michigan
1:15	Blood Pressure Control Through a Randomized Controlled Trial in an Urban Emergency Department Population Shayla Patton, Wayne State University
1:30	Testosterone Deficiency, Muscular Weakness, and Multimorbidity in Men: Not Just an Old Man's Game Aleksandr Belakovskiy, MD , University of Michigan
1:45	Improving Patient Education and Adherence to Institute of Medicine Guidelines for Weight Gain in Pregnancy - A Quality Improvement Initiative Zeeshan Sharif, M.D., Wayne State University
3:00 p.m. to 4:00 p.m.	
Moderator	Dr. Tess A. McCready
Judges	Dr. Kim Campbell-Voytal and Dr. Tess A. McCready
Timekeeper	Sarah McNally
Patient Care/Clinical	
3:00	Adult Attention Deficit Hyperactivity Disorder (ADHD): Under-Diagnosed in Primary Care? Roohi Kahlon, M.D., Sparrow Family Medicine
3:15	Self Harm and its Impact on Trauma Services Rohit Nallani, BS, Michigan State University
3:30	Patient Perception of Sleep Disturbance and the Currently Recommended Insomnia Treatment Modalities in a Primary Care Setting Jeanette Wilson, MD, St. John's Hospital and Medical Center
3:45	Effect of Inpatient Osteopathic Manipulation of Patient Experience: Retrospective Study of HCAPHS Outcomes Justin Rutt, DO, Sparrow Family Medicine

A Cohort Analysis of a Family Medicine based on Obstetrical Panel… Can we Bridge the Gap?

Zeeshan Sharif, M.D., Rachel Klamo, D.O., MS
Presenter: Zeeshan Sharif, M.D.
Wayne State University

Background: Assurance of an adequate workforce of maternity care providers is a public health concern. Current data project a 25% deficit in the number of Obstetricians by 2030 and a 35% deficit by 2050. Maternity care provided by a family physician is an option however limited data is available on adequacy of the clinical training and role within the community. We hypothesize that a family medicine OB panel can provide an adequate learning experience through a diverse obstetrical panel. **Methods**: A retrospective cohort analysis of patients (N=18) was conducted of obstetrical patients presenting to the Wayne State University Family Care Center from January 2016-January 2018. **Results**: 1.) Demographics: 34% New Patients; 39% Caucasian, 33% African American, 11% Asian & 11% Hispanic; 33% Obese; 44% Medicaid, 50% Commercial Pay, Uninsured 6%; 44% Primiparous. 2.) Pregnancy course: 75% had Institute of Medicine recommended weight gain; 56% Medically complex, 28% Socially Complex. 3.) Pregnancy outcomes: 100% Early or Full Term; 55% Normal Spontaneous Vaginal Delivery (NSVD), 9% Primary C-Section, 9% Repeat C-Section, 18% Miscarriage, 9% Unknown; 38% Male infants; 75% Exclusively Breastfed, 25% Breastfed & Formula Fed; 75% chose the program for newborn care. **Discussion**: The family medicine obstetrical panel is diverse across multiple demographic and obstetrical variables. Pregnancy outcomes, continued postpartum and newborn care data, and care for the underserved are noteworthy. **Conclusions/Future Research**: Family Medicine programs can provide an adequate learning experience through a diverse continuity obstetrical panel. Nationally, similar cohort studies have the potential to demonstrate the capability of family physicians to provide high quality obstetrical care and fill the gap in maternity care providers.

Antibiotic Prescription Patterns for Urinary Infections in Obstetrical Triaged Patients

Rajiv Deochand, MD
Presenter: Rajiv Deochand, MD
Mid-Michigan Health - Midland Family Medicine Residency

Introduction: Antepartum urinary tract infections, both symptomatic and asymptomatic, have been correlated to increasing the risk of preterm labor. It is important that these types of infections become identified, however it is also important that antibiotic stewardship is practiced in preventing the unnecessary use of antibiotics.
Methods: This is a retrospective study posed to demonstrate poor diagnostic accuracy of urinary tract infections based on urinalysis results and post urinary culture and that antibiotic overuse is prevalent in both the preterm and term obstetrical triaged patient who presented with either urinary symptoms or who presented with uterine contractions. Based on electronic medical record chart review, 217 patients were identified during a three month time-span after meeting both inclusion and exclusion criteria. Subjects were identified by their presenting complaint and then had a urinalysis performed during their visit. Subjects were then organized based on whether they were prescribed antibiotics and the final results of their urine culture.
Results: Out of the 216 subjects identified in this study, 130 patients were identified to have a reflux urine culture sent for further urine culture analysis. Out of 130 subjects, antibiotics were prescribed 43 times over the three months. Eighty-six percent of subjects, who were prescribed antibiotics, had a negative culture result. Elevated urinary markers such as leukocyte esterase and bacteriuria were more likely to influence antibiotic prescriptions in the face of a follow up negative culture.
Conclusion: Antibiotics are frequently overprescribed for a urinalysis with a negative culture. Increased urinary markers are likely persuading factor in antibiotic prescription.

Evaluation and Management of Direct Oral Anticoagulants in Special Populations with Atrial Fibrillation

Rebecca E. Baker, PharmD, BCPS, BCCCP, Tania S. Paydawy, PharmD, Jennifer L. Pilotto, PharmD, BCPS, Michael J. Forman, PharmD, MBA
Presenter: Nicole A. Fabiilli, PharmD
Beaumont Hospital

Background: Management of thromboembolism prevention in atrial fibrillation has recently changed with the availability of direct oral anticoagulants (DOACs), therefore providing an alternative to vitamin K antagonists (VKA) in preventing thromboembolic events. To date, DOACs represent important advantages over VKA. However, patient clinical factors, including renal impairment, hepatic impairment and extremes in weight, may complicate the management of preventing thromboembolism or cause the prescriber to question the best treatment option

due to lack of clinical data or exclusion of these patient populations in DOAC trials. Due to lack of guidance on management of these patient populations, the purpose of this study is to evaluate patient characteristics, the general management of DOAC therapy in atrial fibrillation and the occurrence of undesirable patient outcomes in patients who met criteria for special patient populations. **Methods**: This is a single-center retrospective study of adult patients with atrial fibrillation who received at least one dose of apixaban, dabigatran, or rivaroxaban from June 1, 2017 through August 31, 2017. Patients were identified through the electronic medical record and were included if they received at least one dose of a DOAC during admission and met criteria for special patient populations which consisted of renal impairment, hepatic impairment and extremes in weight. Extremes in weight were defined as either obesity (body mass index [BMI] > 40 kg/m^2 or >120 kg) or low body weight (BMI < 18.5 kg/m^2 or ≤ 50 kg). Patients were excluded if they had documented cardiac valve disease and/or their DOAC was prescribed for dual indications. **Results/Conclusion:** Data is currently being collected and analyzed. Results and conclusions will be presented at the 41st Annual Michigan Family Medicine Research Day Conference.

Efficacy of Area Under the Curve (AUC) Dosing of Vancomycin in Patient with Serious Methicillin Resistant *Staphylococcus Aureus* (MRSA) Infection

Jennifer L. Priziola, PharmD, MBA, BCPS, Sandra M. Hartnagle, PharmD, BCPS
Presenter: Nicholas A. Cinto, PharmD
Beaumont Hospital

Background: Vancomycin is a glycopeptide antibiotic used for the treatment of MRSA infections. Historically, trough levels have been used to evaluate vancomycin dosing with guidelines recommending trough levels of 15 to 20 mg/L for the treatment of serious MRSA infections. There is strong evidence linking higher vancomycin troughs to an increased risk of nephrotoxicity with limited clinical evidence on improved efficacy. Literature suggests that dosing vancomycin based on AUC (versus trough levels) decreases the risk of nephrotoxicity, but further investigation regarding the effectiveness of dosing by AUC is warranted. This study will describe the efficacy of AUC dosing. **Methods**: This Institutional Review Board (IRB) approved study was a retrospective chart review performed at a community-teaching hospital. Patients were identified via lab report showing any positive MRSA culture (excluding urine, central nervous system, and superficial wound cultures) during their hospital admission between the dates of April 1, 2017 and September 30, 2017 (AUC dosing) as well as April 1, 2016 and September 30, 2016 (trough-directed dosing). Pertinent patient data was collected from the electronic medical record (EMR) including: patient demographics and characteristics, duration of hospital stay, laboratory data, vancomycin regimen characteristics, and reason for discontinuation of vancomycin therapy. Data was evaluated and compared utilizing appropriate statistical methods. **Results/Conclusion:** Data is currently being collected and analyzed. Results and conclusions will be presented at the 41st Annual Michigan Family Medicine Research Day Conference.

Is a Diet and Exercise Screener Useful During a Health Maintenance Examination?

Erica Martin MD, David Schrock MD, Zora Djuric PhD
Presenters: Erica Martin, MD and David Schrock, MD
University of Michigan

Obesity is a common problem and yet providers often lack formal training in addressing this topic. This study aimed to create a screening tool for diet and exercise behaviors that would be helpful in guiding meaningful conversations on lifestyle improvements during a health maintenance examination (HME). A total of 42 providers and 63 patients at two University of Michigan family medicine clinics participated in this study. A brief diet and exercise screener was developed and given to patients 18 and older during HMEs. A questionnaire was also administered to providers to collect their opinions regarding the screener and diet/exercise counseling. The data was collected in two rounds over approximately one year. Each provider and patient survey/screener was numbered to keep each encounter paired. Half of the providers were residents, and responses did not vary significantly between the two practice sites. A total of 50% of the providers surveyed felt that the screener was either helpful or very helpful, and 64% thought they'd like to use the screener for their HMEs. The patients surveyed had a mean BMI of 30 kg/m2 and an average age of 44 years. Patients at one site reported consuming significantly more healthy foods and exercising more than the site that was in a lower income community. However, the perceived utility of the screener did not differ significantly between sites. More than half (57%) of patients felt that the screener was a good way to start a conversation about diet and exercise, and 79% expected to have such a conversation during an HME. When evaluating responses by whether or not patients had a normal BMI, 6% of normal weight patients and 44% of overweight/obese patients wanted more conversation with providers about diet and exercise (p=0.01). The majority of providers and patients felt that our screener was useful

in facilitating conversations about diet and exercise. Integrating our tool into MiChart might enhance HMEs especially for obese and overweight patients.

Blood Pressure Control Through a Randomized Controlled Trial in an Urban Emergency Department Population

Presenter: Shayla Patton
Wayne State University

Background:
The 2017 American College of Cardiology and American Heart Association hypertension guidelines lowered the threshold for diagnosis from 140/90 to 130/80, potentially increasing the number of hypertensive Americans from 32% to 46%. Results from the Eating for Heart Health feasibility study showed that health education and a behavioral cardiovascular intervention administered at a public health urban primary care clinic were associated with decreased blood pressure (BP). Also following the Information-Motivation-Behavior Model, Achieving Blood Pressure Control Through Enhanced Discharge (AchieveBP), was a randomized controlled trial (RCT) performed with emergency department (ED) patients at the point of discharge. A previous study of African-American patients in the AchieveBP ED indicated that subclinical hypertensive heart disease was highly prevalent. A follow-up study to AchieveBP is proposed, expanding to multiple ED recruitment sites.
Methods:
An 80% statistical power analysis determined the target sample size per study arm to account for losses at screening, enrollment, and follow-up. The proposed RCT, following the CONSORT model, projects about 5000 patients will need to be screened. The control group will receive standard ED discharge, while the intervention group will receive health education and home BP monitoring. As with AchieveBP, both will be given appropriately titrated antihypertensive medication. Assessments will include BP measurement, health literacy, patient activation, and medication adherence.
Results:
In the AchieveBP trial, two-thirds of those completing the study attained BP control. Patient activation and health literacy scores significantly predicted medication adherence.
Conclusions and Discussion:
The new hypertension guidelines place increased emphasis on health education and risk reduction through lifestyle and behavioral modification, along with pharmacotherapy, as means to control hypertension. Therefore, the follow-up intervention for the proposed RCT will be increased from six months to one year.

Testosterone Deficiency, Muscular Weakness, and Multimorbidity in Men: Not Just an Old Man's Game

Alex Belakovskiy, MD. Mark Peterson, PhD
Presenter: Aleksandr Belakovskiy, MD
University of Michigan

Purpose: The purposes of this study were to evaluate the association between total testosterone (TT) deficiency and age-specific TT tertiles on chronic multimorbidity in a large, population-representative sample of men. **Methods:** A population-representative sample of 2,399 men, aged ≥20 years old were included from the 2011-2012 NHANES (National Health and Nutrition Examination Survey.) Univariate analysis were performed to examine the prevalence of multimobidity among young (20-39.9 years), middle-aged (40-59.9 years), and older (≥60 years) men, with and without testosterone deficiency (i.e., <300 ng/dL [10.4 nmol/L]). Multivariate logistic models were used to determine the association between age-specific TT tertiles and mulitmorbidity (i.e., ≥2 chronic conditions), adjusting for age, obesity, and key sociodemographic variables, as well as a secondary analysis adjusted for grip strength. **Results:** Multimorbidity was more prevalent among men with testosterone deficiency, compared to normal TT in the entire group (36.6% vs 55.2%; p<0.001); however, differences were only seen within young (testosterone deficiency: 36.4%; normal TT: 13.5%; p<0.001) and older men (testosterone deficiency: 75.0%; normal TT: 61.5%; p<0.001). Fully adjusted models revealed robust associations between the age-specific low-TT (OR [Odds Ratio]: 3.10; 95%CI: 2.25-4.25) and moderate-TT (OR: 1.73; 95%CI: 1.31-2.28) tertiles (reference high-TT tertiles) and multimorbidity. Secondary analysis demonstrated that both low TT (OR: 2.20; 95%CI: 1.45-3.33) and moderate-TT (OR: 1.47; 95%CI: 1.10-1.96) were associated with multimorbidity, even after adjusting for NGS (Normalized Grip Strength) (OR: 1.20 per 0.05 unit lower NGS). **Conclusions:** Low TT and weakness in men were independently associated with multimorbidity at all ages; however, multimorbidity was significantly more prevalent among young and older men with testosterone deficiency.

WITHDRAWN

Improving Patient Education and Adherence to Institute of Medicine Guidelines for Weight Gain in Pregnancy - A Quality Improvement Initiative

Zeeshan Sharif, M.D., Rachel Klamo, D.O., MS
Presenter: Zeeshan Sharif, M.D.
Wayne State University

Background: Obstetrical patients partner with their physicians to monitor a great number of parameters during their pregnancy. Only recently, increased attention to healthy weight gain in pregnancy based the Institute for Medicine (IOM) Guidelines for weight gain in pregnancy has become more integrated into standard practice. This guideline is based on pre-pregnancy Body Mass Index (BMI). The IOM recommends that women who begin their pregnancy underweight (BMI<18.5) should gain 28-40 pounds; those with normal weight (BMI 18.5-24.9) should gain 25-35 pounds; those who are overweight (BMI 25-29.9) should gain 15-25 pounds; and those who are obese (BMI ≥30) should gain 11-20 pounds. The Wayne State University Family Medicine Program engages women for full scope prenatal and OB care as part of their educational model. However prior to 2015 there was no tracking system of adherence to the guideline or model for patient education on the subject. **Methods**: A Quality Improvement Project using PDSA methodology was conducted from December 2015-April 2018. During PDSA cycle #1, Patients were enrolled in the continuity panel and provided with education on 1) their pre-pregnancy BMI and 2) the recommended weight gain for their pregnancy based on IOM recommendations. All patient pregnancy courses were tracked for adherence to weight gain recommendations and pregnancy outcomes. **Results**: There were 18 total patients enrolled (N=18). Of those in the study group, pre-pregnancy BMIs were 8/18 (44%) – Normal weight; 2/18 (11%) Overweight; and 8/18 (44%) Obese. At the end of the pregnancies, 12/13 (92%) of patients did not exceed the IOM guideline based recommendation for weight gain in their pregnancy. Of those: 2/13 (15%) exceeded the IOM recommendation; 1/13 gained less than the IOM recommendation; and 10/13 (77%) were adherent to the IOM recommendation for weight gain in pregnancy. **Discussion:** The use of a PDSA model for introducing education for patients on IOM guidelines for weight gain in pregnancy was successful in increasing exposure to education from 0% at baseline to 100% receiving education. Furthermore, the majority of patients did not exceed the guideline for weight gain in pregnancy. It appears that a quality improvement model of providing education can increase both exposure to the weight gain recommendations and result in a great proportion of patients with healthy weight gain. PDSA cycle number two will focus on standardizing patient education materials, goal setting, and reassessment of the percentage of patients adherent to the IOM guidelines compared to our initial 77% adherence result.

