



## 2021 SCHOLARY ACTIVITY AND QI WORK

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**Class of 2021.**

**Scholarly Activity and QI Work.**

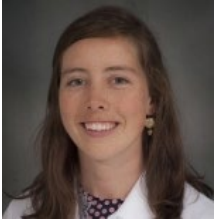
**MISSOULA**



Emily Anderson DO



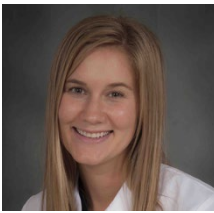
James Jennings DO



Carey Downey MD



Kelsey Morgosh MD



Ariel Fillmore MD

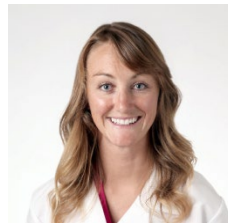
**KALISPELL**



Margie Albers MD



Geoff Holman MD



Chelsie Russig MD



Sarah Horne MD



Eric Weber MD

## 2020-2021 CLASS OF 2021 GRAND ROUND PRESENTATIONS

### **Missoula: Friday Morning Medical Conference**

Emily Anderson: *Things We Do for No Reason, Continued. More from Choosing Wisely*

Carey Downey: *FAQ about Contraception*

Ariel Fillmore: *Commonly Encountered Discharge Mishaps: A Look at Pain Management and Opioid Tapers*

Geoff Holman: *Demystifying PrEP: HIV Prophylaxis and You*

Sarah Horne: *Commonly Encountered Discharge Mishaps: A Perspective from Primary Care Follow-Up*

Kelsey Morgosh: *Evidence-based Nutrition in Cardiovascular Disease*

James Jennings: *Things We Do for No Reason and Choosing Wisely in Primary Care*

### **Kalispell**

Margie Albers: OB Grand Rounds. *VTE prophylaxis in pregnancy and the postpartum period*

Chelsie Russig and Eric Weber: STFM virtual poster presentation. *Didactic Changes and Resident Satisfaction.*

# CLASS OF 2021 SCHOLARLY ACTIVITY WORK

## **Marjorie Albers MD**

Hepatitis C Treatment at Flathead Community Health Center (FCHC)

**Details of the project:** Chronic HCV infection increases all-cause mortality, and treatment has been shown to be cost-effective. Despite this, the small supply of clinicians providing HCV care limits access treatment. FCHC had discussed creating a Hepatitis C program previously, but due to the need for relationships with specialists at outside facilities, and difficulties in reimbursement, the program's success was prohibited. A recent change in MT Medicaid allowed for coverage of Hepatitis C treatment when prescribed by a primary care provider, leading to a rapid shift in the practicality of creating a Hepatitis C program within our clinic.

In order to enable expanded access to HCV treatment to our patients I created a protocol, completed a teaching session with clinic staff, distributed educational materials, reviewed population health data and engaged in outreach via panel management, created treatment templates in the EMR for HCV treatment, worked with ancillary staff to streamline prior authorization and medication assistance treatment programs to make treatment affordable for patients, and attended ECHO sessions for continued learning for Hepatitis C management.

**Outcome:** Flathead Community Health Center providers prescribed curative treatment for several treatment-naive patients living with Hepatitis C resulting in virologic cure.

**Reflections:** Limiting treatments to specialists offices decreases access to treatment. Simple education sessions with clinical and ancillary staff led to successful implementation of this program. Change in insurance reimbursement also facilitated its success. Primary care based protocols can increase access to treatment of conditions such as Hepatitis C safely and reliably. Future directions based on this work Hepatitis C involve population health review, and reaching out to patients not yet screened for Hepatitis C, or have known disease without documentation of treatment.

