



# 29<sup>th</sup> Annual Rocky Mountain Research Forum

Friday May 21<sup>st</sup>, 2021

8:00 am – 4:00 pm

The Westin Hotel

10600 Westminster Blvd. Westminster, CO

For all materials: <https://www.cofmr.org/2021rmrfmaterials>

## SHARK TANK PRESENTATIONS

<b>Title:</b> Creating a Weight Loss Clinic in a Primary Care Setting: Effectiveness and Patient Outcomes
<b>Authors:</b> Kelly Baxter, MD (PGY3), Kelsey Sherman, MD (PGY3), Krystal Tamura, MD (Faculty)
<b>Program:</b> St. Anthony North Family Medicine Residency
<b>Description:</b> We created a weight loss clinic within a primary care setting that offered medication management and extensive diet and lifestyle counseling to our patients. This project tracks the weight loss outcomes, effectiveness of various treatment interventions, and follow up metrics of our patients.
<b>Abstract:</b> STUDY TITLE: A prospective study of current pharmacologic therapies for weight loss at 3 and 6 month follow-up. INTRODUCTION: Supporting patients in weight loss is becoming increasingly more important in primary care, as we observe the rise in obesity and obesity-related morbidity and mortality. OBJECTIVE: To determine the effect of various pharmacologic regimens compared to lifestyle interventions alone on weight loss for patients with a BMI >27. STUDY DESIGN: Saint Anthony North Family Medicine clinic patients 18 years or older with BMI >27 who were interested in physician-supported weight loss were enrolled in this prospective observational study. The pharmacologic therapy selected per patient was not randomized and was determined following an individual discussion between the patient and physician. The experimental treatment groups analyzed were: phentermine (N=11), phentermine/topiramate (N=24), bupropion (N=5), bupropion/naltrexone (N=4). The control group (N=6) was comprised of patients who elected for lifestyle interventions alone. Patients were followed longitudinally and received individualized weight loss and lifestyle counseling at each visit. Weight loss progress for the study was measured at 3-month and 6-month intervals. RESULTS: Data will be pooled and analyzed comparing mean percent body weight change and mean BMI change over 3 and 6 months intervals in each group. CONCLUSIONS: The effect of various pharmacologic regimens and lifestyle counseling on weight loss in a primary care setting will be assessed.
<b>Learning Objectives:</b> Participants will be able to...
<ul style="list-style-type: none"><li>• Describe the need for comprehensive weight loss management in primary care</li><li>• Identify pharmacotherapy options for weight loss that can be used in a primary care setting</li><li>• Compare the effect of various pharmacologic regimens and lifestyle counseling on weight loss in a primary care setting</li></ul>
<b>Category:</b> Preventative Care

<b>Title:</b> Nar(can) We Decrease Opioid Related Deaths? A Chronic Opioid QI Project
<b>Authors:</b> Kelley Collier, MD; Sydney Davis, MD; Eric Kim, MD; Franklin Niblock MD, MPH; Lauren Oberle, MD; Alexandra Targan, MD; Sami Hourieh MS4; Corey Lyon, DO; Aimee English, MD; Kathy Cebuhar, MA
<b>Program:</b> University of Colorado Family Medicine Residency
<b>Description:</b> This was a clinic-wide quality improvement project targeting patients on more than 50 MME. Residents, faculty, and staff at a residency clinic used EMR tools and created workflow patterns using a team-based approach to lead to safer prescribing of opioids.
<b>Abstract:</b> Background: Opioid overdose deaths are common and preventable. The purpose of this project was to increase safer prescribing of opioids. Methods: This was a pre-test/post-test quality improvement project. The intervention population included patients at AF Williams Family Medicine Clinic with a history of chronic opioid prescriptions. Specific aims included: increasing the percentage of patients with a naloxone prescription, naloxone education, an updated Control Substance Agreements (CSA), and annual urine toxicology screens. Interventions included creating new workflows to target these aims and educating providers and clinic staff on these workflows. Baseline and follow-up data was pulled using Epic's Dashboard. Results: Pre-intervention: 64% of patients had an updated CSA, 19% had an updated annual urine toxicology screen, and 29% of patients had a Naloxone prescription. Post-intervention: One month after intervention, 69.5% of patients had an updated CSA, 24.3% had an updated annual urine toxicology screen, and 34.6% had a Naloxone prescription. Final data anticipated April 2021. Conclusion: Use of EMR tools and creation of workflow patterns using a team-based approach may lead to safer prescribing of opioids.
<b>Learning Objectives:</b> Participants will be able to...
<ul style="list-style-type: none"><li>• Explain the impact of opioid use and opioid overdose in the United States</li><li>• Apply workflow patterns and electronic medical record tools for safer prescribing of opioids</li><li>• Describe the role of pharmacists in the primary care setting in safer opioid prescribing</li></ul>

**Category:** Medication Assisted Treatment

**Title:** Increasing Resident Readiness to Incorporate Intimate Partner Violence Screening in Primary Care Prenatal Visits

**Authors:** Sarah C. Van Gaasbeek, MD; Ben Smith, MD; Jen Johns, LCSW CACII EMDR Trained Clinician; Kelly Mimier M.Ed

**Program:** Fort Collins Family Medicine Residency

**Description:** During pregnancy, the risk of intimate partner violence increases. Homicide is the second leading cause of death in pregnant women. The purpose of this project was to provide a template that taught first year residents how to screen for intimate partner violence in line with guidelines from the American College of Obstetrics and Gynecology and the American Academy of Family Physicians. Results showed improved confidence and ease with intimate partner violence screening!

**Abstract:** Intimate partner violence is an important issue in prenatal primary care because homicide is the second leading cause of death in pregnant women. The American College of Obstetrics and Gynecology recommends screening all prenatal patients for intimate partner violence. The Fort Collins Family Medicine Center routinely screens pregnant patients through a social work visit, however providers were not screening their prenatal patients themselves for IPV. Preliminary data provided showed that incoming interns did not feel adequately trained to provide intimate partner violence screening. The purpose of this project was to provide a template that taught providers how to screen for IPV in line with ACOG recommendations. We expect results to show that with scripting and a new OB intake formatted note, family medicine residents will become properly trained in IPV screening.

**Learning Objectives: Participants will be able to...**

- Describe the importance of Intimate Partner Violence screening
- Implement on method of incorporating Intimate Partner Violence screening into prenatal visits

**Category:** Maternal and Child Health

## ORAL PRESENTATIONS

### CASE REPORT

<b>Oral D</b>	<b>Title:</b> A Case of Pneumonia in Pregnancy Identified with Point-of-care Ultrasound
<b>Authors:</b>	Casey Whipple, MD; Nichole Thorne, MD; Laurel Dang, MD; Carmen Vandal, MD
<b>Program:</b>	Swedish Family Medicine Residency
<b>Description:</b>	Use of ultrasound has become increasingly common for evaluation at the point-of-care. This is particularly advantageous in pregnancy, where there is a risk of teratogenic effects from modalities that involve ionizing radiation. We present a case of pneumonia identified in a pregnant patient using point-of-care ultrasound.
<b>Abstract:</b>	While most imaging modalities are not absolutely contraindicated by pregnancy, modalities that involve ionizing radiation are avoided to minimize teratogenic effects on the developing fetus. Ultrasound, however, does not involve these risks, and has been the imaging modality of choice for fetal evaluation. As ultrasound technology advances, its use in other point-of-care uses has expanded. In this case, its role as a supplemental component of the physical exam allowed for expeditious identification of pneumonia in a pregnant patient. Use of point-of-care ultrasound should be increasingly considered particularly as a supplement of the physical exam for evaluation of pregnant patients even beyond evaluation of the fetus itself.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>Discuss imaging modalities used to evaluate lungs in pregnancy</li><li>Describe in basic terms normal and abnormal findings of the lungs on ultrasound.</li></ul>
<b>Category:</b>	Case report

### COVID-19

<b>Oral A</b>	<b>Title:</b> Creating an FM Residency Program Research Group for an International COVID-19 Treatment Research Study
<b>Authors:</b>	Sharry Veres, MD, MHSA; Beth Groff, MD; Hailey Holland, MD
<b>Program:</b>	St. Anthony North Family Medicine Residency
<b>Description:</b>	Community-based family medicine residency program creates a research group for an international COVID-10 treatment group study.
<b>Abstract:</b>	Inpatient Treatment with Anti-Coronavirus Immunoglobulin (ITAC) is a large international multicenter randomized double-blind, placebo-controlled trial of hyperimmune intravenous immunoglobulin for the treatment of adult hospitalized patients at onset of clinical progression of COVID-19. Our community hospital-based residency program created a group of interested faculty, fellows and residents to become a successful site for this study with support from the research department of Centura Health and collaboration with other Centura hospitals. Utilizing our dedicated inpatient medical team, an EHR registry, active monitoring of patients in the hospital, and a group texting platform, St Anthony North was one of the most successful sites internationally in recruiting patients for this important study. Given the opportunities for resident education, faculty development of research skills, and the potential clinical benefits for our patients, our research group has agreed to two additional COVID-19 clinical trials.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>Learn a little about the NIAID COVID-19 clinical trials</li><li>Learn about how a community-based residency program formed a small research team to take part in a COVID-19 treatment research trial</li><li>Share residency program benefits from participating in a clinical trial, as a team</li></ul>
<b>Category:</b>	COVID-19