Adult Attention Deficit Hyperactivity Disorder (ADHD): Under-Diagnosed in Primary Care?

Roohi Kahlon, MD (Resident); Amy Romain, LMSW, ACSW; Julie Phillips, MD, MPH;
Presenter: Roohi Kahlon, M.D.
Sparrow Family Medicine

Background: The purpose of this study is to determine if primary care physicians are under-diagnosing and therefore under-treating adults with ADHD. Adult ADHD is difficult to diagnose since it is usually seen in adults with other mental co-morbidities such as anxiety, depression, bipolar disorder, and/or substance abuse. **Methods:** Adult patients were selected from a family medicine residency program clinic in the Midwestern United States, who were being actively treated for anxiety and/or depression and had not been diagnosed with ADHD. They were then screened for adult ADHD using the "Adult ADHD Self Report Scale Checklist," created by the World Health Organization. Finally, we evaluated whether the high proportion of patients who screened positive for ADHD was different from what we might expect from a population of patients with anxiety and depression. **Results:** Of the 71 patients participating in this study, 50 patients (70.4%) screened positive and had never been treated or even evaluated for ADHD in the past. Based on a previous large population study, we assumed the prevalence of ADHD in patients with anxiety and depression was 22%, which is five times the prevalence of ADHD in the general population (4.4%). Based on previous literature, we assumed the ASRS screening instrument has a sensitivity of 90.2% and a specificity of 30.0%. We calculated the positive predictive value, in this population, of the instrument as 28.1% and the negative predictive value as 7.3%. Using these assumptions, we would expect approximately 50 study patients to have a positive ASRS screen and 21 patients to have a negative screen. This is consistent with our study findings. **Conclusion:** The results support the hypothesis that primary care physicians are under-diagnosing and therefore under-treating ADHD in adults. This may lead to suboptimal care for these patients. Primary care physicians should consider implementing practice changes to prevent under-diagnosis and therefore under-treatment of ADHD in patients with anxiety and depression.

Self Harm and its Impact on Trauma Services

Vinu Perinjelil MD, Rohit Nallani BS, Fadi Al Daoud MD, Michelle Maxson MSN RN, Amber Dombrowski RHIT, Nicole Matthews RN, Kristoffer Wong DO, Leo Mercer MD, Gul Sachwani-Daswani DO
Presenter: Rohit Nallani, BS
Michigan State University

INTRODUCTION: The prevalence of mental health disorders (MHDs) in the USA is approximately 6% with 1 in 17 Americans living with a serious mental illness. The Genesee Health System (GHS), a mental health provider in Genesee County, served 9,985 patients for MHDs in 2016. Concurrently, the Flint Hurley Medical Center (HMC) Trauma Services has noticed consistent self injurious behavior in recent years. The objectives of our study included identifying various factors and characteristics of patients presenting with injuries related to self-harm and creating a standardized work flow to better assist this population.
METHODS: We conducted a retrospective chart review of all patients over the age of 10 who presented to the HMC trauma department between 2012-2017 with admissions related to self-injurious behavior. We collected epidemiologic data including demographic information, mechanisms of injury, and history of drug use or pre-existing MHDs. Analysis of data was conducted using Microsoft Excel.
RESULTS: Between 2012 to 2017, 234 total cases of self-injury involving individuals over the age of 10 were seen through the trauma department. Mean age was 38.2 (SD:16.5) and 73.5% were male. Mechanisms of injury included: 71 lacerations, 44 stab wounds, 42 gun violence, 31 hanging, 13 burn/caustic ingestion, 12 jumps in front of moving vehicle, 8 falls/jumps, 7 motor vehicle collision, and 6 Other reasons. Drug use and MHDs were identified in 55% and 56% of these cases, respectively. Additionally, we discovered that various inpatient and outpatient management options exist for these patients.
CONCLUSION: At HMC, we have access to data related to self-injurious behavior among our patients. Gaps currently exist in the variety and continuity of care, and the impact of self-harm on trauma services is significant. The HMC Trauma Services intends to utilize a multidisciplinary approach and a standardized workflow in managing these patients.

Patient Perception of Sleep Disturbance and the Currently Recommended Insomnia Treatment Modalities in a Primary Care Setting

Jeanette Wilson, MD; Jessica Hauser, PhD; Rachel O'Byrne, MD; Susan Szpunar, PhD.
Presenter: Jeanette Wilson, MD
St. John's Hospital and Medical Center

Background: Insomnia is a common medical complaint for patients presenting to outpatient practices. The public health burden of chronic sleep loss, in conjunction with patients' low awareness of insomnia treatment recommendations, dictates the need for a strategy to address timely insomnia diagnosis and education about behavioral treatment modalities. The American Academy of Family Physicians (AAFP) currently recommends that insomnia be treated with cognitive behavioral therapy, with or without the addition of medication sleep aids. This does not necessarily represent the treatment patterns sought after by patients in our clinical practice.
Objectives: 1. To determine patients' knowledge of available and recommended insomnia treatments at two outpatient family medicine clinics. 2. To evaluate the association of patients' clinical and demographic characteristics with insomnia treatment.
Methods: We conducted a cross sectional study using a voluntary, anonymous survey of adult patients at two family medicine clinics. Inclusion criteria included age of 18 years or older and the ability to read English. Data were analyzed using the chi squared test, Student's t-test and analysis of variance.
Results: Of the 706 responses, only 18% of patients reported a diagnosed sleep disorder, but 56% reported insomnia symptoms. A majority (52%) of patients had heard of sleep hygiene and 37.9% had used it. Only 15.6% of patients had heard of cognitive behavioral therapy for insomnia (iCBT); 4.7% had used it. Melatonin and diphenhydramine were the most commonly used pharmacologic sleep aids. Most patients (45%) used medication first, versus 10.8% who used medication with behavioral intervention or 4.2% who used behavioral intervention first.
Conclusions: Our patients' insomnia treatment does not follow AAFP recommendations. There is a disparity in reported insomnia symptoms versus reported diagnosis. We can use these data to guide physicians in insomnia screening and the use of sleep hygiene and CBT treatment.

Effect of Inpatient Osteopathic Manipulation of Patient Experience: Retrospective Study of HCAPHS Outcomes

Amy Odom DO, Justin Rutt DO, Julie Phillips MD
Presenter: Justin Rutt, DO
Sparrow Family Medicine

Osteopathic manipulative treatment (OMT) is a manual treatment modality that has been shown to reduce length-of-stay and improve recovery in certain hospitalized medical and surgical patients. No research exists regarding the effect of this treatment on patient experience using a validated instrument. This study aims to determine whether OMT improves the hospitalized patient experience relative to standard care using Hospital Consumer Assessment of Healthcare Providers & Systems (HCAHPS) survey outcomes. 5848 HCAPHS surveys were conducted randomly via telephone with adult medical, surgical and obstetric patients discharged home by a single hospital in Lansing, MI from October 2015 to October 2017 and then obtained for analysis. Of 994 patients who received OMT in the hospital during this two-year span, 51 went on to complete a HCAHPS survey. Primary outcomes included eight survey items in four domains: doctor communication, pain control, overall hospital rating and willingness to recommend. Additional survey data used for analysis included age, ethnicity, gender, principal diagnosis at discharge (DRG), and discharging service/physician. The frequency of treatments and credentials of the OMT provider were obtained via chart review. Data analysis using a case-matching approach is ongoing. This study was limited by a relatively low sampling percentage of the experimental group. Given the nationwide implementation of the HCAHPS survey model, a future multi-center study would be feasible.

Michigan Research Day XLI

Oral Presentations
Location: Room 8

9:00 to 10:00 a.m.	
Moderator	Dr. Elizabeth Towner
Judges	Dr. Elizabeth Towner and Dr. Julie Gleason-Comstock
Timekeeper	Inara Ismailova
Population Health	
9:00	Rapid Repeat Pregnancy Among Women Seeking Pregnancy Termination: A Descriptive Study Tong Liu, MD, University of Michigan
9:15	Stillbirth in Ghana: Determining Cause of Death Jennifer N. Angell, University of Michigan
9:30	Disparities in Diagnosis, Treatment, and Prognosis of Prostate Cancer in Flint, Michigan Kevin Johnston, B.S, B.A, Michigan State University
9:45	Prevalence of Prediabetes in Women Diagnosed with PCOS Susan Kim, MD, University of Michigan
1:00 p.m. to 2:00 p.m.	
Moderator	Dr. Anne Victoria Neele
Judges	Dr. Nadia Saadat and Dr. Anne Victoria Neele
Timekeeper	Emily Yagihashi
Population Health	
1:00	The Prevalence of Substance Use Disorder Among Arab American Young Adults Ali Nasrallah, University of Michigan
1:15	No One Should be Afraid of the Water - Somatic Symptom Disorder and Illness Anxiety Disorder in the Aftermath of the Flint Water Crisis Syed Zaidi, MD, McLaren Family Medicine
1:30	Acute Sleep Deprivation on Academic Performance Neil Joshi, BS, Michigan State University

Rapid Repeat Pregnancy Among Women Seeking Pregnancy Termination: A Descriptive Study

Tong Liu, MD, Katharine White, MD, MPH
Presenter: Tong Liu, MD
University of Michigan

Background
Rapid repeat pregnancy (RRP) is often unintended, but has not been previously studied in the context of abortion.
Methods
We conducted a cross-sectional study of women seeking termination at a single clinic, whose current pregnancy began <18 months after another pregnancy. We performed descriptive analyses of demographics, relationship characteristics, and healthcare experiences,
Results
The 125 participants presented after a birth (48%), abortion (48%), or miscarriage (3%). The median interpregnancy interval was 6 months (IQR 3.5-10). Most participants were young, (median 25.5 years, range 17-45), white (78%), employed (58%), and had no religious affiliation (66%). Most had future educational goals (91%). Many smoked tobacco (38%) or marijuana (15%).
Most participants (87%) had at least one birth (median parity 2, range 0-5), and most (71%) had at least 1 abortion. Most (94%) had a regular sexual partner, who was neutral or supportive of her decision to terminate (61%). Only 6.5% of participants reported returning to sexual activity sooner than they had wanted. Most had a primary care physician (77%) and regular gynecological care (66%).While 98% had used contraception in the past and 76% used it after their last pregnancy, only 39% were contracepting when they became pregnant this time. Many participants (41%) did not know when their fertility returned, and many (41%) did not go to a post-pregnancy follow-up appointment.
Conclusions
Rapid repeat pregnancy may be related to lack of information about post-pregnancy fertility and by lack of contraception use. Future studies should assess contraceptive counseling during pregnancy and specific barriers to post-pregnancy contraception access.

Stillbirth in Ghana: Determining Cause of Death

Jennifer N. Angell, Dr. Abdul-Razak S. Abdul-Mumin, MB ChB, FFWACS, GFCPS, Katherine J. Gold, MD MSW
Presenter: Jennifer N. Angell
Department of Family Medicine, University of Michigan

Purpose: More than 7,000 stillbirths occur each day across the globe – 98% in low and middle-income countries. Despite this alarming rate, research on stillbirth and the implementation of impactful solutions has been sparse, particularly in low-resource settings. In Ghana, little data has been published on the cause of death among stillbirths, and estimates of the national stillbirth rate vary from 13 to 35 stillbirths per 1,000 births. One barrier to obtaining meaningful data is the wide variation in cause of death classification systems for stillbirth, most of which were designed for high-income countries where diagnostic testing and comprehensive records are available. There are upwards of 30 stillbirth classification systems, and there is a lack of consensus in the international stillbirth research community about the best system to use. We sought to classify cause of death for stillbirths in a major teaching hospital in Ghana through the application of the Perinatal Society of Australia and New Zealand's Perinatal Death Classification system.
Methods: During 12 consecutive months in 2011-2012, a physician (A.R.) reviewed all stillbirth charts within a week of delivery at Komfo Anokye Teaching Hospital (KATH) and completed a detailed questionnaire with patient demographics, maternal health, prenatal care, and labor history. One investigator (J.A.) created case summaries based on the questionnaire data. The summaries were independently reviewed by the two co-principal investigators to determine cause of death for each case using the Perinatal Society of Australia and New Zealand's Perinatal Death Classification system. Conflicting classification by coders were reviewed jointly and resolved.
Results: Cause-of-death was analyzed in 465 cases of stillbirth. The leading causes of death by general category were hypoxic peripartum death (N=105, 22.6%), antepartum hemorrhage (N=67, 14.4%), hypertension (N=52, 11.2%), and perinatal infection (N=32, 6.9%). Thirty-three percent of stillbirths analyzed were classified as unexplained antepartum deaths (N=157). The agreement rate among reviewers was 77%.
Conclusions: This study demonstrates the high rate of neonatal mortality associated with hypoxic intrapartum events, placental abruption, pre-eclampsia, and unspecified bacterial infections at a tertiary care center in Kumasi, Ghana. These results could help guide the development of focused interventions to improve clinical care and outcomes, as well as direct future research and the creation of informed policies. Additionally, the large proportion

of stillbirths classified as unexplained illustrates the need for an improved system for stillbirth cause-of-death classification in low-resource settings.

