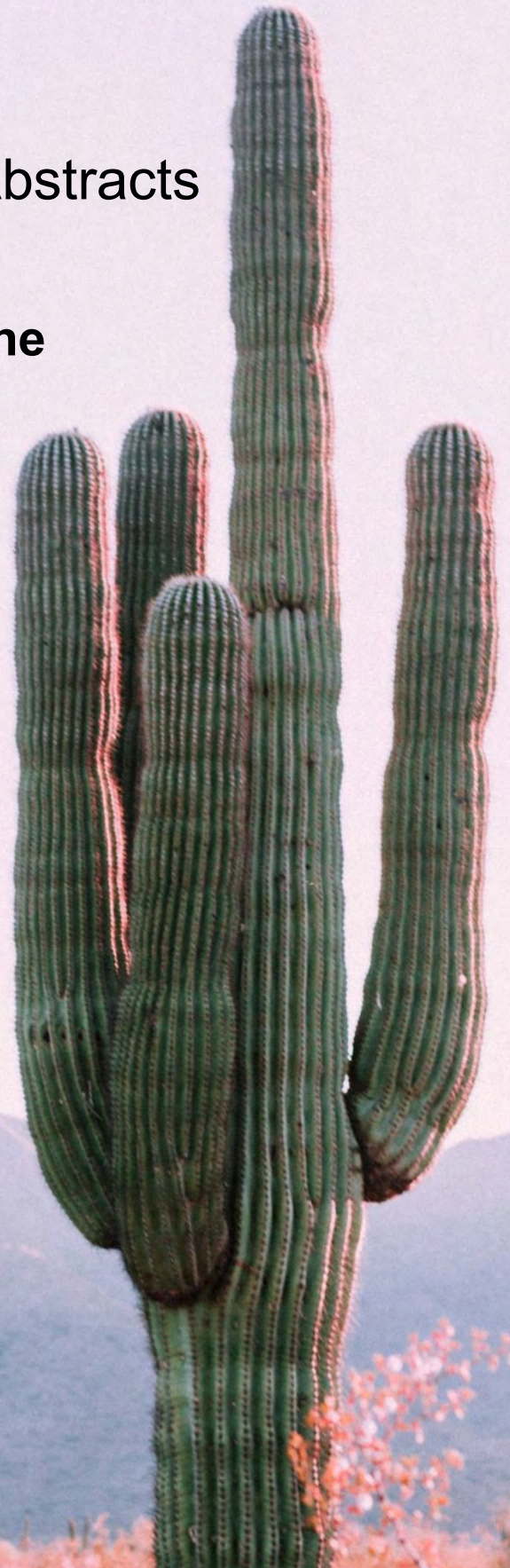


# Oral and Poster Presentation Abstracts

## Arizona Academic Family Medicine Innovation Conference

Friday, April 4, 2025  
Phoenix, Arizona



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# Oral Presentations

(Alphabetical by Primary Author)



**Bella Ayala**

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## **Leadership Lessons from a Quality Improvement Project to Decrease the Avoidable Days**

**Introduction:** Extended hospital stays drive up costs for patients, payors, and health systems. For this reason, it is crucial to minimize “avoidable days” (ADs), or delays to discharge after a patient is medically stable. Delays in determining decision-making capacity is a significant contributor to ADs. The present study implemented the U-CARE tool with multifaceted intervention to decrease ADs at a community hospital in Lebanon, Pennsylvania.

**Methods:** A quasi-experimental pre-post intervention study was conducted. The number of ADs between 2021-2022 (pre-intervention) was compared to the number of ADs between 2022-2023 (post-intervention). There were three components of the multifaceted intervention. First, the Director of Hospital Medicine educated all attending physicians and residents on the use of the U-CARE assessment tool. Second, case managers performed weekly audits of patient charts and sent reminders about ADs to the hospitalist physician. Third, multidisciplinary rounds (MDR) included a scripted inquiry about ADs to prompt physicians to use the U-CARE tool. The study was determined to be a quality improvement project and received exemption from IRB approval.

**Results:** ADs were plotted in a graph to demonstrate trends in ADs between the four phases of the study. During phase 0 (pre-intervention), the average of ADs was 208. During the intervention, the average for ADs was 163 before a leadership change occurred and 534 after the change. The average ADs post-intervention was 262. From this data, ANOVA values were calculated with an F ratio of 11.4, indicating a statistically significant difference among the groups.

**Conclusions:** The effect of the leadership change on ADs was significant. In particular, it highlights the importance of delegating tasks, setting SMART goals, and adjusting to change. Further research is needed to assess the efficacy of U-CARE tool implementation in reducing ADs.





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## **Extragenadal Endometriosis Presenting as Appendiceal Mass and Acute Appendicitis**

**Introduction:** Endometriosis is defined as normal endometrial glands and stroma outside the uterine cavity. Common presentations include pelvic pain, infertility, dyspareunia, and dyschezia. This case report details the rare presentation of extragenadal endometriosis in the setting of acute, atypical right lower quadrant pain to emphasize the importance of considering endometriosis as a differential diagnosis in reproductive-age women presenting with acute abdominal pain.

**Case Presentation:** A 45-year-old female presented to the Emergency Department with acute right lower abdominal pain. The patient had a history of moderate dysmenorrhea and heavy menstrual bleeding. On exam, vital signs were stable, but she exhibited severe right lower quadrant and pelvic tenderness with guarding. Laboratory results revealed an elevated white blood cell count and a CA-125 level of 92.7. Diagnostic CT scan revealed an enlarged appendix, acute appendicitis and appendiceal mass, which was further evaluated by an MRI to rule out malignancy. The patient was treated with antibiotics, and interval operative laparoscopy was performed, including appendectomy, removal of the appendiceal mass, and right hemi-colectomy. Final histopathology confirmed a 2.8 cm endometriotic lesion involving the appendix wall and surrounding tissue. The patient subsequently underwent a robotic-assisted hysterectomy, excision of endometriosis lesions, bilateral salpingectomy, left ovarian oophorectomy, and right ovarian cystectomy. Histopathology confirmed stage IV endometriosis.

**Discussion:** Endometriosis of the appendix is a rare diagnosis with a prevalence of 0.4-1% in the general population. Preoperative diagnosis remains challenging, as no reported radiological features describe appendiceal endometriosis and differentiate from appendicitis or appendiceal malignancy. Within the gynecological community, appendectomy is supported if a gross abnormality is found or with persistent right lower quadrant pain alone. Appendectomy without gross abnormality at the time of surgery for endometriosis is lacking supportive prospective data. However, retrospective data supports surgical intervention in an acute setting, given the potential for preventative, diagnostic, and therapeutic benefits.

**Conclusion:** Extragenadal endometriosis is a rare condition with atypical presentations. High suspicion is needed in reproductive-age women with acute right lower quadrant pain for early diagnosis and management.



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### **Pantry Perfect: Food Box Prescription Program**

Dignity Health's 2022 Community Health Needs Assessment identified nutrition as a key need in the community served by Mercy Gilbert Medical Center (MGMC). Pantry Perfect: Food Box Prescription Program is designed to combat food insecurity among vulnerable patients of the Family Medicine Clinic at MGMC. This initiative recognizes the significant influence of food insecurity on health outcomes, particularly in managing chronic diseases such as diabetes, hypertension, high cholesterol, and obesity.

The primary aim of the program is to evaluate the impact of bimonthly customized food boxes on participants' health and dietary habits. This is a collaborative effort between the Pathways to Wellness Community Health Works program at MGMC; FrescaZona, a Creighton Community Foundation LLC that curates food boxes tailored for each participant's unique medical conditions; and a local church. By combining medical, nutritional, and community-based support, this collaboration offers a distinctive, holistic approach to addressing food insecurity and chronic health conditions among vulnerable individuals.

Participants will be screened for food insecurity using questions integrated into the EHR SDOH Risk Screening tool. Those older than 18 years identified as food insecure or currently enrolled in Medicare or Medicaid will be invited to join the program provided they have some chronic disease such as diabetes, hypertension, high cholesterol, or obesity. Upon signing a consent form, participants will be enrolled to receive bimonthly food boxes. Participants will complete self-administered surveys regarding their nutrition and activity levels at baseline, at three months, and at six months post-enrollment to assess changes in health behaviors.

By addressing food insecurity, the Pantry Perfect Program seeks to empower participants in their health management, ultimately fostering improved dietary habits and health outcomes related to chronic conditions and improved access to nutrition. Next steps include analyzing collected data to evaluate the program's effectiveness, identifying opportunities for refinement and recruitment, and exploring scalability within other Dignity Health facilities or community health programs. Findings will inform future collaborations, funding opportunities, and strategies to sustain and expand the program's reach and impact.

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## **Rabbit Syndrome (RS): A Rare Movement Disorder Following Antipsychotic Discontinuation**

**Introduction:** Rabbit syndrome (RS) is a rare extrapyramidal movement disorder characterized by rhythmic perioral tremors. It is most commonly associated with long-term antipsychotic use or abrupt discontinuation, highlighting the need for careful monitoring and management.

**Case Presentation:** We present the case of a 49-year-old female with a history of ADHD, panic attacks, anxiety, and depression who developed RS following the discontinuation of aripiprazole (Abilify). Despite being on escitalopram (Lexapro) 20 mg daily and aripiprazole 15 mg HS for four years, she continued to experience persistent depressive symptoms, including low mood, anhedonia, distressing thoughts, irritability, low energy, appetite fluctuations, and sleep disturbances. Due to a lack of clear indication for aripiprazole and emerging side effects—including periodic limb movements and metabolic changes—a gradual taper was initiated. The dose was reduced to 5 mg HS, and one month later, aripiprazole was discontinued altogether.

Three months post-discontinuation, the patient developed involuntary perioral movements, which caused significant distress and sleep disturbances. She was diagnosed with RS and treated with benztropine (Cogentin) 1 mg BID, resulting in a 70% improvement in symptoms within one month.

**Discussion:** Although the risk of RS is lower with second-generation antipsychotics (SGAs) compared to first-generation agents, published cases remain limited to just eleven reports. Current management strategies include gradual tapering, switching to alternative antipsychotics, and the use of anticholinergic agents, with some evidence supporting  $\beta$ -blockers for symptomatic relief. Crucially, differentiating RS from tardive dyskinesia (TD) is essential to ensure appropriate treatment.

**Conclusion:** The pathophysiology of RS remains unclear, emphasizing the need for further research to elucidate its mechanisms and optimize therapeutic approaches. This case highlights the importance of clinician awareness, careful medication tapering, and early recognition of movement disorders in psychiatric practice.