Below are the protocols, handouts, info packets etc created for this project:

A. HEP C PROTOCOL:

Hepatitis C Protocol

Table of Contents

1. Flathead Principles of Practice
2. Sample intake ECW Intake
3. ECW Templates for Initiation, Monitoring, Follow up
4. Simplified Treatment Protocol from AASLD American Association of the Study of Liver Diseases
5. FIB4 score and Liverpool Drug-drug interaction checker
6. Project ECHO University of Utah HCV Initial and Follow-up Presentation paperwork
7. Information regarding Patient Assistance programs through Abbvie (Mavyret) and Gilead (Epclusa);co-pays.com and Insurance Appeal Offers
8. Sample Follow up letter to patients

B. Flathead Community Health Center. Principles of Practice of Hepatitis C Treatment

**SUBJECT:** Management of Hepatitis C Treatment

**OBJECTIVES:**

- To ensure that patients with chronic Hepatitis C have access to timely and evidence based management of their disease
- To ensure appropriate patient selection for chronic Hepatitis C treatment taking into account their likelihood of adhering with treatment and follow up

**PROCEDURES:**

- Once a patient is determined to have chronic hepatitis C (**confirmed by positive RNA Viral Load**), their PCP assesses their appropriateness for treatment
- If the PCP determines that the patient is a potentially a treatment candidate will assess for eligibility for simplified treatment. Contraindications to simplified treatment are prior hepatitis C treatment, decompensated cirrhosis, GFR <30, HIV or Hep B Ag positive, current pregnancy, known Hepatocellular carcinoma, prior liver transplantation
- If a patient is not eligible for simplified treatment, PCP will refer to a higher level of care. This will be either **locally or through University of Utah's Project ECHO**
  - <https://physicians.utah.edu/echo/clinical-support-areas/hepatitis-clinic.php>
  - Zoom link <https://uofuhealth.zoom.us/j/860094169>
- Provider will order baseline labs (**CBC, CMP, HIV Ab, Hep B surface antigen, pregnancy test if applicable**)
- Provider will offer Hepatitis A and Hepatitis B vaccines if not already immune
- Provider will evaluate for compensated cirrhosis through **FIB-4 Score** (found easily on MDCalc). Patients with scores of >3.25 will be referred to higher level of care
- Provider will perform medication reconciliation to confirm other medications patient is taking
- Provider will assess drug-drug interactions of current medications on Hep C treatment through **Liverpool's hep-druginteractions.org/checker** and counsel patient appropriately
- Provider will educate patient about proper administration of medications, adherence, and prevention of reinfection
  - IVDU is riskiest form of transmission and risk can be mitigated by clean needle exchange
  - Sexual transmission is a low but potential risk
  - Breastfeeding is encouraged regardless of Hepatitis C status of the mother, so long as she does not have bleeding/cracked nipples
- Once preliminary data is obtained patient and provider will assess if the patient is able to complete drug regimen, and if barriers to adherence are identified provider will consider referral to integrated behavioral health and/or case management
- If provider and patient agree to treatment regimen, provider will provide the following attestation in documentation

I have evaluated and counseled the patient and determined the following to be

- a. aware of the high cost of this medication.
- b. prepared to adhere to the medication instructions, and understands the importance of adherence.
- c. willing and able to attend all necessary follow-up provider appointments and lab appointments.
- d. willing to participate in any health plan initiated outreach to ensure optimal outcomes.
- e. unlikely to require hospitalization for any type of elective procedure during the prescribed duration of therapy.
- f. at low risk for HCV re-infection.
- g. in a stable living condition and has evidence of active health insurance during entire course of treatment.
- h. likely to achieve a long term clinical benefit from HCV treatment.

- i. likely to complete the HCV treatment and has discussed any concerns that may prevent completion of treatment with md.
- Once treatment is prescribed, provider's team will help facilitate medication assistance programs if funding is an issue
  - Mavyret (through Abbvie) [mavyret.com/hcp/patient-support](http://mavyret.com/hcp/patient-support)
  - Epclusa (through Gilead) [gileadadvancingaccess.com](http://gileadadvancingaccess.com)
- Once regimen is initiated, provider or provider's MA will see the patient monthly in clinic visits or contact by phone to monitor adherence and side effects
- Once treatment regimen is completed, a Hep C RNA viral load will be drawn at 12 weeks after last dosing to determine treatment effectiveness