Disparities in Diagnosis, Treatment, and Prognosis of Prostate Cancer in Flint, Michigan

Ahmed Abdalla, B.S. M.D., Daniel Coffey, B.S., Christopher Colasanti, B.S., Meghan Gwinn, B.S., Kevin Johnston, B.S., B.A., Brandon Marshall, B.S.
Presenter: Kevin Johnston, B.S, B.A
Michigan State University

Background:
Prostate cancer is the most common non-skin cancer in adult males and accounts for 19.1 deaths per 100,000 persons [1].
The aims of this study were to identify racial and socioeconomic disparities in PSA levels at diagnosis, in prostate cancer interventions, in age at diagnosis, and to identify differences in diagnosis following the release of USPSTF guidelines against PSA screenings in May of 2012.
Methods:
The Hurley Medical Center (HMC) Cancer Registry was used to look at all males who were diagnosed with prostate cancer by transrectal biopsy from 2002 to 2016. HMC, a city funded hospital in Flint, Michigan serves a population that is 55.1% African American, 39.5% white, and less than 1% of Native American, Asian, and Pacific Islander.
Results:
In this retrospective cohort study of 677 subjects, 231 identified as white, 327 identified as black, 26 identified as other, and 93 did not report race. Using Chi-Square, there was no significant difference between age of diagnosis and race. Insurance status was reported on 488 individuals in our study. 355 individuals reported private insurance and 133 reported non-private. Using insurance as a proxy for economic standing, there no significant difference between the age of diagnosis and whether the individual had private or non-private insurance. Additionally, there was no significant difference (0.948) between an individual's insurance (private or non-private) and if their PSA was elevated or not at the time of diagnosis.
There was a statistically significant, albeit not clinically significant, difference between the mean Gleason Score pre-May 2012 (6.563) and post-May 2012 (6.7724). Gleason scores of 518 individuals in the study were reported. Of this data, 373 were reported prior to the USPSTF recommendations and 145 were reported post the change in recommendations regarding PSA screening. There was a significant difference (0.058) between the Gleason Score level and the time block that the patient was diagnosed (pre or post-May 2012). Prior to May 2012, 53.1% of patients at time of diagnosis had a Gleason score of less than or equal to 6 and 29.8% had a Gleason score of 7. Post-May 2012, 44.1% of patients had a Gleason score of less than or equal to 6 and 40.7% has a score of 7. Regarding PSA, there was a significant difference (0.004) between whether a patient had elevated PSA at time of biopsy confirmed prostate cancer pre- and post-May 2012. Prior to May 2012, 7.7% of diagnosed cases had a PSA level below 4. Post-May 2012, only 0.8% of cases were diagnosed with a PSA level below 4. There was no significant difference (0.699) between the age of diagnosis and whether the diagnosis was made pre- or post-May 2012.
Conclusions:
This study included a high percentage of African American subjects and a high percentage of subjects of low socioeconomic status and did not find clinically meaningful differences in diagnosis, treatment, or prognosis of prostate cancer on the basis of race or socioeconomic status.

Prevalence of Prediabetes in Women Diagnosed with PCOS

Susan Kim, MD
Presenter: Susan Kim, MD
University of Michigan

Background
PCOS is the most common endocrine disorder for women of reproductive age. There is more focus growing towards the association between PCOS and insulin resistance. Studies have demonstrated the efficacy of metformin and lifestyle changes in PCOS management. However, it is unclear how often intervention with metformin and/or lifestyle changes takes place, let alone screening for insulin resistance in those diagnosed with PCOS. The objective of this study is to identify this gap.

Method
Data Direct was used for data collection. Data Direct is a self-serve tool available at Michigan Medicine that aggregates clinical on more than 3 million patients. Total patient was narrowed down based on the following criteria age (18-50) and with PCOS diagnosis based on ICD-9 256.4 code and ICD-10 E28.2 code. Extracted data from this patient population, which includes labs, medication (metformin), age, BMI were downloaded and analyzed by Stata version 14.

Results
Out of the total 7,022 female patients in the age group 18-50 with known PCOS diagnosis, 11.6% (818) with diabetes based on either ICD diagnosis or lab values. However, only 20% (1,374) of them had either A1c and/or Fasting Glucose available. In comparison, 3% of those with PCOS diagnosis were found to have prediabetes based on either ICD diagnosis or lab values. Furthermore, 104 out of 211 patients diagnosed with prediabetes were on metformin at one point in time based on chart review.

Conclusion
This study highlights two important findings - There is significant deficit in screening for diabetes in those with PCOS. Only 20% of those diagnosed with PCOS are found to have A1c or fasting glucose levels checked at one point in time. This means that there's insufficient effort in screening for diabetes and prediabetes in this patient population. This also leads to missed opportunities for intervention. Furthermore, increasing effort is needed to initiate intervention on those already diagnosed with PCOS and glucose intolerance.

The Prevalence of Substance Use Disorder Among Arab American Young Adults

Presenter: Ali Nasrallah
University of Michigan

Background: Substance use refers to any one of the drug classes with clinical significance as indicated by the DSM V. Adolescent drug use is especially threatening due to its correlation with long-term implications of life-long drug abuse. Research investigating rates of substance use among subgroups of Arab Americans has been very limited to this point. In this study we hope to determine the current rates of various substance use among a young Arab-American cohort and better understand any possible predisposing factors. We hypothesize that drug use among Arab Americans will be similar to other populations in America. METHODS: Following exempt determination by the Institutional Review Board at the University of Michigan a survey was distributed through multiple community and social media outlets in Dearborn, MI. Most Arab American participants were from Wayne County Michigan. However, many participants from other areas of Michigan and the United States took part in the study. The survey addressed substance use disorders among Arab American youth between the age of 18-30. RESULTS: 423 Arab American youth between the ages of 18 and 30 participated in this study. The incidence of substance use was highest for hookah followed by alcoholic beverages, cigarettes and marijuana at 55%, 33%, 29% and 28% of participants ever trying them in their lifetime, respectively. The prevalence for these 4 substances followed also an identical trend with percentage of hookah, alcohol, cigarettes and marijuana chronic users being 34%, 19%, 18% and 17%, respectively. Of note, the incidence of stimulants(amphetamines, adderall, methylphenidate-ritalin), E-cigarettes, and opiate use were 20%, 12%, and 11.2%, respectively. The prevalence of tobacco products, alcoholic beverages and marijuana use among males was significantly higher when compared to females. CONCLUSION:Higher than average national drug use rates indicate young Arab-Americans are experimenting with more drugs than once thought. Tobacco, alcohol, and illicit drug use are multi-factorial issues which need more focus and attention, in addition to the breaking of a stigma attached to such issues within Arab cultures.

No One Should be Afraid of the Water - Somatic Symptom Disorder and Illness Anxiety Disorder in the Aftermath of the Flint Water Crisis

Syed Zaidi, MD, Megha Garg, B.S.
Presenter: Syed Zaidi, MD
McLaren Family Medicine

Introduction: The Flint water crisis is considered to be one of the biggest public health dilemmas of our time. It has been estimated that the Flint water crisis may have affected many children and adults living and working in Flint due to dangerously high lead levels in the water and outbreaks of rare infectious diseases. While this controversy has gained a lot of political and media attention, the Flint Water Crisis initiated a catastrophic chain of events that adversely affected the Flint population, both emotionally and physically.
The Flint Water Crisis is undoubtedly a serious public health concern making it important for healthcare professionals to address the issue. The data on behavior changes in relation to a public health concern is not well studied, but many healthcare professionals in Flint can likely attest to the nature of care seeking behavior after the Flint Water Crisis. Some examples of care seeking behavior are as simple as avoiding public drinking fountains, complaining of physical symptoms and considering lead in the water to be the cause or getting blood lead levels repeatedly checked. It subjectively appears as though patients sought primary care providers to assess symptoms they attribute to elevated blood lead levels however there is no data to quantify these behaviors. There are only a few studies that address the new DSM-V diagnosis of Somatic Symptom Disorder and Illness Anxiety Disorder that encompasses the entirety of health-related behavior that we, as health care providers, observe as a reaction to public health crises like the Flint Water Crisis. However, there is some relevant documented data based on DSM-IV diagnoses of hypochondriasis and somatization behavior; diagnoses that are no longer used due to its pejorative connotation.
Although there are a few published studies on somatization illness and health anxiety in primary care settings, more research data is needed to draw rational conclusions. Few previous studies have addressed the importance of recognizing psycho-social components of somatization symptoms in the primary care setting. When health anxiety occurs, patients become preoccupied with their health often focusing on their bodies for symptoms. Studies have suggested that as the patient becomes more anxious, avoidance or reassurance-seeking is extensive and health care costs rise. **Methods**: This is a prospective observational study. 400 patients who have their appointments at McLaren Family Medicine clinic and fit the inclusion criteria will be provided an informed consent and asked to complete the questionnaire with Demographics data and attitudes and behaviors towards the various aspects of the Flint Water Crisis. They will also be asked to complete Health Anxiety Inventory-8 and Patient Health Questionnaire-15. The completed questionnaires will then be assigned a specific DI number. The final collected data will be studied for statistically significant outcomes regarding prevalence and severity of Somatic Symptom Disorder and Illness Anxiety Disorder, and the changes in attitudes and behaviors in response to the water crisis.
Results: Based on the data that we have collected so far, the average PHQ15 score was 9.7/27, which falls into the Moderate Range(10) of severity. The average HAI8 score was 16.4/54, which is higher than the normal population(12.2), and close to the score for anxiety sufferers(18.5). Out of the study population, 56.5% people admitted that they never drink the Flint water, 37.8% never use the water for cooking and 19.1% never use the Flint water for cleaning purposes. 42.6% people were unsure if the Water will ever be safe again, while 29.8% people said it will never be safe to consume again. 19.1% people feel that their doctors are trustworthy source of information related to the water crisis. >70% of the people admitted that they are frequently to always angry towards the Flint Water Crisis. Regarding symptoms related to the lead in the water, 45.7% people reported skin related problems, 43.5% people reported memory or concentration problems, 39.1% people said they had headaches and 32.6% people reported Joint and muscle pain. **Conclusion:** This study may help assess the Somatic Symptom Disorder and Illness Anxiety Disorder caused by a public health crisis, and will set ground for future researches on how to address the medical and psycho-social needs for a vulnerable population after being exposed to such a catastrophe. This study will also help understand the changes in attitudes and behavior in response to such crises and provide means to overcome the communication gap between the population at risk and the concerned authorities.

Acute Sleep Deprivation on Academic Performance

Neil Joshi, BS, Christian Roehmer, BA, Henry Barry, MD
Presenter: Neil Joshi, BS
Michigan State University

Background: It is often advised for students to get an adequate amount of sleep prior to exams, as many studies show the benefits of consistent sleep on academic performance. (1,2) However, few studies have examined the benefits of short-term memory and the effect of last minute studying at the expense of sleep the night before an examination. Our study hypothesized that "cramming" the night before an exam would have a positive effect on academic performance.

Methods: Anonymous 9 question paper surveys were delivered by hand to Michigan State University students during finals week of the spring semester of 2017. Additional surveys were delivered electronically to over 10,000 Michigan State students via LISTSERV during the spring 2017 semester. Questions assessed amount of sleep on an average night (≤4, 5, 6, 7, ≥8), hours of sleep the night before a test (≤4, 5, 6, 7, ≥8), percent of study time occurring within 24 hours of a test (0-24%, 25-49%, 50-74%, 75-100%), hours of study within 12 hours of a test (≤3, 4, 5, 6, 7, ≥8), study habits (daily studier vs. non-daily studier), perception of test scores when studying within 12 hours of a test (increase, decrease, no effect), GPA, and other demographic information including major and year in school. Surveys were excluded if GPA information was left blank or if the student was in a pass/fail grading system. Descriptive statistics were used for summarizing the data. Chi-square tests were used to evaluate for associations between GPA and average night of sleep, hours of sleep prior to exam, percent of study time within 24 hours of exam, hours of study within 12 hours of exam, and daily study habits. Alpha levels were set at .05. Data analyses were performed on an anonymized database using Statistical Package for the Social Sciences (SPSS), version 24 (International Business Machines (IBM) Corporation, Armonk, NY, USA).

Results: A total of 286 surveys were included in this study. Of these, 248 were collected by hand and 38 were collected electronically. Preliminary data analysis of the 38 electronic surveys suggests that there is no significant benefit to GPA from increased studying hours ($p=.744$) or decreased sleep hours ($p=.253$) the night before an exam. Students who slept more on an average night performed the strongest academically with a mean GPA of 3.82 ($p=0.088$), while students who reported 25-74% of their total study time occurring within 24 hours of the exam had stronger academic performance with a mean GPA of 3.74 ($p=0.246$). Of note, 52.8% of students perceived an increase in test scores when studying within the last 12 hours before a test. Data analysis is still ongoing. With a larger sample size and final analyses forthcoming, findings may indicate stronger associations.

Conclusion: Initial analyses suggest that students who sleep an average of 8 or more hours per night perform the strongest academically. Thus far, the positive or deleterious effects of cramming on student grades have not been established. Final findings may have implications for improving student study practices.

Michigan Research Day XLI

Poster Presentations
Location: Side Hallways

Session 1 (10:00 a.m. to 11:00 a.m.)
Judges: #1-3 Dr. Julie Gleason-Comstock and Dr. Anne Victoria Neale #4-6 Dr. Jinping Xu and Dr. Philip Zazove #7-9 Dr. Bengtz Arnetz and Dr. Justine P. Wu #10-14 Dr. Nadia Saadat and Dr. Dawn Misra #15-17 Dr. Michael D. Fetterson and Dr. Caroline R. Richardson
Clinical
#1 – Impact of Tightly Controlled Blood Pressure on Cardiovascular Outcomes: A Retrospective Cohort-Study Pamela A. Castro-Camero, DO, *Henry Ford Hospitals*
2 – Outcomes for Infants Born to Mothers with Diabetes in Rural Michigan Amy Beauchamp, *Michigan State University College of Human Medicine*
#3 – Retrospective Chart Review of Symptoms of Patients Tested for Clostridium Difficile Infection Julia Buck, *Michigan State University College of Human Medicine*
#4 – Opioid Use and Treatment Outcomes for an Interdisciplinary Program Adam Kudirka and Courtney Cave, *Michigan State University College of Human Medicine*
#5 – An "Antiquated" Bias Held by a New Generation: Biases in Sexual History Taking Ali Haque, B.S. *Michigan State University College of Human Medicine*
WITHDRAWN #6 – Do Athletes Who Return to Sport At Least Less than 6 Months Following ACL Reconstruction Have an Increase Risk of Retear or Contralateral ACL Tear? Joon Sung Yoo, *Michigan State University College of Human Medicine*
Behavioral/Psychosocial
#7 – Family Psychosocial Environment, Internalizing Behavior, and Childhood Obesity: A Structural Equation Model Liying Zhang, PhD, *Wayne State University Integrative Biosciences Center*
#8 – The Potential for Grocery Store Based Interventions in Decreasing Chronic Diseases Prevalence in the City of Detroit Ameen A. Masoodi, MD, *Wayne State University Department of Family Medicine and Public Health Sciences*
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Impact of Tightly Controlled Blood Pressure on Cardiovascular Outcomes: A Retrospective Cohort Study

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Departments of Family Medicine[1], and Public Health Sciences[2], Henry Ford Health System, Wayne State University School of Medicine, Detroit, MI, USA
Presenter: Pamela A. Castro-Camero, DO

Background

New 2017 American Heart Association / American College of Cardiology (AHA/ACC) guideline defined hypertension as blood pressure (BP) ≥130/80 mmHg. This change raised debates and controversies. The American Academy of Family Physicians (AAFP) recently decided to not endorse the new AHA/ACC Guideline.

Objective

To evaluate cardiovascular outcomes comparing systolic BP <130 mmHg and <140 mmHg.

Methods

A retrospective analysis of a cohort of 5,640 patients using administrative data sources with a 3-year follow-up.

- Setting: The entire Henry Ford Health System outpatient encounters regardless of medical specialty in metro Detroit area in Michigan.
- Participants: A cohort of 5,640 patients who had no previous history of myocardial infarction (MI), stroke, or diabetes.
- Intervention: The cohort was divided into two groups of Tight Blood Pressure Control (TBPC) (<130 mmHg) and Standard Blood Pressure Control (SBPC) (130-139 mmHg).
- Measurements: Comparing the two groups regarding MI and stroke incidence. Multivariate analysis was done to predict independent factors.

Results

TBPC group showed significantly less incidence of stroke compared to the SBPC group. No differences were found in MI incidence between the two groups. Increased age independently increased the incidence of both MI and stroke, and TBPC independently decreased the incidence of stroke, but not of MI.

Limitation

Retrospective design. Significant differences in age, race, body-mass index, and statin use between the two groups.

Conclusion

TBPC has a significant benefit in preventing stroke compared to SBPC while it did not affect the outcome of MI.

