TABLE OF CONTENTS

	Page
INTRODUCTION	2
WMED UPJOHN CAMPUS FLOOR PLANS	4
SCHEDULE	5
KEYNOTE SPEAKER	7
ORAL PRESENTATION SESSIONS	8
POSTER PRESENTATIONS	16
INDEX	26

The complete program including abstracts is available on the Western Michigan University Homer Stryker M.D. School of Medicine website: http://med.wmich.edu/node/287

CME CREDIT

The CME Activity Code is available at the check-in table or on the TV screens on campus.

In support of improving patient care, Western Michigan University Homer Stryker M.D. School of Medicine is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team. Credit amount subject to change.

IPCE Credit

This activity was planned by and for the healthcare team, and learners will receive 5.0 Interprofessional Continuing Education (IPCE) credits for learning and change.

ACCME

Western Michigan University Homer Stryker M.D. School of Medicine designates this live activity for a maximum of 5.0 AMA PRA Category 1 CreditsTM. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

DISCLOSURES

Please see the handout offered at the registration table for a listing of disclosure statements from today's presenters.

INTRODUCTION

RESEARCH, EDUCATION AND SCHOLARSHIP

The commitment and participation of Western Michigan University Homer Stryker M.D. School of Medicine (WMed), its faculty, and the Kalamazoo scientific community in "Research Day" continues on this day marking a 37th anniversary milestone. One-hundred fifty-five abstracts were received and reviewed by a panel of 26 judges. One-hundred twenty-five have been accepted for either oral or poster presentation.

Such success is due, of course to a large number of talented and dedicated people. We wish to acknowledge the participation of a group of faculty and thank them for volunteering their time and expertise to review the submissions. A panel of over 26 judges participated in the reviews. Each abstract was assigned based upon area of expertise. The judges' evaluations were critical in determining the oral presentations and poster presentations for this year's event.

In addition, it is my privilege to have worked with this year's Research Day organizing committee. This committee worked diligently over an extended period of time to endeavor to bring you an exceptional learning and networking opportunity. Members of this year's committee were:

Conner Holthaus	Courtney Puffer	Dale Vandre
Emma Swayze	Erik Larson	Greg Vanden Heuvel
Jessica Sassic	John Spitsbergen	John Winterholler
Krishna Jain	Laura Bauler	Leah Bader
Liz Lorbeer	Maria Demma Cabral	Maria Sheakley
Mariam Ischander	Maureen Owens	Melinda Abernethy
Nichol Holodick	Shanna Cole	Shivum Patel
Steve Crooks		

We hope this year's Research Day will inspire you to pursue your own research and to, as well, support the basic, medical and healthcare research of our Southwestern Michigan Community colleagues.

Gregory Vanden Heuvel, PhD Chair 2019 Research Day

Fignz B. Umler Henry

We'd like to thank the following WMed professionals who dedicated their time to participate as abstract scoring judges and/or session moderators for today's event.

Melinda Abernethy, MD	Mariam Ischander, MD	
Robert Baker, MD	Krishna Jain, MD	Jessica Sassic, M2
Laura Bauler, PhD	Richard Lammers, MD	Robert Sawyer, MD
Karen Bovid, MD	Erik Larson, PhD	Maria Sheakley, PhD
Maria Demma Cabral, MD	Mark Loehrke, MD	Neelkamal Soares, MD
Shanna Cole, PharmD	Liz Lorbeer, EdM	John Spitsbergen, PhD
Steven Crooks, PhD	Josh Mastenbrook, MD	Emma Swayze, M2
Bonny Dickinson, PhD	Tracey Mersfelder, PharmD	Greg Vanden Heuvel, PhD
Theo Gomes, MD	David Overton, MD	Kristi VanDerKolk, MD
Lisa Graves, MD	Maureen Owens	Dale Vandre, PhD
Nichol Holodick, PhD	Shivum Patel, M2	John Winterholler, M3
Conner Holthaus, M3	Courtney Puffer, MA	

WMED UPJOHN CAMPUS FLOOR PLANS

WMed Upjohn First Floor





WMed Upjohn Second Floor

TBL Hall #1

Oral Presentation Session A & D

TBL Hall #2

Oral Presentation Session B & E

Classroom #111

Oral Presentation Session C & F

HALLWAYS (First and Second Floor)

Poster Displays

LOBBY (Front and Back)

Check-in

Vendor Tables

AUDITORIUM

Keynote Speaker

CATERING KITCHEN

Appetizers (4/16/19) Breakfast (4/17/19)

SCHEDULE

Tuesday, April 16th, 2019 5:00 p.m. – 8:00 p.m. WMed Upjohn Campus 300 Portage Street Kalamazoo, MI 49007

4:30 – 5:00pm	Check-in Refreshments available Poster Presenters – please arrive early to find your poster	1 st Floor Lobby (Front and Back Door)
5:00 – 8:00pm	Poster Presentation Session Clinical Research Posters	1 st Floor Lobby/Hallways
	Medical Education, Basic Science & Community and Population Health Research Posters	2 nd Floor Lobby/Hallways

SCHEDULE

Wednesday, April 17th, 2019 8:00 a.m. – 12:00 p.m. WMed Upjohn Campus 300 Portage Street Kalamazoo, MI 49007

8:00 – 8:30am	Check-in Refreshments available	1 st Floor Lobby (Front and Back Door)
8:30 – 9:30am	Oral Presentation Session 1 Session A Session B Session C	TBL Hall #1 TBL Hall #2 Classroom #111
9:30 – 9:45am	Break	
9:45 – 10:45am	Oral Presentation Session 2 Session D Session E Session F	TBL Hall #1 TBL Hall #2 Classroom #111
10:45 – 11:00am	Break	
11:00 – 12:00pm	Keynote Speaker	Auditorium
12:00pm	Farewell	Auditorium

KEYNOTE SPEAKER

The Dr. Robert P. Carter Research Lecture

This is the eleventh year of this annual lecture supported by the Board of Western Michigan University Homer Stryker M.D. School of Medicine to celebrate the Research Day activities and to recognize Dr. Carter's commitment and support of research.