### C. INTAKE FORM

1. "What do you know about Hepatitis C?"
2. "When and where were you diagnosed?"
3. Review Hepatitis C
  - a. Hepatitis C and the Liver Basics
  - b. Liver Damage: Fibrosis/Cirrhosis/Cancer Risk
  - c. Transmission and protecting others / risk reduction
  - d. Acute vs. Chronic Infection
  - e. Common terminology
    - i. Viral load versus antibody
    - ii. Genotype
    - iii. Fibrosis stages (F3-F4)
4. Complete HCV education Template and other forms
  - a. PHQ-9
  - b. Audit-C
  - c. Labs: CBC, CMP, Hep B surface Antigen, HIV, Pregnancy test (if applicable)
  - d. Immunization history against Hepatitis A and B, if non-immune offer vaccination
  - e. Release of Information if needed
5. Basic Review of Treatment and what is expected/involved
  - a. Adherence
  - b. Follow up testing
  - c. Common Side Effects fatigue, headache, nausea/vomiting
  - d. Cure = complete regimen and undetectable viral load 12 weeks post treatment
6. Provide Handouts
  - a. <https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/health+topics/health+conditions+prevention+and+treatment/infectious+diseases/hepatitis/hepatitis+c+-+including+symptoms+treatment+and+prevention>
7. Answer questions, provide phone number, schedule provider appt



## Test, Test M

21 Y old Female(T), DOB: 01/01/1999  
 Account Number: 283098  
 1035 1ST AVE W, KALISPELL, MT-59901-5607  
 Home: 406-751-8113  
 Guarantor: Test, Test M Insurance: Medicare FCCHD Payer  
 ID: 00139  
 PCP: Nicole E Russell  
 Appointment Facility: Flathead CHC FMRWM

03/04/2020

Appointment Provider: Marjorie Albers

### Current Medications

- Taking
- Contour Next Test Strips as directed 6-10 times daily

### Assessments

- Hepatitis C virus infection without hepatic coma, unspecified chronicity - B19.20 (Primary)

### Treatment

#### 1. Hepatitis C virus infection without hepatic coma, unspecified chronicity

- LAB: CBC (WITHOUT DIFF)
- LAB: CMP (COMPREHENSIVE METABOLIC PANEL)
- LAB: HEPATITIS B SURFACE ANTIGEN
- LAB: HEPATITIS C QUANT RNA ULTRA-VIRAL LOAD
- LAB: HIV 1,2 AB SCREEN

#### Notes:

- #Hepatitis C: without decompensated cirrhosis as scored/documented in FIB4 score
- patient is educated about modes of transmission
- pt is able to take a pill every day and comply with treatment regimen
- potential drug interactions assessed through Liverpool interaction Hepatitis C checker
- plan approved by Utah's Project ECHO hepatitis c specialists via online video conference
- start \_\_\_\_\_
- follow up in 4 weeks in clinic or by phone
- START DATE OF MEDICATION \_\_\_\_\_.

Clinical Notes: I have evaluated and counseled the patient and determined the following to be

- a. aware of the high cost of this medication.
- b. prepared to adhere to the medication instructions, and understands the importance of adherence.
- c. willing and able to attend all necessary follow-up provider appointments and lab appointments.
- d. willing to participate in any health plan initiated outreach to ensure optimal outcomes.
- e. unlikely to require hospitalization for any type of elective procedure during the prescribed duration of therapy.
- f. at low risk for HCV re-infection.
- g. in a stable living condition and has evidence of active health insurance during entire course of treatment.
- h. likely to achieve a long term clinical benefit from HCV treatment.
- i. likely to complete the HCV treatment and has discussed any concerns that may prevent completion of treatment with md.

## Simplified HCV Treatment Algorithm for Treatment-Naive Adults Without Cirrhosis

### WHO IS ELIGIBLE FOR SIMPLIFIED TREATMENT

Adults with chronic hepatitis C (any genotype) who do not have cirrhosis and have not previously received hepatitis C treatment



### WHO IS NOT ELIGIBLE FOR SIMPLIFIED TREATMENT

Patients who have any of the following characteristics:

- Prior hepatitis C treatment
- Cirrhosis (see simplified treatment for treatment-naive adults with compensated cirrhosis)
- End-stage renal disease (ie, eGFR <30 mL/min/m<sup>2</sup>) (see Patients with Renal Impairment section)
- HIV or HBsAg positive
- Current pregnancy
- Known or suspected hepatocellular carcinoma
- Prior liver transplantation