Outcomes for Infants Born to Mothers with Diabetes in Rural Northern Michigan

Amy Beauchamp, Michigan State University College of Human Medicine; Miriam Weiss, Michigan State University College of Human Medicine; Jill Vollbrecht MD, Munson Medical Center
Presenter: Amy Beauchamp

Background: Research has been done to identify the most beneficial plan of care for pregnant women with type 1 or type 2 diabetes to reduce adverse birth outcomes. Efforts have been made to identify guidelines surrounding preconception care, glucose, and weight goals throughout pregnancy. This identifies relationships between diabetes management and birth outcomes. By measuring success of the diabetes management program instituted in an endocrinology clinic we will identify potential areas for further quality improvement of diabetic management throughout pregnancy.

Methods: This is a single institution retrospective chart review. All pregnant patients with a diagnosis of either type 1 or type 2 diabetes between June 2012 and September 2017 were included. Early pregnancy HbA1c levels were used to estimate blood sugar control. Maternal co-morbidities of hypertension, preeclampsia, eclampsia, maternal weight, and smoking status were collected. Birth outcome variables assessed included: type of delivery, birthweight of infant, malformations, NICU stay, and stillbirths. Proportions were collected for categorical values. Mean ± SD with t-test were used to assess differences in HbA1c between groups.

Results: Our results compared to a large-scale study showed a higher incidence of C-sections (81.2 vs. 62), preeclampsia (17 vs. 11), low birth weight (14.3 vs. 9.4), and prematurity (44.3 vs. 34). We had decreased rates of malformation (2.5 vs 4) and NICU stay (32.8 vs. 44). Patients who required a NICU stay had higher HbA1c values early in pregnancy compared to those who did not (7.76 vs. 7.04, $p=0.063$).

Conclusion: This study evaluated how a specific practice is managing patients with diabetes prior to pregnancy, and the prevalence of specific birth outcomes. This data demonstrates the potential for relating early pregnancy HbA1c values to a NICU stay for newborn. Physicians can use this information to assess their comfort in caring for diabetic patients vs. referring to an endocrinologist.

Retrospective Chart Review of Symptoms of Patients Tested for Clostridium Difficile Infection

Julia Buck, BS, BA; Marten R. Hawkins, MPH, BS; Michael Baumgartner, BS; Danielle VanBeckum, MS, BS; Crystal Holley, BS.
Michigan State University College of Human Medicine, East Lansing, MI
Presenter: Julia Buck

A) BACKGROUND:

Over the last 30 years, *C. difficile* infection (CDI) rates have increased and in 2011, there were an estimated 453,000 cases of CDI in the United States and 29,300 deaths. Diagnosis of CDI is of often accomplished through nucleic acid amplification testing (NAAT) for C. difficile toxin. In 1996, Katz et al. created a screen for CDI that was positive if the patient had significant diarrhea as well as either abdominal pain or prior antibiotic usage. With increasing incidence of CDI and improved testing methods, we believe this clinical decision tool is worth revisiting. Our aim is to determine the current usefulness of the Katz et al. 1996 clinical decision tool for CDI.

B) METHODS:

We conducted a retrospective cross-sectional chart review at a Midwestern teaching hospital. All patients tested for CDI between June 1, 2016 and May 31, 2017 were initially eligible. Participants were excluded from data collection on the basis of missing information, a previous positive CDI test in the last 8 weeks or age <18 years. Charts were reviewed for age, sex, diarrhea, abdominal pain, antibiotic use, prior positive testing for CDI and length of hospitalization.

C) RESULTS:

Of the 432 charts analyzed, 46 (10.6%) tested positive for CDI. From the initial 432 charts analyzed, 202 (46.8%) had no documented amount of diarrhea and 16 more were missing other data points, leaving 214 of 432 (49.5%) charts that included all data to be used for analysis. Of these 18 of 214 (8.4%) were positive results. The Katz screen was positive in 85 of 214 (40.2%) cases. The sensitivity, specificity, positive predictive value and negative predictive value respectively were 61, 62, 13 and 95.

D) CONCLUSIONS:

Katz et al. found a sensitivity, specificity, positive predictive value and negative predictive value of 80, 45, 18 and 94 respectively. The differences between these values and our own may be due to changes in the testing methodology and current prevalence of CDI. If this screening tool had been applied to our population, there may have been 128 (59.8%) fewer tests, but 7 (38.9%) missed positive results.

Opioid Use and Treatment Outcomes for an Interdisciplinary Program

Adam A Kudirka, Courtney S Cave, Nathan D Carlton, Dylan D Hutchison & Julia Craner, PhD.
Michigan State University College of Human Medicine & Mary Free Bed Rehabilitation Hospital
Presenter(s): Adam Kudirka & Courtney Cave

Background

Chronic pain is a major problem in the United States with over forty percent of older adults reporting chronic pain. In an attempt to treat chronic pain, physicians have often relied on opioid medications such as hydrocodone; however, due to their addictive nature they have become one of the most commonly abused prescription drugs. Despite the widespread prescribing of opioids for chronic pain, evidence suggests that chronic opioid therapy intensity of pain or patient satisfaction with medication. While opiates have not proven to be the answer for chronic pain, interdisciplinary chronic pain rehabilitation programs (ICRPs) have proven efficacy for treating chronic pain.

Methods

This study was a retrospective chart review where clinical archival data was obtained and analyzed for 249 patients.

Results/Conclusions

The first hypothesis for this study was that both groups of patients (the patients who used opioids and the patients who did not use opioids) would report a significant decrease in their pain, depression, anxiety and function between pre and post treatment. This was found to be true for both opioid users and non-opioid users as their improvements in pain, depression, anxiety and function were statistically significant. The second hypothesis for this study was that patients using opioids who engage in opioid cessation during the program would have similar outcomes to those of patients not using opioids. This was found to be true for the variables of depression, anxiety and function but was not necessarily true for pain. It was found that the opioid user group's level of pain improved, but at a significantly lesser extent than that of the non-opioid use group

An "Antiquated" Bias Held by a New Generation: Biases in Sexual History Taking

Presenter: Ali Haque B.S.

The purpose of this project is to identify potential biases in medical students and to examine the role gender can play in recording sexual history via their performance in elicitation of [medical] history from the stigmatized populations. Healthcare disparities are ever-present issues in our society. Race and ethnicity are well-known and well-studied factors that influence the quality of treatment an individual receives in a health care system; furthermore, the patient-physician relationship is a key contributor to quality of care that can prevent or promote the proliferation of the aforementioned disparities in quality of care. The first phase of the project involved assessing the interviewing skills of 16 medical students (of black, white, Asian, or Latino ethnicities). Patients interviewed included a young male presenting with homosexual fantasies and an elderly male presenting with erectile dysfunction. The students' history taking was then evaluated, specifically concerning whether they appropriately took personal medical history, sexual medical history, and performed a recap at the end of the patient encounter. The goal is to elucidate the relationship (if any) between interviewer gender and whether or not history was taken appropriately. An additional goal is examination of the role of race in the quality the patient-physician interaction. This study is ongoing and while the initial results suggest a possible relationship, further study is required. Nonetheless, identifying and addressing these implicit attitudes in the clinical setting will be a key step in ensuring equitable and improved quality of care for all patients.

****WITHDRAWN****

Do Athletes Who Return to Sports At Least Less Than 6 Months Following ACL Reconstruction Have an Increased Risk of Retear or Contralateral ACL Tear?

Joon Sung Yoo, Dr. Julie A. Dodds

Presenter: Joon Sung Yoo

Background: For many athletes who undergo ACL reconstruction, a successful return to sport following surgery is their primary goal. While some studies have reported high failure rates when patients resume athletics soon after surgery, there is no clear consensus on the optimal amount of recovery time that is needed to prevent re-injury. Some professional athletes return to sport an average of 8 months following ACL reconstruction, while other studies show that athletes return to their previous competitive level of sport at an average of 12 months post-operatively. Our study will aim to examine data regarding patients who underwent ACL reconstruction and determine their recovery time before returning to sport, as well as the rate at which they sustained any subsequent ACL injury to either knee. We hypothesize that athletes who return to sport at less than 6 months following ACL reconstruction do not have an increased risk of retear in the ipsilateral knee or tear in the contralateral knee compared to athletes who wait for longer than 6 months before returning to sport. We will be conducting a retrospective chart review of patients who underwent ACL reconstruction determining retear rates and contralateral ACL tears compared with time until return to sport.

Methods: 100 consecutive ACL reconstructions performed by a single surgeon will be evaluated via retrospective chart review and follow up phone calls (interviews) to inquire about re-injury following surgery, and also time to return to full sports participation. CPT codes will be used to determine patients who underwent ACL reconstruction over the past 5 years. 100 consecutive patients with at least 1 year of follow up will be included. All patient data will be de-identified and coded for data entry. The subject population will be patients who underwent ACL reconstruction by Dr. Julie Dodds in the past 5 years (January 2012 - January 2017). We will be reviewing data from patients who underwent single-bundle, primary ACL reconstruction performed using consistent techniques.

Results and Conclusions: Our study has received IRB approval (MSU IRB Study #474) and we have begun the process of data collection and analysis. We anticipate that by the time of the 41st Annual Michigan Research Day, we will have enough findings to present.

Family Psychosocial Environment, Internalizing Behavior, and Childhood Obesity: A Structural Equation Model

Liying Zhang, Ph.D.[1,2], Shooshan Danagoulian, Ph.D.[1,3], Dawn Mira, Ph.D.[1,2], Samiran Ghosh, Ph.D.[1,2,4], Phillip Levy, M.D., M.P.P[1,5]

[1]Integrative Biosciences Center, Wayne State University, [2]Department of Family Medicine and Public Health Sciences, Wayne State University School of Medicine; [3]Department of Economics, Wayne State University; [4]Center for Molecular Medicine and Genetics; [5]Department of Emergency Medicine

Presenter: Liying Zhang, Ph.D

Background: Childhood obesity is a growing public health concern. Family psychosocial environment plays a significant role in the development of childhood obesity, and associated children's internalizing behavior may be correlated with pediatric weight gain. The mechanisms linking family psychosocial environment and pediatric obesity are largely unknown. The purpose of the current study is to assess the mediation effect of internalizing behavior on the relationship between family psychosocial environment and childhood obesity.

Methods: We used secondary data from the Child Development Supplement of the Panel Study of Income Dynamics (PSID) for 2014, for children aged 6-17 years old and their caregivers (N=3,019). Structural equation modeling was employed and statistical analyses were performed using SPSS 25.0 and Amos 25.0.

Results: Structural equation modeling results indicate that after controlling for individual characteristics, a stressful family environment was positively associated with internalizing behavior (path coefficient=0.532, $p<0.001$). Internalizing behavior was positively associated with all four measures of weight, including BMI (path coefficient=0.061, $p<0.01$), weight categories (path coefficient=0.050, $p<0.01$), overweight/obese (path coefficient=0.067, $p<0.01$), and parent-reported overweight/obese (path coefficient=0.130, $p<0.01$). Internalizing behavior fully mediated the relationship between family psychosocial environment and pediatric obesity. The Sobel test confirmed the mediation effects of internalizing behavior.

Conclusions: The family psychosocial environment has a significant indirect effect on children's obesity through internalizing behavior. Data limits our ability to control for other covariates affecting children's weight, such as parental obesity, children birth weight, and household dietary characteristics. Our conclusions point towards the importance of addressing children's psychological well-being in obesity intervention programs.

The Potential for Grocery Store Based Interventions in Decreasing Chronic Diseases Prevalence in the City of Detroit

Ameen A. Masoodi, MD, and Alex B. Hill, MA

Presenter: Ameen A. Masoodi, MD

Background: Obesity, cardiovascular disease, and diabetes have been shown to more negatively impact low-income, minority communities. Studies often use counts of grocery stores rather than indexing the availability, price, and quality of food items at stores. The purpose of this study was to examine potential correlation between neighborhood areas of Detroit having access to healthier, affordable, and quality food options and prevalence of chronic diseases.

Methods: Data were collected using a modified Nutrition Environmental Measures Survey (NEMS), which scored full-line grocery stores positively based on the quality, availability, and lower prices of healthier food options. Analysis measured the count and average score of grocery stores within a 1-mile radius of census tract centroid. The store data was then paired with corresponding 500 Cities data for blood pressure, chronic heart disease, cholesterol, diabetes, and obesity for adults ≥ 18.

Results: The prevalence of chronic disease by census tract generated two significant correlations: obesity negatively correlated with NEMS score, $r = -0.138$, $p < 0.05$, and high blood pressure negatively correlated with store count, $r = -0.128$, $p < 0.05$. Furthermore, census tracts with fewer stores were found to have worse NEMS scores, $r = 0.195$, $p = 0.002$.

Conclusion: There is potential for communities facing higher rates of obesity to impact their environments through targeted food retailer interventions. Further work is necessary in establishing other possible correlations between biobehavioral disparities and the availability, price, and quality of healthier food options within specific neighborhood areas. Interventions should consider areas with few food retailers.

Prevalence of Symptoms of Depression and Anxiety in Children with Cystic Fibrosis Center

Mariam Khan,[1] Jenna Mae Stoken,[1] Derek Stodolak,[1] Bradley Trait,[1] Ayaz Khan,[1] John Jansen,[1] Christina Limke, PsyD,[2] Aniruddh Behere, MD[2]

1. Michigan State University College of Human Medicine, Grand Rapids, MI 2. Spectrum Health Helen Devos Children's Hospital, Grand Rapids, MI

Presenter(s): Mariam Khan, Jenna Mae Stoken, Derek Stodolak, Bradley Trait, Ayaz Khan, and John Jansen

Background: Patients with cystic fibrosis (CF) have an increased risk for experiencing anxiety and depression, evidenced by The International Depression Anxiety Epidemiological Study (TIDES). This multinational study demonstrated a 10% prevalence of depression and 22% prevalence of anxiety in adolescents with CF.[1] The objective of our study is to determine anxiety and depression prevalence and co-occurrence, as well as factors associated with anxiety and depression in youth with CF in an accredited CF center in Grand Rapids.

Methods: This study is a retrospective review of the EMRs of patients aged 12 to 18 years with CF treated at the Spectrum Health CF Clinic. Study participants completed the PHQ-4 at clinic visits approximately every 3 months. If PHQ-4 screening was positive, patients were administered the PHQ-9 and GAD-7. In addition to scores on these screening tools, data was also collected on patient demographics, clinical variables, such as FEV1 and BMI, and use of psychotherapy or antidepressant medications across two time points.

Results: 45 consecutive patients were included for this study, of which 10 (22.2%) had positive PHQ-4 scores at Time 1. Among those with positive PHQ-4 scores, mean PHQ-4 scores at Time 1 and 2 were 4.6 and 3.3, mean PHQ 9 scores at Time 1 and 2 were 7.1 (n=7) and 9.3 (n=3), and mean GAD-7 scores at Time 1 and 2 were 7.4 (n=5) and 11.25 (n=4), respectively. Of those with positive PHQ-4 scores, 50% had both anxiety and depression at Time 1, 30% at Time 2. Further analysis regarding correlation between PHQ scores and BMI or FEV1 and differences between patients with and without positive PHQ-4 scores is pending.

Conclusions: The prevalence of anxiety and depression in this patient cohort was 10%, similar to that established by TIDES. Further study is needed regarding how anxiety and depression and physiologic manifestations of CF (i.e. BMI and FEV1) are related.