# Case Reports/Series Abstract

(Alphabetical by Primary Author)



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## **Accidental Viagra Overdose in a 76-year old Male**

**Introduction:** Sildenafil, a phosphodiesterase type 5 (PDE5) inhibitor, is widely prescribed for erectile dysfunction and pulmonary arterial hypertension. While generally well-tolerated, sildenafil can lead to systemic vasodilation and hemodynamic instability at supratherapeutic doses. We present a case of a transient ischemic attack (TIA) following sildenafil overdose, emphasizing clinical considerations in managing such cases.

**Case Presentation:** A 54-year-old male with a history of hypertension and hyperlipidemia presented to the emergency department with sudden-onset left-sided weakness, slurred speech, and dizziness one hour after ingesting an excessive dose of sildenafil. Initial vital signs revealed hypotension (BP: 85/60 mmHg) and tachycardia (HR: 112 bpm). Neurological examination demonstrated mild hemiparesis and dysarthria, which resolved within 30 minutes. Emergent imaging, including CT and MRI, showed no acute infarction. Laboratory tests were unremarkable aside from mild hypokalemia.

**Discussion:** The patient's presentation was consistent with a transient ischemic attack, likely precipitated by sildenafil-induced systemic hypotension and cerebral hypoperfusion. PDE5 inhibitors can cause significant vasodilation, particularly in individuals with predisposing cardiovascular risk factors. This case underscores the importance of recognizing sildenafil overdose as a potential cause of cerebrovascular events. Management involves supportive care, hemodynamic stabilization, and patient education on appropriate medication use.

**Conclusion:** This case highlights the potential neurological risks associated with sildenafil overdose. Clinicians should maintain a high index of suspicion for drug-induced cerebrovascular events, especially in patients with underlying cardiovascular comorbidities. Further research is warranted to explore the mechanisms linking sildenafil to transient ischemic events and to establish guidelines for safer usage.



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## **Extended Application of Rezum Water Vapor Therapy: A Case Study of 22 Treatments for Benign Prostatic Hyperplasia with Lower Urinary Tract Symptoms**

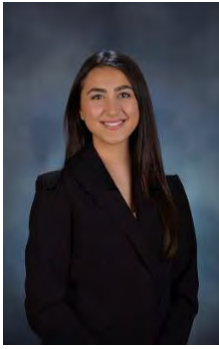
**Introduction:** Benign prostatic hyperplasia (BPH) is a common condition in older men, characterized by prostate enlargement causing lower urinary tract symptoms (LUTS) such as urinary frequency, hesitancy, and retention.<sup>1</sup> Rezum Water Vapor Therapy, a minimally invasive procedure using transurethral steam ablation, is approved for BPH in prostates up to 80 cm<sup>3</sup>, typically limited to 15 treatments (9-second cycles) per device.<sup>2-4</sup> This case report describes an extended application of Rezum, utilizing 22 treatments, in a 63-year-old male with severe BPH and LUTS, highlighting its potential for larger prostates and exploring recovery outcomes.

**Methods:** A 63-year-old male with BPH and LUTS, initially presenting with elevated PSA in mid-2024, developed urinary retention by late 2024, requiring a Foley catheter placement after failing a tamsulosin voiding trial. Cystoscopy identified an obstructive median lobe, and transrectal ultrasound measured a prostate volume of 80 cm<sup>3</sup>. In early 2025, Rezum therapy was performed using 22 treatments (6 median lobe, 8 each lateral lobe) delivered via the Rezum System under local anesthesia. A Foley catheter was placed post-procedure and left in for one month. Follow-up assessments after that month evaluated symptoms, hematuria, and bladder function. Long-term monitoring included symptom scores, uroflowmetry, and PSA levels at 3 and 12 months.

**Results:** The patient tolerated the procedure well, with mild hematuria and urinary urgency reported post-procedure, resolving within 4 weeks. The Foley catheter was removed after 1 month, and no clean intermittent catheterization (CIC) was required. At 3-month follow-up, LUTS improved significantly, with reduced frequency, hesitancy, and complete resolution of retention, as confirmed by symptom scores. Mild hematuria persisted initially but resolved by 3 months. No complications (e.g., fever, infection) were noted. BPH symptoms stabilized, with durable symptom relief and no recurrence. The patient reported being completely happy with the outcome, expressing satisfaction with symptom resolution and quality of life improvement.

**Conclusion:** This case demonstrates the feasibility and efficacy of extending Rezum therapy to 22 treatments for a large prostate (80 cm<sup>3</sup>) with obstructive median lobe BPH, achieving effective symptom relief without the need for CIC and with high patient satisfaction. While typically limited to 15 treatments, this extended application suggests potential for managing larger prostates, though further studies are needed to assess safety, efficacy, and long-term outcomes.<sup>1-4</sup> The patient's complete happiness and recovery without additional interventions highlight Rezum's role as a promising minimally invasive option for complex BPH cases.





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### **Progressive Multifocal Leukoencephalopathy in a Patient with Multiple Myeloma on Pomalidomide**

**Introduction:** Progressive multifocal leukoencephalopathy (PML) is a rare diagnosis associated with high mortality in different clinical settings. PML has been attributed to the reactivation of the John Cunningham (JC) virus (JCV). JCV typically affects patients with HIV/AIDS, solid organ and hematological malignancies, and those under treatment with immunomodulatory drugs (IMiDs) like pomalidomide. Currently, there are a limited number of reported cases of patients with multiple myeloma (MM) who developed PML reported in the literature, and one case report of a patient with MM diagnosed with PML in association with pomalidomide and daratumumab.

**Case Description:** Here, we describe a case of PML in a patient with MM status post autologous stem cell transplant (ASCT) on maintenance treatment with pomalidomide who presented with cognitive decline and aphasia.

**Conclusion:** In an era of increased access to immunomodulatory therapies, physicians should be able to recognize this potential complication as discontinuation of the medication could be lifesaving.



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### **Bridging the Gap: Recognizing DRESS Syndrome in Patients with Skin of Color**

**Introduction:** Drug reaction with eosinophilia and systemic symptoms (DRESS) is a severe drug reaction that occurs in 2 per 100,000 patients. There is an associated mortality risk due to its rarity, and there is an additional mortality risk in patients with skin of color due to the increased likelihood of missing the cutaneous manifestations of this syndrome. This is a case report of a patient with DRESS Syndrome and Fitzpatrick Skin Type 4/5.

**Case Description:** This is a 48-year-old Black male with a past medical history of hypertension, gout, and hyperlipidemia who presented to the emergency department with facial swelling and rash. He was recently started on allopurinol for gout. Physical examination was significant for an erythematous morbilliform eruption with coalescing erythema symmetrically distributed on his trunk and extremities. Numerous small papules were also noted on the trunk and extremities. Additionally, he exhibited periorbital swelling, more pronounced on the right than the left. The laboratory workup, including CBC, CMP, and PT/INR, revealed the following significant findings: leukocytosis, anemia, eosinophilia, elevated creatinine, and elevated INR.

**Discussion:** DRESS syndrome is a rare but potentially life-threatening condition characterized by a combination of skin eruptions, eosinophilia, and systemic involvement. While DRESS can occur in any patient, individuals with skin of color may present with unique challenges in diagnosis and management due to differences in clinical presentation. In patients with skin of color, the rash associated with DRESS may not always present as the typical erythematous or morbilliform rash seen in lighter-skinned individuals. Early recognition and prompt withdrawal of the causative drug, along with appropriate supportive care, are essential for improving patient outcomes.

**Conclusion:** DRESS syndrome presents a unique diagnostic challenge in patients with skin of color due to the variability in clinical appearance. Awareness of these differences is crucial for improving outcomes in affected individuals.



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### **Mending the Mother and the Muscle: An Osteopathic Approach to Abdominal Pain with Postpartum Diastasis Recti**

**Background:** Diastasis Rectus Abdominis (DRA) is the separation of the rectus abdominis muscles along the linea alba, affecting up to 60% of six week- to 12-month postpartum women. Impairments in trunk stability, posture, and respiration can cause abdominal, back, or pelvic pain. Physical therapy is the most common treatment offered, but meta-analysis shows inconclusive evidence of its efficacy; osteopathic manipulative treatment (OMT) shows promise in reducing pain and improving core stability.

**Case Presentation:** A 26-year-old female presented postpartum with midline abdominal pain episodes rated at 7/10 occurring two to three times daily. She endorsed nausea but denied vomiting or diarrhea. Physical exam showed moderate epigastric tenderness and an increased inter-rectus distance. Osteopathic structural exam showed hypertonic suboccipital musculature, restricted left hemidiaphragm, restricted pelvic diaphragm, left anterior innominate rotation, viscerosomatic reflex at T4-T10 and a celiac ganglion restriction. Her final diagnosis was generalized abdominal pain with diastasis recti and somatic dysfunction of all body regions.

The patient received six OMT sessions over two months. We resolved her postural dysfunctions with treatments to the thoracic and lumbar spine and pelvis, and addressed restricted motion at the cervicothoracic, respiratory, and pelvic diaphragms. Given the patient's positive viscerosomatic reflex, we targeted autonomic overactivation with treatment to the sacrum, suboccipital region, and paraspinal musculature. At visit 4 the patient noted increased episode severity during times of stress; we performed a cranial exam and found a decreased CRI rate of 7 cycles per minute. CV4 and balanced membranous tension were added to the patient's treatment regimen to address these findings. At visit 6 the patient reported no pain episodes in the past two weeks. Her average pain severity decreased from a 7/10 to total resolution.

**Conclusion:** OMT may be a viable treatment option for postpartum DRA associated abdominal pain.

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### **Disseminated Gonococcal Disease Presenting As Achilles Tenosynovitis: Story of a Diagnostic Challenge**

**Introduction:** The Disseminated Gonococcal Disease (DGI) presents with varying signs and symptoms such as arthralgias and skin lesions to less commonly tenosynovitis posing a diagnostic challenge.

**Case Presentation:** In this case, a 64-year-old male presented to the emergency department with a 2-day history of flu-like symptoms, burning with urination, left ankle pain, erythema, and swelling. He met Systemic Inflammatory Response Syndrome (SIRS) criteria and was treated for presumed viral syndrome with supportive care. Blood cultures later grew *Neisseria gonorrhoeae*. He was called back to the hospital and treated with IV ceftriaxone and oral doxycycline. Further questioning following his treatment revealed a social history significant for recent unprotected receptive oral intercourse with a male partner.

**Conclusion:** This case highlights the importance of early risk stratification and a higher index of suspicion in keeping DGI in the differential diagnosis of tenosynovitis with fever.



