College of Human Medicine
MICHIGAN STATE UNIVERSITY

Department of Family Medicine, College of Human Medicine, Michigan State University presents
:

# 42nd Annual Michigan Family Medicine Research Day XLII

## Thursday, May 23, 2019

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

In Collaboration With:

Department of Family Medicine, **Oakland University** | Department of Family Medicine, **University of Michigan** | Department of Family Medicine and Public Health Sciences, **Wayne State University** | Department of Family and Community Medicine, **Western Michigan University** | **Family Medicine Foundation of Michigan,** MAFP

OUWB School of MEDICINE

MICHIGAN MEDICINE

WAYNE STATE School of Medicine

WESTERN MICHIGAN UNIVERSITY Homer Stryker M.D. SCHOOL OF MEDICINE

FAMILY MEDICINE FOUNDATION OF MICHIGAN

**Welcome to Michigan Research Day XLII**
Thursday, May 23, 2019
The Johnson Center at Cleary University

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

The day's events will begin with opening remarks at 9:00 am Our first concurrent oral presentation session will be from 9:15 to 10:15 am with each presenter having ten minutes to present and five minutes of question and answers. Each room's moderator/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 10:15 to 10:30 am and review posters with your coffee from 10:30 to 11:30 am. Each poster will have the author(s) present during this time to answer your questions. The poster session will be followed by a Keynote presentation and a networking lunch that will provide the opportunity for you to connect with colleagues and meet new colleagues from across the state.

At 11:30 am our Keynote Speaker is Dr. Mark Vogel, PhD., Professor at the Department of Family Medicine and Director of Behavioral Science and Psychology at Michigan State University. Dr. Vogel's talk is "***My Secret Life as a Researcher***." A networking lunch will follow from 12:15 to 1:00 pm.

Following lunch, we will begin one more concurrent oral presentation sessions starting at 1:00 pm and a second poster session at 2:00 pm (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. Michigan 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 42 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,

Bengt B. Arnetz, MD, PhD, MScEpi, MPH
Professor, Family and Preventive Medicine
Chair, Department of Family Medicine
College of Human Medicine

# Michigan Research Day XLII

## PLANNING COMMITTEE

| | |
|---|---|
| JOHN VANSCHAGEN, MD. (2019 Conference Chair) | Senior Associate Chair, Department of Family Medicine, MSU & Vice Chairperson, Mercy Health Family Medicine Residency Program |
| BENGT ARNETZ, MD, PhD, MScEpi, MPH | Professor and Chair, Department of Family Medicine, MSU |
| JUDY ARNETZ, PhD, MPH, PT | Professor and Associate Chair for Research, Department of Family Medicine, MSU |
| MOLLY POLVERENTO, MS | Director of Residency Network, MSU & Coordinator, Preventive Medicine & Public Health |
| LOUISA LO | Conference Assistant, Department of Family Medicine, MSU |
| BLYTHE BIEBER | Conference Assistant, Department of Family Medicine, UM |
| JENNIFER HAVENS | Conference Assistant, Department of Family and Community Medicine, OUWB |
| ROSE MOSCHELLI | Conference Assistant, Department of Family Medicine and Public Health Sciences, WSU |
| ELIE MULHEM, M.D | Associate Professor & Vice Chair of Research, Department of Family & Community Medicine, OUWB |
| ELIZABETH TOWNER | Assistant Professor, Department of Family Medicine and Public Health Science, WSU |

## JUDGES

| | |
|---|---|
| JAMES AIKENS | Department of Family Medicine, UM |
| BENGT ARNETZ | Department of Family Medicine, MSU |
| JUDY ARNETZ | Department of Family Medicine, MSU |
| LAURIE BUIS | Department of Family Medicine, UM |
| MELISSA DEJONCKHEERE | Department of Family Medicine, UM |
| RAZA HAQUE | Department of Family Medicine, MSU |
| SHEALA JAFRY | Department of Family Medicine, OUWB |
| DIANE HARPER | Department of Family Medicine, UM |
| TESS MCCREADY | Department of Family Medicine, WSU |
| KIMBERLY MCKEE | Department of Family Medicine, UM |
| PAUL MISCH | Department of Family Medicine, OUWB |
| ELIE MULHERN | Department of Family Medicine, OUWB |
| VEENA PATHANGI | Ascension Hospital |
| JULIE PHILLIPS | Department of Family Medicine, MSU |
| MOLLY POLVERENTO | Department of Family Medicine, MSU |
| CAROLINE RICHARDSON | Department of Family Medicine, UM |
| KEYNA SEKONI | Department of Family Medicine, MSU |
| MARIA SHREVE | Henry Ford Hospital |
| ELIZABETH TOWNER | Department of Family Medicine, WSU |
| JINPING XU | Department of Family Medicine, WSU |
| PHILIP ZAZOVE | Department of Family Medicine, UM |

## AWARD CATEGORIES

- Best Oral Presentation by a Student
- Best Oral Presentation by a Resident:
    - Behavioral/Psychosocial/Disease Management
    - Quality Assurance/Quality Improvement
    - Education Research
    - Health Services Research
- Best Oral Presentation by a Faculty/Practitioner
- Best Overall Presentation
- Best Poster by a Student
- Best Poster by a Resident:
    - Behavioral/Psychosocial/Disease Management
    - Quality Assurance/Quality Improvement
    - Case Report
- Best Overall Poster

# *Michigan Research Day XLII*

## *Keynote Presentations*

### "My Secret Life as a Researcher"

Dr. Mark Vogel, Ph.D.
Professor, Department of Family Medicine and at Michigan State University
Director of Behavioral Science and Psychology, Ascension Genesys Hospital

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

| | | | |
|---|---|---|---|
| 2005 | Vince WinklerPrins, M.D.<br>Brian Rayala, M.D. | *Writing for PEPID:*<br>*Nuts and Bolts and Perspectives from a Resident/Author* | Department of Family Practice<br>Michigan State University |
| 2005 | Karen Mitchen, M.D.<br>Steve Dosh, M.D., M.S.<br>Trissa Torres, M.D., M.S.P.H. | *Maintenance of Certification for Family Physicians:*<br>*Quality Improvement in Real Practice* | Providence Family Practice<br>OSF Medical Group<br>Genesys Regional Medical Center |
| 2006 | Thomas Schwenk, M.D.<br>Professor and Chair<br>Kent Sheets, Ph.D.<br>Director of Educational Development | *Back to the Future of Family Medicine*<br><br>*The Life Cycle of the Family Medicine Clerkship* | Department of Family Medicine<br>University of Michigan |
| 2007 | Margaret Meyers, M.D.<br>Rodrigo Tobar, D.O.<br>Patricia West, Ph.D., R.N. | *Practice-Based Research:*<br>*Why We Do It* | Mercy Primary Care Center<br>Family Physicians, PC<br>St. Johns Hospital |
| 2008 | Joseph J. Gallo, M.D., M.P.H.<br>Associate Professor | *Many Ways to Answer Questions:*<br>*Putting Mixed Methods to Work* | Department of Family and Community Medicine<br>University of Pennsylvania |
| 2009 | Caroline R. Richardson, M.D.<br>Assistant Professor | *Conducting Behavioral Intervention Research on the Internet –*<br>*Advantages and Challenges* | Department of Family Medicine<br>University of Michigan |
| 2009 | Katherine Gold, M.D.<br>Clinical Lecturer | *What Do You Study?*<br>*Navigating the Path From a Single Project to a Research Portfolio* | Department of Family Medicine<br>University of Michigan |
| 2010 | Denise White Perkins, M.D., Ph.D.<br>Director, Institute on Multicultural Health<br>Senior Staff Physician<br>Marla Rowe Gorosh, M.D.<br>Educational Consultant, Healthcare Equity Campaign.<br>Senior Staff Physician | *Unnatural Causes:*<br>*Unraveling the Mystery of Racial and Ethnic Disparities in Health and Healthcare* | Department of Family Medicine<br>Henry Ford Health System |
| 2010 | Victoria Neale, Ph.D, M.P.H.<br>Professor | *By the Researchers for the Researchers: The PRIMER Research Toolkit* | Department of Family Medicine and Public Health Sciences<br>Wayne State University |
| 2011 | Rebecca A. Malouin, Ph.D.<br>Assistant Professor | *Journey to the Center of the Health Services System* | Department of Family Medicine<br>Michigan State University |
| 2011 | Jodi Summers Holtrop, Ph.D.<br>Assistant Professor | *Transforming Primary Care through Quality Improvement Research* | Department of Family Medicine<br>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<br>Wayne State University |
| 2012 | Jean M. Malouin, M.D.<br>Assistant Professor<br>Clare Tanner, Ph.D.<br>Program Director | *The Michigan Primary Care Transformation Project* | Department of Family Medicine<br>University of Michigan<br><br>Michigan Public Health Institute |
| 2012 | James F. Peggs, M.D.<br>Professor | *A Family Physician's View From the Dean's Office* | Department of Family Medicine<br>University of Michigan |
| 2013 | Lisa Gorman, Ph.D<br>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.<br>Professor | *Dependency, Healthcare Utilization, Costs & Doctor-Patient Relationship* | Department of Family Medicine and Public Health Sciences<br>Wayne State University |
| 2014 | Rebecca Malouin, Ph.D.<br>Associate Chair | *Networks for Networking and Scholarship: Opportunities in Michigan* | Department of Family Medicine<br>Michigan State University |
| 2014 | Andrea Wendling, M.D.<br>Associate Professor<br>William Wadland, M.D.<br>Professor and Chair | *Research as a Life-long Practice –*<br>*Interview Results and Reports* | Department of Family Medicine<br>Michigan State University |
| 2015 | Grant M. Greenberg, M.D., M.H.S.A.<br>Associate Chair | *Aligning Quality Improvement With Priorities and Requirements* | Department of Family Medicine<br>University of Michigan |
| 2016 | Carl D. Shrader Jr., M.D., Ph.D<br>Assistant Residency Director and Faculty Senate | *Integrating Research in a Clinical Practice* | Department of Family Medicine<br>West Virginia University |
| 2017 | Richard H. Kennedy, Ph.D., FAHA<br>Vice President and Director<br>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,<br>Oakland University Beaumont School of Medicine |
| 2018 | Phillip Levy, MD., MPH.<br>Associate Chair for Research and Associate Professor | *Nature, Nurture, Culture, Care - A Long View Approach to Health Outcomes* | Department of Emergency Medicine<br>Wayne State University |
| 2019 | Mark Vogel, Ph.D. | *My Secret Life as a Research* | Department of Family Medicine<br>Michigan State University |

## Keynote Speaker: Dr. Mark Vogel, Ph.D.

Dr. Vogel is Director of Behavioral Science and Psychology at Ascension Genesys Hospital in Grand Blanc, Michigan where is also program director of the Primary Care Health Psychology Fellowship Program, a post-doctoral fellowship for clinical psychologists. Within the Family Practice Residency program, Dr. Vogel directs the behavioral science education of residents and coordinates the research education for these residents. He also chairs the Genesys Institutional Research Board. His area of professional interests includes integrated primary care, medical decision making, computer assisted learning, and practitioner wellness.

Dr. Vogel obtained his doctoral degree in clinical psychology from the California School of Professional Psychology-Los Angeles and completed a two-year fellowship in Primary Care Health Psychology at St. Joseph Hospital, Flint, MI. He is a licensed psychologist and board certified in Clinical Health Psychology by the American Board of Professional Psychology. He has served on several professional boards and the author of journal articles and book chapters.