Multiple Myeloma Can Hit Early - A Case Report

Ahmed Alabdob MD, M.Sc, Atiya Malik, MD, Prabhat K. Pokhrel, MD, PhD, FAAFP

Department of Family Medicine; McLaren Regional Medical Center and Michigan State University/College of Human Medicine

Background: Multiple myeloma (MM) is a clonal plasma cell malignant neoplasm that accounts for approximately 10% of hematologic malignant disorders. In the United States 20,000 new patients get diagnosed each year. Multiple myeloma is twice as common in blacks compared with whites, the median age at onset is 66 years, and only 2% of patients are younger than 40 years of age at diagnosis.

Case: A 33-year-old-African American- male patient with past medical history of Seizure disorder and Schizophrenia. He presented to the ED with shortness of breath and diagnosed with community acquired pneumonia (CAP). Laboratory evaluation showed Hemoglobin 8.4 and MCV of 90, total protein 8.5, Albumin of 1.5 and Globulin of 7. Serum Protein electrophoresis showed monoclonal IgG. IgG was elevated to 5360. CAP was treated with IV antibiotics and bone marrow biopsy was done and showed plasma cell infiltrate compromising approximately 13% of the marrow cellularity

Conclusion: The case we have reported represents what we believe is a unique report in the literature of multiple myeloma in young age, Although the median age at onset 66 years, still 2 % of cases can present before age of 40 like this case.

Polychondritis with Crohn Disease and Genital Ulcers

Henry Ford Department of Family Medicine

Presenter: Danielle Ortega, DO

Background Polychondritis is a rare inflammatory disease that compromises the integrity of cartilage throughout the body. An association with inflammatory bowel diseases has been observed, in which immunologic mechanisms are believed to be causative. As the association with Crohn disease is infrequent the literature, it can cause a delay in the diagnosis in patients manifesting symptoms of both diseases. We present a case to add to the literature regarding the association between polychondritis and Crohn disease.

Case Description A 78-year-old male admitted to the inpatient unit with the complaint of abdominal pain and diarrhea. He had been admitted to an outside hospital on three previous occasions over the three previous weeks for bilateral ear and throat swelling. He was diagnosed with polychondritis and treated with solumedrol and

mycophenolate. He subsequently developed diarrhea and scrotal ulcers, for which he presented to us. He had fever, nausea, vomiting, anorexia, and weakness. He had a history of asthma and peptic ulcers, without personal or family history of bowel disease or malignancy. Physical exam revealed tenderness of the left pinna and neck, neck pain with ROM, tender scrotal ulcers bilaterally and lower abdominal tenderness. Laboratory testing revealed no source of infection. SED rate, CRP and Fecal calprotectin were elevated. Colonic biopsy was consistent with Crohn disease. Biopsy of scrotal ulcer was consistent with cutaneous expression of Crohn disease. The patient was treated with IV Solumedrol for 5 days without significant clinical improvement. Therefore, Infliximab infusion was given. He improved clinically and was discharged on oral prednisone.

Discussion Magic syndrome is a disease state defined by mouth and genital ulcers with inflamed cartilage. Perhaps the mouth and genital ulcers associated with MAGIC syndrome are extraintestinal and cutaneous manifestations of Crohn disease. Here, we highlight a patient with polychondritis and intestinal and cutaneous manifestations of Crohn disease, to add to the body of literature supporting this association.

Immunoglobulin a Nephropathy (IgAN) with Microscopic Hematuria and Nephrotic Syndrome

Bhanu Swamy, Veena Panthangi
George's University and the Department of Family Medicine, St. John Hospital and the Medical Center Detroit, MI

Background: Immunoglobulin A nephropathy (IgAN) is the most common type of primary glomerulonephritis worldwide[3]. Clinically, IgAN generally presents with recurrent episodes of gross hematuria that usually arise after upper respiratory tract infections (URI) and asymptomatic microscopic hematuria with or without mild proteinuria[1]. There have been limited cases (5-10%) in which nephrotic syndrome concurrently is seen in those with IgAN. Additionally, it is uncommon to see a patient with IgAN who presents with unresolved headaches and nausea.

Case Presentation: We present a 24-year-old male with a family history significant for IgAN who presented to urgent care for persistent headaches and nausea. He was found to be hypertensive and was started on medication. At follow-up, lab results included a creatinine of 2.93, which led to his admission. After admission, a urinalysis showed proteinuria with microscopic hematuria, with a 24-hour urine protein excretion of 6.8g. A renal biopsy showed results consistent with IgAN. Light microscopy demonstrated tubular atrophy and interstitial fibrosis. Immunofluorescence demonstrated C3A and IgA deposits.

Results: Patient was treated with conservative non-immunosuppressive therapy with amlodipine 5 mg, atorvastatin 10 mg, carvedilol 3. 125mg, valsartan 80 mg, and a strict low salt intake. At a follow-up visit in January 2018, patient was noted to have worsening proteinuria and hematuria. Due to the severity of the prognosis, a possibility of renal transplant was discussed.

Conclusion: IgAN can present in patients in their third decade of life with only hypertension and no gross hematuria nor preceding URI. Due to heavy proteinuria being a poor prognostic indictor, it is important to start patients on angiotensin-converting-enzyme inhibitor/angiotensin II receptor blocker[3]. Future treatment modalities can be targeted at prevention of mesangial IgA deposition.

Community Acquired Clostridium Difficile: A New Etiology to a Classic Pathology

Ryan Toews MSIII & Barry Scofield, M.D.
St. John Hospital & Medical Center
Presenter: Ryan Toews, MSIII

Background: Clostridium difficile (CD) is one of the major causative organisms of colitis, and the incidence of cases continues to rise. These infections are more frequent, severe, and refractory to standard therapy than before. Our understanding of CD epidemiology is also changing. In a study of all confirmed cases of CD in a Minnesota county from 1991 through 2005, patients with community-acquired CD (CACD) disease were younger (median age 50 versus 72), healthier, more likely to be female (76 versus 60 percent), and also less likely to have antibiotic exposure (78 versus 94 percent).

Case Report: This was a 57-year-old female who had known exposure to CD in her workplace. She had been recently prescribed Augmentin for a cat bite, and seven days into the course, she developed profuse watery diarrhea. The patient initially presented to the clinic, was found to be CD positive, and was prescribed metronidazole. The diarrhea did decrease in frequency; however, consistency did not return to normal. She returned to the clinic, was CD positive again, and was prescribed vancomycin. A week after she completed the regimen, she became febrile with abdominal pain, and the diarrhea continued. She presented to the clinic again, remained CD positive, and was sent directly to the hospital. There she was seen by the gastroenterology and infectious disease and was treated with metronidazole, and a 6-8 week taper of vancomycin.

Discussion: The the cases of CACD continue to rise and pose significant challenges to healthcare workers. Furthermore, up to 25% of patients will experience recurrent CD infection within 30 days of treatment.

Spontaneous Osteonecrosis of the Knee in Young Female Masquerading as Medial Meniscal Injury

Akruti Patel OMS-III, Peter Meyers DO
Presenter: Akruti Patel

Introduction: Spontaneous osteonecrosis of the knee (SPONK) is a rare cause of knee pain with an incidence of 9% of patients over 65 with no predisposing risk factors. SPONK typically occurs in females above age 60.

Case Description: A 44-year-old female presented to clinic with 10-year history of left knee pain becoming increasingly worse within the last year with no history of trauma. She reported swelling with prolonged standing, and aggravation of pain with use of knee. Her history included tobacco and alcohol use, controlled hypertension and craniotomy for an aneurysm. History was negative for steroid use. Physical exam was positive only for medial McMurray's test. Radiographs showed no fracture or degenerative changes, and a normal patellofemoral joint. Concern for meniscal injury prompted evaluation with an MRI. MRI results showed an osseous infarct in the posterior aspect of the medial femoral condyle near the articular surface measuring 3.5x1.5cm. There was also trace joint effusion and a benign abnormal a marrow signal in the posterior aspect of the lateral femoral condyle. A diagnosis of stage II avascular necrosis of the medial femoral condyle was established. 6 weeks later, the patient reported increased pain in the knee, and physical exam had progressed to slight varus alignment, crepitus in medial aspect of knee, tenderness to medial joint line and a left patellar position. Patient decided to continue non-weight bearing measures and take tramadol as needed before considering surgery.

Discussion: This report describes a rare case of SPONK that presented as meniscal injury in a young, healthy patient with no history of trauma or predisposing risk factors. Including SPONK as a differential in even unlikely cases of knee pain is important to manage the knee appropriately and prevent a necrotic collapse of a major weight bearing bone.

Multiple Myeloma: An Atypical Presentation on Protein Electrophoresis

Heba Osman OMS-III, Robert Hasbany MD
Presenter: Heba Osman

Introduction: 95% of myelomas are secretory, exhibiting a monoclonal band in the gamma region on urine or protein electrophoresis (SPEP). This report outlines an atypical case presentation where a patient diagnosed with Multiple Myeloma (MM) presented with no M-spike on SPEP and hypogammaglobinemia.

Case Description: A 58-year-old male presented to the clinic with back and shoulder pain for the last year. His past medical history included basal cell carcinoma and kidney stones. Physical exam including vital signs were normal except for tenderness to palpation over the anterior compartment of the left shoulder. X-RAY of his left shoulder revealed lytic lesions in his shoulder and clavicle. Labs showed low Hgb of 13.2, normal calcium of 9.9 and low albumin of 2.0 and normal creatinine. Urinalysis had 2+ blood and protein of 100. MRI revealed lesions in the humerus, scapula, clavicle and ribs. A whole-body PET/CT scan then showed diffuse multifocal hypermetabolic uptake in the axial and appendicular. Multiple osteolytic lesions corresponding with areas of abnormal hypermetabolic activity suggesting either metastatic disease or MM. SPEP demonstrated an absence of "M-component" and hypogammaglobinemia of 0.39 corresponding with low concentrations of IgG, IgA and IgM. Peripheral blood smear showed normocytic normochromic anemia without absolute reticulocytes. Free light chain assay showed free lamda light chain monoclonal gammopathy of 395.72 (0.59 – 2.63). Bone marrow biopsy of the hip demonstrated a hypercellular marrow involved by sheets of neoplastic plasma cells confirming MM. Multiple myeloma FISH panel was positive for del(13q) chromosome and IGH/CCND1 gene rearrangement, which are commonly observed in MM.

Discussion: Nonsecretory multiple myeloma (NSMM) is a rare variant that has a similar clinical and radiologic presentation except for the absence of the M-protein in serum. A high index of suspicion for NSMM must be kept in mind when excluding MM as the cause of pain, lytic lesions, and positive bone scans.

Chronic Cough as the Initial Presentation of Polymyalgia Rheumatica and Interstitial Lung Disease: A Case Report with Literature Review

Johnny Wu and Jinping Xu, M.D.
Wayne State University
Presenter: Johnny Wu

Polymyalgia rheumatica (PMR) is a rheumatic condition that nearly exclusively diagnosed in individuals over the age of 50. Females are affected more commonly than males. The initial nonspecific presentation poses a significant diagnostic challenge in the primary care setting. This case report describes an 82-year-old Chinese woman

presented with a main symptom of dry cough of four-month duration. She presented to different care settings including primary care, urgent care and emergency room and resulting being treated with three courses of antibiotics. Her cough persisted and subsequently associated with low-grade fever, epigastric pain, nausea, and anorexia with ten-pounds weight loss. Upon presentation, she complained of dry cough, fever, malaise and myalgia for 2 weeks and her lung exam showed bilateral crackles. She was prescribed a five-day azithromycin with a presumptive diagnosis of community-acquired pneumonia (CAP). Chest X-ray found diffuse, patchy interstitial infiltration bilaterally, suggestive of chronic interstitial fibrosis. With symptoms not improving a week later, the patient was started on a seven-day course of levofloxacin and a high-resolution chest CT was performed. CT showed subpleural interstitial markings, honeycombing, and multiple noncalcified pulmonary nodules (<6.1 mm), suggestive the diagnosis of interstitial pneumonia with interstitial fibrosis. Pulmonology was consulted and found a high erythrocyte sedimentation rate (104), positive rheumatoid factor (1:640), and negative anti-nuclear antibodies. Rheumatology was then consulted and she was started on prednisone 15mg/day and her symptoms of cough, myalgia and malaise much improved within a week. Although the majority of patients with chronic cough presenting in primary care will not have an underlying rheumatic condition, this case illustrates the need to consider the constellation of nonspecific symptoms such as PMR and interstitial lung disease in the list of differential diagnosis, especially when the patient failed to response to antibiotic treatment and further investigation of etiologies other than CAP is warranted.

Collapsing-Type FSGS and the Questionable Appearance of Syphilis: A Case Report

Andre M. Halabu, Georgeena George, Remi O. Soile, M.D.
Presenter: Andre M. Halabu

Background

Collapsing-Type Focal Segmental Glomerulosclerosis (FSGS) is a rare subtype of FSGS, a type of Nephrotic Syndrome, and is characterized by sclerosis of some glomeruli. Secondary causes of this disease may include HIV, Diabetes Mellitus, and IV drug abuse. Patients diagnosed with Collapsing-type FSGS are more likely to progress to end-stage renal disease compared to other types of Nephrotic Syndrome. An important association with this disease is the genetic Apol1 risk variants, especially in individuals of African descent.

Methods

A 43-year-old African woman presented with a blood pressure of 170/90 stating that she was concerned about her kidney function after consuming an herbal fertility tonic in western Africa in October of 2016. Upon hospitalization at that time due to bilateral pitting edema in her legs and face, her Creatinine was measured at 3.4mg/dL. Additionally, she had been treated for Malaria and received IV treatment. Urinalysis and blood work indicated Nephrotic Syndrome prompting an HIV test. Clinical suspicion prompted a Hepatitis profile and RPR test. A biopsy was done to confirm disease process.

Results

HIV test was negative and patient denied IV drug abuse. GFR was measured at 22 mL/min/1.73 m^2, thereby establishing a diagnosis of Chronic Kidney Disease, Stage 4. Kidney biopsy was notable for tubular atrophy and degeneration, interstitial fibrosis, and burgeoning podocytes, thus confirming a diagnosis of the collapsing variant of FSGS. Negative Hepatitis profile and Positive RPR warranted Syphilis treatment with IM Benzathine Penicillin G. She was also started on Prednisone 120 mg every other day and Cyclosporine 50 mg twice daily to prevent rejection of kidneys. In theory, treatment to eradicate Syphilis in this patient should improve the disease process as we see this as a symptom of the infection rather than a separate disease altogether.

Conclusion

Syphilis is not commonly associated with the collapsing variant of this disease. This case exemplifies the multi-faceted approach necessary to diagnosing pathologies of the kidney and the importance of complete histories. This patient presented without symptoms of Syphilis and provided no history to indicate such an infection had occurred. Thoroughness may prevent or slow the progression of very devastating and debilitating diseases such as this.