### HEALTH EQUITY

<b>Oral I</b>	<b>Title:</b> Community Engagement in Research Recruitment: Strategies Developed for a Diabetes Education and Support Intervention for Rural Communities
<b>Authors:</b>	Shawnecca Burke, MD; Zittleman L; Curcija K; Litchman M; Cabrera B; Carpio B; Huss K; Johnson M; Rodriguez M; Stromberger J; Oser T
<b>Program:</b>	University of Colorado, Morgan County RTT
<b>Description:</b>	This project demonstrates how community members can be involved in the design and adaptation of the recruitment process in a research study for a diabetes program in rural communities. The qualitative results gathered that focused on recruitment were then utilized in the design of a diabetes self-management intervention in Fort Morgan and Yuma, Colorado.
<b>Abstract:</b>	Recruitment of research participants can be difficult, including in rural communities even when addressing a topic that affects so many such as diabetes. This study utilized a method called Boot Camp Translation (BCT), which is

based on principles of community-based participatory research (CBPR), to adapt recruitment resources and modalities for a diabetes self-management education and support program for rural eastern Colorado. This program will be delivered to Spanish and English-speaking adults with diabetes. Meetings were held between 13 diverse medical, research, and local community members who provided their own expertise in deciding how participants would be recruited in culturally relevant and acceptable ways. Members identified the importance of using trusted community sources beyond a clinic, such as churches and local pharmacies. Messages were created that didn't just focus on the individual with diabetes but also the impact of diabetes on a family as a motivating factor for participation.

**Learning Objectives: Participants will be able to...**

- Describe how Boot Camp Translation can be utilized to adapt recruitment materials for a research program to specific communities.
- Explain how members of the academic community can partner with community members to create more patient-centered resources through a community-based participatory research approach.
- Describe how recruitment modalities can be adapted to a rural community and to Spanish-speaking communities to increase research participation.

**Category:** Health Equity

Oral L	<b>Title:</b> We Can Do Better than "Fake it 'til you Make it" - A DEI Literacy Faculty Survey to Guide Future Education and Training <b>Authors:</b> Charity Lehn, MD; Heather Bleacher, MD MPH; Lakshmi Karra, MD MS <b>Program:</b> University of Colorado Family Medicine Residency, Denver Health <b>Description:</b> In 2020, the University of Colorado Family Medicine Residency identified the need for improved residency faculty training and competence around Diversity, Equity and Inclusion (DEI). In response, UCFMR faculty members formed a working group to design and implement faculty training in these areas. Our group's first step was to create a survey to assess our current state. Our survey results identified areas of strength as well as opportunities for further training. We also identified the most common barriers faculty members face that prevent further engagement in health equity and anti-racism work. Our group is using the survey results to create an action plan, including faculty development sessions and retreat activities. <b>Abstract:</b> In 2020, the University of Colorado Family Medicine Residency identified the need for improved residency faculty training and competence around Diversity, Equity and Inclusion (DEI). In response, UCFMR faculty members formed a working group to design and implement faculty training in these areas. Given the wide range of DEI literacy, confidence and experience among faculty, our group's first step was to create a survey to assess our current state. We reviewed multiple existing surveys from a few national leaders and adapted them to our specific needs. Our survey results identified areas of strength as well as opportunities for further training. We also identified the most common barriers faculty members face that prevent further engagement in health equity and anti-racism work. Our group is using the survey results to create an action plan, including faculty development sessions and retreat activities. The lessons we learned from this experience could help future iterations of a similar survey to be more impactful. <b>Learning Objectives: Participants will be able to...</b> <ul style="list-style-type: none"> <li>• Describe key elements of a needs-assessment survey around racism and equity</li> <li>• Summarize the main results of a Diversity, Equity and Inclusion (DEI) literacy faculty survey implemented at the UCFMR program</li> <li>• Apply lessons learned from our residency's experience your own program</li> </ul>
<b>Category:</b> Health Equity	

## INTEGRATIVE MEDICINE

Oral M	<b>Title:</b> Empowering Behavior Change with Lifestyle Medicine <b>Authors:</b> Lynn Stiff, MD, RD, MS; Alexandra Lessem, FNP, DNP <b>Program:</b> North Colorado Family Medicine Residency <b>Description:</b> Learn about the up and coming field of Lifestyle Medicine and to use trained providers and facilitators to educate patients to empower themselves towards a healthier lifestyle. <b>Abstract:</b> Over 80% of chronic disease can be attributed to diet and lifestyle factors. Despite this, minimal time is allocated to patient education and support for addressing core behaviors and beliefs around health behaviors. Lifestyle Medicine is an up-and-coming field of medicine that addresses the multiple factors influencing health: diet, exercise, substance use, mental/emotional health, sleep, and personal connectedness. Our goal was to create a comprehensive, 10-week virtual group program run by Lifestyle Medicine providers and trained facilitators focused on educating patients on Lifestyle Medicine and empowering them to take steps towards a healthier lifestyle. Through a comprehensive binder with supplemental materials and weekly videos and group sessions, patients were guided through the pillars of Lifestyle Medicine. At the end of the program, those responding to our survey provided favorable reviews regarding knowledge, confidence and skills for lasting behavior change. <b>Learning Objectives: Participants will be able to...</b> <ul style="list-style-type: none"> <li>• Define the 6 pillars of lifestyle medicine and their importance in chronic disease prevention and management.</li> </ul>
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- Describe the components an impactful Lifestyle Medicine group program.
- Discuss the benefits and challenges of running a virtual group program.

**Category:** Integrative Medicine

## MATERNAL AND CHILD HEALTH

<b>Oral E</b>	<b>Title:</b> The Impact of Comorbidities on Maternal Mortality in Black Women
<b>Authors:</b>	Erin Liedtke BS, Lauren Rhoades MD, Charity Lehn MD
<b>Program:</b>	University of Colorado School of Medicine *** <i>Undergraduate Student Submission</i>
<b>Description:</b>	Black women die in childbirth at a rate 4 times higher than white women, across all socioeconomic classes. Research is limited but indicates that black women with medical comorbidities have higher mortality rates than their white counterparts with those same comorbidities. Current research points to provider bias and systemic racism as the larger causes of these elevated mortality rates in Black women.
<b>Abstract:</b>	Black women experience extreme health disparities when it comes to childbirth. Black women are four times more likely to die from childbirth than their white counterparts. While the specific causes of increased maternal mortality are largely unknown, current research indicates that higher rates of comorbidities could lead to the higher rates of maternal mortality for Black women. This study utilized cross sectional data in the TriNetX database to analyze the impact of asthma, chronic obstructive pulmonary disorder (COPD), diabetes and hypertension on risk of maternal mortality. For Black women the results demonstrated a 0.078% risk of mortality with hypertension and a 0.057% risk of mortality with diabetes. The risk of mortality for white women with hypertension or diabetes was almost half that at 0.045% and 0.032% respectively. These results while not causal, indicate an increased risk of mortality for Black women compared to white women with these conditions.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"> <li>• Recognize the difference in maternal mortality rates between Black and white women</li> <li>• Identify comorbid disorders associated with higher risk of maternal mortality in Black women</li> <li>• Identify areas of future study identifying causes for increased maternal mortality in Black women</li> </ul>
<b>Category:</b>	Maternal and Child Health