### PRETREATMENT ASSESSMENT\*

- **Calculate FIB-4 score.**
- **Cirrhosis assessment:** Liver biopsy is not required. For the purpose of this guidance, a patient is presumed to have cirrhosis if they have a FIB-4 score >3.25 or any of the following findings from a previously performed test.
  - Transient elastography indicating cirrhosis (eg, FibroScan stiffness >12.5 kPa)
  - Noninvasive serologic tests above proprietary cutoffs indicating cirrhosis (eg, FibroSure, Enhanced Liver Fibrosis Test, etc)
  - Clinical evidence of cirrhosis (eg, liver nodularity and/or splenomegaly on imaging, platelet count <150,000/mm<sup>3</sup>, etc)
  - Prior liver biopsy showing cirrhosis
- **Medication reconciliation:** Record current medications, including over-the-counter drugs, and herbal/dietary supplements.
- **Potential drug-drug interaction assessment:** Drug-drug interactions can be assessed using the AASLD/IDSA guidance or the University of Liverpool drug interaction checker.
- **Education:** Educate the patient about proper administration of medications, adherence, and prevention of reinfection.
- **Pretreatment laboratory testing**
  - Within 6 months of initiating treatment:*
    - Complete blood count (CBC)
    - Hepatic function panel (ie, albumin, total and direct bilirubin, alanine aminotransferase [ALT], and aspartate aminotransferase [AST])
    - Calculated glomerular filtration rate (eGFR)
  - Any time prior to starting antiviral therapy:*
    - Quantitative HCV RNA (HCV viral load)
    - HIV antigen/antibody test
    - Hepatitis B surface antigen
  - Before initiating antiviral therapy:*
    - Serum pregnancy testing and counseling about pregnancy risks of HCV medication should be offered to women of childbearing age.

### RECOMMENDED REGIMENS\*

**Glecaprevir (300 mg) / pibrentasvir (120 mg)**  
taken with food for a duration of 8 weeks

**Sofosbuvir (400 mg) / velpatasvir (100 mg)**  
for a duration of 12 weeks

### ON-TREATMENT MONITORING

- Inform patients taking diabetes medication of the potential for symptomatic hypoglycemia. Monitoring for hypoglycemia is recommended
- Inform patients taking warfarin of the potential for changes in their anticoagulation status. Monitoring INR for subtherapeutic anticoagulation is recommended.
- No laboratory monitoring is required for other patients.
- An in-person or telehealth/phone visit may be scheduled, if needed, for patient support, assessment of symptoms, and/or new medications.

#### POST-TREATMENT ASSESSMENT OF CURE (SVR)

- Assessment of quantitative HCV RNA and a hepatic function panel are recommended 12 weeks or later following completion of therapy to confirm HCV RNA is undetectable (virologic cure) and transaminase normalization.
- Assessment for other causes of liver disease is recommended for patients with elevated transaminase levels after achieving SVR.

#### FOLLOW-UP AFTER ACHIEVING VIROLOGIC CURE (SVR)

- No liver-related follow-up is recommended for noncirrhotic patients who achieve SVR.
- Patients with ongoing risk for HCV infection (eg, intravenous drug use or MSM engaging in unprotected sex) should be counseled about risk reduction, and tested for HCV RNA annually and whenever they develop elevated ALT, AST, or bilirubin.
- Advise patients to avoid excess alcohol use.

#### FOLLOW-UP FOR PATIENTS WHO DO NOT ACHIEVE A VIROLOGIC CURE

- Patients in whom initial HCV treatment fails to achieve cure (SVR) should be evaluated for retreatment by a specialist, in accordance with AASLD/IDSA guidance.
- For patients unable to be retreated, assessment for disease progression every 6 to 12 months with a hepatic function panel, CBC, and INR is recommended.
- Advise patients to avoid excess alcohol use.



\*More detailed descriptions of the patient evaluation process and antivirals used for HCV treatment, including the treatment of patients with cirrhosis, can be found at [www.hcvguidelines.org](http://www.hcvguidelines.org). Updated: December 10, 2019 © 2019 American Association for the Study of Liver Diseases and the Infectious Diseases Society of America.







Search "QT interval" or "QT" or "EKG"

Log in SIGN UP (/SIGNUP)

# Fibrosis-4 (FIB-4) Index for Liver Fibrosis ☆

Noninvasive estimate of liver scarring in HCV and HBV patients, to assess need for biopsy.