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## Collegiate Soccer Player with Right Shoulder Injury

**Introduction:** Salter-Harris type II fractures are the most common type of physeal fractures, typically occurring in adolescents before growth plate closure. However, clavicular physeal fractures are rare due to the late closure of the medial clavicular physis, which can persist until the mid-20s. This case presents an uncommon Salter-Harris type II fracture of the medial clavicle in a collegiate soccer player. This highlights the importance of early recognition and appropriate imaging for accurate diagnosis and management.

**Case Description:** A 19-year-old male collegiate club soccer player presented with right shoulder pain after falling on his shoulder during a game. He reported sharp pain (6/10) localized at the proximal clavicle, worsened with overhead motion and accompanied by a popping sensation. Initial management with NSAIDs and an arm sling provided minimal relief. On physical examination, the right sternoclavicular joint appeared elevated compared to the left, with edema at the distal clavicle and acromioclavicular joint. There was tenderness at the acromioclavicular and sternoclavicular joints but no rotator cuff or biceps tendon tenderness. Active and passive range of motion was within normal limits, though pain occurred beyond 130° of flexion. Strength testing was symmetric, and special tests revealed positive Neer's and cross-arm tests. Differential diagnoses included sternoclavicular joint dislocation, acromioclavicular joint dislocation, physeal fracture of the distal clavicle, coracoid process fracture, and sternoclavicular joint sprain. Radiographs showed asymmetry of the sternoclavicular joint but no fractures. Weight-bearing acromioclavicular joint imaging showed no change in alignment. Chest CT without contrast confirmed a Salter-Harris type II fracture of the medial clavicle with adjacent edema but no sternoclavicular dislocation. Guidelines for treating this type of fracture is to have a closed reduction of the fracture, and casting if necessary. For this patient, he was treated with Meloxicam and an arm sling for comfort. At the two-week follow-up, pain improved. At six weeks, he had full range of motion, no pain, and returned to competitive play.

**Discussion:** Salter-Harris type II fractures commonly occur in younger adolescents, but medial clavicular physeal fractures are rare and often mistaken for sternoclavicular joint dislocations. The medial clavicle physis is the last to close, remaining open into the early 20s. Given this, fractures in this region may be misdiagnosed as joint dislocations. Standard radiographs may not always detect these fractures, necessitating advanced imaging such as CT for definitive diagnosis. Early identification and conservative management are essential to ensure proper healing and prevent complications.

**Conclusion:** This case highlights the importance of considering medial clavicular physeal fractures in young adults with suspected sternoclavicular joint injuries. CT imaging may be necessary when standard radiographs do not clinically correlate with the symptoms the patient is presenting with. Clinicians should recognize the limitations of standard radiographs and utilize CT imaging when necessary. This is another great example that even with the advancements of technology, getting a thorough history and performing a physical exam should be the

## Amoxicillin-Clavulanate Induced Liver Injury

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**Introduction:** Amoxicillin-Clavulanate induced liver injury is considered a rare adverse effect of this drug. According to a CDC report, Amoxicillin-Clavulanate is the third most prescribed antibiotic in the US, with 26.6 million prescriptions made in 2018. Therefore, we believe all prescribing providers and patients who receive treatment with this medication need to be aware of this potential complication.

**Case Presentation:** We present the case of a 62-year-old patient with a past medical history of epilepsy, hyperlipidemia, and gastroesophageal reflux disease, on active treatment with a moderate intensity statin only, who presented with jaundice over two weeks, accompanied by generalized skin pruritus, dark-colored urine, and fatigue. A ten-day course of Amoxicillin-Clavulanate 875/125 mg two times daily for an upper respiratory infection had been completed ten days before admission.

Upon evaluation, transaminitis, up to 9 times the upper limit of normal, and hyperbilirubinemia, up to 14 times the upper limit of normal, favored a cholestatic pattern of liver injury. The liver's synthetic function appeared preserved. Extensive imaging and additional laboratory workup showed no other abnormalities. Only symptomatic treatment was provided. The patient was discharged after a 4-day hospitalization with progressive symptom improvement and down-trending transaminitis. Subsequent laboratory assessments over the next 12 days after discharge continued to downtrend, providing further reassurance.

**Discussion:** Amoxicillin-Clavulanate induced liver injury is an exclusion diagnosis, with presumed immuno-allergic pathogenesis. Although most cases are mild, complete resolution can take up to 6 months after drug suspension, and 10% of cases can progress to cirrhosis. The lack of general knowledge about the association between liver injury and Amoxicillin-Clavulanate consumption can delay the pertinent diagnosis of this condition, impacting the patient's care and prognosis.

**Conclusion:** Raising awareness about this association among prescribing providers and patients is crucial, considering the vast use of this medication in the primary care setting.

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### **Coronary to Pulmonary Artery Fistula: Comparing Clinical Cases**

**Introduction:** Coronary artery-to-pulmonary artery fistulas occur in about 0.17% to 0.68% of the general population. Common presenting symptoms include shortness of breath and chest pain, which are frequent complaints in multiple primary care settings. Therefore, appreciating the broad spectrum of clinical presentations associated with this diagnosis should lead to its consideration when assessing these symptoms.

**Case Series Presentation:** We present two clinical cases. The first one is a 62-year-old patient with a past medical history of untreated primary hypertension who presented with recurrent palpitations over 2 years. Workup for acute coronary syndrome, including an electrocardiogram and troponin I, was non-actionable. Cardiac catheterization revealed a very large calcified aneurysmal coronary to pulmonary artery fistula, fed by a large branch from the LAD and a conus branch from the RCA, with no evidence of coronary artery disease. Due to the case's complexity, a referral for further management at a tertiary care facility was provided, anticipating a surgical intervention.

**Discussion:** The second one is a 62-year-old patient with a past medical history of peripheral arterial disease and heavy nicotine consumption, who presented after a syncopal episode followed by chest pain and shortness of breath. The electrocardiogram was non-actionable, and high sensitivity troponin was elevated, initially in the 100s, later peaking at the 1200s, with no EKG changes. Active management for the acute coronary syndrome was initiated, with a heparin drip followed by cardiac catheterization, which showed a fistula between a small LAD branch and the pulmonary artery. No coronary artery disease was noted. Medical management only was recommended.

**Conclusion:** These cases emphasize the broad spectrum of clinical presentations for this condition. This variability also underlines the need for this condition to be included in the differential diagnosis of various common cardiopulmonary symptoms. Strengthening the available literature about this diagnosis is essential to developing guidelines for proper diagnosis and management.



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### **Decoding Persistent Hip Pain After a Roller-Skating Injury**

**Introduction:** Osteoid osteoma is a benign bone tumor that typically presents as localized pain, often worsening at night and relieved by NSAIDs. This case highlights an unusual presentation mimicking lumbosacral radiculopathy, leading to delayed diagnosis, unnecessary treatments, and prolonged suffering.

**Case Description:** A 30-year-old female presented with chronic left-sided hip, lower back, and lateral leg pain following a roller-skating fall one year previously. The sharp, constant pain (7/10) radiated down the lateral leg. Meloxicam provided some relief, but physical therapy was ineffective. She underwent hip arthroscopy for a labral tear, which improved range of motion and clicking but did not resolve the pain. Other minimally effective treatments included oral prednisone, muscle relaxers, and epidural injections. Neurological work-up and inflammatory markers were negative.

Examination revealed mild tenderness over left lumbar paraspinal muscles, normal hip/knee ROM, intact neurovascular status, and normal gait. CT of left lower extremity identified a 4 mm nidus within the proximal left femur, consistent with an osteoid osteoma. EMG was normal. Osteoid osteoma commonly affects long bones causing significant discomfort. Its location in this case mimicked radiculopathy and delayed diagnosis. The patient ultimately underwent radiofrequency ablation which resulted in immediate symptom resolution. She described the treatment as “life-changing.”

**Conclusion:** This case underscores the importance of considering osteoid osteoma in persistent, unexplained pain cases. Early recognition can prevent unnecessary interventions. Radiofrequency ablation is a highly effective treatment, with most patients experiencing rapid symptom resolution. The patient was advised to avoid high-impact activities for 12 weeks to reduce fracture risk, with follow-up imaging confirming tumor resolution.

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OMS-III

## **Postictal Psychosis in Post-Stroke Epilepsy: A Case of Severe Behavioral Disinhibition and Multidisciplinary Management**

**Introduction:** Postictal psychosis (PIP) is rare, and affects 2% of epilepsy patients, increasing to 7% in temporal lobe epilepsy and in those with drug-resistant seizures lasting 10-15+ years, but serious complications, typically following seizure clusters. While commonly linked to temporal lobe epilepsy, its occurrence in post-stroke epilepsy is less documented. This case highlights severe behavioral manifestations, including suicidal attempts and persecutory delusions, emphasizing its potential danger. The patient with stroke-induced epilepsy experienced recurrent PIP episodes, culminating in public firearm discharge, with no recollection of actions or behaviors, and involuntary hospitalization.

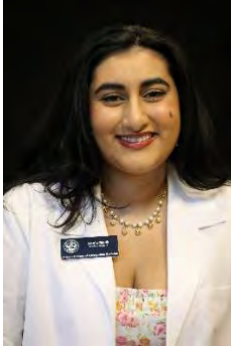
**Case Presentation:** A middle-aged male with a history of stroke-induced epilepsy, partially controlled with lamotrigine posterior reversible encephalopathy syndrome (PRES), and multiple psychiatric comorbidities—including generalized anxiety disorder, panic disorder, and major depressive disorder—presented involuntarily to the hospital with severe PIP. He was brought in due to increasing agitation, confusion, and violent behavioral disinhibition, raising concern for acute psychiatric and neurological deterioration.

The patient had three prior PIP episodes, each resolving within days without interictal psychosis. These episodes were unknown to the clinical team. Seizures began five years post-stroke and persisted despite multiple antiseizure medication trials. Before these episodes, the patient was not on psychotropics which were initiated during inpatient psychiatry. Before this, quetiapine PRN was not utilized, prompting a switch to risperidone PRN. Previous antiseizure medication trials included levetiracetam, carbamazepine, and valproate. His treatment included risperidone 2 mg at bedtime and clonazepam 0.5 mg twice daily, improving anxiety and sleep but contributing to weight gain. Therapeutic drug monitoring was recommended for lamotrigine optimization and potential anticonvulsant augmentation.

**Discussion:** PIP is hypothesized to result from rebound cortical activation after seizure suppression. While typically linked to temporal lobe epilepsy, this case demonstrates its occurrence in post-stroke epilepsy. Unlike most cases, this patient exhibited violent disinhibition rather than delusions.