<b>Oral N</b>	<b>Title:</b> Cesarean Scar Ectopic Pregnancy: A Case Report
<b>Authors:</b>	Danielle Eves, MD; Lindsay Ogle, MD; Mark Cianfichi, DO; Julianne Bemski, DO
<b>Program:</b>	Swedish Family Medicine Residency
<b>Description:</b>	This is a case report of a 38 year old G4P2012 who presented emergently after a witnessed syncopal event at work. Her evaluation yielded a diagnosis of ectopic pregnancy embedded within the anterior uterine scar from a previous cesarean section. After thorough discussion of options, she elected to pursue a novel treatment approach with intramuscular methotrexate plus ultrasound-guided injection of methotrexate into the fetal pole, resulting in successful treatment of the ectopic pregnancy.
<b>Abstract:</b>	38 year-old G4P2012 with past medical history significant for ADHD, depression, autism (high-functioning), alcohol use disorder (two years sober) who presented to the Emergency Department after a witnessed syncopal event at work. After complete and sequential work-up including detailed history and physical exam, quantitative b-hCG, transvaginal ultrasound and abdominal/pelvic MRI, this patient was diagnosed with an ectopic pregnancy embedded within the anterior uterine scar from a previous cesarean section. After thorough discussion about potential treatment options, she was eventually treated with intramuscular methotrexate plus transvaginal ultrasound guided injection of methotrexate into the fetal pole. The patient was observed overnight and then discharged with primary care follow-up. This case report of ectopic pregnancy in a hysterotomy scar is important to review because of its rarity (1 in 2,000 pregnancies) and unique treatment considerations requiring multidisciplinary care.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"> <li>• Understand the sequential work-up for diagnosing a potential ectopic pregnancy.</li> <li>• Understand risks and benefits of potential treatment options for cesarean scar ectopic pregnancies.</li> <li>• Understand importance of trending hCG after initial treatment for any type of ectopic pregnancies.</li> </ul>
<b>Category:</b>	Maternal and Child Health

## OUTPATIENT QUALITY IMPROVEMENT

<b>Oral F</b>	<b>Title:</b> A Demographic and Regional Comparison of Opioid Use Within Communities in the United States
<b>Authors:</b>	Brian Pringle, BS; Devin Monroe, MS; Jordan Wilkes, BS; Jessica Montalban, MS; Isain Zapata, PhD; Adela Miller, DO; David Ross, DO
<b>Program:</b>	Rocky Vista University College of Osteopathic Medicine *** <i>Medical Student Submission</i>
<b>Description:</b>	A novel study utilizing publicly available data to explore the opioid epidemic by region and community population-size within the United States. By combining Healthcare Cost and Utilization Project data detailing opioid-

related hospital visitation with data from the United States Census Bureau, the study provides a region-specific investigation into how opioid-related hospitalization is associated with population density and other demographic factors.

**Abstract:** The opioid epidemic is a crisis demonstrating a greater than 400% increase in related deaths over the past two decades. The purpose of our study is to assess which areas of the United States and which size population centers have the highest incidence of opioid use. By combining Healthcare Cost and Utilization Project data detailing opioid-related hospital visits with data from the United States Census Bureau, we were able to conduct a novel, region-specific investigation into how opioid-related hospital visitation is associated with population density. Results showed wide regional differences in this association, with metropolitan areas appearing to have the highest per capita visitation across the US. Further, the southwest showed the greatest per-capita visitation across most population density strata and rural visitation was greatest in the northeast, southeast, and southwest. Understanding the population level dynamics of opioid usage will be essential in tailoring regionally specific interventions in the future.

**Learning Objectives: Participants will be able to...**

- Describe the regional variability of opioid use related hospital visitation in the United States.
- Identify which population center sizes are most affected by opioid use in a given region of interest.
- Explain the degree to which demographic factors are associated with opioid related hospitalizations

**Category:** Outpatient Quality Improvement

**Oral G Title:** Gaps in Care: Increasing Colon Cancer Screening Rates at an Urban FQHC

**Authors:** Sean Buck, MD; Thomas Staff, MD, MPH; Katharine Kelly, MD; Raeanna Simcoe, MD; Allison Johnson, MD; Jessica Bull, MD; Swetha Iruku, MD, MPH; Riley Smith, MD

**Program:** University of Colorado Family Medicine Residency, Denver Health

**Description:** Despite being the 2nd leading cause of cancer death the United States, colorectal cancer rates at our urban FQHC are low. We identified patients who qualified for screening and designed a workflow to outreach patients that relied primarily on medical assistants. We aim to increase cancer screening rates amongst our vulnerable population through effective active outreach strategies.

**Abstract:** Purpose: We identified a large gap in colon cancer screening at our urban FQHC where most patients speak neither English or Spanish, and then identified strategies to effectively outreach to patients to complete this important preventative care priority. Our organization uses FOBT screening for all patients unless another condition or reason requires a colonoscopy. Methods: We identified patients using the EHR who needed screening, designed a workflow that relied upon medical assistants for outreach, and mailed patients FOBT kits. We then plan to analyze the percent of returned FOBT kits based on outreach strategy with subgroup analysis based on patient demographics. Results: This project remains in progress with data being currently analyzed with comparisons between different outreach techniques and qualitative feedback from medical assistants on workflow adjustments. Conclusions: Conclusions are pending analysis of results, but preliminary analysis supports this as a viable way to increase colon cancer screening.

**Learning Objectives: Participants will be able to...**

- Identify strategies for health maintenance outreach to traditionally underserved populations
- Develop a workflow that relies on non-provider staff for outreach
- Understand the impact of colon cancer screening

**Category:** Outpatient QI

**Oral J Title:** Promoting PROMOTE: Expanding OMT for OB Patients in a Residency Clinic

**Authors:** Trista Hughes, DO, MPH; Jacob Anderson, DO

**Program:** Southern Colorado Family Medicine Residency

**Description:** A Quality Improvement (QI) project designed to increase Osteopathic Manipulative Treatment (OMT) for OB patients within a residency clinic. Our results showed a statistically significant increase in number of OB patients receiving OMT, as well as total number visits that OMT was performed during pregnancy episodes.

**Abstract:** Back pain is a common complaint in pregnancy, but treatment options are limited. Osteopathic Manipulative Treatment (OMT) is a safe, effective option to address back pain in pregnant women; however, OMT during pregnancy has previously been infrequent at our clinic. Factors include time constraints, provider hesitancy, knowledge gaps, and lack of an implementation process. We developed a Quality Improvement project to expand OMT for OB patients in our clinic. Methods involved physician and staff education, clinic workflow to identify potential patients, referrals to OB/OMT providers within our clinic, and creation of custom OB/OMT templates in Epic. Participating resident physicians were trained in the PROMOTE protocol, a well-validated OMT protocol for treatment of back pain in pregnancy. Our primary outcome is the number of OMT visits for pregnant patients in our clinic (pre- and post-intervention). Since implementation, we observed a significant increase in the number of OMT treatments for pregnant patients.

**Learning Objectives: Participants will be able to...**

- Understand and apply the PROMOTE OMT protocol in appropriate patients in an Obstetric or Primary Care setting.
- Utilize clinic flow quality improvement to expand patient access to OMT and reduce need for medications
- Provide streamlined EMR templates to allow for ease of documentation for these procedure visits

**Category:** Outpatient QI

## PREVENTATIVE CARE

<b>Oral H</b>	<b>Title:</b> Improving Nutrition and Activity Counseling through Templating
<b>Authors:</b>	Travis McCubbin, DO; Benjamin Smith, MD
<b>Program:</b>	Fort Collins Family Medicine Residency
<b>Description:</b>	As part of a larger pediatric templating initiative, we implemented prompts to include discussion of diet and activity within the context of routine pediatric appointments. This correlates with a marked increase in the rates of provider documentation of such counseling as demonstrated by pre- and post-intervention quality metrics.
<b>Abstract:</b>	Pediatric Obesity is a critical issue in primary care for a multitude of reasons. The links between excessive weight and poor health outcomes are well-established with the World Health Organization reporting increased rates of premature death and disability in adults who experienced childhood obesity. Additionally, the WHO reports that children affected by obesity are more likely than their counterparts to experience obesity in adulthood and are also more likely to experience sequelae of obesity at a younger age than those unaffected by pediatric obesity. At the Fort Collins Family Medicine Center, quality metrics including "Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents" showed a relative lack of documented discussion about pediatric obesity during pediatric visits. The purpose of this project was to improve activity and nutrition counseling rates during pediatric visits by improving documentation templating. Subsequent quality metrics following implementation of the new templates demonstrated improved rates of counseling for nutrition and physical activity. Currently available data does not provide evidence for reduction in weight based solely on counseling. However, further research is needed to identify whether improved rates of counseling lead to increased involvement in evidence-based weight reduction programs.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>Discuss the importance of diet and activity counseling for pediatric patients.</li><li>Recognize the correlation between templating prompts for diet and activity counseling and provider documentation of such counseling.</li><li>Identify the links between pediatric obesity and longitudinal health outcomes.</li></ul>
<b>Category:</b>	Preventative Care