**Michigan Research Day XLII** **Master Schedule**

| | | | | |
|---|---|---|---|---|
| 8:00 – 9:00a | Registration and Breakfast | | | |
| 9:00 – 9:15a | Welcome (Dr. Bengt Arnetz, Chair at MSU Department of Family Medicine and Michael Macias, Director of Member Engagement and Business Development at MAFP) – Main Room | | | |
| 9:15 – 10:15a | **Oral Presentation Session #1** | | | |
| 9:15 – 10:15a | **Maternal Health Research**<br><br>Location: Room 5<br>Moderator/Timekeeper: James Aikens<br>Judges: Kenya Sekoni, MD, Sheala Jafry, MD, MS, FAAFP | **Social Determinants of Health**<br><br>Location: Room 6<br>Moderator/Timekeeper: Sukhesh Sudan<br>Judges: Tess McCready, DO, Elizabeth Towner, PhD | **Clinical Quality Improvement**<br><br>Location: Room 7<br>Moderator/Timekeeper: Missy Plegue<br>Judges: Maria Shreve, MD, Philip Zazove, MD | **Caring for Patients and Providers**<br><br>Location: Room 8<br>Moderator/Timekeeper: Judy Arnetz<br>Judges: Laurie Buis, PhD, Caroline Richardson, MD |
| 9:15 | Uses Socially: A Mixed-Methods Analysis of Young Pregnant Women's Facebook Posts about Substance Use<br><br>Daniel Oram, MD<br>University of Michigan<br>Resident | Investigation Socioeconomic Factors Influencing Influenza Vaccination in a Diverse Non-Urban Setting<br><br>Camilla Diaz, MD<br>University of Michigan<br>Resident | Emergency Department Utilization Among Family Practice Center Patients<br><br>Fares Sweis, MD<br>Midland Family Medicine Residency Program<br>Resident | The "Three Good Things" Method as a Means to Reduce Physician Burnout<br><br>Lisa Babin, MD<br>Midland Family Medicine Residency Program<br>Resident |
| 9:30 | Baby Wants Tacos: An Analysis of Health-Related Facebook Posts from Young Pregnant Women<br><br>Elizabeth Marshall, MD & Abigail Moon, MD<br>University of Michigan<br>Resident | Racial Disparities in Cervical Cancer Screening<br><br>Diane M Harper, MD, MPH, MS<br>University of Michigan<br>Practitioner | Telemetry Monitoring: The Bells, Beeping, and Chimes Continues<br><br>Natasha Jairam, MD<br>Midland Family Medicine Residency<br>Resident | What Predicts Joy in a Family Medicine Clinic Undergoing an Intervention?<br><br>Courtney Goetz<br>Michigan State University<br>Department of Family Medicine<br>Non-Clinician |
| 9:45 | Perinatal Mood and Anxiety Disorders, Serious Mental Illness, and Delivery-Related Health Outcomes, | Length of Stay, Hospital Readmission Rates, and Mortality for Heart Failure Among Patients of Middle Eastern Origin compared to Non-Middle Eastern | Point of Care Ultrasound in the Primary Care Setting is a Financially Viable Option for AAA Screening | Counselling and Comforting Hospital Patients: Advice from Hospital Chaplains |

| | | | | |
|---|---|---|---|---|
| | United States, 2006-2015<br><br>Kimberly McKee, PhD, MPH<br>University of Michigan<br>Faculty | Whites in Southeast Michigan<br><br>David Lick, MD, MBA, MPH<br>Beaumont Health Family Medicine Residency, Troy<br>Practitioner | <br><br>Mohammad Kasim Fassia<br>Michigan State University College of Human Medicine/ Spectrum Health<br>Student | <br><br>Ariel Dempsey<br>Michigan State University College of Human Medicine<br>Student |
| 10:00 | Postpartum Smoking Relapse Prevention: Factors for Success<br><br>Veronica Arbuckle-Bernstein, MD<br>Sparrow/MSU Family Medicine Residency Program<br>Resident | Comparing Grocery Costs amongst Five Michigan Counties<br><br>Shelby Walker and Lauren Buhr<br>Michigan State University College of Human Medicine<br>Student | Evaluating Herbal Supplement Use in a Midwest Family Medicine Residency Office<br><br>Garry Mann, MD<br>Sparrow/MSU Family Medicine Residency Program<br>Resident | Does Prior Exposure to Death and Dying Impact Discussing End-of-Life Wishes?<br><br>Melissa Patterson, MD, MBA<br>Ascension St. John Hospital Department of Family Medicine<br>Resident |
| 10:15 – 10:30a | Break | | | |
| 10:30 – 11:30a | **Session 1: Poster Presentations**<br>Judges: James Aikens, Melissa DeJonckheere, Raza Haque, Sheala Jafry, Veena Pathangi, Julie Phillips, Kenya Sekoni | | | |

| Number | Title | Presenter | Affiliation | Presenter Type |
|---|---|---|---|---|
| 1 | Pyoderma Gangrenosum | Ghulam Abbas Harrie | Pontiac General Hospital Department of Family Medicine | Resident |
| 2 | More Than Just a Headache: Tumefactive Multiple Sclerosis Presenting as Chronic Headaches | Julie N. Thai | McLaren-Flint Family Medicine Residency Program | Resident |
| 3 | A Case of Mysterious Unexplained Eosinophilia | Julie N. Thai | McLaren-Flint Family Medicine Residency Program | Resident |
| 4 | The Little Tendon That Could: Isolated Rupture of the Plantaris | Julie N. Thai | McLaren-Flint Family Medicine Residency Program | Resident |
| 5 | A Potential Non-Invasive Solution to a Recurrent Problem | Lauren Greene | Ascension St. John Hospital Department of Family Medicine | Resident |
| 6 | Sticks and Stones May Break My Bones…But What About Alcohol | Mohamed Ghallab | McLaren-Flint Family Medicine Residency Program | Resident |
| 7 | Is Your Energy Drink Hurting Your Heart? | Rosmin Jos | Pontiac General Hospital Department of Family Medicine | Resident |
| 8 | Case Report: Atypical Ductal Hyperplasia in Males | Scott E. Wilkins | Spectrum Health, Lakeland | Resident |
| 9 | A Rare Case of Tonsillar Mantle Cell Lymphona in a Young Male | Sean Kim and Rachel Friedman | Spectrum Health, Lakeland | Resident |
| 10 | Atrial Fibrillation – Can You Control It? | Vikas Sacher | Pontiac General Hospital | Resident |

| | | | | |
|---|---|---|---|---|
| 11 | Primary Pulmonary Coccidioidomycosis: An Incidental Finding | Taylor Becker | Ascension St. John Hospital Department of Family Medicine | Student |
| 12 | ****WITHDRAWN**** Preventive Cancer Screening Among Immigrant Arab & Middle Eastern Women: Systematic Barriers and Facilitators to Care | Ameen Masoodi | DMC/MSU-Sinai Grace Family Medicine Residency Program | Resident |
| 13 | Barriers to Contraception Use in a Non-Urban Hispanic/Latino Community | Laura Crespo Albiac | University of Michigan Department of Family Medicine | Resident |
| 14 | Avoiding Physician Burnout: Exploration of the Relationship Between Physician Lifestyle and Career Fulfillment | Patrick Stevens | Spectrum Health Lakeland | Resident |
| 15 | MEDICINE: Eight Effective Habits to Prevent Burnout and Promote Health and Wellness | Fawaz Habba | Michigan State University College of Osteopathic Medicine | Student |
| 16 | Recruitment of African American Emerging Adults in an Urban Setting for a Technology-Based Asthma Medication Adherence Study | Rachael Vitale | Wayne State University Department of Family Medicine and Public Health Sciences | Student |
| 17 | Consolidated Standards of Reporting Trials (CONSORT) Design for a Community-Based Randomized Controlled Trial on Blood Pressure Control | William Costello and Shayla Patton | Wayne State University Department of Family Medicine and Public Health Sciences | Student |
| 18 | Analysis of Influenza Vaccination Coverage in an Urban Pediatric Asthma Population: Protocol Development | Sarah Parker | Wayne State University Department of Family Medicine and Public Health Sciences | Student |
| 19 | The Impact of Discontinuing Racial and Ethnic Approaches to Community Health (REACH) Initiatives on Infant Mortality in Genesee County | Kathleen Abenes | Michigan State University College of Human Medicine | Student |
| 11:30 – 12:15 | **Keynote: "My Secrete Life as a Research" by Dr. Mark Vogel** – Main Room | | | |
| 12:15 – 1:00p | Networking Lunch – Main Room | | | |
| 1:00-2:00p | **Oral Presentation Session #2** | | | |

| 1:00 – 2:00p | **Improvement of Care**<br><br>Location: Room 5<br>Moderator/Timekeeper: Courtney Goetz<br>Judges: Bengt Arnetz, MD, Jinping Xu, MD, MS | **Screening and Prevention**<br><br>Location: Room 6<br>Moderator/Timekeeper: Sukhesh Sudan<br>Judges: Kimberly McKee, PhD, MPH, Judy Arnetz, PhD, MPH, PT | **Process Change to Improve Care**<br><br>Location: Room 7<br>Moderator/Timekeeper: Blythe Bieber<br>Judges: Diane Harper, MD, MPH, MS, Paul Misch, MD | **Primary Care Training and Research**<br><br>Location: Room 8<br>Moderator/Timekeeper: Rosemarie Moschelli<br>Judges: Maria Shreve, MD, Tess McCready, DO |
|---|---|---|---|---|
| 1:00p | Medical Mishaps Experiences Reported By Healthcare Providers<br><br>Marina Essak, DO<br>Beaumont Health<br>Resident | CAGE'd: A Rapid Assessment of Problematic Social Media Use Among Youth<br><br>Kristin Pacl, MD<br>University of Michigan<br>Department of Family Medicine<br>Resident | Evaluating the Impact of an Antimicrobial Stewardship Intervention in a Family Medicine Residency Clinic<br><br>Tarajo Hanrahan, MD and Samantha McPharlin, MD<br>Mercy Health St. Mary's Residency Program<br>Resident | Newborn Care: Comfort Level of Residents Educating Parents<br><br>Hope Meyer, MD<br>University of Michigan Department of Family Medicine<br>Resident |
| 1:15p | Screening for Concussions in the Primary Care Setting: Are We Causing a Bigger Headache?<br><br>Lauren Greene, MD<br>Ascension St. John Hospital<br>Department of Family Medicine<br>Resident | Assessment of an Electronic Medical Record Tool for Body Mass Index Counseling<br><br>Lauren Anastos, DO<br>Sparrow/MSU Family Medicine Residency Program<br>Resident | EPIC Alert to Improve Opioid Prescription Safety (EAIOPS)<br><br>Kimberly Ottoni, MD and Sarah Gammouh, MD<br>Beaumont Health Department of Family Medicine<br>Resident | Senior Resident Perceptions of Leadership: A Pilot Study<br><br>Molly Polverento, MSEd, CPH<br>Michigan State University<br>Department of Family Medicine<br>Faculty |
| 1:30p | Bridging the Gap Between Concussions and Mental Health<br><br>Anthony Tam, MD<br>University of Michigan<br>Department of Family Medicine<br>Resident | Adherence to Guidelines for Management of Cytology Negative Human Papilloma Virus Positive Screening Pap Tests<br><br>Badrea Elder, MD<br>Beaumont Health, Department of Family Medicine<br>Resident | Using An Online Patient Portal to Improve Influenza Immunization Rates Among Pediatric Patients<br><br>Christopher Price, MD and Quintisha Walker, MD<br>Central Michigan University College of Medicine<br>Resident | Communication Accommodation in Medical Education<br><br>Julia Terhune<br>Michigan State University College of Human Medicine and College of Communication Arts and Science<br>Student |

| | | | | |
|---|---|---|---|---|
| 1:45p | Family Physicians' Treatment of Depression: Effects of Patient Characteristics and Depression Severity<br><br>Andrea Lui, MD<br>University of Michigan Department of Family Medicine<br>Resident | Impact of Medicare Annual Wellness Visits on Osteoporosis Screening and Treatment Rates in a PCMH Clinic<br><br>Remnant Mwanahiba, MD<br>Midland Family Medicine Residency<br>Resident | Assessing and Improving Follow-Up In a Residency Based Family Medicine Center<br><br>Rehana Siddiqui, MD & Phillip Riley, MD<br>Wayne State University Department of Family Medicine<br>Resident | The Influences of Group Diversity on the Achievements of Community-Based Participatory Research Partnerships: A Mixed Methods Study<br><br>P. Paul Chandanabhumma, PhD, MPH<br>University of Michigan Department of Family Medicine<br>Non-Clinician |

| 2:00 – 3:00p | **Session 2: Poster Presentations**<br>Judges: Bengt Arnetz, Diane Harper, Raza Haque, Kimberly McKee, Elie Mulhem, Molly Polverento, Suzanna Zick |
|---|---|

| Number | Title | Author | Affiliation | Presenter Type |
|---|---|---|---|---|
| 1 | Screening for Abdominal Aortic Aneurysm in a Residency Clinic | Amir Koldorf | Sparrow Hospital Family Medicine Residency Program | Resident |
| 2 | Team Approach Directed to Improve Early Identification and Proper Documentation of Developmental and Mental Health Screening in Children in a Family Medicine Residency Clinic | Ammar Charestan | DMC-Sinai Grace Hospital Family Medicine Residency Program | Resident |
| 3 | Comparing the Rate of Positive PHQ-2 in Self-Administered Paper Versus Provider Administered Verbal Screening Tools | Andrea Smith | Henry Ford Hospital | Resident |
| 4 | Quality Improvement Initiative to Increase Use of a Validated Developmental Disability Screening Tool During Well-Child Visits | Ben Maynard | Wayne State University Department of Family Medicine | Resident |
| 5 | Assessing Rates of Post Treatment Follow Up of Sexually Transmitted Infections (STIs) at a Federally Qualified Health Center (FQHC) | Bhavyata Patel | DMC-Sinai Grace Family Medicine Residency Program | Resident |
| 6 | Detection of Major Depression Through Routine Screening with PHQ2 | David Sabbagh | Sparrow/MSU Family Medicine Residency | Resident |
| 7 | Vitamin B12 Screening in Patients Taking Metformin | Diahann Marshall | Henry Ford Hospital | Resident |
| 8 | Targeting Heart Failure Readmissions Using Patient Specific Risk Factors | Gayani Fonseka | Beaumont Hospital Grosse Pointe Department of Family Medicine | Resident |
| 9 | Education and Documentation Improves Contraceptive Counselling at a Family Residency Program | Olayemi Racheal Jofojo | Sparrow Hospital | Resident |
| 10 | Changes in Cervical Cancer Screening Rates After | Stephanie | MSU/MidMichigan Health Gratiot Family Medicine | Resident |