Family physicians should recognize PIP across epilepsy types, monitor post-seizure behavioral changes, and coordinate multidisciplinary, involving neurology to optimize seizure control via therapeutic drug monitoring and adjunct therapies. Psychiatry for scheduled low-dose atypical antipsychotics (e.g., risperidone) for PIP prevention. Risk mitigation to help develop safety plans for patients with high-risk behaviors. Psychological support to help address anxiety, agoraphobia, and psychiatric comorbidities via therapy, and finally, with social services to enhance function support and social integration.

**Conclusion:** This case underscores PIP's potential for severe behavioral disinhibition, highlighting the need for early recognition, multidisciplinary collaboration, and risk mitigation strategies. A coordinated, multidisciplinary approach is essential to reduce both seizures and psychotic episodes, ensuring better patient outcomes and safety. Family physicians play a key role in identifying and managing PIP to improve patient outcomes.



**Sasha Uddin and Sonia Malik**

OMS-1 Student Doctors  
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### **Anxiety Disorder Focused CBT Intervention in Primary Care Settings**

**Introduction:** Anxiety disorders are prevalent, often leading to functional impairments and increased healthcare utilization. Traditional CBT for most disorders requires long-term utilization to be effective. The only equally effective treatment to long-term CBT is brief CBT for anxiety within the primary care setting.

**Case Presentation:** A 31-year-old woman visited her family medicine physician for her newborn's 4-week wellness check. When asked about the baby's feeding patterns, the mother expressed concerns about latching and insufficient nutrition. The patient expressed that the need to supplement with formula caused financial strain on her family and evoked maternal guilt. Due to the frequent feeding schedule, already challenging for new mothers, and the additional emotional and physical burden, the patient requested anti-anxiety medication. Having read about brief CBT as an intervention for PPD, the practitioner recommended that as the first line of treatment, she schedule an appointment for herself after her child's scheduled wellness checkup, where they could discuss coping strategies and reframe her unhelpful thinking patterns. After three visits, the patient noticed herself utilizing relaxation techniques to stay calm during moments of unsuccessful latching. After five visits, she reported feeling more capable of handling stressful parenting situations, improved mood, and fewer manifestations of anxiety in her behavior patterns.

**Discussion:** This case illustrates the importance of timely and accessible therapeutic care. Using CBT in the primary care setting can lighten the load on psychiatrists and produce more effective treatment outcomes. A family medicine physician's unique positioning can allow them to approach CBT more holistically because they often have years of experience with the patient's medical and social history.

**Conclusion:** Family medicine physicians should implement evidence-based short-term CBT sessions with patients who have or are at risk for common mental disorders (CMDs). This early intervention can reduce the risks of developing co-morbidities and the mental health treatment gap.

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### **Unseen Battles: A Novel Presentation of Anti-Synthetase Syndrome**

**Introduction:** Anti-synthetase syndrome (aSS) is a rare autoimmune condition that belongs to the idiopathic inflammatory myopathy (IIM) family of diseases. Characterized by antibodies against aminoacyl-transfer RNA synthetases and significantly increased rates of interstitial lung disease (ILD). Established protocols for the diagnosis and treatment of aSS are incomplete, and this case report aims to add to the body of knowledge around aSS diagnosis by highlighting a unique presentation of this disease in a young male military veteran.

**Case Presentation:** A previously active 36-year-old male with an 18 pack-year history of tobacco use presented to the ED with progressive exertional dyspnea following a self-resolving URI one month prior. The patient had completed two courses of outpatient antibiotics without improvement in dyspnea. PMHx was positive for exposures to jet fuel and dairy production facilities. Physical exam demonstrated diminished breath sounds in the bilateral lower lobes, requiring up to four liters supplemental oxygen, with absent muscle tenderness, joint deformities or synovitis. Laboratory workup was notable for leukocytosis with neutrophilia. CTA of the chest revealed multifocal patchy ground-glass infiltrates and interstitial opacities concerning for ILD. Blood cultures, HIV testing, and viral respiratory panel testing all resulted negative. Patient was started on IV steroids with symptomatic improvement, however was not able to wean off supplemental oxygen. Inflammatory work-up was pending at the time of discharge, and later showed elevated aldolase, positive ANA antibodies and Anti-Jo-1, consistent with aSS. He was discharged on oral steroids with outpatient pulmonary follow-up.

**Discussion:** Diagnostic criteria for aSS include the presence of an anti-aminoacyl tRNA synthetase antibody in addition to a combination of major and minor symptoms, including. ILD, myositis, Raynaud's phenomenon, arthritis, and mechanic's hands. Non-specific interstitial pneumonia, organizing pneumonia, or a combination of the two on imaging is suggestive of an autoimmune etiology that warrants suspicion for aSS as high-resolution CT is typically sufficient for diagnosis. aSS with a predominant feature of ILD commonly had pulmonary hypertension as a common co-morbidity which led to a decreased survival compared to those who did not have pulmonary hypertension.

**Conclusion:** Our patient presented with acute onset isolated interstitial lung disease without musculoskeletal involvement and was found to have anti-Jo-1 antibody, an anti-aminoacyl tRNA antibody. This unique presentation of aSS highlights the importance of thorough history-taking to rule out other etiologies of interstitial lung disease and including a work-up for idiopathic inflammatory myopathies. Increasing awareness to perform routine work up of aSS will allow for prompt treatment to improve mortality as ILD secondary to aSS.

# Community Health and Engagement Initiatives

(Alphabetical by Primary Author)

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## **Advancing Equity in Healthcare: Promoting A Career in Medicine in Underrepresented Population Targeting High School Students**

The Association of American Medical Colleges (AAMC) Executive Committee defined underrepresentation in medicine (URM) as those racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population. In 2019, AAMC reported that underrepresented racial and ethnic groups comprise about nine percent of the US physician workforce. Addressing this health disparity has become a priority of professional organizations nationwide. Mentorship programs have been created by physicians in communities like Yuma in the effort in “growing our own” as these physicians are likely to return to serve in these communities. In this study we explore post-implementation success of a mentoring program at an organizational level by measuring the success of mentees moving forward to attend a college/university.

MentorMeMD was developed in 2019 with applications are open in the Fall of each year for a select group of mentees based on GPA and community involvement. They must submit a resume and essay and be interviewed. Those accepted are paired with volunteering mentors who are physician residents of the Family & Community Medicine Residency Program. It offers a unique blend of theoretical and practical learning. Monthly scheduled meetings allow mentees to learn about different entities for success in their career choices in the medical field. These include the pre-med pathway, obtaining scholarships and grants, insight into other medical specialties with guest physician speakers, and mock interviews. In 2024, mentees were given the thrilling opportunity to visit the University of Arizona on-site, providing a unique and unparalleled hands-on experience.

**Outcome:** We have had a total of 33 mentees since the inception of the program. We also provide remote access to the program for mentees attending universities and colleges out of the city/state. The program has produced five mentees who have received a Bachelor of Science in Nursing, multiple mentees with double majors, several pre-med with one mentee currently in their second year of medical school, one scheduled to start in the fall, and one of whom just started medical residency in July 2024. Two previous mentees have received university-level distinctions. Furthermore, the success of our graduated resident mentors, many of whom continue to practice in the Community, with three who became full-time core faculty for the Family and Community Medicine Residency program.

**Next steps:** With each year, our program has significantly grow and anticipate for the trend to continue. We continue to seek financial support from the institution to further provide this groundbreaking program within our community. We continue to seek feedback from our mentors and mentees on how the program can further improve.





**Ed Paul**  
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### **Expanding Family Medicine Residency Training in Arizona**

Increasing the number of family medicine residency positions in Arizona is vital to addressing the physician workforce shortage especially in rural and underserved locations, including tribal sites. Through both state and private grant funding there are unprecedented resources available to address this issue. Ongoing innovative work to expand the number of family medicine residency programs and to develop collaborative relationships between programs will be described. Creating a statewide centralized GME support network that includes tracking outcomes for medical student experiences and residency graduates is part of the plan. The future is bright for family medicine residency training in Arizona!

# Curriculum Innovation

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## Innovations to Improve Resident Training in the Production of Primary Care Scholarship

**Introduction:** The Department of Family & Community Medicine's Resident Scholarly Project Program (RSPP) at The University of Arizona (Tucson) fulfills the ACGME requirement for scholarly activity and builds the foundation for resident participation in primary care scholarship. This presentation describes curriculum adaptations made in 2023-2024.

**Description of Curriculum:** Innovations focused on three areas: 1) Skill Development: Quarterly meetings with only second- and third-year residents were revised to include monthly 30-minute meetings with all three years. First-year residents engage in an interactive research skill-building activity, and second- and third-years use the 30 minutes as dedicated work time. 2) Project Identification: Resident-identified projects were replaced by resident assignment to existing mentored projects. The mentor agrees they will work with the resident to scope an appropriate project for the resident to lead. 3) Communication: To address resident difficulty communicating with mentors and RSPP faculty, the RSPP team created a quarterly structured report to facilitate sharing.

**Evaluation:** Fourteen survey respondents (8 faculty; 5 residents) completed scaled and open-ended questions about program satisfaction and dissemination products. The responses were analyzed descriptively. Most residents agreed that the time spent in RSPP was worthwhile, particularly for doing research in a "real world setting." They felt RSPP expectations were clear, but some reported needing more guidance, particularly with regulatory processes. All mentors agreed that their role was clear, but they also noted the lack of clarity about an appropriate focus/scope for an RSPP project. Respondents acknowledged the need for a good match between resident and project/mentor. One resident presented their project at a national conference.

**Conclusions:** The innovations reported here show promise for increasing residents' aptitude with scholarship, encouraging mentorship to increase clinical scholarship, and raising the visibility of family medicine scholarship. However, residents and faculty report a need for greater clarity around expectations for scholarship.



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**Bridging the Gap: Educating  
Future Physicians on the U.S.  
Healthcare System**

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Liong

**Bridging the Gap: Educating Future Physicians on the U.S.  
Healthcare System**

**Introduction:** Medical students learn the ins and outs of the human body, yet medical schools often fail to educate students on the workings of the very healthcare system they will be key players in. The Students for a National Health Care Program (SNaHP) student chapter at Creighton University is looking to bridge these educational gaps and give future physicians a better understanding of the complex current healthcare system in the United States.