<b>Oral K</b>	<b>Title:</b> Nourish a New You: Weight Loss Group Visits in a Family Medicine Residency
<b>Authors:</b>	Krystal Tamura, MD
<b>Program:</b>	St. Anthony North Family Medicine Residency
<b>Description:</b>	The development of a weight loss group visit curriculum in a family medicine residency to provide in-depth education on nutrition, activity, and mindset around eating habits and weight.
<b>Abstract:</b>	<b>Purpose:</b> Obesity affects 40% of Americans and increases the risk for multiple co-morbidities making it an essential part of patient care education in a family medicine clinic. We developed a weight loss group visit curriculum to provide in-depth education on nutrition, activity, and mindset around eating habits and weight. <b>Methods:</b> Patients were 18 years or older with body mass index >27 and were voluntarily enrolled in the weight loss group occurring once per week for 6 weeks. Groups consisted of 2-6 participants and were performed virtually. Each session consisted of education around goals, nutrition, exercise, and mindset. Sessions were led by a certified health coach and physician, with additional teaching topics from residents and our integrative medicine fellow. <b>Results:</b> Pre and post-surveys were performed evaluating patient knowledge pertaining to nutrition, exercise, and mindset topics, as well as, confidence in ability to set goals and make sustained changes for weight loss.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>Describe how to implement weight loss group visits in a family medicine clinic</li><li>Describe weight loss group visit curriculum</li><li>Explain the challenges of implementing weight loss group visits</li></ul>
<b>Category:</b>	Preventative Care

## RESIDENT EDUCATION/CURRICULUM

<b>Oral B</b>	<b>Title:</b> Resident Wellness: More Than Tacos and Margaritas
<b>Authors:</b>	Danielle Lattes, DO; Kristen Beikirch, MD; Lynn Stiff, MD, RD, MS; Michele Alba, MD; Josh Fischer, MD, PhD
<b>Program:</b>	North Colorado Family Medicine Residency
<b>Description:</b>	Infusing skill development and a cultural shift of wellness within medicine into a family medicine residency program to reinvigorate a wellness committee, creating a longitudinal curriculum of wellness workshops and developing a culture of well-being and growth.
<b>Abstract:</b>	During the 2020/2021 academic year we aimed to revamp our resident wellness curriculum to address core factors in resident well-being and long-term resilience to mitigate future burnout. Resident burnout ranges from 24-75% of residents nationally. This trend continues as residents become attendings, with family medicine physicians reporting a burnout rate of 46%. Physicians who identify as burned-out during residency are at a higher risk of depression, suicidal tendencies, medical errors, and compromised patient care. Wellness curricula often focus on social gatherings and

personal well-being activities. Our aim was to infuse skill development and a cultural shift of wellness within medicine into our training program. Therefore, our approach focused on reinvigorating our wellness committee, creating a longitudinal curriculum comprised of monthly wellness workshops, and developing a culture of well-being and growth. This presentation will review our curriculum, resident perception of wellness in our residency program and tools for other residency programs to develop a similar curriculum.

**Learning Objectives: Participants will be able to...**

- Discuss the importance of a comprehensive residency wellness curriculum.
- Describe the components of a wellness curriculum that address key areas of burnout prevention and wellbeing.
- Identify two ideas for wellness initiatives that could be implemented in your residency program.

**Category:** Resident Education/Curriculum

**Oral C** **Title:** Creation of a Novel Physician Well-Being Fellowship

**Authors:** Matthew "Robbie" Martin, MD; Nida Awadallah, MD; Brian Bacak, MD

**Program:** University of Colorado Family Medicine Residency

**Description:** The physician burnout crisis negatively affects every aspect of healthcare and has only been worsened by the COVID-19 pandemic. Creating meaningful change to promote physician well-being requires a specific knowledge base and skillset. This talk explores the creation of a new, evidence-based, cutting-edge fellowship designed to equip new graduates with the expertise to champion physician well-being promotion in diverse settings.

**Abstract:** Background: Physician burnout adversely affects healthcare, and addressing this complex challenge necessitates the training of physician leaders with specialized skills. Methods: A novel physician well-being fellowship was designed and implemented utilizing evidence-based resources and input from leaders in the field. Graduates are expected to: 1) summarize and apply literature around well-being, 2) observe, design, implement, and evaluate interventions to promote well-being at both the individual and organizational levels, and 3) begin to develop leadership skills. The evaluation of this fellowship includes: 1) monthly meetings to assess progress, 2) completion of one scholarly activity, and 3) completion of a post-fellowship survey detailing perceived readiness to supply expertise. In addition, an outline of the curriculum and lessons learned will be documented. Conclusions: This fellowship can serve as a model to equip new resident graduates with the tools and expertise necessary to serve as leaders in well-being promotion and combat our burnout crisis.

**Learning Objectives: Participants will be able to...**

- Identify key factors that contribute to physician well-being and burnout.
- List integral skills needed by physician leaders in order to address the physician burnout crisis and promote well-being.
- Discuss key factors integral to the development and implementation of a non-ACGME accredited fellowship aimed at enhancing well-being promotion and leadership skills.

**Category:** Resident Education/Curriculum

**Oral O** **Title:** Changes in Primary Care Sports Medicine Fellowship Curriculum due to COVID-19 Mandated Restrictions on High School and NCAA Division II Athletics

**Authors:** Mark Wisthoff, DO; Bobby Petro, DO; Benjamin Fetter, ATC

**Program:** St. Anthony North Family Medicine Residency

**Description:** Implementation of a weekly journal club, weekly board question review, quarterly sports medicine virtual lecture series, and ultrasound practical to determine if in-training exam scores improved and if the changes are sustainable once sporting event coverage restrictions are lifted.

**Abstract:** With mandated restrictions on organized sporting events this year due to COVID-19, primary care sports medicine fellowships across the nation have made significant curriculum changes to compensate for the decreased sports medicine event coverage. Although all program directors communicate through the American Medicinal Society for Sports Medicine's program director's forum board, there have been no standardized curriculum changes. Most programs have changed curriculum based their programs unique coverage requirements and situations. This year our fellow's event and sports coverage is 60% less compared to the fellow last year. The St. Anthony North Primary Care Sports Medicine Fellowship therefore implemented weekly required journal club, weekly board question review, a quarterly sports medicine virtual lecture series, and an ultrasound practical. Goals of the curriculum change are to determine if in-training exams scores improved and if the changes are sustainable once sporting event coverage restrictions are lifted.

**Learning Objectives: Participants will be able to...**

- Describe the effects on primary care sports medicine fellowship curriculum as a result of COVID-19 state mandated restrictions with high school and NCAA Division II sports coverage.
- Describe changes made to the program curriculum to supplement for the significant decrease in sports coverage.
- Explain if changes in curriculum influenced in-training exam scores compared to last year and if changes are sustainable once restrictions are lifted on competitive team events.

**Category:** Resident Education/Curriculum

## POSTERS

### CASE REPORT

<b>CR1</b>	<b>Project Title:</b> Scrotal-Centesis: A simple bedside procedure to relieve scrotal edema in end-stage heart failure
<b>Authors:</b>	Taylor Munro, DO; Gina Phillips, MD
<b>Program:</b>	Saint Joseph Family Medicine Residency
<b>Description:</b>	Volume overload accompanies many end-stage diseases including heart failure, cirrhosis, and pulmonary hypertension. The scrotal swelling encountered in these end-stage disease states not only causes severe pain but also contributes to poor mobility. This case report demonstrates the use of scrotal-centesis, a simple bedside procedure that effectively drains the scrotum of excessive edema, providing quick pain relief in the palliative care setting.
<b>Abstract:</b>	Volume overload accompanies many end-stage diseases including heart failure, cirrhosis, and pulmonary hypertension. The scrotal swelling frequently encountered in these end-stage disease states not only causes severe pain but also contributes to poor mobility. This case demonstrates the use of scrotal-centesis, a simple bedside procedure, to effectively drain the scrotum of excessive edema, providing quick pain relief and improved quality of life in a patient with end-stage congestive heart failure
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>Identify the tools needed to perform a scrotal-centesis</li><li>Understand how to perform a simple bedside procedure that can be used as a palliative tool for pain reduction in patients with refractory scrotal edema</li><li>Stay attuned to when gains in longevity may no longer be possible, reviewing different treatment options once the focus is comfort over cure</li></ul>
<b>Category:</b>	Case report