When to Use <span>▼</span>	Pearls/Pitfalls <span>▼</span>	Why Use <span>▼</span>
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Age  years  
 Use with caution in patients <35 or >65 years old, as the score has been shown to be less reliable in these patients

AST  
 Aspartate aminotransferase  Norm: 1 - 40 U/L

Platelet count  Norm: 150 - 350  $\times 10^3/\mu\text{L}$   $\rightleftarrows$

ALT  
 Alanine aminotransferase  Norm: 1 - 35 U/L

## Result:

Please fill out required fields.

<a href="#">» Next Steps</a>	<a href="#">Evidence</a>	<a href="#">Creator Insights</a>
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### ADVICE

- Low fibrosis scores may be appropriate candidates for medical management and may not require liver biopsy if FIB-4 scores continue to stay low.
- Severe fibrosis/cirrhosis scores may need liver biopsy for confirmation of cirrhosis unless there are other clinical or imaging signs of progression to end-stage liver disease.

[Have feedback about this calculator? \(/contact\)](#)

### About the Creator



Dr. Richard Sterling



[Are you Dr. Richard Sterling?](#)

### Also from MDCalc...

#### Related Calcs

- [NAFLD Fibrosis Score \(/nafld-non-alcoholic-fatty-liver-disease-fibrosis-score\)](#)
- [HIV CKD Prediction \(/ckd-prediction-hiv-patients\)](#)
- [MELD Score \(Original\) \(/meld-score-original-pre-2016-model-end-stage-liver-disease\)](#)

Having trouble viewing the interactions? [Click here for the Interaction Checker Lite.](#)

HEP Drugs	Co-medications	Drug Interactions
<input type="text" value="Search HEP drugs..."/> 	<input type="text" value="Search co-medications..."/> 	<input type="checkbox"/> Check HEP/HEP drug interactions
<input checked="" type="radio"/> A-Z <input type="radio"/> Indication <input type="radio"/> Trade	<input checked="" type="radio"/> A-Z <input type="radio"/> Class	Drug Interactions will be displayed here
Selected HEP Drugs will be displayed here.	Selected Co-medications will be displayed here.	

SPONSORS



# HIV/HCV Initial Case Presentation Form

1

REDCap Record ID:

Date: \_\_\_\_\_ Site: \_\_\_\_\_ Provider: \_\_\_\_\_

**PLEASE NOTE that Project ECHO case consultations do not create or otherwise establish a provider-patient relationship between any UTHSA clinician and any patient whose case is being presented in a Project ECHO setting. Always use ECHO ID# when presenting a patient in clinic. Sharing patient name, initials or other identifying information violates HIPAA privacy laws.**

ECHO ID (UTHSA Use Only): \_\_\_\_\_

### General Information/ Demographics

<b>Birth Year:</b>	
<b>Gender:</b>	<input type="checkbox"/> Male <input type="checkbox"/> Female      Transgender: <input type="checkbox"/> FTM <input type="checkbox"/> MTF
<b>Insurance:</b>	<input type="checkbox"/> No Insurance <input type="checkbox"/> CareLink <input type="checkbox"/> Medicare
	<input type="checkbox"/> Medicaid    Plan: _____
	<input type="checkbox"/> Commercial Health Insurance    Plan: _____
<b>Annual Household Income:</b>	_____
<b>Household Size:</b>	_____
<b>Question(s) for ECHO Session:</b>	
1	_____
2	_____
3	_____