**Description of Curriculum:** We are targeting M1 students, who are still early in their educational process. The original M1 curriculum includes “Gold Track Sessions” which are supplementary to the science curriculum and explore broad topics including humanities, justice, and systems-based medicine. While we plan to branch out into many topics, we wanted to start with one that would be sure to peak the interest of many; “How do Physicians Get Paid?”. We will follow up with another presentation comparing the health care systems of various other first world countries and how their outcomes stack up against the United States.

**Outcomes/ Evaluations:** We plan to send out a survey to garner feedback from the students after the lecture regarding what was surprising/new information, whether they feel more prepared to function in the healthcare system, and if these presentations are helpful in their preparation as future physicians.

**Conclusions/ Significance:** The goal of these educational sessions is to better prepare students as to the workings of the U.S. healthcare system and point out areas for improvement that we as future physicians may have the unique opportunity to help reshape. As we explore what allows other first world countries to have better health outcomes and lower overall costs, perhaps students will further appreciate the important impact that increased primary care efforts can have on the overall wellness of a population.

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## **Resident Engagement in Teaching Medical Students in Clinical Setting and Providing Feedback**

### **Background**

At Onvida Health Family Medicine Residency Clinic, we see an average of 2000 patients monthly consistent of local residents, border visitors, or winter visitors providing a vast learning experience for both residents and medical students. Medical residents, as frontline mentors and educators, hold a pivotal role in the clinical education of medical students. Within the clinical setting, residents not only influence the clinical knowledge of medical students, but also focus on providing constructive feedback, which is a cornerstone for growth and development within the clinical environment.

Drawing upon empirical data and a literature review, the study explores resident's comfort levels, perceived challenges, and practical strategies in teaching medical students. As residents engage in the teaching process, they refine their understanding and communication skills, reinforcing their knowledge base. Additionally, it delves into the significance of feedback provision by residents, its impact on medical students' learning, and the factors influencing the quality of feedback delivery. This creates a symbiotic relationship that benefits medical students and contributes to residents' professional development as future healthcare providers.

Residents and attending physicians can provide feedback to medical students in various ways:

1. Direct communication
2. Written feedback
3. Peer review
4. Structured feedback sessions
5. 360-degree feedback

By using a combination of these methods interns can provide valuable feedback to medical students, helping them improve their skills and become better healthcare professionals.

The aim of our study is to determine if starting medical students with intern residents compared to senior residents provide and/or encourage a more cohesive learning environment at YRMC FMC. This study will hope to highlight the importance of structured training programs, mentorship, and supportive environments in enhancing residents' teaching abilities and feedback provision skills to provide to train medical students.

### **Methods**

1. Conduct a survey examining resident attitudes, perceived challenges, and comfort level in training medical students to compare between the beginnings of the academic year to end.
2. Compare results after implementation of change between current interns versus third year residents.
3. Conduct a survey amongst exiting medical students if they felt a cohesive learning environment was provided based on this structure tiered learning.
4. Comparing feedback methods for medical students among teaching personnel.

### **Expected Results**

- A positive correlation in comfort level within the intern class compared from beginning of the academic year to the end after implementation of change in learning structure.
- A positive correlation after implementation of change in learning structure drawn from medical student exit interviews.

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### **Outcomes of a Health Systems Advocacy, Leadership & Management (HALM) Curriculum in Family Medicine Residency Program**

Healthcare Administration, Leadership, and Management (HALM) offers a broad area of expertise that is key to healthcare delivery and health services research. Recently the Accreditation Council for Graduate Medical Education (ACGME) established a Review Committee (RC) specific to HALM fellowships. Some of the core of HALM competencies are common program requirements already. Although most residency programs offer a curriculum in health systems to fulfill these requirements, there is dearth of data on the outcomes of these curricula. We implemented a HALM curriculum in a family medicine residency program featuring competencies in patient safety, healthcare quality, care management, and systems of care. This study reports the comparison between pre-HALM and post-HALM groups by measuring the achievement of the Kirkpatrick Level 2, 3, and 4 outcomes. The levels were ranked as demonstration of interdisciplinary leadership within the program (Kirkpatrick Level-2), demonstrating a significant leadership role outside of the program (Kirkpatrick Level-3), or obtaining a physician leadership role or significant entrepreneurship (Kirkpatrick Level-4). The results showed increased overall Kirkpatrick Level outcomes in the post-HALM group, meaning more leadership roles were obtained by the physicians who participated in the HALM curriculum. The average number of demonstrated Kirkpatrick level 4 behaviors increased significantly from pre- to post-implementation of the HALM curriculum. This difference was statistically significant with a p-value <0.05. Overall, the implementation of the HALM curriculum correlated with an increase in physician leadership.





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## Resident-Directed Medical Humanities Curriculum for the Family & Community Medicine Residency Program: Process and Outcomes Evaluation

### Background:

While the literature documents the effectiveness of medical humanities programs in medical education to foster clinician competencies, structured programs remain limited in residency settings.

Objective: This study demonstrates a feasible medical humanities program through the description of the development and pilot testing of the innovative curriculum for family medicine residents, conducted in collaboration with the residency directors, residency scholarly program directors, and residents.

### Methods:

Using the Fundamental Role of Arts and Humanities in Medical Education (FRAHME) as a core resource, the directors of the family medicine residency program and its scholarly program collaborated to develop a resident-directed medical humanities curriculum. The curriculum development and pilot implementation occurred in 2023–2024, involving medical humanities track residents (n=8), two clinical faculty (residency directors), and two research faculty (residency scholarly program directors) in conversation with the entire resident cohort (n=45). A qualitative process evaluation assessed the curriculum's impact through program director interviews and residents' quarterly medical humanities reflections.

Results: The Medical Humanities Curriculum comprises: 1) quarterly medical humanities sessions embedded within didactic days, 2) a medical humanities scholarly project option to fulfill a residency requirement, and 3) a distinguished residency medical humanities track. This implementation fostered increased peer interaction outside clinical settings through creative engagement, enhanced collaboration between clinical and research directors, strengthened relationships between directors and residents, and expanded scholarly work opportunities—resulting in several conference presentations and a peer-reviewed manuscript in development. The review of residents' reflections revealed three themes connected to clinician competency: the importance of 1) clinician-patient relationships, 2) perspective-taking in narrative and journey, and 3) symbolism as communication.

### Conclusions:

A medical humanities program embedded within a Residency Scholarly Project Program is a feasible and effective strategy to enhance both clinician competencies, collaboration opportunities, and scholarly products.

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### **Curriculum Innovation for Medical Student Wellbeing: Implementing a Wellness Retreat to Foster Community and Resilience**

**Introduction:** Medical education presents significant challenges and stressors that impact student well-being. Many students struggle to prioritize activities that promote physical and mental health, such as exercise, relaxation, and social connection. To address this, Creighton University wellness chairs implemented a wellness retreat designed to engage medical students in structured activities promoting overall well-being.

**Description of Curriculum:** The wellness retreat provided Creighton medical students with opportunities to participate in exercise classes, meditation sessions, a hike, outdoor kayaking, and a yoga series. These activities were integrated into an existing wellness program but culminated in a one-day retreat in Prescott, Arizona. The retreat aimed to foster resilience, encourage physical activity, and build a sense of community among students outside the classroom.

**Outcomes/Evaluation:** To assess the retreat's impact, we distributed surveys using the Medical Student Well-Being Index (MSWBI) one week after the event. This validated tool measures well-being indicators such as stress levels, burnout, and emotional resilience. Additionally, students provided feedback on their satisfaction and perceived benefits. Initial results suggest that participation positively influenced students' well-being and encouraged continued engagement in wellness activities, including independent exercise and mindfulness practices.

**Conclusion/Significance:** Wellness programs have a direct impact on medical students' mental and physical health, fostering resilience and community-building. Moving forward, we plan to implement pre-test and post-test surveys to better evaluate changes in well-being over time and refine future retreats based on participant responses. This structured assessment approach will provide greater insight into the program's long-term benefits and help optimize future wellness initiatives for medical students.

# Quality Improvement Initiatives

(Alphabetical by Primary Author)



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## **Increasing Annual Screening of Syphilis in Sexually Active Patients 15 to 44 years old by Utilizing Care Gaps in Epic EMR**

In 2023, the rate of primary and secondary syphilis among women aged 15-44 in Maricopa County was 24.3 per 100,000-more than five times the goal set by the Centers for Disease Control and Prevention (CDC). The CDC now recommends that counties with syphilis rates exceeding 4.6 per 100,000 implement annual syphilis screening for all sexually active individuals in this age group.

Valleywise Health in Phoenix, AZ, utilizes the Epic Electronic Medical Record (EMR) system, which includes clinician prompts for essential patient health screenings, known as "Care Gaps." In December 2024, a new Care Gap was introduced to encourage annual syphilis screening for the targeted population, aiming to increase screening rates. Using EMR data collection, syphilis screening trends were monitored to assess the effectiveness of this intervention. Preliminary results indicate a significant increase in syphilis screening rates following the implementation of the Care Gap. These findings highlight the potential public health benefits of leveraging electronic medical record systems to enhance routine screening adherence among healthcare clinicians.

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### **Improving Diabetic Retinopathy Screening at Heuser FM Clinic**

**Purpose:** In the United States, breast cancer makes up about 30% of all new cancer cases diagnosed in women. Mammograms are an essential screening tool, used to identify breast tissue changes that are suggestive of breast cancer. When screenings are done regularly, breast cancer can be recognized earlier, often before the development of physical symptoms. This allows for earlier intervention, which can improve mortality rates. Although recommendations vary between organizations, at Valley wise Medical Center, it is recommended that women start annual mammogram screenings at 40 years old. Given the importance of mammogram screenings, the goal of this QI project was to increase the number of completed mammogram screenings in our patient population.

**Methods:** The population included in the study were female patients age 40 years old to 74 years old that had clinic visits at the Valleywise South Central Phoenix Health Center from 3/2024 to 3/2025. For our intervention, we created a new one-page handout that described a mammogram screening, the rationale for the recommendation, and information for scheduling a screening at Valleywise facilities. This handout was written in simple terminology with images, and was available in English and Spanish. Hard copies of the handout were given to patients who were overdue for their mammogram. This intervention was initiated on 10/30/2024. Data was collected using the Slicer Dicer tool built into the Epic EMR system, from which we determined the number of patients who were seen at the clinic during 2-week intervals that had and had not completed their yearly mammogram. Data analysis included creating a run chart comparing pre- and post-intervention data. Significant change was considered to be 6 consecutive post-intervention data points above the pre-intervention median. A two sample T-test was assuming unequal variances also performed, with a cutoff of P-value <0.05 as significant.