| | | | | |
|---|---|---|---|---|
| | Incorporating Family Medicine Residents in a Rural Health Clinic | Abul | Residency | |
| 11 | Transition of Care Visits Following Hospitalization of CMU Family Medicine Adult, Non-Pregnant Patients | Triptpal Sanghera | Central Michigan University Department of Family Medicine | Resident |
| 12 | Amidst an Outbreak: Pediatric Hepatitis A Vaccination Outreach | Emily Bush | Michigan State University College of Human Medicine | Student |
| 13 | Improving Resident Wellness Through a Formal Wellness Curriculum: Preliminary Findings | Tess McCready | Wayne State University Ascension Providence Rochester Hospital | Resident |
| 14 | Development of a Longitudinal Underserved Populations Track in a Family Medicine Residency Program | Denise Kohl | Sparrow Family Medicine Residency Program | Resident |
| 15 | Optimizing Physician-Scientist Training: Exploring Pre-Clinical Experiences at Michigan State University College of Human Medicine | Marjorie Liggett | Michigan State University College of Human Medicine | Student |
| 16 | The Use of Osteopathic Manipulative Technique in the Treatment of Chronic Respiratory Disease | Anthony Agrusa | MSU/Sparrow Family Medicine Residency | Resident |
| 17 | Prevalence of Chronic Kidney Disease in Patients that Report Participation in Resistance, and Both Moderate and High Intensity Cardiovascular, Training in Patients of a Suburban Family Medicine Center | Harrison Vogel | Beaumont Health | Resident |
| 18 | Patient Perspectives on Palliative Care in Advanced Congestive Heart Failure | Michelle Loubert | MSU/Sparrow Family Medicine Residency | Resident |
| 19 | The Association Between Attendings' Feedback and Residents' Reporting of Near-Misses | Sukhesh Sudan | Michigan State University Department of Family Medicine | Non-Clinician |
| 20 | A Comparison of Heliobacter Pylori Prevalence at a Kenyan Rural Community to the National Prevalence | Temmy Brotherson & Hakeem Rabuka Kiboi | Michigan State University College of Human Medicine | Student |
| 3:00 – 3:30p | Awards and Closing Comments (Dr. Bengt Arnetz) | | | |

## Judging Guidelines for Oral Presentation

**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 . . . . . = _____**

Suggestions and Comments to presenter

**This guideline 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.**

## Judging Guidelines for Research Poster

**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 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 . . . . . = _____**

Suggestions and Comments to presenter

**This guideline 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.**

## Judging Guidelines for Case Report Review

| | 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)** | | | | | | |

Suggestions and Comments to presenter

# Abstracts

## Oral Presentations
## Morning Session
## Location: Room 5

**# 1 Uses socially: A mixed-methods analysis of young pregnant women's Facebook posts about substance use**

**Presenter: Dr. Daniel Oram, MD**
University of Family Medicine, Department of Family Medicine.

**BACKGROUND:** Substance use during pregnancy is a significant public health concern. It is unknown if young pregnant women discuss substance use on Facebook. **METHODS:** We used natural language processing to search Facebook posts from 16-24 year-old pregnant women who consented to identify posts related to substance use (alcohol, tobacco, marijuana, and other recreational substances). Two investigators coded major substance-related themes, and post frequency was analyzed, in a mixed-methods analysis. **RESULTS:** Women in our sample (N=43) discussed substance use on social media, predominantly alcohol and marijuana. The average frequency of substance-related posts decreased once women discovered they were pregnant. Substance-related themes included craving, social use, non-social use, abstinence, and intoxication. **CONCLUSION:** Young pregnant women discuss substance use on Facebook, predominantly alcohol and marijuana. Facebook may represent an opportunity to identify women with high-risk behaviors or support abstinence from substance use during pregnancy.

**# 2 BABY WANTS TACOS: AN ANALYSIS OF HEALTH-RELATED FACEBOOK POSTS FROM YOUNG PREGNANT WOMEN**

**Presenters: Dr Elizabeth Marshall, MD and Dr. Abigail Moon, MD**
University of Family Medicine, Department of Family Medicine.

**PURPOSE***:* Pregnant young women gain more weight than recommended by the National Academy of Medicine, increasing the likelihood of adverse maternal and fetal outcomes. The purpose of this study is to use online social media to understand beliefs and practices surrounding weight gain, diet and exercise during pregnancy among young women. **METHODS***:* Facebook posts were mined from young women (age 16 to 24) during pregnancy who were consented from two Midwest primary care clinics serving low-income communities. Natural language processing was used to identify posts related to weight gain, exercise and diet by keyword searching. Two investigators iteratively coded the mined posts and identified major themes around health behaviors. Outcome measures included the frequency of posts and major themes regarding health behaviors during pregnancy. **RESULTS***:* Participants (n = 43) had a mean age of 21 (SD = 2.3), and the largest subgroups identified as black (49%; 26% white, 16% Hispanic, 9% other) and having graduated from high school (49%; 24% completed some high school and 24% completed at least some post-secondary education). Among the 2899 pregnancy posts analyzed, 311 were related to weight. Major themes included eating behaviors and cravings (58% of identified posts), body image (24%), the influence of family, partners and friends (14%), and the desire to exercise (4%). **CONCLUSION***:* Facebook posts revealed that young women often frame their thoughts and feelings regarding weight gain in pregnancy in the context of food cravings and body image and that friends and family are important influencers to these behaviors.

**#3 Perinatal Mood and Anxiety Disorders, Serious Mental Illness, and Delivery-Related Health Outcomes, United States, 2006-2015**

**Presenter: Dr. Kimberly McKee, PhD, MPH**
University of Family Medicine, Department of Family Medicine.

**BACKGROUND:** Perinatal mood and anxiety disorders and serious mental illness are associated with adverse obstetric outcomes and impact both mother and child. However, national estimates of perinatal mood and anxiety disorders and serious mental illness over time among delivering women, as well as associated outcomes, such as severe maternal morbidity and mortality, obstetric outcomes, and costs, are lacking. **OBJECTIVES**: To examine the prevalence of perinatal mood and anxiety disorders and serious mental illness, from 2006-2015 and associated risk of adverse obstetric outcomes, including severe maternal morbidity and mortality, and delivery costs. **STUDY DESIGN:** We conducted a serial, cross-sectional analysis using National Inpatient Sample data. We estimated the prevalence of perinatal mood and anxiety disorders and serious mental illness among delivering women using weighted logistic regression with predictive margins. We estimated obstetric outcomes and severe maternal morbidity and mortality, healthcare utilization, and delivery costs using adjusted weighted logistic and generalized linear regression models, respectively. We conducted

subgroup analyses to estimate perinatal mood and anxiety disorders and serious mental illness prevalence by race/ethnicity. **RESULTS**: We identified an estimated 39,025,974 delivery hospitalizations between 2006 and 2015 in the United States. We found significant increases in the prevalence of perinatal mood and anxiety disorders and serious mental illness identified during delivery hospitalizations over time. Perinatal mood and anxiety disorders more than doubled in prevalence from 18.4 (95% CI 16.4-20.0) to 40.4 (95% CI 39.3-41.6) per 1,000 delivery hospitalizations, respectively, between 2006-07 and 2014-15. We also observed an increase in serious mental illness among delivering women over time, increasing from 4.2 (95% CI 3.9-4.6) to 8.1 (95% CI 7.9-8.4) per 1,000 delivery hospitalizations between 2006-07 and 2014-15. Women with Medicaid health insurance had a disproportionately higher prevalence of serious mental illness compared to women with private insurance coverage (*P*<.001). Non-Hispanic white women had the highest prevalence of perinatal mood and anxiety disorders compared to every other racial-ethnic category examined, although non-Hispanic Black women were overrepresented, compared to women of all other races, among deliveries with serious mental illness. Delivering women with perinatal mood and anxiety disorders and serious mental illness experienced higher incidence of severe maternal morbidity and mortality [2.3 (95% CI 2.2-2.4)] and [2.1 (95% CI 1.9-2.2) respectively,] compared to [1.5 (95% CI 1.5-1.5)] per 100 deliveries among those without perinatal mood and anxiety disorders and serious mental illness. The incidence of preterm delivery was higher among deliveries with perinatal mood and anxiety disorders [9.7 (95% CI 9.4-10.0)] and serious mental illness [10.8 (95% CI 10.4-11.1)] compared to deliveries without perinatal mood and anxiety disorders or serious mental illness [6.7 (95% CI 6.7-7.0) per 100 deliveries]. Hospital transfers, length of stay, and delivery-related costs were also higher among deliveries with either perinatal mood and anxiety disorders and serious mental illness, respectively, compared to those without either condition (*P*<.001 for all). **CONCLUSION**: Over the past decade, the prevalence of both perinatal mood and anxiety disorders and serious mental illness among delivering women increased substantially across the United States, and SMI was higher among women who were publicly insured. Affected women had increased risk of adverse obstetric outcomes, including severe maternal morbidity and mortality, and higher delivery-related costs compared to women without perinatal mood and anxiety disorders and serious mental illness. These findings highlight the importance of addressing perinatal mood and anxiety disorders and serious mental illness during pregnancy, which could have important benefits for delivering women, their children, and payers. Interventions designed to mitigate severe maternal morbidity and mortality and contain costs may benefit from focusing on women with perinatal mood and anxiety disorders and serious mental illness.

**#4 POSTPARTUM SMOKING RELAPSE PREVENTION: FACTORS FOR SUCCESS**

**Presenter: Veronica Arbuckle-Bernstein, MD**
Sparrow/MSU Family Medicine Residency Program

**BACKGROUND**: Smoking cessation during pregnancy has many benefits to both the pregnant patient and her unborn child. Preventing relapse of smoking is important in helping maintain the health of the new mother and child. There is limited data analyzing a comprehensive list of support measures and resources physicians have access to that may benefit females in the postpartum period with smoking relapse prevention. This study assessed factors leading to success at postpartum smoking relapse prevention, with the goal of discovering resources obstetricians and primary care physicians may utilize in their practices to help prevent smoking relapse in the postpartum period. **METHODS:** Patients were selected from the Sparrow Family Medicine Residency patient pool, females ages 18-45 who have delivered in the previous 5 years with a status of current or former smoker. Surveys consisting of multiple choice/yes or no, and free response questions were sent to patients meeting these criteria, asking about experiences with and opinions on smoking cessation resources and support measures. **RESULTS:** Data collection and analysis is in progress. We anticipate that reasons patients stop smoking during pregnancy center around the health of the baby. A brief crude analysis of why patients return to smoking postpartum include stress and being around others that smoke. For those that were successful at not returning to smoking, factors leading to this success appear to include support from family/friends, being ready to quit prior to pregnancy, and personal health. **CONCLUSION:** Final results will ultimately help us better understand what factors may be involved in either the success or failure of smoking relapse prevention in the postpartum period. With this information primary care providers can hopefully gain information with which they can help support families in the postpartum period, to help improve the health of mothers and their children.

# Abstracts

## Oral Presentations
## Morning Session
## Location: Room 6

**#1 INVESTIGATION SOCIOECONOMIC FACTORS INFLUENCING INFLUENZA VACCINATION IN A DIVERSE URBAN SETTING**

**Presenter: Dr. Camilla Diaz, MD**
Department of Family Medicine, University of Michigan

**BACKGROUND:** Influenza-related illness is a leading preventable cause of hospitalization and mortality. Influenza immunization is a proven strategy for preventing influenza related morbidity and mortality. Despite its notable power to not only prevent influenza related deaths, but also lower influenza related hospitalizations, the rates of influenza vaccination in Michigan remain dismal -well below the average national influenza vaccination rate. There have been many studies focusing on social, demographic, and cultural factors in low socioeconomic strata that may influence vaccination rates. However, there has been a paucity of research looking across socioeconomic strata with the goal of identifying barriers to influenza vaccination receipt among a larger, more diverse group. This project focuses on identifying a myriad of sociodemographic factors in the diverse urban setting of Ypsilianti, Michigan and how these correlate to influenza vaccination receipt. The goal is to identify barriers that could be targeted to improve influenza vaccination rates. **METHODS:** DataDirect was used to extract influenza vaccination information and demographic data for patients ages 18-64 in the Ypsilanti family medicine clinic from August 31, 2016 through May 31, 2017. A 16 question survey adapted from multiple validated tools was distributed to patients who did not receive the influenza vaccine in the study period. Surveys were anonymous and survey collection is still ongoing. Descriptive analyses will be used to generate frequency distributions of all variables. Bivariate analyses to investigate the association between the independent (i.e. sociodemographic data) and dependent variables (i.e. receipt of influenza vaccination) will be carried out through the calculation of crude odds ratios and 95% confidence limits. Multivariate logistic regression will be used to assess adjusted associations, with influenza vaccination status as outcome and sociodemographic variables and other patient level information included as predictors. **RESULTS:** Work in progress. Ongoing data collection and analysis **CONCLUSION:** Work in progress.