<b>CR2</b>	<b>Project Title:</b> aHUS and the dangers of delayed treatment
<b>Authors:</b>	Christin Thompson, MD
<b>Program:</b>	Southern Colorado Family Medicine Residency
<b>Description:</b>	To thoroughly evaluate a case study of a 64 yo women who was treated for TTP, but was subsequently diagnosed with aHUS. She had delayed treatment for aHUS after being diagnosed at a higher level of care hospital.
<b>Abstract:</b>	Purpose: thoroughly review and evaluate a case of a 64-year-old woman who was treated for TTP initially, but was subsequently diagnosed with aHUS. Methods: Progress notes, treatments, lab work throughout her hospital stay will all be thoroughly evaluated and discussed throughout treatment course. Results: Patient was diagnosed with the correct diagnosis of atypical HUS after being treated for TTP, however did subsequently receive significant kidney damage due to delayed treatment. Learning objectives: to Learn diagnosis criteria of HUS, to recognize the difference and symptoms of atypical HUS versus TTP, to learn treatment for atypical HUS and TTP
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>Learn diagnostic criteria of HUS</li><li>Recognize the difference and symptoms of atypical HUS versus TTP</li><li>Learn treatment for atypical HUS and TTP</li></ul>
<b>Category:</b>	Case report

<b>CR3</b>	<b>Project Title:</b> Unexplained Rash and Nephritis: Is it Drug-Induced Lupus?
<b>Authors:</b>	Cara Pride, MD (PGY-1), Wei-San Mondie, DO (PGY-2), Stephen Cheung, DO (PGY-3), Carmen Vandal, MD
<b>Program:</b>	Swedish Family Medicine Residency
<b>Description:</b>	Highlighting the importance of thorough evaluation in patients presenting with symptoms concerning for drug-induced lupus, and the related diagnostic challenges.
<b>Abstract:</b>	We describe a case that initially appeared to be drug-induced lupus nephritis, but further evaluation revealed an additional and important underlying diagnosis of staph-associated necrotizing glomerulonephritis. This case highlights the importance of thorough evaluation in patients presenting with symptoms concerning for drug-induced lupus, but also how difficult the diagnosis can be to confirm.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>Understand key clinical differences between drug-induced lupus and systemic lupus erythematosus.</li><li>Understand laboratory evaluation of drug-induced lupus</li><li>Manage drug-induced lupus</li></ul>
<b>Category:</b>	Case report

<b>CR4</b>	<b>Project Title:</b> A Case Study in Abdominal Pain due to Pelvic Inflammatory Disease
<b>Authors:</b>	Andrea Habel, MD; Ryan Kula, MD; Domonic Torri, DO
<b>Program:</b>	Swedish Family Medicine Residency

<b>Description:</b> A case report that highlights the importance of diligent clinic-based provider screening for pelvic inflammatory disease.
<b>Abstract:</b> Pelvic inflammatory disease (PID) is a condition commonly caused by bacterial organisms in the upper reproductive tract and can lead to scarring that reduces fertility. This results in future genital complications such as ectopic pregnancy, tubo-ovarian abscess, and chronic pelvic pain (1-3,5). The impact of PID in the general population is largely under-reported. Recent data extrapolated from the NHANES study demonstrated that PID affects approximately 2.5 million women nationwide (2) with over 150,000 hospital admissions each year in the United States. Harmful sequelae to include chronic pelvic pain (18%), infertility (16%), and increased risk of ectopic pregnancy (8.5%)(3) could be reduced with increased empiric treatment of women and their partners. This case will serve as a reminder to the clinic based provider that they should be diligent about screening, have a low threshold to empirically treat and not delay treatment pending test results.

<b>Learning Objectives:</b> Participants will be able to...
<ul style="list-style-type: none"> <li>Describe Pelvic Inflammatory Disease and the likely causal organisms</li> <li>Learn about workup and clinical presentation and diagnosis of PID</li> <li>Describe the complications and sequelae of untreated PID</li> </ul>
<b>Category:</b> Case report

<b>CR5</b>	<b>Project Title:</b> New Onset Seizure and Primary Brain Tumor in an Adult
<b>Authors:</b>	Emily Reznicek, MD; Robyn Randall, MD; Nina Ball, MD
<b>Program:</b>	Swedish Family Medicine Residency
<b>Description:</b> A case report highlighting the importance of knowing the signs in history and exams to determine appropriate imaging modalities for patients in the emergency department with new seizure.	
<b>Abstract:</b> Ten percent of people have had a non-febrile seizure by age 85 years. The majority of these seizures have an identifiable etiology. MRI detection rate of abnormalities related to seizure approaches 30%, and when an abnormality is identified, there is a 60% chance of recurrence of seizure. In our patient's case, a non-contrast CT head was used appropriately in the setting of trauma but it was not able to visualize two significant intracranial tumors. Ultimately an abnormal focal exam led to further testing with MRI. It is important to know the signs to look for on history and exam to determine the imaging modality necessary for patients in the ED with new seizure.	
<b>Learning Objectives:</b> Participants will be able to...	
<ul style="list-style-type: none"> <li>Recognize when an adult presents with a new seizure that different imaging modalities answer different questions</li> <li>Choose the necessary imaging modality for the situation</li> <li>Arrange appropriate follow up for adults with new seizure.</li> </ul>	
<b>Category:</b> Case report	

## CLINICAL MEDICINE

<b>CM1</b>	<b>Project Title:</b> Is Lidocaine with Epinephrine Safe to Use in Digital Blocks
<b>Authors:</b>	Drew Blumberg
<b>Program:</b>	St. Anthony North Family Medicine Residency
<b>Description:</b> A literature search to determine if it is safe to use lidocaine with epinephrine in digital nerve blocks.	
<b>Abstract:</b> The purpose of our project was to do a literature search to determine if it is safe to use lidocaine with epinephrine in digital nerve blocks. We found that the use of lidocaine with epinephrine (concentrations 1:100,000-200,000, or 5-10ug/ml) is safe to use in digital nerve blocks in patients with normal digital circulation as it has been shown not to cause tissue necrosis, infarction, or gangrene (SOR A: systematic review of RCTs and cohort studies, systematic literature review).	
<b>Learning Objectives:</b> Participants will be able to...	
<ul style="list-style-type: none"> <li>Understand the data available regarding using lidocaine with epinephrine for digital nerve blocks</li> <li>Understand that a large volume of data suggests it is safe to use lidocaine with epinephrine in digital nerve blocks</li> </ul>	
<b>Category:</b> Clinical Medicine	

## COVID-19

<b>COV1</b>	<b>Project Title:</b> Implementation of a COVID Call-Back Project to Follow-up with Patients
<b>Authors:</b>	Linh Nguyen, MD
<b>Program:</b>	Fort Collins Family Medicine Residency
<b>Description:</b> Creating a standardized system to follow patients of the family medicine center who contacted the clinic to report symptoms of COVID-10, and to collect data on COVID-19 symptom progression in the outpatient setting to inform appropriate follow up timelines.	
<b>Abstract:</b> In March 2020, prior to widespread testing abilities, patients of the Family Medicine Center (FMC) were calling the triage nurse to report possible symptoms of COVID-19. Given FMC's high risk population, the severity of COVID-19,	

and patients' reluctance to access medical care during the pandemic, our clinic wanted to ensure that these patients received follow up phone calls. We wanted to identify patients who may be worsening at home and direct them to appropriate care; however, there was not a system in place to ensure that this was happening. This project's purpose was to create a standardized system to address this issue and follow patients who contacted the clinic with symptoms of COVID-19. A secondary aim was data collection of COVID-19 symptom progression in the outpatient setting to inform appropriate follow up timeline.

**Learning Objectives: Participants will be able to...**

- Describe several options for tracking patients who contact a clinic
- Determine the best strategy for tracking patients with COVID symptoms

**Category:** COVID-19

## HEALTH EQUITY

HE1	<b>Project Title:</b> Decreasing Implicit Bias: Determining the need for urine drug screens in pregnancy among new OB patients at initial prenatal visits at an outpatient OB residency clinic
<b>Authors:</b> Dr. Ranjot Basram, DO; Leslie Ayers-Reichert, Clinical Social Worker	
<b>Program:</b> Fort Collins Family Medicine Residency	
<b>Description:</b> This study looked at family medicine residents in an outpatient OB residency clinic, and how they used a drug screening algorithm as shown in the poster presentation, to determine the need for urine drug screens at 24 and 32 weeks of pregnancy among new OB patients at initial prenatal visits. The purpose of this study was to have a screening algorithm that reduced the subjectivity and implicit bias when determining who we need to screen in pregnancy based off individual patient's drug use history.	
<b>Abstract:</b> Implicit Bias in OB Initial Prenatal Drug Screening Is an important issue in primary care because many patients of color are wrongly prejudged. Studies have shown that patients of color are more likely to be ignored with regards to pain control and have higher mortality in pregnancy. The Fort Collins Family Medicine Center faced a problem at initial prenatal visits implicit bias amongst staff led to patients with similar history getting more frequent drug screens than others. This was noted specifically when one woman of color with distant drug history was screened two more times compared to a Caucasian female without any additional risk factors. The purpose of this project was to reduce this implicit bias. We expect results to show that patients with similar histories regardless of race be screened appropriately.	
<b>Learning Objectives: Participants will be able to...</b>	
<ul style="list-style-type: none"> <li>• Determine who to screen during pregnancy for drug use</li> <li>• Reduce implicit bias</li> <li>• Counsel patients equally on risks of drug use in pregnancy</li> </ul>	
<b>Category:</b> Health Equity	