Michigan Research Day XLI

Poster Presentations
Location: Side Hallways

Session 2 (2:00 p.m. to 3:00 p.m.)
Judges: #18-19 Dr. Tess A McCready and Dr. Dawn Misra, **#20-23 Dr. Justine P. Wu and Dr. Caroline R. Richardson** **#24-26 Dr. Thomas Anan and Nadia Saadat** **#27-29 Dr. Margit Chadwell and Dr. Justine P. Wu** **#30-32 Dr. Tim Guetterman and Dr. Michael D. Fetters** **#33-37 Dr. Elie Mulhaum and Dr. Victoria Neale**
Curriculum Development
#18 - Incorporating Evidence-Based Medicine Into OMT Didactics in a Family Medicine Residency Abigail Richeson, DO, *Sparrow Health*
#19 - Proposal for the Implementation of an Integrative Medicine-Based Resident Wellness Curriculum in a Community Focused Family Medicine Residency Jennifer Kowalkowski, PhD, *Beaumont Health*
Educational/Health Services
#20 - Evaluation of Maternity Care Training in Michigan State University Family Residency Programs Compared to the 2013 National Survey Harmeet Dhaliwal, MD, *Sparrow Health*
#21 - Utilization of Home Healthcare and Risk Factors of Adverse Events After Hospitalized Discharge Liying Zhang, PhD, *Wayne State University*
#22 - Refugee Access to Healthcare: Syrian Refugees in Michigan Susan Edlibi, *Michigan State University College of Human Medicine*
#23 - A Preliminary Assessment to Identify Needed Medical Supplies and Services at the Zaatari Refugee Camp of the Syrian American Medical Society Clinic Abdul Yassin-Kassab, *Michigan State University College of Human Medicine*
#24 - Long-Term Participant Evaluation of Interactive-Participatory Mixed Methods Workshops: A Mixed Methods Analysis Rae Sakakibara , *University of Michigan*
#25 - Searching for Answers: Assessing Medical Student Usage of Point of Care Applications Miguel Joaquin & Tyler Leppek, *Michigan State University College of Human Medicine*
#26 - Factors That Influence the Decision to Practice Medicine in Canada Versus USA For Canadians Who Completed US Residency Training Programs Rohin Khanna & Ravinder Dhillon, *Sparrow Hospital*
Literature Review
#27 - Programs that Reduce Contraceptive Costs Lower Teen Pregnancy Rates: A Scoping Review Sarah Hagle, MD, *Sparrow Hospital*
#28 - Factors Associated with Severe Perineal Lacerations Jacquelyn Davis & Justin Yoshida , *Michigan State University College of Human Medicine*

#29 - Through the Eyes of a Medical Student: Addressing Barriers to Reproductive Health Care for Latina Patients
Meaghan Mormann, *Michigan State University College of Human Medicine*

#30 - Improving Hospital Discharge Time Through Expedited Teaching Rounds
Khac On Le, MD, *ProMedica Monroe Family Medicine*

#31 - Quality Improvement Project: COPD Readmission Reduction
Lilia Peress, MD, *Wayne State University - Crittenton Family Medicine*

#32 - Acceptability and Feasibility of a Multicomponent Group Intervention for Health Behavior Change: The Kickstart Health Program
Carina Crookston, MD, *Beaumont Health Center*

Clinical

#33 – Golden Hours in Sepsis Management: A Prospective Study
Nitika Bansal, MD. & Asif Iqbal, MD., *Pontiac General Hospital*

#34 – Thyrotoxicosis – Great Coronary Artery Disease (CAD) Mimic!
Nirav Patel, MD/MPH, *Pontiac General Hospital*

#35 - Fast Growing Right Atrial Myxoma with Coexistent Coronary Artery Disease
Vikas Sacher, MD, *Pontiac General Hospital*

#36 – Psoriasis on My Sole?
Arnab Bose, *Pontiac General Hospital*

#37 – Glioblastoma Multiforme
Nathan Cozman, *Pontiac General Hospital*

Incorporating Evidence-Based Medicine Into OMT Didactics in a Family Medicine Residency

Abigail Richeson, DO and Amy Odom, DO
Presenter: Abigail Richeson

Background: Failure to adopt and integrate evidence-based medicine (EBM) into osteopathy may be leading the osteopathic profession to become increasingly irrelevant in healthcare and the field of manual medicine (Fryer 2008). To become and continue to be an osteopathically recognized family medicine residency program through the ACGME, residents are required to participate in osteopathic scholarly activity. To meet this need, we developed a curriculum that guides second year residents through development and presentation of evidenced based osteopathic case conferences.

Methods: nd year residents at the Sparrow/ MSU Family Medicine Residency were given a protocol to follow for development and presentation of osteopathic case conferences. Each resident chose a case related to a specific topic. They performed a literature search of osteopathic research related to their case, and presented their case with critical literature review to the rest of the residents and faculty in the program. After the presentation, the audience was sent an evaluation of the presenter based on osteopathic recognition milestones. Allopathic and osteopathic residents who attended the presentations were also asked to complete surveys evaluating this scholarly activity that included: what they liked about the presentations, as well as what improvements could be made to them. Osteopathic residents were asked how the presentations have changed the way they will practice or use OMT for their patients. The allopathic residents were asked how including EBM into the OMM didactics improved their understanding of OMT use for different patient problems and how learning more about it has changed the way they will practice.[OA1]

Results: Six residents participated in this protocol and gave scholarly presentations during the study time period. Qualitative feedback from the surveys, presenters and conference participants will be described at research day.

Conclusion: Scholarly activity is a required element of osteopathic recognition. Creating a curriculum that requires residents to review evidenced based osteopathic practices can fulfill this requirement.

Proposal for the Implementation of an Integrative Medicine-Based Resident Wellness Curriculum in a Community Focused Family Medicine Residency

Kowalkowski, J.D., Ph.D., McClowry, R.J., MD, Thompson, L., MD, Pierret, A., Jafry, S., M.D., & Bognanno, E.
Presenter: Jennifer Kowalkowski

It has been well established that physician burnout has been linked to adverse patient outcomes, lower productivity, decreased job satisfaction, and increased negative health ramifications for providers, even to the point of suicide. While medical organizations and leaders in the field are calling for more focus on physician well-being, such as in the quadruple aim, it is unclear where and when these skills should actually be taught. We argue that residency is the opportune time to establish a set of skills that builds resiliency in the effort to ward off the consequences of work place stressors. Wellness should be integrated into the curriculum with equal importance to clinical medicine topics. The literature demonstrates positive outcomes for building resilience and reduction in burnout through interventions such as mindfulness, self-compassion and gratitude, stress reduction techniques, nutrition, and exercise. Our community-focused residency program is developing a unique longitudinal curriculum that builds upon the existing literature with a fusion of integrative medicine-based components. Throughout the three-year residency, learners will be experientially introduced to concepts such as mind-body techniques, humanities in medicine, nutritional well-being, and exercise science. The main outcome for this program is for residents to build and maintain their individual self-care plans which will be monitored and revised monthly to increase adherence and identify challenges. In addition to multiple longitudinal elements, the structured experience sessions will be co-facilitated by behavioral medicine and physician faculty with the goal of providing real-time evidence of healthy practices. Additionally, this curriculum and monitoring of resident self-care plans could provide residency faculty with earlier opportunities to intervene and assist residents who are struggling with self-care and burnout.

Evaluation of Maternity Care Training in Michigan State University Family Residency Programs Compared to the 2013 National Survey

Harmeet Dhaliwal, M.D., Steven Roskos, M.D., and Julie Phillips, M.D.
Sparrow Family Medicine
Presenter: Harmeet Dhaliwal

Background:

The Council of Academic Family Medicine Education Research Alliance (CERA) carried out an extensive nationwide survey in 2013. In 2014 the Residency Review Committee made changes in the maternity care requirements for family medicine residency programs. These changes included removing any requirement for: a certain number of deliveries or continuity deliveries, requirement to have at least one family physician on faculty supervising and practicing maternity care or providing a maternity care rotation. This was designed to be a follow up study to 2013 CERA survey and to evaluate these programs after the 2014 RRC changes. Our hypothesis was that the change in ACGME requirements in 2014 was followed by a change in the internal policies and requirements for individual residency programs and a subsequent: decline in overall quantity of maternity care training, decline in the proportion of faculty attending births, decline in graduates securing positions where they will continue to provide intrapartum maternity care, increase in maternity care tracks within family medicine residencies.

Methods:

In December of 2017 we sent out a survey to the nine family medicine residency program directors in the MSU network. The survey contained 13 questions focusing on changes in these programs curriculums and to evaluate the development of residency training tracks specific to maternity care. The program directors completed the survey anonymously using Survey Monkey ™. We then compared the results to the 2013 CERA survey.

Results:

We sent nine surveys and received six responses, for a response rate of 66%. Between 2014 and 2017, the only two programs that had a maternity care track ended them and one program started a new maternity care track. The average number of vaginal deliveries attended by residents graduating in 2017 was <40 for two programs, and 41-80 for four programs. In the one program with a maternity care track, residents in that track complete an average of 80-100 deliveries. The percentage of deliveries supervised by a family physician was 0-40% in three programs and 41-100% in three programs. The average percent of core faculty doing OB was 49% with a range of 24-100%. The number of continuity deliveries was <10 for three programs and 10-20 for three programs. The percentage of residents delivering babies after graduation was an average of 15% per program, with a range from 0% to 33%. Three programs requiring three months of focused maternity training, one required four months and two required two months.

Discussion and Conclusion:

Our survey showed that currently the MSU family medicine residency programs are producing a higher proportion of graduates practicing maternity care compared to the 2013 survey but the overall number of deliveries and continuity deliveries is lower than the previous survey. The percentage of faculty providing maternity care and deliveries supervised by family medicine showed no significant difference. The number of programs with OB tracks decreased but that one programs OB track residents were able to attend a large number of deliveries. Overall the change in RRC requirements has had a mixed effect on Family Medicine Residency Training at these six residency programs.

Utilization of Home Healthcare and Risk Factors of Adverse Events After Hospitalized Discharge

Liying Zhang, Ph.D.[1,2], Henry Carretta, Ph.D., M.P.H.[3], Samiran Ghosh, Ph.D.[1,2,4], Dionyssios Tsilimingras, M.D., M.P,H.[2]

1. Integrative Bioscience Center, Wayne State University; 2. Family Medicine and Public Health Sciences, Wayne State University School of Medicine; 3. Department of Behavioral Sciences and Social Medicine, College of Medicine, Florida State University; 4. Center for Molecular Medicine and Genetics, Wayne State University School of Medicine.

Presenter: Liying Zhang

Background: Patient safety is the entire terrain of concerns about health care quality including health care in hospitals, transition from hospitals to homes, and healthcare at patient homes. The significant improvements of patient safety in hospitals have been widely addressed. However, post-discharge patient safety in the home has been understudied. The objective of this study was to identify the prevalence and risk factors associated with home healthcare adverse events after hospitalized discharge.

Methods: We analyzed data from a prospective cohort study that was conducted among patients who were hospitalized in the Tallahassee Memorial Hospital from December 2011 to October 2012. Telephone interviews were conducted by trained nurse who contacted patients within 4 weeks after discharge. Physicians reviewed cases with possible adverse events that were triaged by the nurses. The adverse events that were identified were categorized as preventable, ameliorable, and non-preventable/non-ameliorable. Multiple logistic regression analysis was performed to explore the association of risk factors with home health care adverse events.

Results: We identified 85 of 603 (14.1%) patients with utilization of home healthcare. The prevalence of home health care adverse events was 47.1% (40/85) in this study. Bivariate analysis results indicated that patient's age, insurance, type 2 diabetes mellitus were significantly associated with adverse events ($p<0.10$). Multiple logistic regression analysis in 85 patients who utilized home health care indicated type 2 diabetes mellitus ($OR=2.877$, $p<0.05$) was positively associated with adverse events in patients who utilized home health care. Other risk factors including the number of secondary diagnoses did not show statistical significances.

Conclusions: The prevalence of post-discharge home health care adverse events were common in our population. Further research is needed to identify the underlying causes of risk factors associated with home health care adverse events. Specific interventions may be required to improve home health care safety after hospital discharge.

Refugee Access to Healthcare: Syrian Refugees in Michigan

Susan Edlibi, Nuong Truong, Jeremiah Reenders, Ismael Diallo, Joginder Singh

Michigan State University College of Human Medicine

Presenter: Susan Edlibi

The State of Michigan has the second largest Syrian refugee population in the U.S. The vast majority of refugees in the State resettle in Southeast Michigan. In the last year, the amount of Syrian refugees migrating to the U.S. has nearly quadrupled due to rising tensions and political oppression in the region. Today there are nearly 2,500 Syrian refugees that have settled in Michigan with a large percentage residing in Southeast Michigan. These refugees have already faced incredible odds to resettle in a new culture and country, but their challenges persist after arrival. Several studies have shown that successful resettlement involves overcoming barriers of language and isolation while at the same time preserving culture and tradition. Another essential resource for a successful transition is health care. Access to healthcare has been shown to be an important determinant in social and economic well being of a community. Recent studies have shown that refugees often face surmounting obstacles to obtaining health care. We conducted a survey of Syrian refugees in Southeast Michigan to find what barriers they encounter in accessing healthcare.

A Preliminary Assessment to Identify Needed Medical Supplies and Services at the Zaatari Refugee Camp of the Syrian American Medical Society Clinic

Abdulkader Yassin-Kassab and Mohamed Kuziez
Michigan State University College of Human Medicine and Michigan State University College of Human Medicine
Presenter: Abdulkader Yassin-Kassab

Background:
Although providing medical care in a refugee camp is challenging and difficult, one should not be willing to accept substandard service. Like any healthcare system, internal review guided by patient and employee feedback is necessary for sufficient and continuous improvement and growth.

Methods:
In the span of one week, over a hundred different responses were collected from the staff and patients across the various departments at the Syrian American Medical Society Zaatari Refugee Camp Medical Clinic. We asked one simple question: What can we do better? As no similar study had been previously commissioned, we allowed patients and staff to voice their suggestions in an unrestricted manner. Afterwards, the data was reviewed with answers being sorted by category of improvement. Similar answers were combined and tallied.

Results:
Although the study was only preliminary, it allowed us to identify four potential categories of growth: Services Offered, Personnel, Logistics/Process of Care, and a catchall Other category. Using responses from the staff and patients we developed an informative rank-based list of suggestions highlighting potential short and long-term goals. We felt that, in order to truly give voice to the frustrations of our sample population, we needed to sort groups of similar requests by frequency. Early on, we noticed patients usually complained more of shortages they experienced from their point of view, notably Logistics and Process of Care. This was in contrast to physicians and staff who were more aware of what current medical services exist, they had suggestions focused more on changes and availability in medical supplies and services to dramatically improve quality and efficiency of care.

Conclusion:
This focus on staff and patients sampling coupled with our unique analysis and organization encourages future study of the inherent similarities and differences present between both sets of sampling results. This is in addition to the original intent of the study: to identify current needs and issues important to both patients and providers at the Zaatari Clinic.

Long-Term Participant Evaluation of Interactive-Participatory Mixed Methods Workshops: A Mixed Methods Analysis

Presenter: Rae Sakakibara

Background: Patient safety is the entire terrain of concerns about health care quality including health care in hospitals, transition from hospitals to homes, and healthcare at patient homes. The significant improvements of patient safety in hospitals have been widely addressed. However, post-discharge patient safety in the home has been understudied. The objective of this study was to identify the prevalence and risk factors associated with home healthcare adverse events after hospitalized discharge.

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Conclusions: The prevalence of post-discharge home health care adverse events were common in our population. Further research is needed to identify the underlying causes of risk factors associated with home health care adverse events. Specific interventions may be required to improve home health care safety after hospital discharge.