**#2 Racial Disparities in Cervical Cancer Screening**

**Presenter: Dr. Diane Harper, MD, MPH, MS**
Department of Family Medicine, University of Michigan

**BACKGROUND:** Large scale US surveys monitor and guide efforts to maximize the health of the population. Cervical cancer screening is an effective preventive measure with consistent questions among US population surveys. HP2020 aims for a 93% cervical cancer screening rate among all populations. The aims of this study are to compare the cervical cancer screening rates of older women across three national surveys, and to describe screening predictors. **METHODS**: All of the surveys aggregated data at the national level: the behavioral risk factors within states by the Behavioral Risk Factor Surveillance System (BRFSS); the national cancer information by the Health Information National Trends Survey (HINTS); and, the Health Center Patient Survey (HCPS) data from vulnerable individuals in Section 330 programs across the US. The surveys reported responses from women, without hysterectomy, 45-65 years old. Reported predictors of screening were age, race/ethnicity, geo-location, insurance and educational attainment. Screening was defined as cytology within the last 3 years. **RESULTS**: Overall, Pap screening rates were 71% (BRFSS), 66% (HCPS), and 79% (HINTS); statistically significant decreased screening rates were reported with increased age, rural location, and less educational attainment in BRFSS only. Race/ethnicity was associated with screening in only two surveys, but in opposite directions. HCPS reported that, when screening occurred at the Health Center, rates exceeded 92% for black, Hispanic and 'other' women, significantly higher than for white women. By contrast, the BRFSS reported similar screening rates for white, black and Hispanic women but lower for 'other' races. **CONCLUSIONS:** Many older women continue to be at risk for insufficient cervical cancer screening, although black and Hispanic women in HCPS report screening rates at the Healthy People 2020 goal. We are the first to identify a racial disparity in cervical cancer screening among older white women within the HCPS.

**#3 Among Patients of Middle Eastern Origin compared to Non-Middle Eastern Whites in Southeast Michigan**

**Presenter: Dr. David Lick, MD, MBA, MPH**
Beaumont Health Family Medicine Residency

**BACKGROUND:** Heart failure is a common cause of morbidity and mortality with significant differences between ethnic groups. There are few studies of heart failure in patients from the Middle East, especially since they are often grouped with other "white" patients. **METHODS:** We obtained data from Beaumont Health's electronic medical record on all patients admitted for heart failure from 2008 to 2015. Length of stay and readmission data were calculated for each admission. Patients were identified as Middle Eastern origin if they self-identified as such or their surname was identified by an Arab- and Chaldean American algorithm. Multivariate linear and logistic regression models with demographic and covariate data were fitted for length of stay and readmission analysis, respectively. Data was sent to the National Death Index to calculate mortality data. **RESULTS:** 7,784 non-Hispanic white patients and 642 patients of Middle Eastern descent were identified. Compared to whites, Middle Eastern patients were significantly younger, had significantly higher rates of comorbid conditions and lower rates of smoking. Middle Eastern patients had a greater mean length of stay (7.96 vs 7.03 days, p=0.015) and, after controlling for covariates, a difference persisted showing effect modification of age and gender. Middle Eastern patients had similar thirty-day readmission rates (4.25% vs 4.47%, p=0.370) but significantly greater ninety-day rates (9.01% vs 8.35%, p=0.043); after controlling for covariates these differences were not significant. Mortality data is currently being analyzed. **CONCLUSIONS:** Compared to non-Hispanic whites, patient of Middle Eastern descent had longer average lengths of stay for heart failure but similar rates of readmission. Future research should focus on evaluating causes for these differences.

**#4 DOES FOOD COST MORE IN RURAL MICHIGAN COUNTIES? A COMPARISON ACROSS 5 MICHIGAN COUNTIES.**

**Presenter:** Shelby Walker, Carolyn Strzalka, Lauren Buhr
Michigan State University College of Human Medicine;

**BACKGROUND:** Access to nutritional, affordable groceries is unequal across the United States. Children living in rural settings consume fresh foods than children living in urban settings; however, the reason was unclear (McCormack and Meendering, 2016). One contributing factor may be lack of grocery stores within specific geographic locations however, cost may be another barrier. Many small stores do not carry fruits or vegetables or their price was higher than alternatives (Pereira et al, 2014). This study aimed to compare the cost of grocery food items in rural and urban Michigan to determine if a significant cost difference exists. **METHODS:** This was an observational study comparing the cost of 19 grocery items across 5 Michigan counties. Four rural counties and one urban county were selected based on convenience and their varied rurality (RUCA-zip scores from 1 to 10). A grocery store was defined as a store that carries at least 10 of 19 items representing a range of foods constituting a balanced diet. Grocery stores were mapped using mapping software. Researchers traveled to each grocery store and recorded the price of each item. The average and median prices for each food will be calculated for each county and compared which will be correlated to available demographic variables by zip code. **RESULTS:** Data analysis is in progress with preliminary results indicating lower cost for fresh foods in urban stores. **CONCLUSION:** Understanding cost and access to foods is important in interpreting health disparities between rural and urban populations. By comparing costs across different environments, we are able to investigate if food price or availability is a contributing factor to poorer health status across rural populations. This may allow for further research and public health initiatives to improve access to food, nutrition, and the overall health of rural communities.

# *Abstracts*

**Oral Presentations**
**Morning Session**
**Location: Room 7**

**#1 EMERGENCY DEPARTMENT UTILIZATION AMONG FAMILY PRACTICE CENTER PATIENTS**

**Presenter:** Fares Sweis, MD
Midland Family Medicine Residency

**BACKGROUND**: This study investigated Emergency Department (ED) utilization among Family Practice Center (FPC) patients to understand ED use behavior and implemented interventions thought to help decrease inappropriate use and overuse of the ED. **METHODS:** Data collection reviewed ED records by demographics, number and reason for visit, and diagnosis. Patient phone logs were monitored to evaluate the FPC triage process and patient ED visits. Interventions included patient, nurse, and physician education, phone triage process improvement, hiring another care manager, and ED follow-up phone calls. Data was compiled into categories of appropriate or inappropriate ED use based on the Emergency Severity Index (ESI) score, interventions were implemented, and post-intervention data collection was undertaken to determine the efficacy of implemented protocols. The hypotheses evaluated were: primary care access affects ED utilization patterns; increased access to case management services would reduce ED use; clinic wide intervention with the patient panel was thought to be relevant to patterns of ED usage; triage logs from baseline to post intervention would not show differences in frequency of call or frequency of ED directed care. **RESULTS:** Six months of pre-intervention data and 3 months of post-intervention data were collected. The pre-intervention variance data of ESI scores was 0.44 and post-intervention was 0.29. A t-test showed t=0.000000069, meaning an insignificant result. Average ESI scores were similar: pre-intervention mean 0.32 and post-intervention mean 0.30. A ratio analysis of pre and post intervention showed a 46% inappropriate ED use decrease, and 18% appropriate use increase. **CONCLUSION:** Results showed multimodal interventions to decrease ED use were not significant, however inappropriate ED use was decreased.

**#2 TELEMETRY MONITORING: THE BELLS, BEEPING, AND CHIMES CONTINUES**

**Presenter: Natasha Kavita Jairam**
Midland Family Medicine Residency

**BACKGROUND:** The advent and innovation of cardiac telemetry monitoring assists providers with diagnosing complex arrhythmias, detecting myocardial infarctions, and identifying prolonged cardiac intervals. Unfortunately, many of these monitors are purposefully set to have high sensitivity leading to low specificity and abundant false positive alerts (Drew et al, 2004). These false positive alerts yield iatrogenic and financial burdens to both patients and the healthcare system. Sadly, many health systems provide no recommendations for initiation and discontinuation of continuous cardiac telemetry monitoring. **METHODS:** Baseline data was collected in regards to the telemetry monitoring practices of Family Medicine resident and attending physicians at the MidMichigan Medical Center-Midland Family Medicine Residency Program. Current cardiac telemetry recommendations from the American Heart Association (AHA) were then tailored specifically to the Family Medicine residency program at MidMichigan Medical Center – Midland and presented through computer slide presentation, emailed to resident and attending physicians, saved on the internal hard drive, and laminated hardcopies were placed in common resident areas. Post-intervention data was then collected to assess the practices after the recommendations were presented. **RESULTS:** In the pre-intervention stage, patients remained on telemetry monitoring an average of 2.80 days, while in the post intervention stage; patients remained on telemetry monitoring an average of 1.66 days. Ratio analysis revealed that in the pre-intervention stage, the ratio of events per person was 3.44 and the ratio of events per days was 0.126; while in the post-intervention stage, the ratio of events per person was 6.66 and the ratio of events per day was 0.6. **CONCLUSION:** Tailoring the current AHA cardiac telemetry monitoring recommendations to meet specific system needs will decrease the number of days that patients remain on continuous cardiac telemetry monitoring and will increase the ratio of patients appropriately placed on continuous cardiac telemetry monitoring.

**#3 Point of Care Ultrasound AAA Screening in the Primary Care Setting**

**Presenter: Liridon Gjocaj**
Michigan State University College of Human Medicine/ Spectrum Health

**INTRODUCTION:** The U.S. Preventive Service Task Force (USPSTF) recommends all males aged 65-75 years with a history of tobacco smoking be screened for abdominal aortic aneurysm (AAA) with ultrasonography. Despite this recommendation, only 50% of patients receive this screening. Point of Care Ultrasound (POCUS) is a relatively new modality that has been used in the emergency department, but is more recently being implemented in primary care offices. Studies have shown that family medicine residents can be trained to quickly and accurately perform a POCUS AAA screen. Furthermore, performance of the screening added just two minutes to the total duration of an office visit. We hypothesize that the cost of purchasing a portable ultrasound machine and training a family physician to perform POCUS AAA screening would be substantially less than the cost of ordering formal radiologic imaging of all qualifying patients in the average family physician's panel. **METHODS:** We will collect data on machine pricing, training costs, and current AAA ultrasound screening charges locally. We will also equate the number of patients on an average family medicine panel size who would be screened annually. Using this data we will calculate the cost savings of performing POCUS AAA screening in a primary care setting relative to the cost of ordering radiologic imaging for patients in which screening is indicated. Results POCUS machines are sold for as little as $2,000 and POCUS training can be completed for as little as $250. Local charges for AAA screening total $386. As of 2019, there are an average of 47 males between the ages of 65 and 74 years who are ever-smokers who would receive AAA screening in a typical family physician panel. **CONCLUSIONS:** Findings of significant cost savings would help guide policy makers and educators in implementation of POCUS in the primary care setting. Increased accessibility of POCUS would likely increase screening rates and decrease emergency department visits, which would further reduce the costs associated with AAA. Further studies would need to be done to understand barriers to implementation of POCUS for primary care physicians and patients. Billing and medicolegal aspects of further implementation would also need to be assessed.

**#4 Evaluating Herbal Supplement Use in a Midwest Family Medicine Residency Office**

**Presenter: Garry Mann MD**
Sparrow/MSU Family Medicine Residency Program

**BACKGROUND**: Use of Complementary and Alternative Medicine (CAM), especially herbal supplementation, is becoming increasingly common in the United States.. National data shows that approximately 40% of the US population takes at least 1 herbal supplement. This study looked at patients in a in a Midwestern primary care practice and sought to understand who uses herbal supplements, why they use the supplements and how satisfied they are with them. **METHODS**: Research subjects were age 18 and above who established use of herbal supplements as documented on their EMR medication list. These subjects were mailed a research questionnaire. A total of 530 surveys were sent. Data analysis was conducted using various statistical equations. **RESULTS:** 125 surveys were received for a response rate of 24%. 52% of the population used only 1 herbal supplement and 48% used more than 1. Females were more likely to use herbal supplements when compared to males, 67% to 33% respectively. Age ranges between 60-69 and 70-79 were most likely to use herbal supplements. High school and college graduates were more likely to use herbal supplements. Females are more likely to be satisfied with herbal supplement use then males. High school, college, and graduate school graduates are more likely to be satisfied with herbal supplements. Biotin, Chamomile, Coenzyme Q10, Cranberry, Garlic, Ginger, Green Tea, Melatonin, Omega 3, and Turmeric were the herbal supplements that had the highest satisfaction levels. **DISCUSSION**: Results from our research project correlated with national data on gender and education level. The most common reason for discontinuation of herbal supplement was due to the supplement being not effective. No major side effects were reported for any of the supplements, indicating that herbal supplements are relatively safe to use. Lastly, most patients used the herbal supplements for literature proposed benefits as opposed to non-literature proposed benefits.

# *Abstracts*

**Oral Presentations**
**Morning Session**
**Location: Room 8**

**#1 THE "THREE GOOD THINGS" METHOD AS A MEANS TO REDUCE PHYSICIAN BURNOUT**

**Presenter:** Lisa S Babin, M.D.
Midland Family Medicine Residency Program

.