HE2	<b>Project Title:</b> Gender-Affirming Care Resource for Patients: Helpful or Information Overload?
<b>Authors:</b> Beth Buehrer, MD	
<b>Program:</b> St. Anthony North Family Medicine Residency	
<b>Description:</b> Dr. Buehrer created a patient-oriented in-depth booklet on hormone therapy for gender-affirming care. Her question was if this type of resource is useful, information-overload and unnecessary or simply not felt to be valuable to patients. A survey was sent out to patients to answer these questions and provide a space for feedback and ideas for future iterations of this booklet.	
<b>Abstract:</b> OBJECTIVE: To determine if having a pre-provided material detailing expectations, risks and regimens of medical transitioning for transgender and non-binary individuals impacts a patient's decision to continue or begin cross-sex hormones, compared to a likely less-detailed verbal explanation from provider at initial visit. STUDY DESIGN: Family medicine adult patients with gender dysphoria who are contemplating or have already initiated cross-sex hormone therapy were contacted for this study. A booklet and survey were provided to assess if this type of informative material would impact their decision to begin or continue hormone therapy or may have changed their mind on initiating if they had the information previously. RESULTS: Data will be pooled and average responses to numerical survey questions will be analyzed. CONCLUSIONS: The benefit of a material such as this booklet, compared to the likely less-detailed and traditional verbal explanation, on a patient's decision to undergo/continue a medical transition.	
<b>Learning Objectives: Participants will be able to...</b>	
<ul style="list-style-type: none"> <li>• Understand the expectations, risks and regimens of a medical transition for transgender and non-binary individuals</li> <li>• Evaluate if patients' medical decisions are impacted by a written and more-detailed explanation of treatment plan</li> </ul>	
<b>Category:</b> Health Equity	

## INPATIENT MEDICINE

IM1	<b>Project Title:</b> Standardization of Patient Handoffs for a Residency Inpatient Service: A Pilot Intervention
<b>Authors:</b> Theodore Louis Bross III, MD; James William Bowie, MD; Jesse Edwin Troutman, DO	

<b>Program:</b> St. Anthony North Family Medicine Residency
<b>Description:</b> A standardized, I-PASS handoff with technology aid was implemented on a busy family medicine inpatient service with pre- and post-intervention questionnaire analysis to measure subjective improvement and satisfaction.
<b>Abstract:</b> OBJECTIVE: To determine if a standardized, I-PASS handoff with technology aid can be successfully implemented to subjectively improve inpatient handoffs on a busy family medicine inpatient service. STUDY DESIGN: A pre-intervention questionnaire was distributed to residents and faculty with responses analyzed by all three authors. Interventions were performed including implementation of structured I-PASS handoffs and reformatting of the previously used EMR-based sign-out form. A post-intervention questionnaire was distributed with results analyzed by the authors after a six-month period of structured handoffs. RESULTS: Pre- and post-intervention surveys demonstrated improvement in all but one subjective measure of inpatient handoffs, importance, which remained equivocal. CONCLUSIONS: An I-PASS structured handoff with technology aid can be successfully implemented into a busy resident inpatient service with subjectively improved communication and satisfaction of program faculty and residents.
<b>Learning Objectives: Participants will be able to...</b>
<ul style="list-style-type: none"> <li>Identify patient handoffs as an important aspect of patient care</li> <li>Recognize patient handoffs as necessary curricula for residents on a busy inpatient service</li> <li>Standardized patient handoffs can successfully be implemented into a busy family medicine residency inpatient service</li> </ul>
<b>Category:</b> Inpatient medicine

<b>IM2</b>	<b>Project Title:</b> Development of an Electronic Health Record Workflow for Abnormal Uterine Bleeding
<b>Authors:</b> Jeannie Folan, MD; Kate Rutledge, MD	
<b>Program:</b> Fort Collins Family Medicine Residency	
<b>Description:</b> The development pathways to improve EHR workflow can allow providers to better make clinical decision based on the most current data and recommendations. In the Primary Care setting, these workflows can be used to more efficiently evaluate and treat a patient presenting with a certain problem. One hospital in Northern Colorado has enlisted family medicine resident physicians to develop and improve EHR workflows given their broad scope of practice and interactions with many types of patients in the inpatient and outpatient settings. The purpose of this project is to develop an EHR workflow for Abnormal Uterine Bleeding to assist in clinical decision making in a primary care setting.	
<b>Abstract:</b> The development pathways to improve EHR workflow can allow providers to better make clinical decision based on the most current data and recommendations. In the Primary Care setting, these workflows can be used to more efficiently evaluate and treat a patient presenting with a certain problem. One hospital in Northern Colorado has enlisted family medicine resident physicians to develop and improve EHR workflows given their broad scope of practice and interactions with many types of patients in the inpatient and outpatient settings. The purpose of this project is to develop an EHR workflow for Abnormal Uterine Bleeding to assist in clinical decision making in a primary care setting.	
<b>Learning Objectives: Participants will be able to...</b>	
<ul style="list-style-type: none"> <li>Describe ways to become involved in developing EHR Workflows</li> <li>More efficiently evaluate and treat Abnormal Uterine Bleeding</li> </ul>	
<b>Category:</b> Inpatient medicine	

## MEDICAL STUDENT EDUCATION/CURRICULUM

<b>MCE1</b>	<b>Project Title:</b> Pointing Out Evidence to Medical Students (POEMS). Creating an evidence-based practice curriculum for third-year medical students.
<b>Authors:</b> Michael Rudolph, MD	
<b>Program:</b> St. Anthony North Family Medicine Residency	
<b>Description:</b> In this project, we have designed and implemented an evidence-based practice curriculum among a group of ten third-year medical students. Students form a clinic question, develop an answer using available evidence, and perform brief critical appraisal. Learning occurs longitudinally through didactic teaching, large group presentations prepared by students, and peer learning.	
<b>Abstract:</b> It is generally agreed that applying evidence to medical decision-making leads to better patient outcomes, and, in recent years, there has been increasing interest in teaching evidence-based practice to health professions students. However, the optimal educational strategy remains unclear, especially in the clinical setting. In this project, we have designed and implemented an evidence-based practice curriculum among a group of ten third-year medical students. This curriculum occurs longitudinally and includes didactic teaching, large group presentations prepared by students, and peer learning. It requires students to form a clinic question and develop an answer using available evidence. Initial results demonstrate a knowledge deficit in evidence-based practice among these students; data regarding effectiveness are pending.	
<b>Learning Objectives: Participants will be able to...</b>	
<ul style="list-style-type: none"> <li>Explain the current status of evidence-based practice curriculum in undergraduate medical education.</li> <li>Describe a strategy for improving evidence-based practice literacy among third-year medical students.</li> </ul>	
<b>Category:</b> Medical Student Education/Curriculum	

## MATERNAL AND CHILD HEALTH

<b>MCH1</b>	<b>Project Title:</b> Increasing Postpartum Visit Turnout by Implementing a Two-Week Postpartum Visit
<b>Authors:</b>	Emily Bressan, MD, Jodi Fitzgerald, MD, Chloe Holmes, MPH
<b>Program:</b>	St. Anthony North Family medicine Residency
<b>Description:</b>	This project describes the implementation of a standard two-week postpartum visit in place of the current practice norm, a six-week visit in the outpatient clinic setting. We compared visit turn out rate, time to follow up, and rates of discussion several common postpartum concerns before and after our intervention. Our intervention significantly decreased time to follow up, showing an effective intervention. Visit turn out also increased but did not meet significance threshold.
<b>Abstract:</b>	Postpartum concerns, including issues related to feeding, infant behaviors, perineal care, family planning, and mood changes, often arise in the first few weeks postpartum. This project aimed to increase rates of postpartum visits and evaluate if an earlier postpartum visit increases frequency of identifying and addressing common concerns. We implemented a two week postpartum visit in place of the traditional six week visit for family medicine patients who delivered at St Anthony North Hospital. On discharge, providers were prompted to schedule patients for their two week visit and encouraged to use a postpartum visit note template at the postpartum appointment. A list of deliveries from June to September 2020 was generated and each chart was individually reviewed, noting timing of the postpartum visit and issues addressed. Similar data was obtained after the project was implemented from October 2020 to February 2021 and the difference in rates were evaluated. The results are under analysis.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>• Rates of postpartum visits from the standard six weeks to two weeks</li><li>• The benefits of implementing a two week postpartum visit for detecting common postpartum issues</li><li>• Identify common patient concerns or issues and what needs should be addressed at postpartum visits.</li></ul>
<b>Category:</b>	Maternal and child health