James DuBois, PhD, ScD

Steven J Bander Professor of Medical Ethics and Professionalism, Professor of Psychology, Professor of Medicine, Director of the Center for Clinical and Research Ethics at Washington University School of Medicine

Presents:

Doing good research: Learning from the mistakes and successes of others

James DuBois is the Steven J. Bander Professor of Medical Ethics and Professionalism, Professor of Psychology and Professor of Medicine as well as the Director of the Center for Clinical and Research Ethics at Washington University School of Medicine in the Division of General Medical Sciences. He is an Adjunct Professor in the Albert Gnaegi Center for Health Care Ethics at Saint Louis University, where he was the inaugural Hubert Mäder Professor of Health Care Ethics and Director of the Bander Center for Medical Business Ethics. DuBois completed his PhD in philosophy at the International Academy of Philosophy in Liechtenstein and his DSc in psychology at the University of Vienna in Austria, where he focused on cross-cultural moral psychology. He directs the NIH-funded Professionalism and Integrity Program (PI Program), which offers personalized assessments, a group workshop, and post-workshop coaching calls to help researchers operate professionally in today's complex environments. He is the founding Editor (with Ana Iltis) of Narrative Inquiry in Bioethics: A Journal of Qualitative Research, published by Johns Hopkins University Press. He is a Board Certified Coach (BCC) specialized in career coaching for researchers.

DuBois directs the Professional and Social Issues Lab within the Department of Medicine, which conducts social science research aimed at understanding barriers and facilitators to research integrity and professionalism.

Oral Presentation Sessions

8:30 a.m. – 9:30 a.m.

SESSION A	TBL HALL #1
Moderator:	Theo Gomes, DO; Medicine-Pediatrics
8:30-8:42 am	Effect of Long-term Exercise on GDNF Expression and Innervation in Rat Skeletal Muscle. Alberto Cintron-Colon, BS; John Spitsbergen, PhD
8:42-8:54 am	Recovery of Olfactory Sensory Neurons After Damage Involves Changes in Proliferation Patterns. Mamoon Ali, BS; Christine Byrd-Jacobs, PhD
8:54-9:06 am	The Potential Mutagenic Influence of Structural Element Variants Within the PKD1 Gene. John Dewey, BS; Aaron Zebolsky, MS; Emma Swayze, MS; Erik Larson, PhD
9:06-9:18 am	Biophysical Analysis of Mutagenic DNA Structures in the Human PKD1 Gene. Aaron Zebolsky, MS; Emma Swayze, MS; John Dewey, BS; Gloria Alvarado, PhD; Erik Larson, PhD
9:18-9:30 am	Loss of β-arrestin2 in D2 Cells Alters Neuronal Excitability and Behavioral Responses to Drugs of Abuse. Kirsten Porter-Stransky, PhD; Alyssa Petko, BS; Saumya Karne; Cameron Liles, BS; Nikhil Urs, PhD; Marc Caron, PhD; Carlos Paladini, PhD; David Weinshenker, PhD
SESSION B	TBL HALL #2
Moderator:	Mark Loehrke, MD; Internal Medicine
8:30-8:42 am	Pediatric Residents' Perceptions of Neonatal Abstinence Syndrome Training: An experimental study of Simulation versus Video. Marisha Agana, MD; Duncan Vos, MS; Daniel Foley, BA; Mark Williams, BA; Hans Baumgartner, BS; Neelkamal Soares, MD
8:42-8:54 am	Orthopaedic Resident Opioid Prescribing Practices. Christine Bowman, MD; Matthew Jaykel, MD; Joseph Weistroffer, MD
8:54-9:06 am	2017-2018 Acetyl Fentanyl Trends in South West Michigan: Is there a Larger Pattern? Tong Li, BS; Jalynn Zou, BS; Erinn Ton, BS; Christine Stevens, BS; Elizabeth Douglas, MD; Prentiss Jones, PhD
9:06-9:18 am	Trends and 30-Day Readmission Rate for Patients Discharged with Congestive Heart Failure: Analysis of 2,352,612 Admissions. Anandbir Bath, MD; Jasreen Kaur, MD; Vishal Gupta, MD
9:18-9:30 am	Barriers to Obtaining a Full Set of Vital Signs in the Emergency Department. Kelly Halt, DO; Samantha Mix, MD; Thomas Olsen, DO; David King, MD; Fahad Khan, DO; Clay Mishler, MD; Paige Neaterour, MD; Jon Parker, DO; Brenton Kinker, MD; Elise Klesick, DO; Brendan Hayes, MD; Eric Hume, DO; Duncan Vos, MS; Daniel Foley, BA; Heather Rauch; Anita Bell; Rashmi Kothari, MD; Richard Lammers, MD

8:30 a.m. – 9:30 a.m.

SESSION C	CLASSROOM #111
Moderator:	Bonny Dickinson, PhD; Biomedical Sciences
8:30-8:42 am	The Words We Use: Identifying the Preferred Lexicon for Predictors of Physician Burnout. Karen Horneffer-Ginter, PhD; Jeffrey Greene, PhD; Roger Apple, PhD; Lisa Graves, MD; Kristine Gibson, MD; Julia Tullio, BS; Adrienne Kaufman, MS
8:42-8:54 am	Longitudinal Effects of Introducing Mindfulness in Medicine for the Clinical Years of Medical School. Christopher Stancic, BS; Rebecca Sigourney, BS; Mark Schauer, MD; Laura Bauler, PhD; Ellen Drosdick, BS; Robert Cai, BS
8:54-9:06 am	The Effect of an Interprofessional Stroke Simulation of Enhancing Medical and Allied Health Students' Knowledge of Professional Roles in Practice. Gisella Newbery, MS; Diane Peirce, MD; Debra Lindstrom, PhD; Richard Lammers, MD; Cheryl Dickson, MD
9:06-9:18 am	Perceptions of Residents' Autonomy in the Operating Room. Graham McLaren, MD; Zaki Rahaman, MD; Saad Shebrain, MD; Gitonga Munene, MD
9:18-9:30 am	Resident Knowledge and Residency Program Practices Regarding Pregnancy Testing and Prenatal Care Referrals within the Kalamazoo, MI Medical Community. Arika Wieneke, BA; Walker Thompson, MS; David Wallington, MS; Cheryl Dickson, MD; Mark Schauer, MD

9:45 a.m. – 10:45 a.m.