### HCV/ Liver Disease History

HCV	Year of Diagnosis:
HCV GT	<input type="checkbox"/> 1a <input type="checkbox"/> 1b <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> Indeterminate <input type="checkbox"/> Mix: _____
HCV VL	HCV RNA PCR (IU/L): _____
Resistance (NS5 RAS) Testing	NSSA Mutations: <input type="checkbox"/> None <input type="checkbox"/> M28 <input type="checkbox"/> Q30 <input type="checkbox"/> A30 <input type="checkbox"/> L31 <input type="checkbox"/> Y93 <input type="checkbox"/> Not Done
Previous/Current HCV Treatment	<input type="checkbox"/> Treatment Naïve <input type="checkbox"/> Treatment Experienced    Past Response: _____ Regimen: _____    Duration: _____
Fibrosis Staging	<input type="checkbox"/> FibroScan      FibroScan Score (kPa): _____ <input type="checkbox"/> FIB-4      FIB-4 Score: _____ <input type="checkbox"/> APRI      APRI Score: _____ <input type="checkbox"/> Liver Biopsy      Liver Biopsy Year: _____ Liver Biopsy Findings: _____
Cirrhosis Complications	<input type="checkbox"/> None <input type="checkbox"/> Ascites <input type="checkbox"/> Hepatic Encephalopathy <input type="checkbox"/> Variceal Bleed
Abdominal Imaging	<input type="checkbox"/> Ultrasound <input type="checkbox"/> CT <input type="checkbox"/> MRI <input type="checkbox"/> Not done Date: _____    Impression: _____
Hepatocellular Carcinoma (HCC)	<input type="checkbox"/> Yes <input type="checkbox"/> No    If Yes, Year of Diagnosis: _____    Treatment? _____

If Cirrhotic, please indicate Child-Pugh and MELD-Na Scores: Cirrhotic?  Yes  No

Child Pugh Score:  A  B  C    Points: \_\_\_\_\_    **Child-Pugh Score for Cirrhosis Mortality**  
MELD-Na Score\*: \_\_\_\_\_    <https://www.mdcalc.com/child-pugh-score-cirrhosis-mortality>

\*For Clinical Calculators (APRI, MELD, etc.), visit: <https://www.hepatitisc.uw.edu/page/clinical-calculators/meld>

<b>FIB-4 Interpretation</b>	
Points < 1.45:	Advanced Fibrosis (≥F3) less likely
Points ≥ 1.45 and ≤ 3.25:	Indeterminate
Points > 3.25:	Advanced Fibrosis (≥F3) more likely

<b>APRI Interpretation</b>	
Points ≤ 1:	Advanced Fibrosis (≥F3) less likely
Points > 1:	Advanced Fibrosis (≥F3) more likely

FIB-4 and APRI cutoffs from: Tapper EB, Lok ASF. Use of Liver Imaging and Biopsy in Clinical Practice. The New England journal of medicine. 2017;377(23):2296-7.

# Emily Anderson DO

## Medicare Wellness Pre-visit packets

**Details of the project:** I worked with the Geriatric committee to help choose and develop what information to send to patients to complete prior to their Medicare Wellness visit so that they came prepared to their appointments with their medications and survey information they could fill out ahead of time.

I also helped write, with Nick Zakovich, a reminder letter to be sent to patients who were due to a wellness visit, to please schedule an appointment.

**Outcome:** The packet that the Geriatric committee sends out to patients prior to appointments is comprehensive. I think it is successful because the PHC Geriatric care coordinator Michele Hill calls patients as well and walks them through it.

**Reflections:** Patients need a lot of nudging and encouragement to complete these appointments and just reminding them to schedule an appointment is not sufficient.

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## OMT visit template for residents

**Details of the project:** Developed a template for residents to use for OMT visits. It includes background of the issue being addressed, basic exam findings with space for osteopathic exam and the billing necessary for residents under a supervisor.

Having this template helped my efficiency in clinic with these visits and I wanted to share it with other residents performing OMT.

**Outcome:** It is under review to be approved to share with other residents.

## **Carey Downey MD, Ariel Fillmore MD, Sarah Horne MD**

### Early Pregnancy Loss Management in the Clinic

#### **Details of the project:**

Early pregnancy loss (EPL) occurs in anywhere from 25-33% of all pregnancies. Providers and patients are often misinformed about the necessity of managing these cases in the ER setting. Most often, EPL can be managed very safely in the outpatient setting with the patient's primary care provider, or at least at the primary care clinic. Being able to provide outpatient management often allows for a much less stressful experience for the patient and avoids unnecessary hospital costs. Our goal was to make providers aware of the safety (and preference) for outpatient care of EPLs in order to avoid undue emergency department visits and patient stress.

We developed protocols for EPL management in the clinic and made them available on our clinic intranet. We provided presentations to PHC providers on EPL management and how to utilize these protocols. These documents outline diagnosis, treatment options, and billing codes for miscarriage management. The intranet also includes consent forms and aftercare forms as well as ECW template options for miscarriage management visits.