**Results:** Pre-intervention median of percentage of patients seen from 3/1/2024, to 10/30/2024, who had completed annual an annual mammogram was 42.42%. The post-intervention median was 43.55%, as of data collected through 2/28/2025. The post-intervention data did not demonstrate 6 consecutive data points greater than the pre-intervention median. The results of the two sample T-test produced a P-value of 0.036, which was statistically significant.

**Conclusion:** Our intervention demonstrated statistically significant improvement when comparing the pre-intervention and post-intervention medians, which suggests patient education and assistance with scheduling may improve adherence with breast cancer screening recommendations. However, further study and data collection is necessary to determine the long-term benefit of this intervention.



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## Utilization of the RE-AIM framework to evaluate alignment of scholarly activity with institutional priorities

**Introduction:** Though scholarly activity is a required component of Graduate Medical Education (GME) programs, residency programs routinely struggle with scholarly output. Scholarly activity should also ideally be aligned with institutional mission, vision, and strategic priorities. Alignment with these values is mandated by ACGME guidelines, which require the program mission and curricula to be unique in the contexts of the sponsoring institutions and the communities they service.

Some multi-faceted bundled interventions and curricular innovations have shown increase in scholarly activity in GME programs. This study explores if the implementation science framework RE-AIM can be utilized to align output from a previously studied 13-step structured roadmap and related bundle to contribute towards the institutional priorities of becoming a High Reliability Organization (HRO) and using quality improvement for value-based Care.

**Methods:** This mixed-methods quasi-experimental study was conducted at a community hospital FM residency program. It evaluated the scholarly activities of all residents (n=51) who graduated from the program between 2016-2018 (pre-implementation phase), 2019–2021 (roll out phase), and 2022-2024 (post- implementation phase). It is a mixed methods study with qualitative analysis using the RE-AIM framework and quasi-experimental analysis of institutionally aligned scholarly activities pre and

post alignment activities. RE-AIM is a well-studied and documented implementation science methodology and was chosen due to its efficacy in program evaluation. The RE-AIM framework involves qualitative assessment and implementation of the constructs of Reach, Effectiveness, Adoption, Implementation, and Maintenance of the program. This study also used quantitative scholarly activity output (number of presentations and publications of quality improvement and patient safety related projects in alignment of the medical group contracts) as direct assessment of the alignment of the program with the institutional priorities of quality improvement and patient safety.

**Results:** Preliminary results show a statistically significant increase ( $p < 0.001$ ) in QI and PSI project completion, presentations at conferences, and peer-reviewed publications aligned with institutional priorities. Early qualitative findings using the RE-AIM framework indicate wide Reach and Effectiveness in establishing a culture of scholarship, adoption of Equity, Quality Improvement, and Patient Safety (EQulPS) and Healthcare Administration/Advocacy, Leadership, and Management (HALM), implementation of team-based care, and maintenance of momentum gained during early phase. Analysis is ongoing and qualitative data is not fully analyzed yet.

**Conclusion:** The RE-AIM framework can be used to create, bundle, implement, and evaluate further sub- interventions for aligning program scholarly activity with institutional mission, vision, and priorities.



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### **Closing the Statin Gap: Leveraging the EMR for ASCVD Risk-Based Prevention**

The United States Preventive Services Task Force (USPSTF) recommends statin therapy for adults aged 40 to 75 years with at least one risk factor (dyslipidemia, diabetes, hypertension, or smoking) and a 10-year cardiovascular event risk of 10% or greater.<sup>1</sup> At Valleywise South Central Family Medicine Clinic, the statin prescription rate was 69%, highlighting an opportunity for improvement in cardiovascular preventive care. By improving our adherence to the USPSTF guidelines, this initiative can help reduce all-cause mortality and prevent stroke and myocardial infarction in high-risk patients without prior cardiovascular events.<sup>2</sup> Our initiative aimed to increase this rate to 75% through two interventions. The first, a clinical reference card for providers (initiated 11/6/24), served as a visual reminder of Atherosclerotic Cardiovascular Disease (ASCVD) risk factors and statin dosages but had variable provider utilization, limiting its effectiveness. The second intervention, a silent Best Practice Advisory (BPA) in the Electronic Medical Record (EMR) (initiated 12/9/24), passively prompted providers to consider statin therapy for eligible patients. To minimize alert fatigue, we designed a yellow dashboard banner instead of a disruptive pop-up. We tracked data at two-week intervals. The first intervention produced data points of 61.7% and 74.7%. For the silent BPA, the data exceeded the 69% median in three of four periods and met our 75% goal in two periods, indicating a positive trend. Challenges included inconsistent use of clinical reference cards and designing an EMR intervention that effectively engaged providers while maintaining workflow efficiency. By adhering to USPSTF guidelines and supporting Valleywise's Uniform Data System (UDS) quality measure for statin therapy, this project reinforced the importance of structured, evidence-based interventions in primary care. The silent BPA model offers a sustainable, scalable approach to increasing statin prescription rates while limiting disruptions to provider workflow. Moving forward, we will continue tracking data until 3/14/25. This initiative underscores the value of passive EMR-based interventions in improving adherence to preventive care guidelines and may serve as a replicable model for other primary care settings looking to enhance cardiovascular disease prevention.

#### **References:**

- 1) <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/statin-use-in-adults-preventive-medication>
- 2) <https://pubmed.ncbi.nlm.nih.gov/35997724/>



**Mathew Moran and  
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## Smoking Cessation in Primary Care Setting

**Introduction:** Tobacco cessation remains a significant challenge in healthcare, with underutilization of evidence-based interventions often driven by economic disincentives and inadequate provider training. This study quantifies the economic impact of missed billing opportunities for tobacco cessation within a healthcare system, assessing revenue loss and assessing the impact in terms of quality adjusted life years.

**Methods:** A retrospective cohort study was conducted using aggregated deidentified patient health data from 5 family medicine clinics in the Phoenix metro-area between January 1, 2021, and December 31, 2023. The analysis focused on primary care encounters eligible for tobacco cessation counseling, identified through smoking history documentation and ICD-coded smoking-related diagnoses. Potential revenue was estimated based on Medicare reimbursement rates for CPT codes 99406 and 99407.

**Results:** Among 98,888 office visits, 25,115 patients were identified as having a smoking history, while 1,107 had a smoking-related ICD diagnosis. Based on an estimated non-billing rate of 85% of total encounters, the potential revenue lost due to underbilling was approximately \$816,764.91 over three years, or \$272,254.97 annually per Medicare reimbursement rate.

**Conclusions:** The study reveals a substantial gap between potential and actual billing for tobacco cessation services, highlighting both the financial impact of missed opportunities and the broader implications for public health. The findings underscore the need for improved billing practices and systemic policy changes to optimize reimbursement and enhance tobacco cessation interventions within healthcare systems.





**Yash Patel**  
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### **Hands On Healing - Easy to navigate procedure book/ app for residents and MAs in the family medicine clinic**

**Introduction:** Procedural competence is essential in family medicine and sports clinics, yet accessing standardized, easily navigable, and up-to-date procedural guidelines remains a challenge for residents, faculty, and medical assistants (MAs). Hands on Healing is a quality improvement (QI) initiative in the form of an intuitive, mobile-friendly application designed to enhance procedural efficiency by providing step-by-step guidance, instrument preparation, patient preparation, methodology, and video demonstrations. The app's adaptability allows for continuous updates, ensuring relevance and accuracy in clinical practice.

**Methods:** Using the Plan-Do-Study-Act (PDSA) cycle as a QI framework, the app was developed to address inefficiencies in procedural training and execution. The initial phase involved identifying common procedures performed in family medicine and sports clinics, followed by content curation, including text-based guides, videos with thumbnails, and instrument checklists. The app was then pilot-tested among a cohort of residents and faculty, who provided iterative feedback for refinement. Usability metrics, completion rates, and user satisfaction surveys were collected to assess its impact.

**Results:** Hands on Healing is set to launch for daily use by the end of February, ensuring comprehensive data collection and evidence before the upcoming conference. Preliminary data already indicate a possible 45% reduction in procedural errors and a 30% improvement in efficiency as measured by procedure completion times. The navigation bar and editable features facilitated real-time updates based on evolving clinical guidelines and user feedback.

**Conclusion:** Hands on Healing will successfully optimize procedural efficiency, enhance provider confidence, and reduce variability in procedural execution. The app's flexible, continuously editable format ensures long-term sustainability and scalability across different clinical settings. Future directions include expanding procedural content, integrating AI-driven decision support, and exploring multi-institutional collaborations to maximize its impact in procedural training and patient care outcomes.

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## **Increasing the rate of completed mammogram screenings in a FQHC setting**

**Introduction:** In the United States, breast cancer makes up about 30% of all new cancer cases diagnosed in women. Mammograms are an essential screening tool to detect breast cancer. When screenings are done regularly, breast cancer can be recognized earlier, often before the development of physical symptoms. This allows for earlier intervention, which can improve mortality rates. The goal of this QI project is to increase the number of completed mammogram screenings in our patient population.

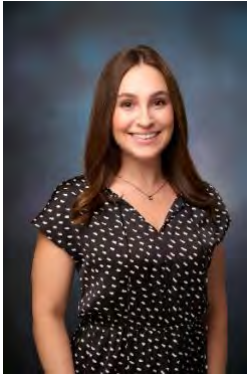
**Methods:** The outcome of this project was to increase the rate of completed mammograms screening. The study included female patients age 40 to 74 years old at Valley wise South Central Phoenix Health Center between March 2024 to March 2025. Data was collected using the Slicer Dicer tool built into the Epic EMR system, from which we determined the number of patients seen in clinic during 2-week intervals that had and had not completed their yearly mammogram.

We created a one-page handout that described a mammogram, rationale for screening, and information for scheduling. The language was simple, and available in English and Spanish. The handout was given to patients overdue for their mammogram at the end of their appointment. This intervention was initiated on 10/30/2024.

Data analysis included creating a run chart comparing pre- and post-intervention data. Significant change was considered to be 6 consecutive post-intervention data points above the pre-intervention median. A two sample T-test was assuming unequal variances also performed, with a cutoff of P-value <0.05 as significant.

**Results:** As described in the Methods section, data was collected using the Slicer Dicer tool. A total number of patients in each category, mammogram completed and not completed, was obtained and a percentage of the studied population who had completed their yearly mammogram was calculated. Pre-intervention median from March 1, 2024, to October 30, 2024, was 42.42%. The post-intervention median was 43.21%, as of data collected through January 31, 2025. The post-intervention data did not demonstrate 6 consecutive data points greater than the pre-intervention median. The results of the two sample T-test produced a P-value of 0.08, which was not statistically significant.