SESSION D	TBL HALL #1
Moderator:	Lisa Graves, MD; Faculty Affairs & Family and Community Medicine
9:45-9:57 am	Patient and Provider Factors that Increase Disclosure of Psychosocial Problems. Julia Tullio, BS; Jacob Lautze, BS; Deb Lenz, MA; Grace Lubwama, DPPD, MPH; Catherine Kothari, PhD
9:57-10:09 am	Mothers' Reported Knowledge of, Practices, and Barriers to Engaging in Infant Safe Sleep. Amy Damashek, PhD; Cheryl Dickson, MD; Deb Lenz, MA; Grace Lubwama, DPPD, MPH; Catherine Kothari, PhD
10:09-10:21 am	An Analysis of Early Childhood Developmental Program Accessibility and Parental Desires: A Survey of Kalamazoo Northside Parents. Kelsy Schultz, BA; Jeanne Oord, BA; Rachel Tomassi, BS; Shanika Lucas, BAS; Trina Jones, BA; Grace Lubwama, DPPD, MPH; Catherine Kothari, PhD
10:21-10:33 am	Assessing the Prevalence of Food Insecurity in a Walk-In HIV Testing/Services Center in Southwest Michigan. Kailin Kuo, BA; Kevin Cates, MD; Ola Jandali, BS; Mariyam Sheidu, BS; Melissa Olken, MD, PhD
10:33-10:45 am	Patient-Provider Communication in the Kalamazoo Mom's Health Experiences Survey Study. Rebekah Sharp, MD; Melinda Abernethy, MD, MPH; Alysa Hernandez, BS; Terra Bautista, BA; Grace Lubwama, DPPD, MPH; Catherine Kothari, PhD
SESSION E	TBL HALL #2
SESSION E Moderator:	Roua Azmeh, MD; Pediatric & Adolescent Medicine
Moderator:	Roua Azmeh, MD; Pediatric & Adolescent Medicine Predictors of and Mortality from Resistant Infections in ICU Patients.
Moderator: 9:45-9:57 am	Roua Azmeh, MD; Pediatric & Adolescent Medicine Predictors of and Mortality from Resistant Infections in ICU Patients. Laura Stearns, DO; Robert Sawyer, MD Is a Shorter Duration of Antibiotic Therapy Paradoxically Associated with More Resistant Secondary Infections in Randomized, Controlled
Moderator: 9:45-9:57 am 9:57-10:09 am	Roua Azmeh, MD; Pediatric & Adolescent Medicine Predictors of and Mortality from Resistant Infections in ICU Patients. Laura Stearns, DO; Robert Sawyer, MD Is a Shorter Duration of Antibiotic Therapy Paradoxically Associated with More Resistant Secondary Infections in Randomized, Controlled Trials? Cole Kircher, DO; Robert Sawyer, MD Fecal Microbiota Transplantation for Recurrent Clostridiodes Difficile

9:45 a.m. – 10:45 a.m.

SESSION F	CLASSROOM #111
Moderator:	David Overton, MD; Resident Affairs & Emergency Medicine
9:45-9:57 am	Analysis of B Cell Progenitors in Sickle Cell Disease. Jesse Chou, BA; Nichol Holodick, PhD
9:57-10:09 am	MicroRNA-200c Promotes Bone Regeneration by Targeting Sox2-Mediated WnT Signaling and KLF4. Adil Akkouch, PhD; Steven Eliason, MS; Mason Sweat, MS; Miguel Romero-Bustillos, DDS; Min Zhu, PhD; Fang Qian, PhD; Brad Amendt, PhD; Liu Hong, MD, PhD
10:09-10:21 am	Regeneration of Soft Tissues is Promoted by MMP1 Treatment After Digit Amputation in Mice. Haiying Pan, BS; Yong Li, MD, PhD
10:21-10:33 am	Determinants of FAIM Transcriptional Regulation. Mekala Neelakantan, BS; Phillip Key, BS; Tom Rothstein, MD, PhD; Hiroaki Kaku, PhD
10:33am-10:45am	FAIM Expression from Stress in Mice Spleens. Phillip Key, BS; Mekala Neelakantan, BS; Tom Rothstein, MD, PhD; Hiroaki Kaku, PhD

Poster Presentations

POSTER PRESENTATIONS

BASIC SCIENCE RESEARCH POSTERS

- 1. **Microglial Proliferation Patterns Following Damage to the Olfactory Bulb in Adult Zebrafish.** Susanna Var, BS; Christine Byrd-Jacobs, PhD
- 2. MMP1 Gene Transfer Enhances Myoblast Migration and Engraftment in mdx/SCID Mice. Haiying Pan, BS; Kinga Vojnits, PhD; Thomas Liu, MD; Fanwei Meng, PhD; Lei Yang, PhD; Yigang Wang, MD PhD; Johnny Huard, PhD; Charles Cox, MD; Yong Li, MD PhD
- 3. MicroRNA-200c Attenuates Periodontitis by Modulating Proinflammatory and Osteoclastogenic Mediators. Adil Akkouch, PhD; Min Zhu, PhD; Miguel Romero-Bustillos, DDS; Steven Eliason, MS; Fang Qian, PhD; Aliasger Salem, PhD; Brad Amendt, PhD; Liu Hong, MD PhD
- 4. Characterization and Biocompatibility of a Novel Bioink of Collagen and Hydroxyapatite. Adil Akkouch, PhD; Robert Swenson, DDS MS; Amber Bates, PhD; Emily Lanzel, DDS MS; Kathy Walters, PhD; Liu Hong, MD PhD; Kim Brogden, PhD
- 5. Attenuated Astrogliosis in the Olfactory Bulb of Adult Zebrafish After Repeated Peripheral Damage. Jackson Scheib, BS; Christine Byrd-Jacobs, PhD
- 6. **The Injury Induced Population of Muscle-Derived Stem Cell-Like Cells.** Kinga Vojnits, PhD; Haiying Pan, BS; XD Mu, PhD; Yong Li, MD PhD
- 7. The Homeodomain Protein Cux1 is Regulated by the Notch Signaling Pathway in the Developing Kidney. Conner Holthaus, BS; Emmanuel Kumar, BS; Carol Carlton, BS; Greg Vanden Heuvel, PhD
- 8. **Reprogramming Myoblasts into Potent Stem Cells Through Injury Muscle Tissue Extracts.** Kinga Vojnits, PhD; Haiying Pan, BS; Xiaojing Dai, PhD; Fanwei Meng, PhD; Yong Li, MD PhD