#### **Outcome:**

We sent surveys evaluating provider confidence in EPL management in the outpatient setting before and after the above interventions with the hope of improving confidence by 50%, but we only noted a 5% increase.

#### **Reflections:**

Although we did not meet our goal of a 50% increase level of confidence, we did see higher degrees of confidence overall which is promising. Perhaps one of the barriers of increasing provider confidence is the low rate of EPL that is typically seen in the clinic. On average, PHC clinicians see 2 miscarriages per year. We feel that with further outreach, education, and awareness of available resources, provider confidence levels will continue to grow.

## Geoffrey Holman MD

### PrEPing for the Future

**Project Details:** PrEP (aka Pre-Exposure Prophylaxis against HIV infection) was not something I knew anything about coming out of medical school, but it quickly grew into an area of interest and a specialized skillset during residency. As an intern, I met and cared for a number of gay men who were interested in starting PrEP, and through the guidance of Dr. Kate Krebsbach, Dr. Amy Matheny, and Andy Hardison at PHC I developed the knowledge base to take on this niche treatment. As my training continued, I delved further into the intricacies of PrEP, and took pride in caring for a vulnerable population through a relatively novel treatment modality. It became clear to me that while I was comfortable with PrEP, that was not the case for many of my colleagues and most interns coming out of medical school, and I became very interested in helping to teach and mentor my fellow residents and PHC providers in the counseling, testing, and follow up necessary for thorough and successful treatment with PrEP. This took the form of a QI project which encompassed multiple interventions, including a PrEP provider guide that is available on the PHC Wiki, an educational information session for PHC providers on prescribing PrEP, a Friday Morning Medical Conference at SPH detailing the history and current guidelines surrounding PrEP, an eCW order set for common PrEP labs and handouts, and two eCW PrEP templates.

**Outcome:** While I wish I could say that everyone at PHC is now comfortable with prescribing PrEP and there is a system in place to educate future residents about the complexities of PrEP, I do not yet think that is entirely the case. Unfortunately, with the high turnover rate in residency, a champion for any given cause is not typically at PHC for long enough to enact true lasting change without becoming a member of the faculty or medical staff. I do believe that I have moved the needle and helped provide at least a baseline exposure for many residents and providers to PrEP, and I am hopeful that the future of PrEP at PHC continues to expand, but I fear without a true champion PrEP may fade again into the background, possibly leaving a vulnerable population more at risk. I have expressed interest in staying involved with PrEP education in the residency for years to come, and I hope to continue to champion this worthy cause.

**Reflection:** It is quite cliché, but I look back at my experience with PrEP as one of accidental self-discovery. Quite unknowingly I came to care deeply for an underserved population and a specialty treatment, and I take pride in knowing that I provided specialized care for these vulnerable patients in an FQHC setting. PrEP is one aspect of residency that I will always look back on fondly, and hope to continue to champion both at PHC and through the residency for years to come.

## **Kelsey Morgosh, MD**

### Lactation and Breastfeeding Resources

**Details of the project:** During my R1 year (while breastfeeding my newborn) I realized that PHC did not have any lactation consultants on staff and the lactation module assigned to residents on their first month of obstetrics was impractical in length and quite inaccessible for finding answers to commonly asked questions and concerns that are likely to be encountered by postpartum patients. My aim with this project was to enhance the existing structures in place at PHC to help breastfeeding mothers and health care staff while also providing some practical teaching on lactation for residents working with postpartum mothers and infants. I put together documents on our PHC intranet available to all PHC employees that included hand-outs for patients, nursing staff, and providers with information on Missoula's best local resources for lactation and commonly asked lactation questions. Additionally, it provided multiple evidence-based resources on lactation for providers needing access to more reading regarding niche or harder to answer questions. Finally, I also presented at didactics on practical breastfeeding tips during my R2 year. I have given this presentation as well on all my obstetric months to the cadre of residents covering the service. No specific outcomes were measured.

**Reflections:** The medical knowledge required by family doctors is vast. My hope with this project was to provide easy-to-access resources and information for healthcare staff including residents to better serve our patients' lactation needs since it's impractical that we will all become certified lactation consultants. If I helped my colleagues take one step closer towards this end or made just one clinical encounter that much easier, then I am happy with the impact of this project!