**Discussion:** There was no significant change with our intervention, however, there were many factors that affected our intervention, such as timing of the intervention with the expected outcome, inconsistent delivery of the handout, which was not tracked, and the logistical manner in which data was collected. Creating an electronic version that will auto populate in a patient's discharge paperwork may overcome some of these factors, allow for better tracking, and may prove to have improved outcomes.



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## Depression Screening and Follow up in Medicare Patients

**Introduction:** Depression is the leading contributor to Disability-Adjusted Life Years (DALYs) lost among mental health disorders. It is also the primary cause of disability among adults in high-income countries. Late-life depression, typically defined as depression in individuals aged 60 and older, is linked to a significantly higher risk of morbidity and mortality compared to younger populations. In addition, older adults with depression face an increased likelihood of developing chronic illnesses, experiencing cognitive decline, and having higher rates of early mortality, including an elevated risk of suicide.

**Methods:** Two PDSA cycles were completed aimed at first improving depression screening and second, improving follow up. PDSA cycle 1 involved asking each resident to send out bulk communication to Medicare patients with depression screening information. In PDSA cycle 2, a dot phrase in Epic was created for providers to use to track depression screening and follow up plans during annual Medicare Wellness visits.

**Results:** Greater than 80% of Medicare patients were screened for depression in each PDSA cycle. In the first PDSA cycle, 22% of patients screened positive for depression, but only 50% had a documented treatment follow up plan. In the second PDSA cycle, only 7% of providers used the dot phrase, and although 100% of patients were screened (31/31), none of them screened positive for depression.

**Conclusion:** Depression screening was easier to achieve than documenting follow-up plans. In the second PDSA cycle, the dot phrase may have been useful in improving positive screen follow ups, however there were not any patients who screened positive. More research is needed to show how effective a dot phrase may be in improving follow up. If effective, this would support implementing a permanent change in the EMR template for Medicare Wellness Visits.

# Ongoing Research

(Alphabetical by Primary Author)



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## **Anxiety and Pain in IUD Placement: Pre-, Intra-, and Post-Procedure Interventions to Improve the Patient Experience**

**Introduction:** To address patient pain and improve subjective outcomes of intrauterine device insertion, patient centered reforms require integration of pharmacologic, methodological, and socially-aware changes throughout all stages of care.

**Methods:** A narrative review of Medline Complete was conducted using keywords intrauterine device, IUD insertion, pain management, and analgesics. Results were filtered out by articles prior to 2019, duplicates, and retracted articles. The search produced 27 articles.

**Preliminary findings/Results:** Three major categories were identified following literature review: pre-procedure (“what is my care going to look like”), intra-procedure (“what is the physician doing”), and post-procedure (“what are my outcomes going to be”). Pre-procedure changes included comprehensive evaluation for anxiety, self administration of vaginal dinoprostone, acupuncture, and anti-inflammatory agents. Intra-procedure changes included paracervical blocks, alternative instruments, distraction methods, and local analgesia. Post-procedure changes used ultrasound guidance for reassurance. Pain ratings were highest during sounding, tenaculum placement, insertion of the device, and in adolescent and nulliparous women.

**Implications/Next steps:** Interventions prior to the procedure reduced anxiety, intra-procedure pain, and provided women autonomy. A relationship between pre-procedure anticipated discomfort was associated with intra-procedure pain in some articles, highlighting the potential role of anxiety as a contributing factor to perceived pain. Pharmacologic management is effective in reducing pain scores intra- and post-procedurally, while maintaining procedure length. Alternative tools (e.g. Allis clamp, Carevix) are equally efficacious without causing trauma and distraction methods (e.g. virtual reality, TENS, verbal analgesia) effectively attenuated anxiety. Ultrasound guided insertion confirms proper placement, allowing women confidence. The assessment of pain varied between scales and timing of evaluation, limiting direct comparisons of articles. Methods discussed have broader application to optimize patient satisfaction through improved pain control in other gynecologic procedures. Specific research on multifaceted procedural revision is needed to evaluate additive effects of pre-, intra-, and post-procedure modifications in improving patient experience.



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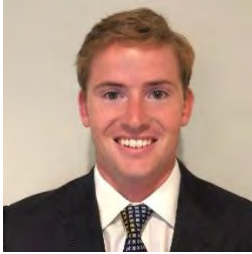
### **Pronoun Badge Buddies: Patient Perspectives on Provider Pronoun Display in a Family Medicine Clinic, A Qualitative Interview-Based Study**

**Introduction:** In English, gendered singular third-person pronouns (he/him/his, she/her/hers) are often assumed based on the person's appearance and name. Incorrect assumptions of pronouns by medical providers can create an unwelcoming environment for transgender and other gender-diverse patients. A "badge buddy" tag which hangs underneath a provider's identification badge is one way to display pronouns. This display can encourage respect for a person's pronouns and signal a welcoming environment for patients that identify as lesbian, gay, bisexual, transgender, queer, questioning or more (LGBTQ+). While prior research has captured the positive effects of pronoun display for gender-diverse patients, there is a lack of data sampling all patients exposed to pronoun display. This study evaluates how pronoun display impacts patient perceptions of their providers and care environment in a real-world context.

**Methods:** Semi-structured interviews were conducted at the Banner University Medical Center-Phoenix Family Medicine Clinic. Participants were recruited from patients who saw a provider wearing a badge buddy during their appointment. The sampling strategy was designed to broadly capture patients exposed to the badge buddy during a typical clinic day. Qualitative data from interviews was analyzed using inductive coding and thematic analysis.

**Results:** 47 interviews were analyzed. Most participants did not notice the badge buddies, but those who did had positive or neutral perceptions. Participants perceived the badge buddies as normalizing sharing pronouns, promoting safety and inclusion, and demonstrating a commitment to respectful communication with gender-diverse and LGBTQ+ patients. No participants who noticed the badge buddy had negative responses.

**Conclusion:** This study demonstrates that introducing pronoun badge buddies into a family medicine clinic signals safety, inclusion, and respect for gender-diverse and LGBTQ+ patients. No significant backlash was observed in response to the badge buddies. Individual providers and clinics can consider adopting badge buddies to create a more positive environment for LGBTQ+ patients.



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## Bibliometric Analysis of Vitamin D Research 2019-2025

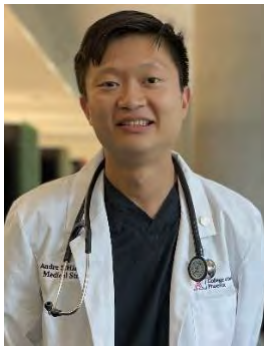
**Introduction:** A surge in vitamin D research beginning around 2000 revealed that vitamin D deficiency may be a risk factor for developing a variety of diseases, including diabetes, obesity, atherosclerosis, osteoporosis, Alzheimer's disease, and depression. The objective of this study was to investigate specific trends in vitamin D research since 2019.

**Methods:** A bibliometric analysis was conducted using the SCOPUS database for data extraction, utilizing Medical Subject Headings (MeSH). A total of 10,564 documents published between 2019 and 2025 were analyzed using the Biblioshiny package in RStudio. Articles were included if they contained "Vitamin D" in their titles, abstracts, and keywords.

**Results:** The highest scientific production on vitamin D was observed in the USA (5,409), followed by China (4,921), with China showing a steep increase in research output over time. Both countries had more single-country publications than multi-country collaborations, with international co-authorship accounting for only 21.02% of publications. Between the peak in 2021(1895 articles) to the low in 2024 (1584 articles), vitamin D research output declined by **16.52%**, and citation rates also decreased. The journal *Nutrients* saw a steep increase in vitamin D research output, rising from 77 in 2019 to 625 in 2024. The *New England Journal of Medicine* had the most cited study, authored by Manson JAE (2019), which focused on vitamin D supplementation and its role in cancer and cardiovascular disease prevention (*1,008 citations*).

The most prevalent research topics included epidemiology, drug therapy, and prevention and control.

**Conclusion:** Despite early momentum, vitamin D research output and citations have declined in recent years, indicating a decreasing interest in the field. The imbalance between single- and multi-country authorship suggests an opportunity for greater global collaboration. Future work may benefit from interdisciplinary approaches to revitalize the field and explore new health applications.



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## How do patients utilize food from a clinic-based food pantry?

**Background and Objectives:** In order to address food insecurity within our patient population, the Banner University Medical Center has established a food pantry and provided fresh produce to 2782 households and 8505 individuals. However, there is limited published literature regarding hospital-based food pantries and even fewer papers on the patients' perspectives. In order to evaluate how our patients utilize the food from our food pantry, we aim to gather quantitative measurements and qualitative descriptions of food use.

**Methods:** We conducted semi-structured interviews with 55 pantry users over the span of 4 weeks. The quantitative measures were directly analyzed by RedCap, while the qualitative data were annotated within RedCap. Then, themes were organized in a separate document using the editing organizing style of analysis.

**Results:** 98% of patients reported cooking or preparing the food pantry items with a utilization rate of 78% after one week. Only 12% of patients discarded any food items. The vegetables were most frequently included in both the favorite (49%, N=143) and least favorite top 3 (39%, N=77). The increased access to fresh produce has a positive influence on patient diets generally. Most patients are able to use the pantry ingredients in their normal diets or adapt to the selection offered.

**Conclusions:** Patients who use a hospital-based food pantry are able to flexibly use the food selection offered to improve their normal diet.

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### **Screening for diabetic retinopathy in a primary care setting**

**Significance:** Diabetic retinopathy remains the leading cause of blindness among US adults, even though timely screening and treatment can prevent up to 90% of blindness. In our clinic, we have encountered several challenges that affect our providers and patients. We face workflow and system-level barriers and patient-level obstacles, such as a limited understanding of screening and a lack of access to care.

**Objective(s):** Annual diabetic exam screenings will be incorporated into diabetes management follow-up visits with PCP, ensuring completion of screening rather than waiting for the patient to wait for specialists in the area. This intervention will also provide appropriate specialist follow-up for diabetic retinopathy conditions or referral eye diseases that would require further management.

**Primary Outcome Variable(s):**

1. Establish clinic protocol of Retinavue.
2. Track number of screenings completed.
3. Track results and provided referral when appropriate.
  - a. Referable diabetic retinopathy (proliferative, severe, or clinically significant macular edema).
  - b. Non-referable diabetic retinopathy (mild f/u in 12 months; moderate f/u in 6 months).
  - c. Referable eye condition (macular degeneration, glaucoma).