**BACKGROUND**: With physician burnout on the rise, strategies aiming to improve physician health and well-being are of peak interest nation-wide. Previous studies targeting burnout observed significant long-term benefits after participating in the Three Good Things method daily for just one week**. METHODS:** The Maslach Burnout Scale for Health Care Professionals was administered pre and post intervention in Family Medicine residents and faculty. Subjects completed Three Good Things each night for one month. It was hypothesized that implementing the Three Good Things method daily for four weeks improved burnout scores on the Maslach Burnout Inventory. **RESULTS:** Although the results of the study indicated that there was no significant change in the Maslach Burnout Inventory scores before and after participating in the Three Good Things activity for four weeks, the overall trend in scores did note improvement in burnout and depression, especially in those who began the study with predominantly positive thoughts about work**. CONCLUSION:** This study was limited by a small sample size**.** It is also thought that burnout is a multifaceted experience that a multimodal intervention would likely be more successful. As more studies like this are conducted in the future, it is important to remember that the Three Good Things model is just one tool in a vast arsenal of instruments that can be used to target burnout.

**#2 WHAT PREDICTS JOY IN A FAMILY MEDICINE CLINIC UNDERGOING AN INTERVENTION?**

**Presenter:** Courtney Goetz
Michigan State University, Department of Family Medicine

**BACKGROUND:** In an environment of increased productivity demands and clinician burnout, healthcare team well-being has become a priority. One important aspect of healthcare team well-being is workplace joy. However, the conceptualization of joy is still in its infancy, but related to factors such as work-life satisfaction, employee energy, and professional fulfillment. Joy is understudied, especially during the implementation of evidence-based interventions. This study seeks to understand the predictors of joy in a family medicine clinic during the implementation of a team-based care intervention. The intervention (i.e., the innovation being implemented) was aimed at improving patient capacity and included team documentation as well as radically changing the pre-visit chart review process and the actual visit process. **METHODS:** MSU IRB determined the project was not research. Members of the healthcare team completed 6-question surveys each day during the 2-week intervention period. Survey questions asked about the healthcare team members' perception of the workplace environment (i.e., "How is your energy right now?", "I feel joyful at work.") on a 0 to 10 VAS scale. Multiple regression using responses from 106 daily surveys (average 10.6 surveys per day) was performed to predict joy, with energy, ability to concentrate, high-quality care, efficiency, and stress as independent variables. **RESULTS:** In a bivariate analysis, all variables correlated significantly with joy. However, in the comprehensive modeling of joy, only efficiency (Standardized $\beta$=.61, $p<.001$) and energy ($\beta$=.26, $p<.05$) predicted joy ($R^2$=.54, $p<.05$). **CONCLUSIONS:** To increase workplace joy in clinicians and other members of the healthcare team, clinics may benefit from implementing interventions that impact team efficiency and energy, such as team documentation and other team-based care strategies.

**#3 Counselling and Comforting Hospital Patients: Advice from Hospital Chaplains**

Presenter: Ariel Dempsey,
Michigan State College of Human Medicine

While medical care is inherently an individualized endeavour, experienced physicians often recognize patterns in treating certain types of conditions and certain types of patients. This study hypotheses that in pastoral care, patterns of counselling and comforting patients/families suffering with various conditions also exist. As members of the healthcare team, hospital chaplains are trained specialists addressing the existential questions which illness occasions and serving as a source of emotional and spiritual comfort for patients, families and the healthcare team. The objective of this pilot study is to determine through interviews with hospital chaplains what some of these patterns of counselling might be. Hospital chaplains were recruited from Spectrum Health, Mercy Health and Helen Devos Children's Hospital and were interviewed in open-ended discussion. Chaplains shared their experiences and observations from counselling and comforting those who struggle with addiction, depression, anxiety, chronic pain, aging, obesity, Alzheimer's, cancer, end of life and other challenges. Furthermore, they were asked what strategies and perspectives were felt to be most effective and helpful. Taking seriously the expertise and experience of hospital chaplains, this study reflects on how physicians (and those who aren't physicians), may draw upon themes from these insights in order to better care for those who suffer.

**#4 DOES PRIOR EXPOSURE TO DEATH AND DYING IMPACT DISCUSSING END-OF-LIFE WISHES?**

**Presenter: Melissa Patterson, MD/MBA**
Ascension St John Hospital; Department of Family Medicine

**BACKGROUND:** Most people hope for a "good death" where the quality and dignity of life are preserved. However, most people experience a chronic decline that is frequently confounded by physical, cognitive, and emotional impairments. Medicine usually focuses on treatment and cure of disease, where finding a cure indicates success but death is seen as potential failure. Patients are curious about death but few will say so to their physicians. We are a "death-denying" society where the average layperson lacks regular exposure to death. Literature shows that physicians, who frequently encounter death, often forgo the intensive end-of-life treatments that they provide to patients. Family medicine physicians must recognize the difficulty that patients have when discussing end-of-life wishes, especially without prior exposure to death. **METHODS:** We conducted a cross sectional study using voluntary surveys of adult patients at family medicine clinics. The studies gathered information of patients' previous exposure to death and end-of-life wishes, and compared this background with their chart-documented Advanced Directive. Inclusion criteria were adults age 18 years or older. **RESULTS:** Data analyses are in progress. We predict that chart review will show few patients without previous exposure to death will have thought, discussed, or documented their end-of-life wishes with their physician. We also predict that few patients will have their end-of-life wishes documented in the medical record. **CONCLUSION:** There are no standardized guidelines for discussing end-of-life wishes with patients. Having guidelines could help clinicians and patients better navigate the process of death and dying and understand the available options ensure their wishes are followed.

# *Abstracts*

**Oral Presentations**
**Afternoon Session**
**Location: Room 5**

**#1 MEDICAL MISHAPS**

**Presenter: Marina Essak, DO**
Beaumont Health

**BACKGROUND:** Medical mishaps have been an ongoing issue for medical systems. Healthcare providers are at risk of medical mishap at any point of their career. Our goal is to evaluate the frequency and types of medical mishaps that is reported by healthcare providers in a large health system in southeast Michigan. **METHODS:** We sent an electronic survey via email to physicians, residents, fellows, advanced practice providers (APP) and nurses. Survey asked about demographics, specialty, years in practice, involvement in medical mishaps in the last 5 years, number of mishaps, nature of the mishaps and other questions regarding experience with the mishap. **RESULTS:** A total of 296 providers filled the online survey. Number of attending physicians filling the survey was 124 (41.9%), residents 28 (9.5%), fellows 5 (1.7%), nurses 127 (42.9%) and APP 12 (4.1%). The majority of attending and residents/fellow physicians (83%) and nurses (47.2%) reported being involved in a medical mishap in the past 5 years. For attending physicians most frequently reported mishap was "misdiagnosed a patient" (19.4%), followed by unintentionally injured a patient with an intervention (16.1%) and missed/ misinterpreted results (12.1%). Residents/Fellows most frequently either misdiagnosed a condition (18.2%) or were part of a team that was responsible for a mishap (18.2%). Nurses most frequently reported prescribing/administering the wrong medication/immunization (13.4%) or were part of a team that was responsible for a mishap (8.7%). (Insert table) **CONCLUSION:** attending physicians and residents/fellows reported being involved in a medical mishap in the last 5 years, compared to about half of nurses reported a medical mishap. Most common type of mishaps reported by physicians was misdiagnosing a patient, while the most common reported mishap reported by nurses was administering the wrong medication/immunization.

**#2 SCREENING FOR CONCUSSIONS IN THE PRIMARY CARE SETTING: ARE WE CAUSING A BIGGER HEADACHE?**

**Presenter: Lauren Greene, MD**
Ascension St John Hospital, Department of Family Medicine

**BACKGROUND:** The US Centers for Disease Control and Prevention estimate that approximately 135,000 children five to 18 years of age are seen in the emergency department for sports-related concussions annually (Kimbler & Murphy, 2011). The term "mild traumatic brain injury" (mTBI) is often used interchangeably with the term "concussion" yet the clinical criteria to define mTBI is poorly differentiated and understood. Mild concussions do not always exhibit overt signs and symptoms such as loss of consciousness, severe headaches, or amnesia. The symptoms are mild and difficult to identify by patients, parents and clinicians leading to delay in medical attention and diagnosis altogether. Delay in diagnosis results in return to play too soon, increasing the risk of further concussions and developing chronic traumatic encephalopathy (CTE). The goal of this research study was to highlight the lack of standardized screening and symptom questioning of mTBI at well child visits and sports physicals highlighting the importance of a set standardized guideline for discussing mTBI in the primary care setting. **METHODS:** Retrospective cohort chart analysis using electronic medical records of patients who were seen for well child and sports physicals between the ages of five to 18 years old at both family medicine resident clinics. The chart review of approximately 500 unique subjects over the period 5/1/2018 to 11/30/2018 was done to see if the term concussion is used in the chart notes, if the symptoms of mTBI are discussed or concussion is billed as a diagnosis. **RESULTS:** It is predicted that through chart review that we will find lack and poor screening for concussions and mTBI symptoms at both well child visits and sports physicals for patients between the ages of five to 18 years old. **CONCLUSION:** Currently, there are no standardized guidelines to identify and discuss mTBI in primary care. Having such guidelines in place will allow clinicians, athletes and parents to better understand the disease process and early warning signs. This chart analysis highlights the lack of discussion currently taking place in the primary care setting and allows us to quantify the need for improvement and implement changes.

**#3 BRIDGING THE GAP BETWEEN MENTAL HEALTH AND CONCUSSION**

**Presenter: Dr. Anthony Tam, MD**
DEPARTMENT OF FAMILY MEDICINE, UNIVERSITY OF MICHIGAN

**BACKGROUND**: Mental Health has quickly become an important topic for discussion in the athletic community. In 2013, the NCAA met in Indianapolis for its first mental health task force summit to discuss the importance and address depression in athletes. In addition, concussions have continued to be another forefront topic of research and discussion both in the college and professional level of athletics. There is an already strong association or established connection between mental health and concussions. What has not been studied well thus far are athletes who have preexisting signs of depression and their ability to quickly return back to normal participation of their sport. This study aims to compare the return to play times between concussed athletes who do and do not have a mental health history. **METHODS:** A retrospective cohort study was completed on Eastern Michigan University athletes between 2016 and 2018 who have suffered from a concussion requiring time off from their sport. Medical records provided demographics and clinical data. Subjective outcomes were compared between athletes with mental health history and those without. **RESULTS:** There were 118 reported concussions documented among Eastern Michigan University athletes from January 2016 – February 2019. Of those cases, 37 had either a mental health history or positive PHQ-2 screening on their yearly pre-participation physical. The average return to play time (RTP) for individuals with negative mental health history and screening was 13 days. The average RTP for positive history/screeners was 26 days. **CONCLUSION:** Mental health in athletes continues to be an important topic to address, especially in the setting of concussions. Further studies are warranted to look into the other possible causes for extended RTP times for those individuals with a history of mental health or screened positive for risks of developing a mental health disorder.

**#4 FAMILY PHYSICIANS' TREATMENT OF DEPRESSION: EFFECTS OF PATIENT DEMOGRAPHIC AND DEPRESSION SEVERITY**

**Presenter: Dr. Andrea Lui, MD**
Department of Family Medicine, University of Michigan

**BACKGROUND:** Depression is the largest cause of non-fatal health loss in the world. It is simple to diagnose, and guidelines for care are available based on severity of illness. PCPs provide the majority of care; however, diagnosis and treatment rates are suboptimal, and certain demographics are disproportionately affected. **METHODS:** This retrospective chart review examines family physicians' treatment of adult depression. We will examine both provider recommendations and completed treatments, looking for differences based on patient demographics and depression severity. We will examine whether treatment is guideline concordant, and if not, why. **RESULTS:** Currently work in progress **CONCLUSION:** Depression remains underdiagnosed and undertreated, and it is important for PCPs to know why and to what extent in order to devise methods to improve care.

# *Abstracts*

**Oral Presentations**
**Afternoon Session**
**Location: Room 6**

**#1 'CAGE'd: A RAPID ASSESSMENT OF PROBLEMATIC SOCIAL MEDIA USE AMONG YOUTH**

**Presenter: Dr. Kristin Pacl**
Department of Family Medicine, University of Michigan

**BACKGROUND:** The use of Social media among youth has gotten a lot of attention in the last decade due to its positive, but mostly negative implications on health. Nearly all adolescents and young adults use social media daily. Currently the healthcare field focuses mostly on screen time as a way to measure the impact of social media – largely ignoring the other ways that social media may be impacting young people's lives. More thorough assessments of problematic social media use are time-consuming and unrealistic for widespread clinical use. There is a need for tools that allow clinicians to quickly and effectively evaluate problematic social media use. We set out to test the feasibility and acceptability of a CAGE-style questionnaire to assess problematic social media use among a national sample of youth. **METHODS:** Mixed-methods study. Eligible participants (ages 14-24 with access to a phone with SMS capabilities) were recruited at community events and online via Facebook and Instagram. Participants answered four CAGE-style questions regarding social media, including open-ended probes to elicit further explanations and context. Closed-ended responses were analyzed using descriptive statistics. Open-ended responses were coded using thematic analysis by two investigators. **RESULTS:** Among 572 respondents, the mean age was 18.5 (SD=3.17), with 59% female, 77% Non-Hispanic white, 10% Non-Hispanic black, 13% Asian, 45% with only high school education, and 50% with at least some college. The vast majority of respondents scored some points on the modified CAGE questionnaire with 10% scoring 0 points (1 point (25%); 2 points (34%), 3 points (21%), 4 points (10%)). Major themes in responses included checking social media mindlessly and social media as a significant part of participants' lives. **CONCLUSION:** A modified CAGE questionnaire is a feasible tool to open up dialogue with youth about potentially problematic social media use when texted to their cell phones.