Searching for Answers: Assessing Medical Student Usage of Point of Care Applications

Nicole Carpp BS, Miguel Joaquin BS, Tyler Leppek BS, Alexandra Mahdasian BS, Robyn Power BS, and Mark Trottier Ph.D

Michigan State University College of Human Medicine

Presenter: Miguel Joaquin & Tyler Leppek

Background: With the advent of smartphones and electronic resources, healthcare providers have access to vast amounts of information at their fingertips. Since multiple point of care application platforms exist, medical students and other healthcare professionals are forced to choose specific resources to rely on for timely answers to clinical questions. This study was designed to investigate the trends in utilization of point of care applications among medical students at one medical school in Michigan. Methods: We conducted an anonymous, online, cross-sectional survey of medical students regarding utilization of point of care applications. Medical students from the Michigan State University College of Human Medicine from all years were included in the study via an email invitation. The survey inquired about when and how point of care applications were used by students, and by what mechanism (phone, tablet, computer). Data on knowledge and use of specific applications were collected, as well as observed use by physicians and residents. Participants were also asked to rate the usefulness of the point of care tools they used. Qualitative data was tabulated, and comparisons of use between traditional clinical students (3rd and 4th year students) and early- and middle-clinical students (1st and 2nd year students) will be done. Results: Research is currently ongoing, with expected completion in data collection in 2 weeks. Conclusions: Pending

Factors That Influence the Decision to Practice Medicine in Canada Versus USA For Canadians Who Completed US Residency Training Programs

Rohin Khanna, MD; Ravinder Dhillon, MD; Robert Darios, MD

Presenters: Rohin Khanna & Ravinder Dhillon

Context: Many residency programs, especially in the state of Michigan, have been noticing an upward trend of Canadian citizens pursuing their post-graduate medical training in the US. Retaining these Canadian physicians after residency training may prove to be an important aspect of reducing physician shortages. However, the aspects that lead physicians to make practice location decisions has not been well described.

Objective: To elicit insight to where Canadian graduates of post graduate residency programs in the US are practicing and the common factors that influenced their decisions to practice in Canada versus the United States.

Design and Setting: Cross-sectional study using a modified Delphi method. Qualitative interviews were conducted with an expert panel to determine factors that lead to practice location choices. A survey was created and responses obtained from graduating and practicing physicians who completed residency training in the Midwest area of the US.

Results: A panel of 12 Canadian citizens aged 26 to 46 were surveyed. The panel consisted of final year residents with confirmed positions or practicing attending physicians in the US or Canada. The panel demographics included 33.3% woman and 66.7% men. Survey results indicated family or spouse considerations was ranked as a very important factor by 83% of respondents (weighted average of 3.5/4), compensation and benefits held the second most important factor with 41.67% of respondents rating it as the most important factor (weighted average of 2.38/4). Fellowship opportunities was the least important factor with 75% or respondents rating it as the least important factor (weighted average 0.5/4). Loan repayment was found to be the second least important factor with 50% of respondents reporting it as the least important factor (weighted average 1.17/4). Other factors that appeared to be intermediate factors included: lifestyle, malpractice, patient demographics, job opportunities and immigration concerns.

Conclusions: Our study shows that family or spouse considerations along with compensation are likely to influence practice location decisions ahead of most other factors independent of practice location in Canada or USA. Coordinated efforts to incorporate family dynamics into already compensation focused recruitment efforts may help with to alleviate the challenge of physician shortages in the US with Canadian physicians.

Programs that Reduce Contraceptive Costs Lower Teen Pregnancy Rates: A Scoping Review

Sarah Hagle, MD, MPH; Iris Kovar-Gough, MA, MLIS; Julie Philips, MD, MPH
Presenter: Sarah Hagle, MD

Purpose: U.S. teens are more likely to become pregnant than teens in any other industrialized country in the world, costing approximately 10 billion dollars per year. This is not because they are more sexually active, but because they are less likely to use contraception. Cost has been identified as a major reason for suboptimal use of effective contraception by teens.
Not only did the Affordable Care Act (ACA) increase access to insurance, but in 2012 also mandated coverage of FDA-approved prescription contraceptives without cost-sharing by the patient. Theoretically this should decrease teen pregnancy rates; however, there is limited data available to support this relationship. This paper, instead, comprehensively reviews the literature to assess the impact of programs that reduce contraceptive costs on teen pregnancy rates. Methods: A comprehensive search of the literature using multiple databases, grey literature and citation chaining was performed with the assistance of a research librarian, using keywords and controlled vocabulary headings, including financial incentives, contraception, pregnancy and teenagers. Initial search revealed 594 papers, which were screened for relevance by title and abstract; 70 papers were relevant. These were read in their entirety to assess eligibility using pre-determined criteria. Publications were eligible for inclusion if they studied an intervention to reduce contraceptive cost to the patient, took place within the U.S. after 1990, included females aged 19 or younger, and measured a change in teen pregnancy rate. A data extraction table was used to organize results and results were synthesized using a descriptive, qualitative approach. Meta-analysis was considered, but not possible due to heterogeneity in studies and outcomes measured. Results: Seventeen papers met eligibility criteria. Data has not been completely evaluated. However, sixteen papers show that the intervention contributed to a decrease in teen pregnancy, abortion or birth rate. Eight of these papers also measured the impact on contraception use with six showing a correlation to increased contraception rate. Interventions directed at lower-income teens have a greater impact on teen pregnancy rates than those directed at private insurance coverage of contraception. Conclusion: This data will be further reviewed to evaluate type of analysis performed and determine study quality and bias. Interventions will also be studied to determine which had the greatest impact on teen pregnancy rates. These results with then be synthesized using descriptive qualitative approach. Preliminary results provide strong evidence that interventions aimed at reducing patient contraceptive cost lower teen pregnancy rates. Previous research has established that minimizing teen pregnancy rates, improves teen health and socioeconomic status and cuts societal cost. Thus, the United States should create and maintain policies that eliminate contraception costs for teens.

Factors Associated with Severe Perineal Lacerations

Jacquelyn Davis MS3, Justin Yoshida MS3
Michigan State College of Human Medicine
Presenters: Jacquelyn Davis & Justin Yoshida

Background: Severe perineal lacerations, 3rd or 4th degree, during vaginal birth can cause negative long-term health consequences for women including decrease in sexual satisfaction, increase pelvic pain, & urinary incontinence. Though literature has been gathered, the current literature is inconsistent. Our objective is to examine factors associated with severe perineal lacerations including age, race, BMI, smoking status, gestational age, fetal weight, number of previous pregnancies, epidural, oxytocin administration, length of 2nd stage, & fetal position.

Methods: A retrospective chart review was performed on 198 randomly selected women with uncomplicated pregnancies who delivered vaginally from 2012 –present at a hospital in the Midwest. Data were collected and entered into an encrypted Excel document, & then analyzed using Chi-square tests, ANOVA, t-tests, Kruskal-Wallis tests and a final multiple logistic regression model.

Results: Our analysis showed having prior vaginal deliveries (OR 0.44, CI 0.25-0.78, p-value 0.0047) and being a former smoker compared to a never smoker (OR 0.14, CI 0.02-0.82, p-value 0.029) had a statistically significant effect in protecting against severe perineal lacerations while a longer 2nd stage of labor (OR 1.01, CI 1.003-1.02, p-value 0.009) increased the risk significantly.

Conclusions: Our small population size may account for the lack of statistical significance for some factors. For example, only 19 women had an episiotomy, which made women 4.34 times more likely to develop a severe perineal laceration, but did not achieve statistical significance in our study. Even without statistical significance, these may be clinically significant. While much of our data were consistent with what we expected based on the

literature, we did not expect smoking to independently decrease risk or BMI to not have any effect. Other limitations include sometimes incomplete data in the chart, other possible confounding factors such as pelvic size, lack of diversity in the population and looking at one hospital. This data may help identify women at risk for laceration and be used in discussion of birthing plans for controllable factors.

Through the Eyes of a Medical Student: Addressing Barriers to Reproductive Health Care for Latina Patients

Presenter: Meaghan Mormann

The purpose of this study was to assess barriers Hispanic/Latina female patients face in receipt of reproductive health care and to determine steps healthcare professionals can take to ameliorate access to quality care for this patient population. Hispanic/Latino patients comprise more than16% of the United States' population and yet face so many barriers to proper medical care that they are vastly underrepresented as patients in most medical settings. This disparity is exacerbated further among Hispanic/Latina females, especially those seeking reproductive healthcare services. Upon conducting a review of relevant medical literature, the main barriers Hispanic/Latina female patients identified facing in receipt of reproductive health services are: language, cultural (*machismo, marianismo, fatalismo*), religious (views on abortion and birth control), financial (income and insurance), legal (insurance and citizenship), and trust (in the healthcare system and individual providers). In addition to identifying barriers faced, this study focused on identifying changes Hispanic/Latina women believe would improve their receipt of health care should they be implemented. These changes are pertinent for healthcare professionals to understand and implement and exist on three tiers: Patient-Provider, Provider-Clinic, and Clinic-Community Interactions. The Patient-Provider interventions include building rapport and trust via personalized patient interactions, encouraging Hispanic/Latina females to voice their needs, identifying clients' unique needs, tailoring education materials to match both literacy and English comprehension levels, and educating and counseling women on birth control methods. The Provider-Clinic interventions include working together to ensure patient privacy and confidentiality to avoid legal issues and build rapport and trust. Finally, the Clinic-Community interventions include conducting a community-level needs assessment, using multiple strategies to both recruit and retain Hispanic/Latina clients, and collaborating with other agencies to meet women's reproductive health needs. It is the duty of healthcare professionals to make themselves aware of the barriers Hispanic/Latina females face in their receipt of reproductive health care services and to employ the identified interventions to reduce barriers to care and permit the receipt of quality, compassionate reproductive health services.

Improving Hospital Discharge Time Through Expedited Teaching Rounds

Kevin Chun, MD; Khac On Le, MD; William Murdoch, MD, FAAFP

Promedica Monroe Family Medicine Residency Program

Presenter: Khac On Le, MD

Background

Inefficiencies in discharging patients can affect patient throughput and hospital workflow, ultimately influencing many aspects such as wait times, the time it takes to be evaluated by a medical professional, and the time it takes for new patients to be admitted. The traditional workflow of "teaching rounds" at a teaching hospital may actually impede the discharge process, as clinical and documentation tasks are often left until the completion of rounds. Integrating clinical work during rounds has been shown to enhance discharge flow.

Methods

Our study was designed to run for eight consecutive weeks in the fall of 2017. Four calendar weeks were identified as "control," and four as "intervention." During intervention weeks, three changes were made to the pre-existing rounding schedule. Study authors collected the Time of Day (TOD) that patients in three categories were rounded on in person by the academic team: patients on their day of discharge; patients in the intensive care unit (ICU); and patients in the observation unit.

Results

Overall, the intervention group on average saw improvement in rounding times by approximately one to one and a half hours in each of the three sub-groups. The results were statistically significant when judged by measuring the 95% confidence intervals between the sub-group times for both the discharge and the ICU patients.

Conclusion

The integration of clinical work during bedside rounds, combined with prioritization of rounding on patient types that most impact hospital patient flow, was shown to significantly improve the time of day at which those patients receive appropriate triage to their next care destination.

Quality Improvement Project: COPD Readmission Reduction

Lilia Peress, MD*, Michael Duarte, MD*, Rehana Siddiqui, MD*, Pierre Morris, MD
Presenter: Lilia Peress, MD

AIM

To decrease 30-day all cause inpatient readmission after initial admission for COPD exacerbation at Ascension Crittenton Hospital.

BACKGROUND

COPD remains a chronic progressive disease and is the third leading cause of death in the United States. In Michigan, the prevalence is among the highest in the country, ranging from 7.6-12% in 2014 per CDC data. By the natural history of the disease, increased frequency of admissions is a known herald of mortality. Unfortunately, one in five patients admitted for a COPD exacerbation is readmitted within 30 days of discharge with one-third of those readmissions occurring within the first week, with a median of 12 days to readmission. (1, 2) In addition, Medicare's Hospital Readmissions Reduction Program (HRRP) put forth financial incentives for hospital to decrease 30-day, all-cause readmissions after an admission for exacerbation of COPD. This has generated new literature describing factors thought to contribute to preventable readmissions include premature discharge, medication use issues, insufficient patient understanding of disease management, and lack of timely outpatient follow up (3).

Key quality interventions have the potential to address these obstacles to optimal care. For example, up to 86% of patients misuse their prescribed inhalers. But one institution showed that verbal goal-oriented teach-back instructions significantly decreased the likelihood of ED visits, readmissions, or deaths within 30-days after discharge (4).

HYPOTHESIS

We propose that intervention consisting of patient education of inhaler use at the time of discharge will lower COPD 30-day readmission rates.

METHODS

At Ascension Crittenton Hospital, the Cerner EHR was accessed to obtain encounter IDs of admissions which met the following inclusion criteria:

- 18 years old or older, male and female
- Admitted to inpatient between 10/01/2017 and 10/31/2017
- Admitting or discharge billing diagnoses with the index visit:
    - ICD-9: Bronchitis, not specified as acute or chronic 490.x; chronic bronchitis 491.x; emphysema 492.x; chronic airway obstruction, not elsewhere classified 496.x.
    - ICD-10: Bronchitis, not specified as acute or chronic J40.x; simple and mucopurulent chronic bronchitis J41.x; unspecified chronic bronchitis J42.x; emphysema J43.x; other chronic obstructive pulmonary disease J44.x

The following exclusion criteria were applied:

--- Respiratory failure due to pneumonia alone
--- Respiratory failure due to asthma alone
--- Respiratory failure due to CHF alone
--- Active cancer
--- Other unrelated diagnosis

RESULTS

Out of 59 initial 59 encounters identified through our EMR, 16 qualified. Reasons for exclusion included the following: Cancer (6), OBS (7), ED (13), CHF only (3), surgical (3), pneumonia alone (2), COPD not in exacerbation (3), other unrelated diagnosis (5), Duplicate (1).

Of the 3 readmitted, the median age was 67 and BMI was 25 while that of those not readmitted the median age was 71 and BMI was 26. All readmitted patients were female and were insured by Medicare; of those not readmitted the female portion was 61.5% and 84.6% were insured by Medicare. Active tobacco use was present in 33%. Of those readmitted and 15.4% of those not readmitted.

Of the readmitted patients, 1 (33%) was for recurrent COPD exacerbation. The readmitted population had no documented comorbidities that were evaluated in our study. In addition, they were more than twice as likely to have a pulmonary consultation (66.7% vs. 30.8%). Those not readmitted were more likely to be discharged home vs. a transitional facility. Home oxygen use prior to admission was not significantly different in the two groups. The all-cause 30-day readmission rate was 19% and of these readmissions 33% were for COPD exacerbation.

FUTURE DIRECTIONS

COPD all-cause 30-day readmission rates at Ascension Crittenton Hospital match the national average of approximately 20%. We plan to compare this rate to all Ascension Hospitals in Michigan. Patient-specific factors, while not modifiable, may be used to estimate an individual's risk of readmission.

We propose that a multidisciplinary inhaler-in-hand program will lead to decreased readmission rates and penalties incurred by the hospital. Inhalers will be delivered to bedside at the time of discharge and the patient will be instructed how to use their specific home inhalers by respiratory technicians. Social work is poised to assist by anticipating discharge and assuring that the inhaler prescriptions are delivered in the case of likely weekend discharge. At the end of an 8-week PDSA cycle we anticipate a decrease in COPD-specific readmission rates by 10% and 20% at 16 weeks. This will lead to improved patient outcomes and cost savings for the hospital due to a decrease of uncompensated care for 30-day readmissions.