COMMUNITY & PUBLIC HEALTH RESEARCH POSTERS

- 9. **Point-of-Care Ultrasound in the Amazon Jungle: A Case Series.** Anita Shallal, MD; Michael Reaume, MD; Zachary Rich, MD; Thomas Melgar, MD
- 10. **Differential Survival: Do Racial and Socioeconomic Disparities Persist Beyond "Poor Birth Outcomes"?** Angela Barreto, MD; Samuel Lai, MS; Jennifer Kim, BS; Jennifer Balun, BS; Duncan Vos, MS; Terra Bautista, MA; Deb Lenz, MA; Lisa Graves, MD; Catherine Kothari, PhD
- 11. **Neighborhood Social-Determinants-of-Health Risk and Access to Pediatric Care.** Jacob Baxter, BS; Cheryl Dickson, MD MPH; Colleen MacCallum, MS; Bandhan Dutta Ayon, MS; Kathleen Baker, PhD; Brent Yelton, BA; Catherine Kothari, PhD
- 12. The EPIC Procedure for Pilonidal Disease-Endoscopic-Assisted Pilonidal Irrigation and Cleaning. Jacob Baxter, BS; Jairo Espinosa, MD; Michael Leinwand, MD (Clinical Research Poster)
- 13. Unusual Presentation of Concomitant Appendicitis and Meckel's Diverticulitis from Meckel's Neuroendocrine Tumor. Jacob Baxter, BS; Jairo Espinosa, MD; Sarah Larson, MD (Clinical Research Poster)
- 14. **Trends in Opioid-Related Deaths in Kalamazoo County, Michigan.** Maria Magidenko; Prentiss Jones, PhD; Abigail Grande, MPH; Theodore Brown, MD

- 15. The Influence of Homelessness on Goal Setting Among Participants of Kalamazoo's Fatherhood Case Management Program. Patrick McCreesh, MS; Brent Yelton, BA; Derek Miller, BA; Terra Bautista, MSW; Debra Lenz, MA; Catherine Kothari, PhD
- 16. A Quality Improvement Initiative to Remodel Medication Refill Processes in a Pediatric Cystic Fibrosis Clinic. Teresa Bailey, PharmD; Laura Bauler, PhD; Alyssa Woodwyk, MS CAPM; Mireya Diaz, PhD; Myrtha Gregoire-Bottex, MD
- 17. **Addition of Pharmacist in a Pediatric Cystic Fibrosis Clinic.** Teresa Bailey, PharmD; Laura Bauler, PhD; Alyssa Woodwyk, MS CAPM; Mireya Diaz, PhD; Myrtha Gregoire-Bottex, MD
- 18. **Generation of a Socioeconomic Status Classifier from Kalamazoo County Postpartum Survey Responses.** Alyssa Woodwyk, MS CAPM; Mireya Diaz, PhD;
 Catherine Kothari, PhD
- 19. **A Stitch in Time Saves Nine: Untreated Perinatal Depression Hurts Future Generations.** Rugiya Tareen, MD; Rajiv Tandon, MD

MEDICAL EDUCATION RESEARCH POSTERS

- Malignant Vasovagal Syncope Presenting with Seizure-Like Activity. Justin Di Donato, MD;
 Josh Knudson, MD; Laura Marsh, DO; Mohiman Saffar, MD; Kristi VanDerKolk, MD: Lauren Vocke, DO
- 21. **A Palpable Pulsatile Radial Arterial Line Insertion Simulator.** Carleigh Zahn, DO; Thomas Melgar, MD; Aniruddha Paranjpe, MD
- 22. Clinical Clues to Creutzfeldt-Jakob Disease. Jay Patel, MD; Kevin Kunzer, MD
- 23. **Levothyroxine Associated Suicidal Overdose.** Lisa Gustafson, BS; Prentiss Jones, PhD; Joseph Prahlow, MD
- 24. **Prosocial Behavior of Medical Students: An Experiment Using the Trust Game.** Parker Crutchfield, PhD; Richard Brandt, BS; Rebecca Funk, BS; Tyler Gibb, PhD; Ryan Khalil, BS; Devin Schindler, JD; Duncan Vos, MS
- Creating a Point of Care Ultrasound Course for Medical Residents: A Model for Curriculum Development. Zachary Rich, MD; Anita Shallal, MD; Jayne Barr, MD; Thomas Melgar, MD

CLINICAL RESEARCH POSTERS

- 26. Caregiver Awareness of Genetic Testing for Autism Spectrum Disorder. Aaron Zebolsky, MS; Duncan Vos, MS; Neelkamal Soares, MD
- 27. **Patient Misunderstanding of Findings Leads to Suicide.** Jack Stover, BA; Joseph Prahlow, MD
- 28. Concurrent Osteochondroma and Synovial Chondromatosis of the Hip in the Absence of Multiple Hereditary Exostosis: A Case Report. Guston Zervoudakis, MD; Tyler Snoap, MD; Jason Roberts, MD
- 29. **Saccular Aneurysm Rupture with Simultaneous, Non-Contributory Heroin Use.** Gordon Liu, BA; Theodore Brown, MD