**#2 INCENTIVIZED BODY MASS INDEX COUNSELING AND PATIENT INTEREST IN WEIGHT LOSS**

**Presenter:** Lauren Anastos, DO
Sparrow/MSU Family Medicine Residency Program

**BACKGROUND:** In the United States, obesity rates are climbing, yet physician-led weight loss counseling has declined. However, primary care physicians who do evoke weight reduction discussions can encourage patient weight loss (Pool 2014). Therefore, due to the public health and economic consequences the obesity epidemic has created, health care systems are finding ways to incentivize physicians to engage patients in weight loss discussions. Sparrow Health System has classified weight counseling as a "Quality Measure", which ultimately incentivizes family physicians to discuss their patients' body mass index (BMI) and counsel weight loss strategies. This study aims to determine patient interest in weight loss and goal setting behavior after documentation of such incentivized BMI counseling. **METHODS:** An Epic search identified patients from the Sparrow Residency Family Practice patient panel who had a documented BMI counseling encounter. A telephone survey was then completed, which addressed the following: Did the patient discuss their BMI or weight with their physician? The importance of weight loss to the patient. Was a weight loss goal created? Survey questions were selected based on motivational interviewing technique, as physicians who engage in motivational interviewing have been shown to evoke patient weight loss (Pollack 2010**). RESULTS:** Data collection and analysis are in progress. It is hypothesized that incentivizing BMI counseling will not increase patient interest in weight loss. **CONCLUSION:** Though incentivized BMI counseling does promote physician awareness for weight management counseling, it does not allow for appropriate time and efforts to be made to address this issue. New strategies need to be obtained to encourage patient weight loss efforts.

**#3 ADHERENCE TO ASCCP GUIDELINES FOR MANAGEMENT OF CYTOLOGY NEGATIVE HUMAN PAPILLOMA VIRUS POSITIVE SCREENING PAP TESTS**

**Presenter: Badrea Elder MD**
Beaumont Health, Department of Family Medicine

**BACKGROUND:** Cervical cancer screening reduced the amount of cancer-related deaths in American women by more than 80% from 1930-2012. The 2012 ASCCP guidelines were the first to include HPV as determinants for treatment. This project evaluates adherence to guidelines when managing cytology negative HPV positive screening Pap test in women 30-65 years old. **METHODS:** A retrospective review of Pap tests was performed from 2015-2016 on women 30-65. Pap tests were excluded if previous abnormal Pap test or colposcopy were found 2 years before index pap (Diagnostic Pap). Follow-up for Screening Pap tests were analyzed for HPV 16/18 and HPV Other Groups. Adherence for HPV-other defined as a follow-up Pap before colposcopy within 12-24 months of index Pap. Adherence for HPV 16/18 defined as a colposcopy before Pap within 12 months of index Pap. **RESULTS:** We reviewed 1576 total cases; 357 positive HPV 16/18 and 1219 positive HPV-other. In HPV 16/18 group, 76% had follow up. Of those 54% were adherent, and 29% had Pap test for follow up and considered non-adherent. For HPV-other group, 60% had follow up, of those 67% adhered to guidelines and 33% were non-adherent because they had a repeat pap or colposcopy at <12 months follow up, or colposcopy at 12-24 months follow-up. **CONCLUSION:** Adherence to guidelines for management of cytology negative HPV positive Pap test was lower than expected. Adherence in the HPV 16/18 group was 54% with 29% of women followed by a repeat Pap only, and 10% followed with pap after 12 months before colposcopy causing a delay in diagnosis. Adherence in the HPV-other group was 67% with women having a Pap test for follow up between 12-24 months. With 12% of women having an early repeat Pap in less than 12 months, and 21% evaluated with colposcopy first before a repeat Pap.

**#4 IMPACT OF MEDICARE ANNUAL WELLNESS VISITS ON OSTEOPOROSIS SCREENING AND TREATMENT RATES IN A PCMH CLINIC**

**Presenter: Remnant Mwanahiba, MD**
Midland Family Medicine Residency

**BACKGROUND**: Osteoporosis has a significant impact on the morbidity and mortality of today's aging population and primary care physicians play an essential role in its prevention, screening, and treatment. As today's healthcare model shifts its determinants of health towards a focus on quality of care, increasing the rates of preventative screening compliance is essential to the fitness of healthcare systems and patients, alike. **METHODS:** We conducted a retrospective chart review of all female Medicare patients between the ages of 65-74 years at the Family Practice Center (FPC) to assess the rates of physician adherence with current USPTF osteoporosis screening guidelines in comparison to national averages. Our study included an expanded focus examining factors that may predict increased screening rates. Specifically, we assessed the impact Medicare Wellness Visits (MWV), and/or the inclusion of accurate diagnoses reporting on patient's problem list in our EMR, had on initial screening rates and the frequency of follow-up surveillance measurements. **RESULTS:** Seventy-two percent of 492 studied patients had completed bone density screening, which is above currently reported national averages. This rate significantly increased to eighty-nine percent in patients who had completed MAW visits, and decreased to fifty-three percent amongst those whom had not, with a reported p-value of <0.005. The frequency of follow-up screening was thirty-two months overall. This frequency was reduced to twenty-four months in those patients with a MAW visit and extended to forty-eight months amongst patients without. **CONCLUSION*:*** Female patients who complete a MAW visit have significantly higher rates of initial bone density screening, and an increased frequency of appropriate follow-up surveillance measurements, when compared to patients without a MAW exam. This demonstrates the clear benefit dedicated wellness visits have on patient health outcomes and lends evidence in support of developing further a healthcare model driven by the quality of care metrics.

# *Abstracts*

## Oral Presentations
## Afternoon Session
## Location: Room 7

**#1 EVALUATING THE IMPACT OF AN ANTIMICROBIAL STEWARDSHIP INTERVENTION IN A FAMILY MEDICINE RESIDENCY CLINIC**

**Presenters: Tarajo Hanrahan and Samantha McPharlin**
Mercy Health St Mary's Residency Program

**BACKGROND:** Increasing antibiotic resistance is a threat to public health. Previous studies demonstrate improved antibiotic prescribing with antimicrobial stewardship (ASP) interventions, such as prescription audit-with-feedback and education. The purpose of this study was to determine if an ASP intervention using education plus audit-with-feedback improves prescribing in a Family Medicine Residency Clinic (FMRC) for common infections, including upper respiratory tract (URI), urinary tract (UTI), and skin and soft tissue (SSTI) infections. **METHODS:** This quasi-experimental study compared prescribing habits before and after implementation of ASP education and an audit-and-feedback process. The ASP physician and pharmacist provided live education including baseline prescribing data, local resistance trends, and institutional guideline recommendations in September 2018. FMRC staff were provided pocket cards as a quick reference to guideline recommendations. Audit-with-feedback was delivered electronically, bi-weekly for all URI, UTI, and SSTI prescriptions by the FMRC ambulatory care clinical pharmacist (ACP) beginning in October 2018. The primary endpoint of the study was total guideline-concordant antibiotic prescribing (drug, dose, and duration of therapy). Guideline-concordance was determined from the institution's local ASP guidelines. A pre-intervention survey was also administered to examine provider baseline ASP knowledge. **RESULTS**: Total guideline-concordant antibiotic prescribing at baseline was 39.7% (URI 48.3%, SSTI 26.7%, UTI 47.4%). During the 5-month intervention period, 343 antibiotics were prescribed (URI 138, SSTI 104, UTI 101) with all prescriptions receiving either positive or negative feedback by the ACP. Total guideline-concordant prescribing improved across all three infection types to 56.6% compared to baseline (p=0.07) (URI 60.1%, SSTI 48.1%, UTI 60.4%). Significant improvements were seen in guideline-concordant antibiotic selection (69.2% vs. 80.2%, p=0.035) and dose (74.4% vs. 85.4%, p=0.018). Non-significant improvement was demonstrated in guideline-concordant antibiotic duration of therapy (76.9% vs. 84.8%, p=0.09). **CONCLUSIONS:** Implementing an audit-and-feedback process within an FMRC improved antibiotic prescribing for the most common infectious disease states.

**#2 EPIC ALERT TO IMPROVE OPIOID PRESCRIPTION SAFETY- A QUALITY IMPROVEMENT PROJECT**

**Presenters: Kimberly Ottoni and Sarah Gammouh**
Department of Family Medicine, Beaumont Health

**BACKGROUND:** The CDC released guidelines for chronic pain management to address the opioid epidemic. Primary care providers are challenged to adapt these guidelines. This study will assess the value of adding an alert in the electronic medical record (EMR) when physicians prescribe controlled substances. By improving documentation, we aim to improve compliance with urine drug screens (UDS) and controlled substance agreements (CSA). **METHODS:** We created a Best Practice Advisory (BPA) in Epic EMR to assist physicians in updating the active problem list (APL) when prescribing controlled substances. The BPA has three options: adding the diagnosis to the APL, Short term use, or
Palliative/Hospice use. Adding the diagnosis "controlled substance agreement signed" to the APL would prompt providers to address the CSA and UDS in Epic at every office visit when applicable. BPA data was collected for 3 months after implementation. We subsequently surveyed physicians regarding their experience with the BPA. **RESULTS:** The BPA was triggered 697 times during the study period. Medication classes that triggered the BPA were- opioids (35.8%), benzodiazepines (47.9%), and stimulants (16.3%). The physicians selected to update the APL in 47.6% of BPAs, selected "short-term use" in 40.9%, selected "palliative/hospice use" in 1.9%, and they canceled 7.3% of the BPAs. Twenty-four physicians answered the survey, 75% answered that the BPA was easy to understand all or most of the time. Only 19.1% answered that the BPA was extremely or very helpful, and 83% answered that the BPA did interrupt their work flow all or most of the time. **CONCLUSION:** Implementing a BPA alert assisted physicians in updating the APL for patients prescribed long term controlled substances. Most physicians felt the BPA was easy to use. As with other EMR alerts most physicians felt that the BPA interrupted their work flow.

**#3 Using An Online Patient Portal to Improve Influenza Immunization Rates Among Pediatric Patients**

**Presenter: Christopher Price, MD**
Central Michigan University, College of Medicne

**BACKGROUND:** In the 2017-2018 influenza season, the pediatric influenza vaccination rate in the combined Saginaw CMU Family Medicine and Pediatric clinics (CMU Health) was 29.2%, much lower than the national average of 57.9%, despite a record number of 173 pediatric influenza associated deaths during that season. The purpose of this quality improvement project was to increase the 2018-2019 pediatric flu vaccination rate at CMU Health by reaching out and targeting education to parents/guardians of children with no documentation of influenza vaccination in the 2017-2018 influenza season. **METHODS:** Parents and/or guardians of 1943 previously undocumented and unvaccinated pediatric patients in the 2017-2018 influenza season were contacted via telephone or online patient portal message and provided education and various options on how to obtain the influenza vaccine for their children. Options included receiving the vaccine via scheduled doctor visits, nurse visits, or the October 20, 2018 "Flu Shot Clinic." Patients were divided into 4 groups based on method of parental contact (unable to reach, spoke with via telephone, left telephone message, and sent online patient portal message). Of the pediatric patients brought to the CMU Health clinics, a survey was given to the parents and/or guardians to assess their motivation for having their child vaccinated. All statistical analyses were based on chi-square tests. **RESULTS:** At the end of January 2019, the pediatric influenza vaccination rates for the subgroups were as follows: 75/396 (19%) control group, 68/383 (18%) spoke with group, 139/723 (19%) left message group, 128/441 (29%) online portal group. Contacting parents via online portal was associated with a higher flu vaccination rate than the other 3 methods ($p < 0.001$). Overall, the pediatric influenza rate at CMU Health was increased at 37.1% for the 2018-2019 compared to the 2017-2018 season. **CONCLUSIONS:** Based on the survey, the availability of the influenza vaccine at the doctor's visit was more important than having researched the vaccine themselves, having seen it in the media, and receiving a phone call. Sending a standardized message encouraging influenza vaccination through the online patient portal appears to be a cost-effective alternative to the labor-intensive task of individualized phone calls. **SIGNIFICANCE:** Sending an online patient portal message and having the vaccine available and actively offered at the time of the doctor visit significantly increases the probability of pediatric patients obtaining the influenza vaccine.