<b>MCH2</b>	<b>Project Title:</b> The effect of early amniotomy induction of labor algorithm on duration of labor
<b>Authors:</b>	Sofia Davies, DO, MS; Kate Weniger, DO; Kylie Beukema, MD
<b>Program:</b>	St. Anthony North Family Medicine Residency
<b>Description:</b>	Evaluating the efficacy of early amniotomy induction of labor algorithms on induction time.
<b>Abstract:</b>	OBJECTIVE: To evaluate the effect of early amniotomy induction of labor algorithms on induction time STUDY DESIGN: An induction of labor algorithm was created incorporating amniotomy recommendations earlier in labor for family medicine residency patients presenting for induction of labor. Physicians were provided an educational seminar regarding this algorithm. Labor and delivery records over a five month period were evaluated to determine outcomes pre and post algorithm implementation RESULTS: Data is currently being analyzed to assess primary and secondary outcomes. Primary outcomes include duration of labor and duration of rupture of membranes. Secondary outcomes include incidence of chorioamnionitis, postpartum hemorrhage, cesarean section, APGAR scores and newborn sepsis. CONCLUSION: We will assess the effect of introducing early amniotomy algorithms on primary and secondary outcomes.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>• Evaluate the efficacy of an early amniotomy algorithm on induction of labor times.</li><li>• Evaluate the safety of an early amniotomy algorithm.</li></ul>
<b>Category:</b>	Maternal and child health

<b>MCH3</b>	<b>Project Title:</b> Where did the blood go? Case report about anemia in pregnancy
<b>Authors:</b>	Trey Van Maanen; Jake Goldman, MD; Rachel Carroll
<b>Program:</b>	Swedish Family Medicine Residency
<b>Description:</b>	Case report of a pregnant patient with paraplegia that recently underwent surgical management of chronic sacral ulcers and was found to have severe anemia
<b>Abstract:</b>	Case report of a pregnant patient with paraplegia that recently underwent surgical management of chronic sacral ulcers and was found to have severe anemia. An extensive work-up including serial CBCs, iron panel, hemoglobin electrophoresis, vitamin levels, and multiple consults to various specialties was eventually inconclusive. Her work-up led to exploring broad differential diagnoses of anemia in pregnancy and possible treatments that can be beneficial in both the inpatient and outpatient settings.
<b>Learning Objectives:</b>	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"><li>• Create a broad differential on the causes of anemia in pregnancy</li><li>• Understand the importance of early detection and treatment of iron deficiency anemia</li><li>• Understand the different treatment modalities for anemia and when they are best used</li></ul>
<b>Category:</b>	Maternal and child health

MCH4	<b>Project Title:</b> Effect on Provider Satisfaction and Burnout with Transition from Home Call to a Laborist Family Medicine OB Model
Authors:	Allie Johnson, MD; Melissa Beagle, MD, MPH, Roxi Radi, MD, MPH, TJ Staff, MD
Program:	University of Colorado Family Medicine Residency, Denver Health
Description:	In 2019, the Denver Health Family Medicine OB faculty transitioned from a 24-hour home call model to an in-house laborist model for inpatient OB coverage. This change was associated with improvements in faculty work-life balance, teaching opportunities, and likelihood of remaining in the OB call pool. We hope our experience can help other programs that may be considering changes to their own coverage models.
Abstract:	We are studying the effects of a transition from home call to a laborist model of coverage for inpatient maternity care at the Denver Health Track of the University of Colorado Family Medicine Residency. In 2020, we found that during the first six months of the new laborist model, resident and attending satisfaction improved in several key areas, including work-life balance for attendings and residents' ability to participate in continuity deliveries. This year, the laborist model has continued amidst the COVID-19 pandemic and with new residents and attendings joining the team. We will present results from a follow-up study, conducted in March 2021, of residents' and attendings' experiences under this model, to identify ongoing strengths and areas for improvement. We hope to use these results to inform future directions for our own program and to disseminate our lessons learned to other programs.
Learning Objectives:	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"> <li>Describe strengths and weaknesses of different models of inpatient maternity care coverage</li> <li>Consider how changes in call models could affect quality of care and/or provider satisfaction at their own institution</li> </ul>
Category:	Maternal and child health

## OUTPATIENT QUALITY IMPROVEMENT

OQI1	<b>Project Title:</b> Building provider confidence in addressing adverse childhood experiences (ACEs)
Authors:	Taylor Munro, DO; Paola Casillas, MD; Gina Stroud, MD; Tyler Jones, MD; Haley Hoffman, DO; Katie Klein, MD; Sara Weeks, DO; Abria Bonner, MD; Maija Swanson, MD
Program:	Saint Joseph Family Medicine Residency
Description:	Adverse Childhood Experiences have a tremendous impact on our patient's health, well-being, and life-expectancy. Addressing ACEs in a residency clinic is further challenged by lack of continuity. This QI project aimed to create point of care resources to help residents screen for and address ACEs in our pediatric population.
Abstract:	Adverse childhood experiences have a tremendous impact on our patient's health, well-being, and life-expectancy. This QI study aimed to determine if creating point of care tools can increase resident confidence in screening for and addressing ACEs. First, residents were surveyed to identify topics residents feel the least comfortable discussing with patients including: domestic violence, substance use, mental health, and ACEs. Residents identified ACEs as the topic they feel the least comfortable addressing. Before the interventions, on a scale from 1 to 5, 1 being not confident at all, and 5 being extremely confident, the average score of resident confidence in screening for ACEs was 2.2. The average resident confidence in screening for ACEs was 2.8. For addressing ACEs, the average pre-survey confidence level was 2.1 and the post-survey confidence level was 2.4. Creating POC tools can build provider confidence; however, more time is needed for implementation to see more significant gains in provider confidence.
Learning Objectives:	<b>Participants will be able to...</b>
	<ul style="list-style-type: none"> <li>Identify practical tools to screen for adverse childhood experiences in the outpatient setting</li> <li>Understand how point of care tools can assist in having difficult conversations with patients</li> <li>Identify potential roadblocks in screening for and addressing adverse childhood experiences</li> </ul>
Category:	Outpatient quality improvement (QI)

OQI2	<b>Project Title:</b> Capturing the impact: screening for social determinants of health across family medicine residency clinics
Authors:	Travis Simmons, MD; Sara Schuster, MD; Connor Harmann, MD; Emily Tomasino, DO; Taylor Reiser, DO; Matthew Parker, MD; Laura Strickland, MD; Ken Tisdale; Kathi Brewer
Program:	St. Anthony North Family Medicine Residency
Description:	An outpatient quality improvement project to understand the degree to which SDOH insecurities impact patients across three clinics.
Abstract:	Social determinants of health (SDOH) have a significant impact on health. We sought to understand the degree to which SDOH insecurities impact patients across our three clinics. A survey was distributed to all in-person clinic patients (n=924) in October and November 2020 to screen for these insecurities and the degree they impact patients. 31% had difficulty paying for food, housing, medical care or heating, 26.3% had food insecurity, 21% endorsed difficulty obtaining food between paychecks, 8.5% found lack of transportation an obstacle to receiving medical care or medications, 9.6% endorsed lack of transportation limiting work. Patients who screened positive we provided a resource page that included transportation, food banks, housing assistance and financial support. This information allows us to focus on each clinic's areas of highest need and can be factored into clinical decisions, used to obtain grants and resources, and advocate for policy that will positively impact our patients.

**Learning Objectives: Participants will be able to...**

- Create a simple flow to screen for social determinants of health.
- Understand the impact of social determinants of health in our three residency clinics
- Have an easy way to provide our patients resources during a short clinic visit.

**Category:** Outpatient quality improvement (QI)**OQI3 Project Title:** Protecting Your Backside - A Rural Training Site Colorectal Screening QI Project**Authors:** Daffer Ghanim, MD; Morgan Hungenberg, DO**Program:** University of Colorado, Morgan County Rural Training Track**Description:** QI Project looking at Colorectal Cancer and ways to increase screening rates at local clinic.

**Abstract:** According to the American Cancer Society, Colorectal Cancer (CRC) is the third leading cause of death in the United States for both men and women and is the second leading cause of death when combining both men and women. 1 in 23 men and 1 in 25 women have a lifetime risk of developing CRC. There is an increased number of eligible patients for CRC screening who miss the opportunity to be screened. This leads to an increased number of CRC-related deaths overall in the United States. Contributing factors to those missed opportunities include low health literacy, poor access to primary care, and misunderstanding of the different options for CRC screening methods. Having appropriate interventions to those potential causes may increase CRC screening rates and thus lead to a decrease in CRC related deaths. This project will be completed in April 2020 with the expected outcomes of increasing CRC screening in Salud Clinic Fort Morgan and decreasing CRC-related deaths; this will be done by increasing patient awareness of CRC screening and improving access and education on different options of CRC screening for patients. More research will be needed to determine specific rural based population burdens of health and how they impact CRC screening compared to urban centers and how we can close this gap.