- 30. Coronary Artery Dissection Associated with Ascending Aortic Dissection. Joshua Rarick, MS; Lucas Rich, BS; Joseph Prahlow, MD
- 31. **Maternal Death by Fire and Fetal Carboxyhemoglobin Level.** Nicole Lee, MS; Theodore Brown, MD
- 32. **The Immune Function of a Patient with ITCH E3 Ubiquitin Ligase Deficiency.** Alexander Paschke, BA; Shivum Patel, BA; Adil Khan, BS; Ahmed El-Isa, MD; Patrick Jones, MD; Myrtha Gregoire-Bottex, MD; Roua Azmeh, MD
- 33. A Curious Case of Conversion Disorder. Grace Walter, BA; Rugiya Tareen, MD
- 34. **A Pilot Without a Plane: A Case of Pseudologia Fantastica.** Darren Almagro, DO; Ruqiya Tareen, MD
- 35. Lateral Proximal Physeal Tethering as an Alternative to Epiphysiodesis Used with Hemiplateau Elevation Osteotomy to Treat Infantile Blount Disease. Marine Bolliet, BS; Karen Bovid, MD; Laura Bauler, PhD
- 36. **Retroperitoneal Schwannoma Complications in a 36-Year-Old Male.** Samuel Lai, MS; Jairo Espinosa, MD; Gitonga Munene, MD
- 37. **Radiation Induced Angiosarcoma of the Breast in a 74-Year-Old Female.** Samuel Lai, MS; Jairo Espinosa, MD; Gitonga Munene, MD
- 38. Acute Colonic Pseudo-Obstruction (Ogilvie Syndrome) Leading to Respiratory Compromise and Death. John Dewey, BS; Joseph Prahlow, MD
- 39. Trends and 30-Day Readmission Rate for Patients Discharged with Diabetes Mellitus with Complication: Analysis of 1,457,583 Admissions. Jasreen Kaur, MD; Anandbir Bath, MD; Prashant Patel, DO
- 40. **Drugs that Make Your Skin React Case of Steven-Johnson Syndrome Associated with Adalimumab Therapy.** Jasreen Kaur, MD; Vishal Deepak, MD; Anandbir Bath, MD; Prashant Patel, DO
- 41. Who Ordered the Antiplatelet Therapy?: Analysis of ED Provider Use and Antiplatelet Therapy in the Setting of CVA and TIA. Philip Pazderka, MD; Michael Williams, MD; John Hoyle, MD; John Aguilar, MD; Ryan Bade, DO; Sean Barkan, MD; Mark Cooper, DO; Benjamin Cramer, MD; Daniel Dietemann, DO; Jason Garner, DO; Jonas Adams, DO; Jordan Bleth, MD; Jessica Zhen, MD
- 42. **Forgotten but Not Gone: Hyperthyroidism in a Patient with Prior Total Thyroidectomy.** Seth Moffatt, BS; Laura Bauler, PhD; Mark Schauer, MD
- 43. A Surprising Case of Adult Intussusception in a Patient with Prior Ileocolic Anastomosis. Laura Stearns, DO; Joshua Hekmatjah, MS; Michael Chen, MD
- 44. **Challenges in the Diagnosis of Gallbladder Volvulus.** Vishal Somnay, BS; Joseph Walbridge, BS; Zakiur Rahaman, MD; Saad Shebrain, MD
- 45. **Spontaneous Retroperitoneal Bleed in an Elderly Patient on Apixaban.** Adil Khan, BS; Joshua Mastenbrook, MD; Laura Bauler, PhD
- 46. A Comparative Analysis of Anterior Cruciate Ligament Reconstruction Rehabilitation Protocols in Southwest Michigan. Donghoon Lee, BS; Tong Li, BS; Keith Kenter, MD
- 47. Accidental Hanging: A Case of Autoerotic Asphyxiation Determined After Additional Information from Family. Jalynn Zou, BS; Theodore Brown, MD; Laura Bauler, PhD
- 48. **Case Report: A Congenital Neuroblastoma Patient with Brain Metastases.** Minh Nguyen, DO; Carla Schwalm, MD; Nicholas George, MD

- 49. Mind-Body Practices Delivered in a Cancer Infusion Suite to Reduce Symptoms and Improve Well-Being: A Practice-Based Study. Ellen Drosdick, MS; Tina Walter, BA; Harini Pallerla, MS; Sian Cotton, PhD
- 50. Spontaneous Peritonitis and Escalating Therapy from Bacterial to Fungal: A Case Report and Review of the Literature. Eric Sieloff, MD; Richard Roach, MD
- 51. **Persistent Heart Failure Following Melphalan and Fludarabine Conditioning.** Gisella Newbery, BA; Neiberg de Alcantara Lima, MD; Livia Andrade Gurgel, MD; Ross Driscoll, MD; Carol C V Lima, MD
- 52. A Unique Case of Osteomyelitis Caused by Gardnerella Vaginalis and Streptococcus Parasanguinis in a Post-Menopausal Woman. Jin-Ju Kim, BS; Ricardo de Castro, MD; Mark Schauer, MD; Laura Bauler, PhD
- 53. Death Related to Epiglottis. Joseph Prahlow, MD; Ernest Morton, MS
- 54. **Morel-Lavallée Lesion: A Closed De-Gloving Injury.** Karthik Ramaseshan, BS; Laura Bauler, PhD; Joshua Mastenbrook, MD
- 55. Sunitinib-Induced Pneumatosis Intestinalis in a Patient with Multiple Malignancies. Mridul Parmar, MD; Michael Reaume, MD; Mark Schauer, MD
- 56. **Acute Calcific Longus Colli Tendonitis: A Mimicker of Meningitis.** Mridul Parmar, MD; Richard Roach, MD
- 57. Quality Improvement in CF Clinic: Patient Downtime and Clinic Workflow. Carolina Herrera, RN; Myrtha Gregoire-Bottex, MD; Teresa Bailey, PharmD; Sally Bonnema, RD; Rachel Jackson, RN; Nichole Vess, RN; Debra Wells-Schmidt, RN; Julie Hovey, MA; Sheryl Lozowski-Sullivan, PhD; Andrea Caskey, LMSW; Niecia Anjorin, LMSW; Mariam Ischander, MD; Jayne Barr, MD
- 58. **Arrhythmogenic Right Ventricular Cardiomyopathy in a Young Athlete.** Lucas Rich, BS; Joshua Rarick, MS; Joseph Prahlow, MD
- 59. An Intervention Designed to Increase Post-Partum Visit Attendance Rates as a Federally Qualified Health Center. Mehmiya Raghid, MD; Megan Potilechio, DO; Dalal Kassir, MD; Lauren Vocke, DO; Angela Barreto, MD; Lauren Piper, DO; Jennifer Moubray; Alyssa Woodwyk, MS CAPM
- 60. Central Sleep Apnea Thought to be a Results of Strangulation as a Presenting Symptom of MuSK Positive Myasthenia Gravis. Mehmiya Raghid, MD; Megan Potilechio, DO; Dalal Kassir, MD; Glenn Dregansky, DO
- 61. **Pseudo-Horseshoe Lung Herniation Following Tracheoesophageal Fistula Repair in a Child with Situs Inversus Totalis.** Rachel Gallimore, BS; Myrtha Gregoire-Bottex, MD; Laura Bauler, PhD
- 62. **Getting the GIST: An Unusual Presentation of a Gastrointestinal Stromal Tumor.** Tania Torres, MD; Jairo Espinosa, MD; Jesse Chou, BA; Saad Shebrain, MD
- 63. **A Bundle in the Heart: Wolff-Parkinson-White Syndrome Presenting as Cardiac Arrest.** Anandbir Bath, MD; Stephanie Chang, MS; Eric Sieloff, MD; Jeffrey Wilt, MD
- 64. **A Case of Methamphetamine Toxicity in a Child with Pica.** Erinn Ton, BS; Christine Stevens, BS; Brandy Shattuck, MD; Prentiss Jones, PhD
- 65. Questioning the Validity of Published Data on Percutaneous Transluminal Angioplasty as a Benchmark for Infrainguinal Endovascular Procedures. Phillip Key, BS; Mekala Neelakantan, BS; Krishna Jain, MD; Mireya Diaz, PhD; Elizabeth Lorbeer, EdM