**#4 ASSESSING FOLLOW UP IN A RESIDENCY BA SED FAMILY MEDICINE CENTER**

**Presenter: Rehana Siddiqui**
WSUSOM, Family Medicine

**BACKGROUND** : Physician ability to assist and monitor follow up of chronic conditions could lead to overall decreased hospital visits, length of stay, and ultimately financial burden on the public. Within our resident clinic, we found higher rates of follow up if patients scheduled follow-ups at the end of appointments versus calling to schedule at a later date. A new electronic medical record was implemented in July that includes a feature for physicians to electronically prompt scheduling of follow-up visits at patient check-out. This evaluation explores resident use of the new feature and relation to scheduling of follow-up visits for chronic care patients. **METHODS** : Over a 1-week period, residents completed a brief questionnaire after each patient indicating whether the patient was being seen for a chronic health condition and if a follow-up appointment was recommended. Front-desk staff tracked if residents used the schedule follow-up visit feature, whether patients scheduled a follow-up visit and barriers if a follow-up was recommended but not scheduled. Residents were unaware that their utilization of the function was being tracked. **RESULTS**: Follow-up care was recommended for 92% of chronic care patients seen (n=75). The "schedule follow-up visit" feature was utilized in 69% of cases and yielded higher rates of visits being scheduled (67%) than when the feature was not used (17%). Patient refusal and inability to schedule visits 2 months out were the most common barriers to scheduling follow-up visits. **CONCLUSIONS** : The schedule follow-up visit feature appears to be a promising strategy for promoting higher rates of follow up to allow for better continuity of care. Future work is needed to explore interventions to increase resident compliance with using this feature.

# *Abstracts*

**Oral Presentations**
**Afternoon Session**
**Location: Room 8**

**#1 NEWBORN CARE: COMFORT LEVEL OF RESIEDNTS EDUCATING PARENTS**

**Presenter: Dr. Hope Meyer, MD**
Department of Family Medicine, University of Michigan

**BACKGROUND:** Newborn care is an essential part of resident education for pediatric, family medicine, medicine-pediatric, and emergency medicine residents. Parental education is a key skill required in newborn care. Much of the knowledge about newborn care is obtained on the newborn service **METHODS:** Pre and post pediatric newborn rotation surveys assessing residents' knowledge and comfort level providing parental education were distributed via institutional email. Statistical analyses were performed to assess improvements in subjective knowledge and comfort level providing newborn care before and after the rotation. **RESULTS:** We had a 12% response rate of residents completing both surveys. Pediatric and emergency medicine residents made up the highest percentage of respondents (both 36%), followed by medicine-pediatric (13%) and family medicine residents (10%). None of the residents who filled out both surveys have ever parented newborns. All residents felt their comfort level and knowledge increased after completing the newborn rotation. 53% of residents felt they significantly increased their comfort level and 45% of residents felt they significantly increased their knowledge after the rotation. Interestingly, when asking about how prepared residents feel when answering parents' questions, 80% of them responded somewhat prepared and only 20% of residents responded extremely prepared. **CONCLUSION:** All residents felt their knowledge and comfort level educating parents on newborn care increased after completing their first newborn rotation. However, despite all residents feeling they had significantly or moderately increased their comfort and knowledge level, they only felt slightly prepared for the actual discussions with parents after the rotation. This is important information when determining how much education residents require on newborn care. Further research could include asking the residents the same survey questions after they finish the newborn rotation for the second time to ensure that they are continuing to feel more prepared

**#2 Senior Resident Perceptions of Leadership: A Pilot Study**

**Presenter: Molly Polverento**
Michigan State University College of Human Medicine, Department of Family Medicine

**BACKGROUND:** Physicians today require a broad skill set that expands beyond just patient care. These expectations are clear in the Family Medicine Milestones, which address the role of a physician as a leader of a team and an advocate for their patients. While some residency programs have implemented leadership training and education into their curriculum, little is known about what residents think about leadership, how they see themselves as leaders, and how these perceptions change as they take on leadership roles during their last year of residency training. **METHODS** The MSU Family Medicine Residency Network (FMRN) hosts a Leadership Retreat for rising senior residents each May. In 2018, 52 residents participated, representing eight of the ten FMRN member programs. Retreat participants were asked to complete an online survey about leadership prior to the beginning of the event programming. Participants were then sent a follow-up online survey six months after the Retreat to identify changes in their view on leadership and their own leadership skills. **RESULTS**: A total of 43 pre-surveys were completed (83% response rate) and 11 follow-up surveys (21% response rate) were received. Residents rated themselves as a leader higher on the follow-up survey, although the difference was not significant. Qualitative analysis showed that most residents described leadership as an action or skill instead of an intrinsic quality of an individual in both the pre-survey and follow-up survey. Further, qualitative analysis showed that residents consistently identified a small set of characteristics of leadership. **CONCLUSION:** Providing training and leadership experience to residents is necessary as they will be asked to have these skills once in practice. However, it is important to understand how residents perceive leadership as learners to develop a curriculum that is most likely to be beneficial to their professional development. The results of this pilot study identify some specific preconceptions which can be used by residency training programs to maximize the effectiveness of their interventions.

**#3 Communication Accommodation in Community Based Medical Education**

**Presenter: Julia Terhune**
Michigan State University College of Communication Arts and Science and College of Human Medicine

Communication Accommodation Theory has been studied in a variety of healthcare settings, but never in the context of medical education. This research looks to evaluate how medical preceptors and medical students perceive one another in a community based medical educational setting. The paper evaluates the different perceptions in accommodation between students and preceptors based on specialty and within specific geographies (rural versus urban clinical education settings). Using survey methods, it was hypothesized that family medicine and all primary care preceptors would be viewed as most accommodating by students and other clinicians. It was also hypothesized that preceptors would view students completing their clinical education in a rural community more accommodating than urban students. Analysis of the survey will be conducted to prove the proposed hypotheses.
*Key words:* Community Based Medical Education, Rural, Medical Education, Primary Care

**#4 THE INFLUENCES OF GROUP DIVERSITY ON THE PROCESSES AND ACHIEVEMENTS OF COMMUNITY-BASED PARTICIPATORY RESEARCH PARTNERSHIPS: A MIXED METHODS STUDY**

**Presenter: P. Paul Chandanabhumma, PhD, MPH**
Department of Family Medicine, University of Michigan

**BACKGROUND:** Community-based participatory research (CBPR) has been advocated as a research approach to engage culturally diverse communities to address health disparities. However, few studies have examined the implications of cultural diversity among CBPR partners. This mixed methods study aims to 1) identify the benefits and challenges of group diversity 2) test the associations between demographic diversity and participatory decision making in CBPR partnerships. **METHODS:** The study population consisted of federally funded CBPR projects nationwide. Data sources included case study partnership stakeholder interviews (n=55 partners from 7 partnerships) and partnership surveys (n=448 partners from 163 partnerships). Qualitatively, we conducted thematic analysis to examine the benefits and challenges of group diversity. Quantitatively, we performed logistic regression to test the associations between partnership demographic diversity and participatory decision-making. **RESULTS:** Qualitatively, we identified functional traits (e.g. skillset) and sociocultural traits (e.g. race/ethnicity) of group diversity. Partnerships benefited from membership differences in functional traits (e.g. unique expertise) and sociocultural similarities (e.g. cultural insights) of group diversity. Partnership challenges were rooted in membership differences in sociocultural traits (e.g. personality-related tensions). Quantitatively, none of the examined characteristics of partnership demographic diversity was associated with participatory decision-making. **CONCLUSION:** CBPR partnerships can benefit from practices that promote functional differences and those that bridge cultural and interpersonal differences among members. These efforts can help partnerships honor the worldviews of diverse constituents in the attainment of health equity.

# Michigan Research Day XLII

## 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** |

# Michigan Research Day XLII

## Published Papers

| Research Day | Reference |
|---|---|
| II | Aldhizer, T.G., Solle, M.and Bohrer, R.O. A multidisciplinary audit of diabetes mellitus. JFP, 1979. |
| VI | Alguire P.C., Mathes-Alguire B. Autoimmune polyglandular syndromes. Am Fam Phys, 1984, 29(3):149-52. |
| XII | Anan TJ. Serious medical problems of the homeless. Med Bulletin St. Johns Hosp, Vol. XIII, pgs. 5-10, 1988. |
| XIII | Applegate JA, Walhout MF. Cesarean section rate: A comparison between family physician and obstetricians. Fam Pract Res J, 1992; 12(3):255-262, 1992. |
| XVIII | Barry HC, Ebell MH, Hickner J. Evaluation of suspected UTI in ambulatory women: A cost-utility analysis office-based strategies. JFP 1997; 44(1):49-60. |
| XXVIII | Bartoces MG, Severson RK, Rusin BA, Schwartz KL, Ruterbusch JJ, Neale AV. Quality of life of women and self-esteem of long-term survivors of invasive and noninvasive cervical cancer. Journal of Women's Health, 2009. |
| XII | Borgiel AEW, Williams J, Bass MJ, et al**.** Quality assessment of family physicians; Does training have an effect? Canad Med Assoc J, 1989; 40(9):1035-1043. |
| X | Brennan M, McWhinney IR, Stewart M, Weston W. A graduate programme for academic family physicians. Fam Pract, 1985;2(3):165-172. |
| IX | Breitenbach, RA. Pseudomonas folliculitis from a health club whirlpool. Postgrad Med, 1991;90(3):169-71. |
| XIII | Cahill DF, Hodgkins BJ. The urban health care clinic and its substance abuse population. Med Care, 29(10), 1991. |
| IX | Chandy J, Schwenk TL, Roi LD, Cohen M. Medical care and demographic characteristics of 'difficult' patients. JFP, 1987; 24(6):607-610. |
| VI | Crespin FH, Gordon RC. Infectious mononucleosis in the community hospital. JFP, 1983;16(4):703-8. |
| I | Cretens ML, Mattson MJ. Hypertension screening program follow-up of previously identified children with elevated blood pressure. JFP, 1978. |
| V | Cummings KM, Frisof KB, Long MJ, Hrynkiewich G. The effects of price information on physicians' test ordering behavior. Med Care, 1982; 20(3):293-301. |
| XXIV | Dailey RK, Neale AV, Northrup J, West P, Shwartz KL. Herbal product use and menopause symptom relief in Primary care patients: A MetroNet Study. J Women's Health, 2003;12(7):633-641. |
| XXVII | Dailey R, Schwartz KL, Binienda J, Moorman J, Neale, AV. Challenges in making therapeutic lifestyle changes among hypercholesterolemic African American patients and their physicians. Journal of the National Medical Association, 2006; 98(12):1895-1903. |
| VII | Demers RY, Slawick LE, Demers P. Relative sensitivity of the fecal occult blood test and flexible sigmoidoscopy in detecting polyps. Prev Med, 1985; 14(l):55-62. |
| VII | Demers R, Bang K, Demers P. Colorectal polyps in pattern makers. Am J Gastroen, 1984;79(10):805. |
| XI | Demers RY, Neale AV, Adams RP, et al. The impact of physicians' brief smoking cessation counseling: A MIRNET study. JFP, 1990; 31(6):325-329. |
| XII | Demers RY, Neale AV, Wensloff NJ, et al. Glycosylated hemoglobin levels and self-reported stress in adults with diabetes. Behav Med, 1989; 15(4):167-172. |
| XII | Demers R, Neale A, Budev H, et al. Pathologist agreement and the interpretation of colorectal polyps. Am J Gastroen, 1990; 85(4):417421. |
| IV | Diamond PC. Patient appointment-keeping behavior as a factor in the design of an effective office appointment schedule system. Fam Pract Res J, 1981. |
| XI | Duer S, Schwenk TL, Coyne JC. Medical and psychosocial correlates of self-reported depressive symptoms in family practice. JFP, 1988; 27(6):609-614. |
| XII | Dunn EV, Bass MJ, Williams J, et al. The relation between continuing medical education and quality of call in primary care practice. J Med Ed, 1988; 63(10):775-784. |
| I | Eagleson BK, Tobolic T. A survey of students who choose family practice residencies. JFP, 1978. |
| I | Eary LE, Kobemick M, Vanderwagen WC. Pilot experience of a family practice-based combined clerkship. JFP, 1978. |
| XI | Ebell MH, Heaton C. Development and evaluation of a computer genogram. JFP, 1988; 27(5):536-538. |
| XIX | Ebell MH, Warbasse L, Brenner C. Evaluation of the dyspeptic patient: A cost-utility study. JFP, 1997;44(6):545-555. |
| XV | Fark AR. A pilot study of white-coat and labile hypertension: Associations with diagnoses of psychosocial dysfunction. Fam Pract Res J, 1993; 13(1);71-80. |
| VII | Fox S, Tsou C, Klos DS. An intervention to increase mammography screening by residents in Family Practice. JFP, 1985; 20(5):467-471. |
| V | Freer CB. Self-care: A health diary study. Med Care, 1989; 18(8):853-861. |