Acceptability and Feasibility of a Multicomponent Group Intervention for Health Behavior Change: The Kickstart Health Program

Presenter: Carina Crookston, MD

Integrating behavioral health into primary care in order to better manage risky health behaviors has been received with popularity (Hunter et al., 2017). Research is needed to assess the utility of these types of programs in a health care setting; thus, the purpose of the current study is to offer a preliminary test of feasibility and acceptability of a group behavioral health intervention that utilizes a variety of techniques to teach skills that initiate health behavior change. The Kickstart Health Program is a Cognitive-Behavioral Experiential Therapy (CBET). Groups were offered on a flexible schedule with open enrollment so patients could begin at any time. Participants were recruited from a local family medicine clinic. The collection of data is ongoing: one-hundred-eight potential participants were called; twenty-two were enrolled. Both patients and physicians were administered discrete and open-ended questions regarding their acceptability of the group, their satisfaction with the skills taught, and how feasible it was to attend and refer to the group. Fourteen participants completed measures of exercise, nutrition, health related self-efficacy, general health, and overall well-being. It was anticipated that patients and physicians would find a multicomponent group with a flexible schedule acceptable and feasible in a primary care setting. Additionally, it was anticipated that at a 5-week follow-up patients would show an improvement in health-related outcomes.

GOLDEN HOURS IN SEPSIS MANAGEMENT – A PROSPECTIVE STUDY

Presenter: Nikita Bansal, PGY III

Background: Severe sepsis has high mortality rates ranging from 12.1 to 25.6 %. Once severe sepsis is identified, antibiotics must be started rapidly to treat the underlying infection. Administration of effective IV antibiotics should be within the 1st hour of recognition of septic shock (grade 1B) and severe sepsis without septic shock (grade 1C). Although early antibiotic administration seems to be an intuitive approach, administration of effective therapies is often delayed.

Objective: To provide early goal directed therapy for sepsis in our urgent care with rapid initiation of intravenous antibiotics as soon as the diagnosis of sepsis is made.

Method: Chart review and prospective study.

Results: Monitor the decrease in length of hospital stay, episodes of hypotension, reduction in morbidity in patients admitted with sepsis in our hospital who received antibiotics within one hour of recognition of sepsis.

Discussion: Surviving sepsis campaign necessitates the three hour bundle. Establishing a supply of premixed antibiotics (Vancomycin, Ceftriaxone, Piperacillin-Tazobactam and Levofloxacin) in our urgent care for sepsis due to pneumonia and intraabdominal infections which are most commonly encountered at our hospital is an appropriate strategy for enhancing the likelihood that antimicrobial agents will be infused promptly. Educating the staff regarding quick recognition of sepsis by creating flash cards and pocket guides along with the infusion protocol for major broad spectrum antibiotics. Providing adequate supply of equipment required for establishing the infusion will hasten the administration of antibiotics. Incorporating a time sensitive flag on the electronic health record right after the antibiotic is ordered by the physician. These strategies shall ensure timely administration of antibiotics within one hour window of recognition of sepsis

Thyrotoxicosis – Great Coronary Artery Disease Mimic!
Presenter: Nirav Patel, MD, MPH, PGY – II

Background: The effects of the thyroid hormone on the heart and other physiological systems are well-documented. Hyperthyroidism can cause palpitations and chest pain resulting from uncontrolled tachycardia. Thyrotoxicosis especially has a relationship with coronary spasm and can have adverse cardiovascular outcomes if left untreated.
Objective: To raise awareness among Family Medicine physicians to suspect thyrotoxicosis in patients who present with anginal-type chest pain in the setting of thyrotoxicosis.
Method: A 49-year-old male admitted to an in-patient psychiatric unit for major depression with suicidal ideation and anxiety, started complaining of substernal chest pain radiating to the left shoulder and arm. Initial laboratory work-up showed a low Thyroid Stimulating Hormone (TSH) of 0.003 uIU/mL (0.45-5.33), elevated Free T4 of 5.20 pg/mL (2.5-3.9), and an elevated troponin of 0.15 ng/mL (0.01-0.05). EKG showed ST elevation in V2 and V3, T wave inversion in V5 and V6. The patient was treated with propranolol and methimazole which improved his chest pain.
Results: Based on his clinical presentation, laboratory findings, and symptom improvement with appropriate anti-vasospastic medications, patient was diagnosed with thyrotoxicosis-induced coronary vasospasm. Attention to history and thyroid function tests is of paramount importance to diagnose this condition early and to treat it to prevent adverse cardiac outcomes.
Case Discussion and Conclusion: Excessive thyroid hormones have been associated with heart disease such as angina, myocardial infarction, arrhythmia and sudden death.[1] Patients with thyrotoxicosis can present with typical angina-type chest pain from coronary vasospasm. Coronary spasm produces a higher chance of atherosclerotic events due to increase thrombus formation. Thyrotoxicosis also leads to a hypermetabolic state and causes imbalance between blood supply and oxygen demand, resulting in cardiac symptoms.[3]

A fast growing Right Atrial Myxoma with coexistent Coronary artery disease
Presenter: Vikas Sacher PGY II

Background: Atrial myxoma is the most common cardiac tumor. We present a case of a rare fast growing right atrial myxoma in a patient with newly diagnosed coronary artery disease.
Objective: Myxomas are the most common primary cardiac tumors. Occasionally they are associated with atherosclerotic coronary artery disease (CAD).
Method: 50-year-old hispanic female with past medical history of hypertension, diabetes mellitus, morbid obesity, hypothyroidism, hyperlipidemia, and current tobacco use was admitted for exertional retrosternal chest pain. Echocardiogram was performed as part of workup showed large right atrial myxoma attached to interatrial septum. Trans esophageal echo later showed large polypoid mass 3.6x4.2cm attached to fossa ovalis of the interatrial septum. The patient underwent coronary angiogram for presurgical evaluation given her multiple risk factors and was found to have triple vessel disease. Patient had surgical resection of myxoma and coronary revascularization with coronary artery bypass grafting.
Case discussion:
Eighty to ninety percent of cardiac myxomas originate in the left atrium and ten to twenty in the right atrium. Echocardiography is important for diagnosing myxoma. Although combination of myxoma and atherosclerotic coronary disease is rare, CAD should be suspected in patients with risk factors. The mean age of patients with myxoma is 56 years which is also common age for CAD. Patient with atrial myxoma who are above 35 years of age and presents with typical angina like pain needs coronary angiography[1]. Most of the myxoma is excised after their diagnosis. The growth rate of myxomas is not well known, however, serial echocardiography will help in determination of growth rate if available[2]. In our patient, myxoma grew fast in 16 months with growth of 0.23 x 0.32 cm/month. Annual echocardiography should be considered in patients presenting with clinical features suggestive of cardiac myxoma such as constitutional symptoms, as these tumors may be rapidly growing, and may only become apparent on subsequent echocardiography.

"Psoriasis on my sole?"
Presenter: Arnab Bose

Introduction

Keratoderma blennorrhagicum is an interesting dermatosis associated with gonorrheal arthritis and occurs almost exclusively in the male sex, although three cases have been reported in females. It occurs at all ages, and probably more frequently than the literature shows, because it is unrecognized in the very mild types. Up to the present time there have been about eighty-three cases reported in the literature, nineteen of which have been described in America.

This disease has been described under various appellations, the most common being keratoderma blennorrhagicum, with the occasional substitution of "keratoma," "dermatitis," "keratosis," "hyperkeratosis" or "exanthema" for the keratoderma part, and "gonorrheal" for the blennorrhagicum. There was much bemusement due to its terminology. This was first identified and described by French dermatologist, Vidal. He considered it, however, a syphilitic manifestation and hence treated it with antisyphillitc drugs.

The corresponding case recounts a 43 year old bisexual African American male presented with a two week history of "scaly feet".

Case Description

A 43 year old African American bisexual male presented to the Family Medicine Clinic with a two week history of "scaly feet" and lethargy. The painless rash was papulopustular, hyperpigmented with scaly hyperkeratotic edges called keratoderma blennorrhagicm. Two months prior to the rash appearing he reported developing thickened patches on his glans penis. Three weeks prior to the rash appearing, he developed bilateral red eyes with photophobia and tearing, which had resolved spontaneously. This was also accompanied by transient knee swelling and pain. On further testing his Human Immunodeficiency Virus (HIV) test was positive Subsequently, he was diagnosed with Candida esophagitis.

Practice Guidelines

When Chlamydia is the suspected causative agent, patients may be given doxycycline or an analog for up to three months, but the optimal duration of therapy is unknown. In patients with persistent symptoms, sulfasalazine in dosages of 1 to 3 g daily, has been useful. Testing for human immunodeficiency virus (HIV) infection is mandatory in patients with persistent symptoms. Azathioprine and methotrexate should not be used when HIV infection is suspected. It is not yet clear if antiretroviral therapy has any effect on the natural history of reactive arthritis in patients being treated for HIV infection.

Discussion

Keratoderma blennorrhagicum is characterized by the development of reddish-brown macules, papules and plaques, which develop central pustules, crusts and scaly hyperkeratotic edges. The lesions typically appear on the palms and on plantar aspects of the feet. Nail thickening and destruction may occur. Similar lesions occur on the glans penis causing circinate balanitis. Reactive Arthritis (ReA)is characterized by rash (keratoderma blennorrhagicum), arthritis, conjunctivitis and urethritis. It is the most common cause of peripheral inflammatory arthritis in young men. Nearly 80% of patients with reactive arthritis test positive for HLA-B27 and have a greater tendency to develop an abnormal immune response to a number of infectious agents including Chlamydia trachomatis.The clinical syndrome is preceded by a clinical or subclinical infection affecting the gastrointestinal, urogenital or respiratory tracts. Monoarticular or oligoarticular arthritis affects large joints of the lower extremity. Anterior uveitis (iritis) is more common than conjunctivitis and manifests as ocular pain, redness, photophobia and lacrimation. Although the uveitis resolves spontaneously it has a tendency to recur. Keratoderma blennorrhagicum (and ReA) occurs with increased frequency in Human Immunodeficiency Virus (HIV)infected individuals and hence testing for the virus should be strongly considered, especially in the presence of risk factors. Psoriasis vulgaris is a chronic hereditary disorder, characterized by red plaques and papules covered with silvery white hyperkeratotic scales affecting extensor aspects of the extremities and scalp, although the entire body can be affected. The eruption of lesions is symmetrical. Auspitz sign (appearance of tiny blood droplets upon removal of scale) and Koebner's phenomenon (exacerbation of rash due to physical trauma) are present. Tinea pedis (hyperkeratotic type), a fungal infection typically caused by Tinea rubrum, presents with a patchy or diffuse scaly rash on the soles and sides of the feet. Small vesicles may occur which tend to heal with tiny scaly collarets. Secondary syphilis presents with a papulosquamous eruption on the trunk, palms and soles. The coppery lesions, which appear 2 to 10 weeks after appearance of the primary chancre, show a marked tendency to polymorphism. Systemic findings such as generalized lymphadenopathy and fever may be present.

Glioblastoma Multiforme
Presenter: Nathan Cozman

Background: Primary brain tumors account for 2% of all cancers in USA adults. Of the brain tumors, 80% are from glial cell origin. Gliomas arise from astrocytes, oligodendrocytes or ependymal cells. Gliomas are divided into 4 grades with stage 1 & 2 considered low grade and grades 3 & 4 considered high grade. Glioblastoma Multiforme is the most common type of glioma and has the worst prognosis. GBM is the highest-grade glioma and is the most malignant form of an astrocytoma. GBM are most commonly diagnosed in adults aged 45-65 and tend to affect men more than women. They arise from normal brain tissue and may invade and migrate away from the main tumor but rarely spread outside the brain. Patients will most commonly present with signs of intracranial pressure such as headaches but may present with seizures, memory loss or changes in behavior. CT scan or MRI with dye can be used for diagnosis but an MRI will need to be done for better visualization of the tumor.
Objective: Symptoms at first may be mild or nonspecific. As the tumor grows and expands in the brain the patient will have symptoms of increased intracranial pressure. Headaches, nausea/vomiting and seizures can be the first presenting symptoms of the tumor. However, patients may not experience these symptoms and may present with deficits specific to the area of the brain that the tumor is located. Early diagnosis therefore is difficult as the symptoms may be vague to begin with and due to the variety of symptoms that the patient may experience.
Methods: Clinical case report
Results: Surgery is the first step in treatment of GBM. The neurosurgeon will generally attempt to move as much of the tumor burden as possible but, this is difficult as GBM has tentacle- like projections that invade surrounding tissue. If surgery is not an option because of location of the tumor biopsy or partial tumor removal may be preformed. Radiation is usually given following surgery and is usually supplemented with a 6 week course of Temozolomide. Only Carmustine, Lomustine and Temozolomide have been approved as chemotherapy agents for high grade brain tumors.
Discussion: Still gathering patient notes. If unable to get all the notes I will talk in brief about the case and go into more detail about prognosis.

Michigan Research Day XLI

Summary of Journal Publications

Journals		Totals
American Family Physician	***(Am Fam Phys)***	*2*
American Journal of Gastroenterology	***(Am J Gastroen)***	*2*
American Journal of Kidney Disease	***(Am J Kidney Dis)***	*1*
American Journal of Infection Control		*1*
American Journal of Medical Technology	***(Am J Med Tech)***	*1*
American Journal of Obstetrics and Gynecology	***(Am J Ob Gyn)***	*1*
American Journal of Public Health	***(Am J Pub Hlth)***	*1*
Archives of Family Medicine	***(Arch Fam Med)***	*2*
Behavioral Medicine	***(Behav Med)***	*1*
BMC Family Practice		*1*
British Medical Journal	***(BMJ)***	*1*
Canadian Family Physician	***(Canad Fam Phys)***	*6*
Canadian Medical Association Journal	***(Canad Med Assoc J)***	*2*
Diseases of Colon and Rectum	***(Dis Colon Rec)***	*1*
Ethnicity and Disease		*1*
Evaluation & the Health Profession		*1*
Family and Community Health	***(Fam Comm Hlth)***	*1*
Family Medicine	***(Fam Med)***	*2*
Family Practice	***(Fam Pract)***	*3*
Family Practice Research Journal	***(Fam Pract Res J)***	*10*
Hastings Center Report	***(Hast Ctr Rep)***	*1*
Infant Mental Health Journal	***(Infant Men Hlth J)***	*1*
Journal of the American Board of Family Medicine	***(JABFM)***	*4*
Journal of the American Board of Family Practice	***(J Am Board Fam Pract)***	*2*
Journal of the American Geriatric Society	***(J Am Geriat Soc)***	*1*
Journal of the American Medical Association	***(JAMA)***	*3*
Journal of the American Medical Women's Association	***(J Am Med Wom Assoc J)***	*1*
Journal of Clinical Epidemiology		*1*
Journal of Clinical Pharmacology	***(J Clin Pharm)***	*1*
Journal of Developmental and Behavioral Pediatrics	***(J Dev Behav Ped)***	*1*
Journal of Family Practice	***(JFP)***	*31*
Journal of Family Medicine	***(J Fam Med)***	*2*
Journal of General Internal Medicine		*1*
Journal of Immigrant and Minority Health		*1*
Journal of Medical Education	***(J Med Educ)***	*2*
Journal of the National Medical Association		*1*
Journal of New York Academy of Sciences	***(J NY Acad Sci)***	*1*
Journal of Nutrition Education	***(J Nutr Educ)***	*1*
Journal of Occupational & Environmental Medicine		*1*
Journal of Perinatology		*1*
Journal of Women's Health		*2*
Medical Bulletin of St. Johns Hospital	***(Med Bulletin St Johns Hosp)***	*1*
Medical Care	***(Med Care)***	*3*
Michigan Medicine	***(Mich Med)***	*1*
MSU Network News	***(MSU Net News)***	*1*
Pediatrics	***(Ped)***	*1*
Postgraduate Medicine	***(Postgrad Med)***	*2*
Preventive Medicine	***(Prev Med)***	*1*
WORK: A Journal of Prevention, Assessment and Rehabilitation		*1*
TOTAL PAPERS PUBLISHED		**112**

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Published Papers

Research Day	Reference
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