**Setting:** Primary care setting. The electronic medical record will be accessed by the investigators to obtain the necessary information.

**Study Design:** A prospective quality improvement project to analyze EMR to assess adherence to diabetic retinopathy screenings from 11/1/2023 to current. Introducing a new protocol for diabetic retinopathy screenings in a primary care clinic and measuring its impact on adherence rates, patient outcomes, and workflow efficiency as the changes are actively implemented.

**Study Subjects:** Patients at least 18 years of age seen in the family medicine clinic with documented diabetes or prediabetes, who have undergone or will undergo retinopathy screening. Exclusions: patients without diabetes/prediabetes, pregnant women, incarcerated individuals, and those with a history of cataract or eye surgery.

**Study Procedures:** Data to be collected from a retrospective chart review will include comorbid conditions, exam findings, and demographic data including age, sex, and referral orders. The prospective QI study will collect data on patients', who will have the potential need to receive the retinopathy screening.

**Statistical Methods:** Summary statistics will be calculated. Quantitative data will be expressed as the mean+SEM and nominal data will be expressed as a percentage. Comparisons between groups for quantitative variables will be performed using the t-test. Nominal variables will be evaluated using the  $\chi^2$  test. Significance will be assessed at  $p < 0.05$ .

**Discussion:** Implementing an automated diabetic retinopathy screening system in a primary care clinic serving a low-income population has the potential to significantly improve adherence to follow-up eye care recommendations, while also minimizing referrals for patients with low-risk features.





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## Trends in Interview Experience and Program Ratings Among Applicants to Family Medicine Residency Programs

**Introduction:** The interview experience is crucial in the residency application process. This study identifies factors that influenced family medicine applicants' rankings and preferences.

**Methods:** Applicants to three community hospital-based residency programs in the US were surveyed: Tidelands Health (5 match cycles), Adventist Health-Tulare (1 cycle), and WellSpan Good Samaritan Hospital (3 cycles). A pre-validated questionnaire assessed applicants' preferences and experiences before, during, and after the interview. Frequencies and percentages were calculated, and trends across match cycles were compared using chi-square tests ( $p < 0.05$ ).

**Results:** Out of 1,315 surveys sent, 725 were completed (55.13% response rate). At Adventist Health-Tulare (2024 cycle), the top factors were: "Happiness of Current Residents" (87.5%), "Interaction with Program Faculty" (80.36%), and "Interaction with Current Residents" (78.57%). At Tidelands Health (2024 virtual interviews), the most important factors were: "Culture of Residency Program" (93.26%, a 9.5% increase from 2023), "Happiness of Current Residents" (95.51%, a 0.22% decrease from 2023), and "Interaction with Current Residents" (77.53%, a 6.23% decrease from 2023). "Flexibility of the Program" and "Focus on Balance and Wellness" showed the largest increases from 2023 to 2024 (12.03% and 11.98%, respectively). In-person interviews at Tidelands Health (2022-2024) showed similar trends: "Culture of Residency Program" (89.47%, a 13.71% increase), "Happiness of Current Residents" (84.21%, a 2.39% increase), and "Interaction with Current Residents" (73.68%, a 10.04% increase). At WellSpan (2024 cycle), top factors were: "Happiness of Current Residents" (90.91%, a 0.39% decrease), "Culture of Residency Program" (81.82%, a 2.96% decrease), and "Curriculum and Clinical Opportunities" (78.18%, a 4.27% increase). Across all programs, the interview experience significantly influenced applicants' perceptions.

**Conclusions:** "Happiness of Current Residents" was consistently the most important factor (91.7% of pooled data), followed by "Culture of Residency Program" (84.09%) and "Interaction with Current Residents" (74.97%). These preferences highlight a shift towards emphasizing wellness and wellbeing, particularly in the post-pandemic era. Understanding these trends can help residency programs enhance their appeal, especially as family medicine faces a shortage of applicants despite the increasing need for primary care physicians.



**Emily Perez and Chase Adams**

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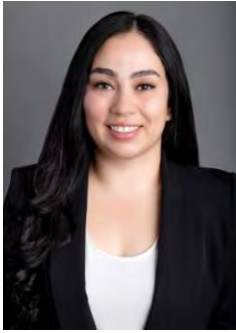
## **A Retrospective Analysis of Osteoporosis Treatment in Community Primary Care Clinics**

**Introduction:** Osteoporosis is a common disease that affects at least 10% of the population 50 years and older, can lead to significant morbidity and mortality in the elderly population through falls or fractures, and is under detected or under treated due to various barriers at the patient, provider, and healthcare system levels. At the physician level, barriers include lack of knowledge of the criteria for osteoporosis diagnosis and its treatment, awareness of the associated morbidity and mortality, polypharmacy contributing to osteoporosis risk such as proton-pump inhibitors or long-term glucocorticoid use, or other demands at the patient visit. Patient refusal and insurance coverage are additional barriers.

**Methods:** This is a chart review retrospective study. Charts of women 65 years and older in a community family medicine clinic from January 2024 to June 2024 were reviewed. 152 patients were identified and selected by the practice administrator through osteoporosis diagnoses. The data was de-identified except for age, primary and secondary risk factors, DEXA results, fragility fracture history, and medical treatment. Patient records were analyzed for DEXA T-values of the spine, hip, femur, and/or forearm, fragility fractures, and osteoporosis treatment. Determination was made if the osteoporosis treatment follows AACE/ACE guidelines.

**Results:** Treatment guidelines were followed 67% and 26% of the time, respectively, for the moderate-high (T score  $-2.5$  to  $-2.9$ ) and very-high severity groups (T score  $\leq -3.0$ ). Most common reasons for under treatment/lack of treatment were patient refusal, prescribing medications outside of the class recommended by the guidelines based on disease severity, side effects of medications, contraindications to medications, underdiagnosed fragility fracture. Older age, increased disease severity, and lower BMI were associated with guidelines not followed by the providers in this study. There are similar refusal rates, 31% and 30%, for both severity groups.

**Conclusion:** A statistically significant number of patients were being undertreated or not treated based on AACE/ACE osteoporosis guidelines due to patient, provider, and insurance factors. As patient's osteoporosis severity worsened, the percentage of patients treated per guidelines decreased. More provider education regarding diagnosis and treatment of osteoporosis is needed. Many patients who were prescribed a medication were given antiresorptive therapy. According to the guidelines, patients in the very-high severity group should be on a medication in the anabolic category. In addition, more patient-directed goals and treatment benefit discussions should occur in order to improve compliance. Practice protocols should be developed to streamline prior authorization approvals and cost-assistance applications to make medications affordable, especially since anabolic medications are usually more expensive. Study limitations include incomplete chart documentation, FRAX score was not calculated, small sample size, and lack of follow-up.



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## **Decade of Women's Health in CERA Surveys: A Snapshot of Trends**

**Introduction:** Women's health research remains underfunded, leading to disparities in the volume of published evidence available to address women's health issues. The CERA Survey, established by the Council of Academic Family Medicine (CAFM) through the CAFM Research Alliance (CERA), aims to enhance medical education in family medicine through survey-based research. The survey audience includes Department Chairs, Residency Program Directors, Clerkship Directors, and general members. There is limited data on the extent to which CERA surveys address women's health topics. This study investigates the relative share of women's health-related subjects in CERA surveys over the past decade.

**Methods:** This is a cross-sectional study that uses data from common questions in the CERA survey for all audiences from 2011-2023. The data was collected directly from the CERA webpage and stored in a structured Excel file. Trend analysis was performed using SPSS 29 and MS Excel for Windows. A Chi-square test was used to identify statistically significant differences between women's health related topics and other topics, with a p-value of  $<0.05$  used to determine statistical significance.

**Results:** Since the inception of the survey, a total of 277 survey sections have been distributed to all audiences. Each survey has 4-5 subsections with different topic questions addressing residency program education and curriculum, medical school curriculum, current practices in family medicine, educational resources, etc. Of these, only 24 were focused on women's health, a difference that was statistically significant ( $p<0.01$ ). When comparing publications and presentations completed between surveys addressing Women's Health vs. other, with 'other' encompassing all survey topics not related to women's health, there was no statistical significance at  $p<0.05$ .

**Conclusions:** This study examines women's health related topics in the CERA National Survey since their inception. It highlights a significant disparity between women's health topics and all other topics, as outlined above, despite equal chances of being presented or published in peer-reviewed journals. The underlying causes of this disparity require further investigation, and this study serves as a crucial first step in providing some insight into this issue.

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MPH; Shreya Dubey; Signe  
Langsetmo

### **Voter Engagement in a Family Medicine Clinic: Patient Voting Behaviors and Political Efficacy in Health**

Social determinants of health can be improved through civic engagement, but already marginalized populations are less likely to vote. There have been recent efforts to register voters in healthcare settings. It is not known how patients in an underserved clinical setting view these efforts. We interviewed a convenience sample of 249 adult patients in a family medicine residency clinic in Phoenix, Arizona between July and October 2024. 98.5% of visits are covered by health insurance: 33.3% by Medicaid and 24.6% by Medicare. Questions investigated patients' voting behaviors and motivations. Patients were prompted to share why they chose answers in an open-ended format. These answers were evaluated for and organized into recurrent thematic categories. In collaboration with the nonpartisan nonprofit, Vote-ER, we offered assistance in registering to vote. 89.6% of respondents believed it was acceptable for primary care teams to help people register to vote in the clinic. 75.2% reported they were registered to vote. Of those not registered, 48.3% reported they were not eligible. We helped 20 eligible people register to vote; 39 people declined assistance. 65.7% of interviewees endorsed voting in the 2020 presidential election. The most common reasons they did or did not vote were a sense of duty/privilege (25.2%), a desire to have their voice heard (12.0%), and a dislike of a specific candidate (7.9%). 67.8% of patients stated they were "very likely" to vote in the 2024 election. 75.8% stated it was "very likely" or "somewhat likely" that their voting would lead to people or policies that would improve the health of people like themselves in their community. 18.3% of all respondents expressed that this likelihood was dependent on a specific candidate, and 17.5% expressed a distrust of the system or politicians. The most common specific causes noted were insurance coverage and healthcare costs (7.5%), reproductive/women's health (8.3%), and cost-of-living/the economy (7.9%). Follow-up interviews will be completed in subsequent months. There is ample evidence that increased voter engagement is correlated to better health outcomes. The majority of family medicine patients believe that it is acceptable for their primary care team to engage in political efficacy efforts, but there are variable prevailing patient beliefs and levels of interest which influence these efforts' success. Knowledge of these factors can better refine engagement efforts and improve health outcomes.