| | |
|---|---|
| **VII** | Gerace TM, Sangster JF. Pap smear practice patterns for family physicians. Canad Fam Phys 1986;32:559-561. |
| **XXIV** | Gokula RR, Hickner JA, Smith MA. Inappropriate use of urinary catheters in elderly patients at a Midwestern community teaching hospital. American Journal of Infection Control, 2004; 32(4):196-199. |
| **VII** | Gutmann DH. The use of restriction endonucleases in the prenatal diagnosis of hemoglobinopathies. Am J Med Tech, 1982; 48(5):361-366. |
| **VI** | Haddy RI, Petry LJ, Bond JA, Shelton JA, Day CM, Curry RW, Bidgood WD. Renal pelvocalyceal abscess secondary to candida albicans (clinical conference). JFP, 1986; 22(3):227-235. |
| **IV** | Haddy RI, Westveer D, Gordon RC. Bacterial endocarditis in the community hospital. JFP, 1981. |
| **XI** | Hickner J, Westenberg C, Dittenbir M. Effect of pregnancy on smoking behavior: A baseline study. JFP,1984;18(2): 241-44. |
| **XII** | Hickner J, Cousineau T, Messimer S. Smoking cessation during pregnancy: strategies used by Michigan family physicians. JABFP, 1990; 3:39-42. |
| **IV** | Hough JC, Walker RB, Brough JW. Rubella seroconversion following immunization in a rural practice. JFP, 1979. |
| **XII** | Hueston WJ. The use of salt substitutes in the treatment of diuretic-induced hypokalemia. JFP, 1989. |
| **XII** | Johnson CM, Lemer M. Amelioration of infant sleep disturbances: Effects of schedule awakenings by compliant parents. Infant Men Hlth J, 1985; 6(l). |
| **IV** | Johnson V, Ryan PK, Gusman AB. Automated personality assessment of normotensive, labile hypertensive and hypertensive family medical center patients. Fam Pract Res J, 1981. |
| **XII** | Johnson CM. Infant and toddler sleep: A telephone survey of parents in one community. J Dev Behav Ped, 1991;2(2):108-14. |
| **XII** | Kass D, Hickner J. Follow-up of a community cholesterol screening program. Fam Pract Res J, 1991;11(2):139-148. |
| **XII** | Kass D, Hickner J. Physician follow up of a community cholesterol screening program. Fam Pract Res J, 1991;11(2):139-48. |
| **XI** | Keller KG, Ogle KS. Screening for hypercholesterolemic in a family practice residency. Fam Pract Res J, 1989; 8(2):85-91. |
| **III** | Lazo SM, Bingley L. Work up for thyroid disease: A flowchart. Postgrad Med, 1982; 71(2):239. |
| **XXVIII** | Markova T, Dean F, Neale, AV. Health care attitudes and behaviors of immigrant and U.S.-born women in Hamtramck, Michigan: A MetroNet study". Ethnicity and Disease, 2007; 17(autumn):650-656. |
| **IV** | Mayer TR, Balfour H. Prevalence of poliovirus neutralizing antibodies in young adult women. JAMA, 1981. |
| **III** | Mayor GH, Sprague SM, Sanchez TV. Determinants of tissue aluminum concentration. Am J Kidney Dis, 1981;1(3):141-5. |
| **VIII** | McConnon TM, Bowman, WP. Use of ultrasonography vs. clinical factors to estimate date of confinement. JFP, 1985;21(l):45-48. |
| **XI** | Messimer S, Hickner J. Oral fluoride supplementation: Improving practitioner compliance by using a protocol. JFP, 1983; 17(5):821-5. |
| **III** | Meyer BA. Audit of obstetrical care: comparison between family practitioners and obstetricians. Fam Pract Res J, 1981. |
| **III** | Neale AV, Singleton SP, Dupuis MH, Hess JW. Correlates of adherence to behavioral contracts for cholesterol reduction. J Nutr Educ, 1989; 21(5):221-225. |
| **IX** | Neale AV, Demers RJ, Buder H, Scott RO. Physician accuracy in diagnosing colorectal polyps. Dis Colon Rec, 1987; 30(4):247-250. |
| **XIII** | Neale AV. Behavioral contracting as a tool to help patients achieve better health. Fam Pract, 1991; 8(4):336-342. |
| **XVI** | Neale AV, Gallagher RE, Velez, L. Estimating cancer screening indicators in the primary care setting. Evaluation & the Health Profession, 1995;18(2):187-201. |
| **XIX** | Neale AV, Demers RY, Severson RK. Consistency of occupational exposure history from pattern and model makers. Journal of Occupational and Environmental Medicine, 2000;42(1):76-82. |
| **XXI** | Neale AV, West P, French L. Surviving your resident research requirement. JAMA, 1998;280(2):1802. |
| **VIII** | Norton PG, Dunn EV. Snoring as a risk factor: An epidemiological approach. BMJ, (clinical research), 1985; 291(6496): 630-32. |
| **VII** | Norton PG, Dempsey LJ. Self-audit: Its effect on quality of care. JFP, 1985;21(4):289-291. |
| **XI** | Norton PS, Dunn EV. Night noises; the puzzling link between snoring and disease. J NY Acad Sci, 1876; July/Aug: 54-57. |
| **XII** | Ogle K, Myrick F. Screening mammography in **a** primary care setting. Fam Comm Hlth, 1990;13(3):27-34. |
| **VI** | Pascoe JM. The effect of mother's life changes and social support on home stimulation. Am J Pub Hlth, 1984;74(4):358-60. |
| **VII** | Peggs JF, Reinhardt RW, O'Brien JM. Proteinuria in adolescent sports physical examinations. JFP, 1986;22(1):80-1. |
| **XVIII** | Pine D, Sullivan S, Sauser M, David C. Effects of a systematic approach to tobacco cessation in a community-based practice. Arch Fam Med, 1997;6:363-367. |
| **XVII** | Pine D, Madlon-Kay D, Sauser M. Effectiveness of a nurse-based intervention in a community practice on patients' dietary fat intake and total serum cholesterol level. Arch Fam Med, 1997;6:129-134. |
| **XXIII** | Porcerelli J, West P, Cogan R, Rose E, Lambrecht D, Wilson K, Severson R, Karana D. Violent victimization of women and men: Physical and psychiatric symptoms. J Am Board Fam Pract, 2003;16:32-39. |

| | |
|---|---|
| **XXIX** | Porcerelli J, West P, Binienda J. Physical and psychological symptoms in emotionally abused and non-abused women J Am Board Fam Pract, 2006;19:201-204. |
| **XXXIII** | Porcerelli JH, Cogan R, Markova T, Murdoch W, Porcerelli M. Abuse, outpatient charges and utilization, and psychiatric symptoms in urban women on Medicaid. J Am Board of Fam Med, 1997;6:129-134. |
| **II** | Raven C. 'Crib Deaths', sudden unexpected death in infancy, or the sudden infant death syndrome: A hypersensitivity reaction. J Am Med Wom Assoc, 1997;32(4):148-149. |
| **IV** | Rickert VI, Johnson CM. Reducing nocturnal awakening and crying episodes in infants and young children: A comparison between scheduled awakenings and systematic ignoring. Ped, 1988;81(2):203-212. |
| **VIII** | Rudner HL. Stress in family practice residents. J Med Educ, 1985; 60(7):564-566. |
| **I** | Ruoff GE. Colestipol hydrochloride for treatment of hypercholesterolemia in a family practice: 5-year study. J Am Ger Soc, 1978. |
| **III** | Ruoff GE, Andelman SY, Cannella JJ. Long-term safety of zomerirac: A double-blind comparison with aspirin in patients with osteoarthritis. J Clin Pharm, 1980. |
| **V** | Sangster JF, Gerace TM. Screening for carcinoma of the colon: A family practice perspective. Canad Fam Phys, 1982;28:1599-03. |
| **VII** | Sangster JF, Gerace TM. Management of cervical dysplasia. Canad Fam Phys, 1986; 32:565-567 |
| **VI** | Sangster JF, Gerace TM. The impact of an organized approach to prevention. Canad Fam Phys, 1983; 29:2369-2374. |
| **XII** | Sangster JF, Gerace TM, Seewald RC. Hearing loss in elderly patients in a family practice. Can Med Assoc J, 1991; 44(8):981-4. |
| **VI** | Schnore SK, Sangster JF, Gerace TM, Bass MJ. Are antihistamine decongestants of value in the treatment of acute otitis media in children? JFP, 1986; 22(1):39-43. |
| **XXIV** | Schwartz K, Monsur J, Northrup J, West P, Neale AV. Pharyngitis clinical prediction rule: Effect of interobserver agreement: A MetroNet Study. Journal of Clinical Epidemiology, 2004;57(2):142-146. |
| **XXIII** | Schwartz KL, Northrup J, Israel N, Crowell K, Lauder N, Neale AV. Use of evidence-based resources at the point of care. Family Medicine, 2003;35(4):251-256. |
| **XXVII** | Schwartz KL, Monsur JC, Bartoces MG, West PA, Neale AV. Correlation of same-visit HbA1c test with laboratory-based measurements: A MetroNet study. BMC Family Practice, 2005; 6(1):28. |
| **XXIX** | Schwartz KL, Neale AV, Northrup J, Monsur JM, Patel DA, Tobar R, Wortley P. Racial similarities in response to standardized offer of influenza vaccination: A MetroNet study. Journal of General Internal Medicine, 2006; 21(4):346-351. |
| **XXVI** | Schwartz KL, Roe T, Northrup J, Meza J, Seifeldin R, Neale AV. Family medicine patients' use of the internet for health information: A MetroNet study. Journal of the American Board of Family Medicine, 2006; 19(1): 39-45. |
| **XXIX** | Schwartz K, Fakhouri M, Bartoces M, Monsur J, Younis A. Mammography screening among Arab American women in metropolitan Detroit. Journal of Immigrant and Minority Health, 2008; 10:541-9. |
| **IX** | Senger-Dickinson MM, O'Brien JG, Barker J. Knowledge and attitudes of family practice residents toward geriatric patients. J Fam Med, 1985; 17(6):244-245. |
| **IX** | Senger-Dickinson MM, O'Brien JG, Barker J. Perceptions of family practice residents toward care of the elderly. J Fam Med, 1987;19(3):187-190. |
| **XII** | Slawson DC, Baer LJ, Richardson MD. Antibiotic use in the treatment of non-streptococcal pharyngitis. Fam Med, 1991; 23(3):198. |
| **IX** | Smith MA, Stratton WC, Roi L. Labor risk assessment in a rural community hospital. Am J ObGyn, 1985;151(5):569-74. |
| **XVI** | Spindler JR. Assessing dermatologic training in the Grand Rapids Family Practice Residency. MSU Net News, Spring 1995, 5. |
| **II** | Stack JM. Spontaneous abortion and grieving. Am Fam Phys, 1982. |
| **XXIX** | Staško J, Neale AV. Health care access among over-the-road truckers. WORK: A Journal of Prevention, Assessment & Rehabilitation, 2007; 29(3):205-211. |
| **XXVI** | Storms MR, VanHowe RS. Birthweight by gestational age and sex at a rural referral center. Journal of Perinatology, 2004;24:236-240. |
| **IV** | Teal TM. Family practice residents as athletic team physicians. Fam Pract Res J, Winter, 1981. |
| **II** | Tourkow LP. Psychiatric knowledge and skills integral parts of complete care. Mich Med, 1979;78(29):562-63. |
| **XII** | Trembath CR, Hickner JM, Nelson TC. Incidental blood pressure elevations: a MIRNET project. JFP, 1991; 32(4): 378-381. |
| **XII** | Trembath CR, Hickner JM, Bishop SW. Incidental blood pressure elevations: a MIRNET project. JFP, 1991;32(4):378-381**.** |
| **XI** | Urberg MM, Benyi J. Hypocholesterolemic effects of nicotinic acid and chromium supplementation in two hypercholes-terolemic humans. JFP, 1988;27:603-606. |

| | |
|---|---|
| **XII** | Urberg M, Rajdev K. Correlation between cholesterol & glycosylated hemoglobin in non-diatetic humans. JFP, 1989;28:269-74. |
| **XII** | Urberg MM, Rajdev K, Shammas R. Elevated glycolylated hemoglobin in cigarette smokers. JFP, 1989; 28:529-31. |
| **VI** | Viklander T, Parnicky K, Demers R, Frisof K, Demers P, Chase N. New-patient no-shows in an urban family practice center: analysis and intervention. JFP, 1986; 22(3):263-268. |
| **VII** | Wadland WC, Eustis M, Bollin K. Forming a department of family practice in a community hospital. JFP, 1985;20(5): 503-5. |
| **III** | Wadland W, Myers L. A system for data collection and analysis generally applicable to primary care practices. Fam Pract Res J, Fall, 1981. |
| **V** | Weikart, R. When the doctor and the minister disagree. (comm) Hast Ctr Rep, 1984; 14(6):30-31. |
| **XXI** | Weiner EL, Swain G, Gottlieb M. Predictors of psychological well-being among physicians. Families, Systems & Health, 1998;16:419-430. |
| **I** | Woodliff DM. The role of upper gastrointestinal endoscopy in primary care. JFP, 1979. |
| **XXIV** | Xu J, Schwartz K, Monsure J, Northrup J, Neale AV. Patient-clinician agreement on signs and symptoms of 'strep throat': A MetroNet study. Family Practice, 2004; 21(6):699-604. |
| **XXIV** | Xu J, Neale AV, Dailey R, Northrup J, Bartoces M, Schwartz KL. Natural history of menopausal symptoms in primary care patients: A MetroNet study. Journal of the American Board of Family Practice, 2005;18(5). |
| **XXII** | Yaphe J, Sangster J, Guthrie J. Chart audit of mammography in a family practice. Canad Fam Phys, 1992;38:2314-17. |