- 66. **Crossbow Homicides: More Common Than Reported?** Lo Tamburro, BS; Theodore Brown, MD; Laura Bauler, PhD
- 67. **Recognizing Lyme Carditis: A Slow Heart Needing Fast Diagnosis.** Samantha Phillips, MD; Rohit Chopra, MD; Steve Pollens, MD
- 68. **Identification of Risk Factors for Community-Acquired Clostridium Difficile.** Shelbye Herbins, PharmD Candidate; Adam Warner, PharmD
- 69. **Downstream Medication Dosing Errors Associated with Three Different Methods to Obtain Weights on Prehospital Pediatric Patients.** John Hoyle, MD; Glenn Ekblad, DO; Tracy Hover, BS; Rasha Kazi, MD; Bill Fales, MD; Alyssa Woodwyk, MS CAPM; Richard Brandt, MS
- 70. Patients' Opinion Regarding Length of Stay for Cystic Fibrosis (CF) Pulmonary Exacerbations at a Single CF Center. Sabrina Huq, DO; Andrey Leonov, MD; Richard Brandt, MS; Duncan Vos, MS; Polly Hollenbeck, CRT; Myrtha Gregoire-Bottex, MD
- 71. **Laparoscopic Repair of Incarcerated Morgagni Hernia.** Drew Moss, BS; Derek Tessman, DO; Saad Shebrain, MD
- 72. Characterizing Urologic Dysfunction in Male Patients with Lumbar Disc Disease. Joshua Hekmatjah, BS; Ernest Agatstein, MD; Mireya Diaz, PhD
- 73. **Aspiration and ARDS After Repair of a Ketorolac-Induced Ulcer.** Thomas Duong, BS; Michael Chavarria, BS; Thomas George, MD; Joseph Prahlow, MD
- 74. Ventriculoperitoneal Shunt Occlusion Resulting in Acute Hydrocephalus and Death in Developmentally-Delayed Patients: 2 Case Reports. Joshua White, BS; Joseph Prahlow, MD
- 75. **Death from Pheochromocytoma Initially Suspected of Being a Homicide.** Apoorva Dharmadhikari, BA; Joseph Prahlow, MD
- 76. **Repair of Giant Inguinal Hernia.** Khadijah Hussain, BS; Cole Kircher, DO; Hira Abidi, MD; Saad Shebrain, MD
- 77. **Neurologic Acyclovir Toxicity Despite Normal Renal Function.** Jay Patel, BS; Brendan Hayes, MD; Laura Bauler, PhD; Joshua Mastenbrook, MD
- 78. Non-ST Elevation Myocardial Infarction or a Missed Diagnosis of Pulmonary Embolism: A Case of Cardiac Arrest Secondary to Acute Pulmonary Embolism in a 52-Year-Old Woman. Ricardo de Castro, MD; Tooba Tariq, MD; Neiberg Lima, MD; Susan Bannon, MD
- 79. **Find a Primary Care Physician (PCP)!: Case of a Self-Treating Physician.** Wasif Elahi Shamsi, MD; Thomas Melgar, MD
- 80. The Forgotten Disease: An Atypical Case of Lemierre's Syndrome Presenting as a Shoulder Abscess. Wasif Elahi Shamsi, MD; Kevin Kavanaugh, MD, Prashant Patel, DO
- 81. Chylothorax in a Patient with a Peripherally Inserted Central Catheter and Multiple Pro-Thrombotic Risk Factors. Anna Trinh; Mehdi Farishta, MBBS; Mark Schauer, MD; Laura Bauler, PhD
- 82. **Does Pancreatic Enzyme Dose Correlate with Improvement of Vitamin D Levels** {25(OH)D}, in Cystic Fibrosis (CF) Patients? Myrtha Gregoire-Bottex, MD; Sally Bonnema, RD; Jasmine Saeedian, BS; Alyssa Woodwyk, MS CAPM; Teresa Bailey, PharmD; Heather Rauch; Polly Hollenbeck, RT; Laura Bauler, PhD

- 83. **Unusual Suicide Using Two Firearms.** Harrison Seltzer, BS; Brandy Shattuck, MD; Dwayne Wolf, MD PhD; Albert Chu, MD; Joseph Prahlow, MD
- 84. Heart Rate Variability and Mild Traumatic Brain Injury: Case Study and Review of Literature. Harrison Seltzer, BS; Karim Elghawy, MD; Robert Baker, MD PhD
- 85. **Loperamide Abuse and its Sequelae.** Lauren Strzyzewski, BS; Phillip Key, BS; Prentiss Jones, PhD; Joseph Prahlow, MD
- 86. **To Treat or Not To Treat: Prednisone Treatment of Minimal Change Disease in a Patient with Chronic HBV.** Trong-Tuong Nguyen, BS; Mark Schauer, MD; Laura Bauler, PhD
- 87. **Holoprosencephaly.** Natalie Finazzo, BS; Joseph Prahlow, MD; Amanda Fisher-Hubbard, MD
- 88. **Hypothermia Deaths and Altered Mental Status.** Jasmine Saeedian, BA; Joseph Prahlow, MD
- 89. Importance and Approach to Manner of Death Determination in Opioid-Related Deaths. Michael Abiragi, BA; Laura Bauler, PhD; Theodore Brown, MD
- 90. Trapped Behind the Looking Glass: A Case of Hallucinogenic Persisting Perception Disorder with Response to Prazosin. Alexander Palffy, DO; Alicia Aleardi, MD; Bangalore Ramesh, MD
- 91. Using a Spring-Loaded Silo to Facilitate Immediate Bowel Reduction for Sutureless Closure in Gastroschisis. Daphne Darmawan, MBS; Michael Leinwand, MD
- 92. Attention-Deficit/Hyperactivity Disorder (ADHD) and Psychotropic Polypharmacy
 Trends in Children and Young Adults. Szymon Litkowiec; Heather Girand, PharmD; Minji
 Sohn, PhD
- 93. **Ligature Strangulation Using Cable Ties: 5 Cases.** Nicole Ahmed, BA; Laura Bauler, PhD; Joyce deJong, DO; Theodore Brown, MD; Joseph Prahlow, MD
- 94. **Non-Bacterial Thrombotic Endocarditis Presenting with Bullae and Blindness.** Alyssa Erskine, DO; Thomas Flynn, MD
- 95. **An Unusual Presentation of Pyelonephritis in an Adolescent.** Stephanie Witte, MD; Steven Pollens, MD