**Learning Objectives: Participants will be able to...**

- Understand health disparity between rural and urban population.
- Explain contributing factors to low numbers of CRC screening.
- Apply simple low-cost targeted intervention principles that will have a large impact on increasing rural CRC screening.

**Category:** Outpatient quality improvement (QI)**OQI4 Project Title:** Implementation of Auricular Acupuncture in Family Practice Clinic**Authors:** Michael Keane, DO**Program:** Southern Colorado Family Medicine Residency**Description:** Teaching medical residents at the clinic to be competent in the theories, efficacies, and the procedures of NADA five-point year acupuncture.

**Abstract:** Acupuncture is a method of treatment that has been used in China for over 3000 years for a variety of ailments. Auricular acupuncture is now used successfully in the treatment of all types of psychological/behavioral issues. Benefits include minimization of withdrawal symptoms, improved sleep, increasing calmness, decreasing agitation, relief from stress and emotional trauma, discovery of inner quiet and strength, easier connection with counseling and intention for recovery, reducing cravings for alcohol, nicotine, and other drugs. The purpose of this project is to teach medical residents at our Southern Colorado Family Medicine clinic to be competent in the theories, efficacies, and procedures of NADA five-point year acupuncture. I would like to encourage MDs and DOs alike to implement this service into their daily practices for the betterment of their patients. My goal is to measure the confidence/desire of my fellow residents to implement NADA following my instruction and demonstration.

**Learning Objectives: Participants will be able to...**

- Benefits of Auricular Acupuncture
- Ease of implementation of NADA into every day clinic visits.
- MD and DO confidence in performing NADA acupuncture

**Category:** Outpatient quality improvement (QI)**OQI5 Project Title:** Continuity of Care in a Residency Clinic: The impact of implementing an Open Access schedule**Authors:** Daniel Edmondson, MD; Kristin K Andreen, MD**Program:** Fort Collins Family Medicine Residency

**Description:** Continuity is a fundamental feature of primary care that is known to improve medical care and patient satisfaction, yet it remains challenging for residency programs to foster continuity within their clinics. In 2020, the Fort Collins Family Medicine Center implemented an Open Access scheduling system. In this study, we recorded continuity data before and after the Open Access schedule was implemented, and interviewed schedulers about perceived barriers to scheduling patients with their primary provider.

**Abstract:** Continuity has always been a fundamental feature of primary care that is known to improve medical care and patient satisfaction. Studies have shown that continuity of care decreases emergency department utilization and hospitalizations while also fostering preventive health. The Fort Collins Family Medicine Center (FMC), like many academic clinics, struggles to consistently provide continuity for its patients and providers. However, in the summer of

2020, FMC made a major adjustment to its scheduling process by only opening appointment slots in two weeks intervals. The purpose of this project was to 1) Record/report how the recent FMC scheduling change impacted continuity rates, and 2) Collect information from FMC staff on current perceived barriers to scheduling patients with their primary physician. The data we have gathered thus far has shown that the new scheduling format has increased continuity rates, while the major barrier perceived by FMC staff in scheduling patients with their primary physician continues to be provider availability.

**Learning Objectives: Participants will be able to...**

- Discuss the challenges of implementing an Open Access schedule
- Evaluate effectiveness of Open Access schedule on increasing continuity

**Category:** Outpatient quality improvement (QI)

## PREVENTATIVE CARE

<b>PC1</b>	<b>Project Title:</b> Improving CRC Screening Compliance Using non-Provider Resources
<b>Authors:</b>	Robert Fineberg, MD; Bradley Brown, DO
<b>Program:</b>	St. Anthony North Family Medicine Residency
<b>Description:</b>	Increasing compliance of CRC screening based on USPTF guidelines, with an optimized systemic algorithm and executing it by using a low-cost MA.
<b>Abstract:</b>	Colorectal cancer ("CRC") is the second most common cause of cancer death in the US. In 2020, approximately 150,000 people will have been diagnosed with CRC. As CRC is a slowly progressive disease, routine screening is the cornerstone of survivorship. The goal of our project was to increase compliance of CRC screening based on USPTF guidelines. Our methods included optimizing a systemic algorithm and executing it by utilizing a low-cost MA to data mine, continually contact patients, pend orders, and routinely follow-up with patients regarding their CRC screening. Results: For the two providers' panels surveilled, we uncovered a disparity between CRC screening documentation (patient is up-to-date but result is not documented correctly (4)) increased new CRC screenings (6) and additionally ordered screenings not yet completed (12). Additionally, the methods and expected results can be easily extrapolated to other patient-centered health maintenance metrics.
<b>Learning Objectives: Participants will be able to...</b>	
•	Develop an algorithmic workflow to have a dedicated MA follow to reach out to patients with.
•	Show how a low-cost resource, such as an MA, can practice at the top of their license and make a large/lasting impact on patients and the practice and thereby propose it to their clinical staff to allocate resources.
•	Demonstrate how this workflow can be readily extrapolated to other Health Maintenance screenings without much extra effort.
<b>Category:</b>	Preventative care

<b>PC2</b>	<b>Project Title:</b> Preventable Disease in Colorado: A study on rural MMR vaccination rates
<b>Authors:</b>	Katherine Nicolich, BS, SD; Jacob Gerken, MS, SD
<b>Program:</b>	Rocky Vista University College of Osteopathic Medicine ***Medical Student Submission
<b>Description:</b>	Identifying socioeconomic and geographic factors influencing parents to vaccinate their children against MMR, utilizing data from the Colorado Department of Public Health and Environment and comparing rural vs urban school districts.
<b>Abstract:</b>	Despite Immunize Colorado (formerly Colorado Children's Immunization Coalition) advocating for legislature mandating childhood MMR vaccination, Colorado consistently ranks among the lowest states in MMR vaccination coverage. In 2020, the state's MMR vaccination rate was 87.4%, below the level for measles outbreak prevention. The goal of our study was to identify socioeconomic and geographic factors influencing parents to vaccinate their children against MMR. We expect MMR vaccination rate differences in rural vs. urban Colorado districts and will explore the demographic differences between these communities. Utilizing data from the Colorado Department of Public Health and the Environment, we compared rural vs. urban school districts between 2017-2020 and evaluated the data using a generalized linear model. The results indicated higher MMR vaccine compliance in rural school districts and increased compliance each school year since 2017. We concluded that, despite improvements in MMR vaccination rates since 2017, significant discrepancies in compliance remain.
<b>Learning Objectives: Participants will be able to...</b>	
•	Understand the association between rural or urban populations and MMR vaccination rates
•	Identify factors associated with higher MMR vaccination rates.
<b>Category:</b>	Preventative care

<b>PC3</b>	<b>Deferred to 2022</b>
<b>PC4</b>	<b>Project Title:</b> Oral Curcumin Supplementation Improves Delayed-Onset Muscle Soreness
<b>Authors:</b>	Taylor Hart, MD; Matthew Ludemann, MD

**Program:** St. Anthony North Family Medicine Residency

**Description:** Delayed-onset muscle soreness (DOMS) is a phenomenon associated with muscle pain and tenderness following heavy exercise. Our findings showed that oral curcumin supplementation of 500-2500 mg given for 2.5 to 28 days prior to strenuous exercise may result in a moderate decrease in patient-reported delayed onset muscle soreness (SOR B, based on multiple RCTs).

**Abstract:** Delayed-onset muscle soreness (DOMS) is a phenomenon associated with muscle pain and tenderness following heavy exercise, presumably caused by inflammation and reactive oxygen species formation. Curcumin is an extract from the root of the curcuma plant, commonly known as turmeric. Interestingly, curcumin has proven natural anti-inflammatory and antioxidant properties. This FPIN/HDA was meant to investigate the effect of curcumin supplementation on DOMS. Our findings reveal that oral curcumin supplements of 500-2500 mg daily given for 2.5 to 28 days prior to exercise results in a moderate decrease in patient-reported delayed-onset muscle soreness.

**Learning Objectives: Participants will be able to...**

- Describe commonly used methods to induce and interpret delayed-onset muscle soreness (eccentric exercise protocol and visual analog scale).
- Explain the role of curcumin supplementation in reducing delayed-onset muscle soreness.
- Recognize potential limitations in the included studies.

**Category:** Preventative care