INDEX

Abernethy, Melinda: 11 Dai, Xiaojing: 17 Abidi, Hira: 21 Abiragi, Michael: 22 Adams, Jonas: 19 Agana, Marisha: 9 Agatstein, Ernest: 21 Aguilar, John: 19 Ahmed, Nicole: 22 Akkouch, Adil: 12, 17 Aleardi, Alicia: 22 Ali, Mamoon: 9 Almagro, Darren: 19 Alvarado, Gloria: 9 Amendt, Brad: 12, 17 Andrade Gurgel, Livia: 20 Anjorin, Niecia: 11, 20 Apple, Roger: 10 Avon, Bandhan Dutta: 17 Azmeh, Roua: 19 Bade, Ryan: 19 Bailey, Teresa: 11, 18, 20, 21 Baker, Kathleen: 17 Baker, Robert: 22 Balun, Jennifer: 17 Fales, Bill: 21 Bannon, Susan: 21 Barkan, Sean: 19 Barr, Jayne: 18, 20 Barreto, Angela: 17, 20 Foley, Daniel: 9 Bates, Amber: 17 Bath, Anadbir: 9, 19, 20 Bauler, Laura: 10, 11, 18, 19, 20, 21, 22 Baumgartner, Hans: 9 Bautista, Terra: 11, 17, 18 Baxter, Jacob: 17 Gibb, Tyler: 18 Bell, Anita: 9 Bleth, Jordan: 19 Bolliet, Marine: 19 Bonnema, Sally: 11, 20, 21 Bovid, Karen: 19 Bowman, Christine: 9 Brandt, Richard: 18, 21 Brogden, Kim: 17 Brown, Theodore: 17, 18, 19, 21, 22 Byrd-Jacobs, Christine: 9, 17 Halt, Kelly: 9 Cai, Robert: 10 Carlton, Carol: 17 Caron, Marc: 9 Caskey, Andrea: 11, 20 Cates, Kevin: 11 Chang, Stephanie: 20 Chavarria, Michael: 21 Chen, Michael: 19

Chopra, Rohit: 21

Cooper, Mark: 19

Cotton, Sian: 20

Cox. Charles, 17

Cramer, Benjamin: 19

Crutchfield, Parker: 18

Chu, Albert: 22

Chou, Jesse: 12, 20

Cintron-Colon, Alberto: 9

Damashek, Amy: 11 Darmawan, Daphne: 22 de Castro, Ricardo: 20, 21 Deepak, Vishal: 19 deJong, Joyce: 22 Dewey, John: 9, 19 Dharmadhikari, Apoorva: 21 Di Donato, Justin: 18 Diaz, Mireya: 11, 18, 20, 21 Dickson, Cheryl: 10, 11, 17 Dietemann, Daniel: 19 Douglas, Elizabeth: 9 Dregansky, Glenn: 20 Driscoll, Ross: 20 Drosdick, Ellen: 10, 20 Duong, Thomas: 21 Ekblad, Glenn: 21 Eliason, Steven: 12, 17 El-Isa, Ahmed: 19 Elghawy, Karim: 22 Erskine, Alyssa: 22 Espinosa, Jairo: 17, 19, 20 Farishta, Mehdi: 21 Finazzo, Natalie: 22 Fisher-Hubbard, Amanda: 22 Flynn, Thomas: 22 Funk, Rebecca: 18 Gallimore, Rachel: 20 Garner, Jason: 19 George, Nicholas: 19 George, Thomas: 21 Gibson, Kristine: 10 Girand, Heather: 22 Grande, Abigail: 17 Graves, Lisa: 10, 17 Greene, Jeffrey: 10 Gregoire-Bottex, Myrtha: 11, 18, 19, 20, 21 Gupta, Vishal: 9 Gustafson, Lisa: 18 Hayes, Brendan: 9, 21 Hekmatjah, Joshua: 19, 21 Herbins, Shelbye: 21 Hernandez, Alysa: 11 Herrera, Carolina: 20 Hollenbeck, Polly: 21 Holodick, Nichol: 12 Holthaus, Conner: 17 Hong, Liu: 12, 17 Horneffer-Ginter, Karen: 10 Hover, Tracy: 21 Hovey, Julie: 20 Hoyle, John: 19, 21 Huard, Johnny: 17 Hume, Eric: 9 Hug, Sabrina: 21 Hussain, Khadijah: 21

Ischander, Mariam: 20 Jackson, Rachel: 20 Jain, Krishna: 20 Jandali, Ola: 11 Jaykel, Matthew: 9 Jones, Patrick: 19 Jones, Prentiss: 9, 17, 18, 20, 22 Jones, Trina: 11 Kaku, Hiroaki: 12. Karne, Saumya: 9 Kassir, Dalal: 20 Kaufman, Adrienne: 10 Kaur, Jasreen: 9, 19 Kavanaugh, Kevin: 21 Kazi, Rasha: 21 Kenter, Keith, 19 Key, Phillip: 12, 20, 22 Khalil, Rvan: 18 Khan, Adil: 19 Khan, Fahad: 9 Kim, Jennifer: 17 Kim, Jin-Ju: 20 King, David: 9 Kinker, Brenton: 9 Kircher, Cole: 11, 21 Klesick, Elise: 9 Knudson, Josh: 18 Kothari, Catherine: 11, 17, 18 Kothari, Rashmi: 9 Kumar, Emmanuel: 17 Kunzer, Kevin: 18 Kuo, Kailin: 11 Lai, Samuel: 17, 19 Lammers, Richard: 9 Lanzel, Emily: 17 Larson, Erik: 9 Larson, Sarah: 17 Lautze, Jacob: 11 Lee, Donghoon: 19 Lee, Nicole: 19 Leinwand, Michael: 17, 22 Lenz, Deb: 11, 17, 18 Leonov, Andrey: 21 Li, Tong: 9, 19 Li, Yong: 12, 17 Liles, Cameron: 9 Lima, Carol C V: 20 Lima, Neiberg: 11, 20, 21 Lindstrom, Debra: 10 Litowiec, Szymon: 22 Liu, Gordon: 18 Liu, Thomas: 17 Lorbeer, Elizabeth: 20 Lozowski-Sullivan, Sheryl: 11, 20 Lubwama, Grace: 11 Lucas, Shanika: 11 MacCallum, Colleen: 17 Magidenko, Maria: 17

Maravelas, Rheanne: 11

Mastenbrook, Joshua: 19, 20, 21

Marsh, Laura: 18

McCreesh, Patrick: 18 McLaren, Graham: 10 Melgar, Thomas: 11, 17, 18, 21

Meng, Fanwei: 17 Miller, Derek: 18 Mishler, Clay: 9 Mix, Samantha: 9 Moffatt, Seth: 19 Morton, Ernest: 20 Moss, Drew: 21 Moubray, Jennifer: 20

Mu, XD: 17

Munene, Gitonga: 10, 19 Neaterour, Paige: 9 Neelakantan, Mekala: 12, 20 Newbery, Gisella: 10, 20 Nguyen, Minh: 19 Nguyen, Trong-Tuong: 22

Olken, Melissa: 11 Olsen, Thomas: 9 Oord, Jeanne: 11 Paladini, Carlos: 9 Palffy, Alexander: 22 Pallerla, Harini: 20 Pan, Haiying: 12, 17 Paranjpe, Aniruddha: 18

Paranjpe, Aniruddha: 18
Parker, Jon: 9
Parmar, Mridul: 20
Paschke, Alexander: 19
Patel, Jay(resident): 18
Patel, Jay(student): 21
Patel, Prashant: 19, 21
Patel, Shivum: 19
Pazderka, Philip: 19
Peirce, Diane: 10
Petko, Alyssa: 9
Phillips, Samantha: 21
Piper, Lauren: 20
Pollens, Steve: 21, 22
Porter-Stransky, Kirsten: 9

Potilechio, Megan: 20

Prahlow, Joseph: 18, 19, 20, 21, 22

Qian, Fang: 12, 17 Raghid, Mehmiya: 20 Rahaman, Zaki: 10, 19 Ramaseshan, Karthik: 20 Ramesh, Bangalore: 22 Rarick, Joshua: 19, 20 Rauch, Heather: 9, 21 Reaume, Michael: 17, 20 Rich, Lucas: 19, 20 Rich, Zachary: 17, 18 Rimpel, Micah: 11 Roach, Richard: 20 Roberts, Jason: 18

Romero-Bustillos, Miguel: 12, 17

Rothstein, Tom: 12 Sadarangani, Sapna: 11 Saeedian, Jasmine: 21, 22 Saffar, Mohiman: 18 Salem, Aliasger: 17 Sawyer, Robert: 11

Schauer, Mark: 10, 19, 20, 21, 22

Scheib, Jackson: 17 Schindler, Devin: 18 Schultz, Kelsy: 11 Schwalm, Carla: 19 Seltzer, Harrison: 22 Shallal, Anita: 17, 18 Shamsi, Wasif Elahi: 21 Sharp, Rebekah: 11 Shattuck, Brandy: 20, 22

Shebrain, Saad: 10, 19, 20, 21 Sheidu, Mariyam: 11 Sieloff, Eric: 20 Sigourney, Rebecca: 10 Snoap, Tyler: 18 Soares, Neelkamal: 9, 18 Sohn, Minji: 22 Somnay, Vishal: 19 Spitsbergen, John: 9 Stancic, Christopher: 10 Stearns, Laura: 11, 19 Stevens, Christine: 9, 20 Stover, Jack: 18 Strzyzewski, Lauren: 22

Stover, Jack: 18
Strzyzewski, Lauren: 22
Swayze, Emma: 9
Sweat, Mason: 12
Swenson, Robert: 17
Tamburro, Lo: 21
Tandon, Rajiv: 18
Tareen, Ruqiya: 18
Tariq, Tooba: 21
Tessman, Derek: 21
Thompson, Walker: 10
Tomassi, Rachel: 11
Ton, Erinn: 9, 20
Torres, Tania: 20
Trinh, Anna: 21
Tullio, Julia: 10
Urs, Nikhil: 9

Van Loo, Dean: 11 Vanden Heuvel, Greg: 17 VanDerKolk, Kristi: 18 Var, Susanna: 17 Vess, Nichole: 20 Vocke, Lauren: 18, 20

Vojnits, Kinga: 17

Vos, Duncan: 9, 11, 17, 18, 21 Walbridge, Joseph: 19 Wallington, David: 10 Walter, Grace: 19 Walter, Tina: 20 Walters, Kathy: 17 Wang, Yigang: 17 Warner, Adam: 21 Weinshenker, David: 9 Weistroffer, Joseph: 9 Wells-Schmidt, Debra: 20 White, Joshua: 21 Wieneke, Arika: 10 Williams, Mark: 9 Williams, Michael: 19 Wilt, Jeffrey: 20

Wilt, Jeffrey: 20 Witte, Stephanie: 22 Wolf, Dwayne: 22

Woodwyk, Alyssa: 18, 20, 21

Yang, Lei: 17 Yelton, Brent: 17, 18 Zahn, Carleigh: 18 Zebolsky, Aaron: 9, 18 Zervoudakis, Guston: 18 Zhen, Jessica: 19 Zhu, Min: 12, 17 Zou, Jalynn: 9, 19