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### Building Resident Training for Hepatitis C Treatment for Rural and Underserved Populations

**Details of the project:** As a resident interested in co-managing hepatitis C (HCV) patients at PHC's TLC clinic, I was invited by Dr. Matheny along with Dr. Horne and Dr. Jose to work on a poster submission for the 2020 STFM annual meeting about FMRWM's integrated approach to HCV education. As we know, current HCV treatments have an estimated 90-95% cure rate, however, access to treatment is limited by geographical barriers and providers who are trained to provide this care. At FMRWM we have provided an avenue for a longitudinal curriculum in which residents can become capable and comfortable with providing HCV treatment. We have seen a number of graduates take these skills into rural areas and our hope is that model could be adapted and used by other residency programs training physicians working in rural and underserved communities. Specifically, my contribution had been helping with the poster and I had plans to attend and help present at the 2020 STFM meeting. Unfortunately, the in-person meeting was cancelled due to COVID so Dr. Matheny presented this herself at their virtual meeting in August 2020.

**Reflections:** Overall, my contribution to this project was relatively small, however, I feel this is a simple model for an important intervention that can be easily replicated by other residency programs. For this reason, I feel invested in the work that was done here and hope to bring this to the rural family medicine residency in Arizona I will be a part of next year to continue training the next generation of rural doctors.

## **James Jennings, DO**

### POCUS clinic resources and a formal POCUS credentialing process for FMRWM residents

POCUS is an invaluable tool that is becoming more accessible in a clinic setting, especially that of a rural primary care physician. Studies are consistently demonstrating the efficacy in POCUS in the ability to diagnose or rule out particular conditions. As a rural family medicine residency, FMRWM should be at the forefront of this movement. To date, FMRWM does not have any POCUS specific resources for clinic practice, or credentialing process for current residents. To address this issue, I chose a scholarly activity and quality improvement pertaining to POCUS.

The quality improvement project remains a work in progress. Data will need to continue to be collected to determine if there are increases in POCUS utilization in clinic based on the changes that were implemented in clinic and in the wiki resources. The scholarly activity has resulted in a formal credentialing process that may, or may not be adapted by the residency. Much of the credentialing process was based off of PHC's. A wiki page has been started with POCUS resources to obtain quickly and easily during clinic as a point of reference. This can continue to be added to by future residents and faculty. There are now POCUS specific procedure templates available on ECW to document POCUS findings consistently and clearly. This should save time, and also provide guidance in regards to POCUS specific exams. Lastly, and potentially most importantly, a POCUS committee has been formed by the residency and already has many ideas in the works for further improvement of this curriculum.

Through this process I learned that change takes time and that even small changes can have a significant impact. I think there is much to build on here as detailed above. The potential for POCUS as a clinic tool, particularly in a rural or underserved population is something that deserves exploring.



## **Eric Weber MD MS & Chelsie Russig DO**

### Residency Didactics: Satisfaction and Timing

**Details of the project:** The aim of this QI/activity was to evaluate resident satisfaction regarding the length of time spent in weekly didactics. Prior to these changes, didactics frequently went from 1 pm to 6 pm or even later, and residents felt that the learning potential was diminished after 5 pm, and that there were more potential benefits to having them end sooner such as protected time for self care and wellness, flexibility for more self-directed learning, etc. Thus, the program transitioned to having didactics generally end by 5 pm. Residents were polled both before and after the change, and the results were analyzed.

**Outcome:** We projected that there would be a 20% increase in resident satisfaction as a result of this change, and this outcome was met. However, it was noted that the amount of anticipated increased satisfaction was higher than the actual increased satisfaction, which is worthy of further investigation.

**Reflections:** There are many different learning styles, and each year there is a new batch of residents (and one batch that graduates) that skews the existing dynamics within the program. Thus, it is expected that the model that best suits the current group of residents will probably not fit for the next group. However, it is likely that residents will continue to benefit from this particular change to didactics (maintaining a 5 pm end time) for the reasons listed above.

# QUALITY IMPROVEMENT WORK- CLASS OF 2021

## Marjorie Albers MD

### Use of Integrated Care Managers at FCHC.

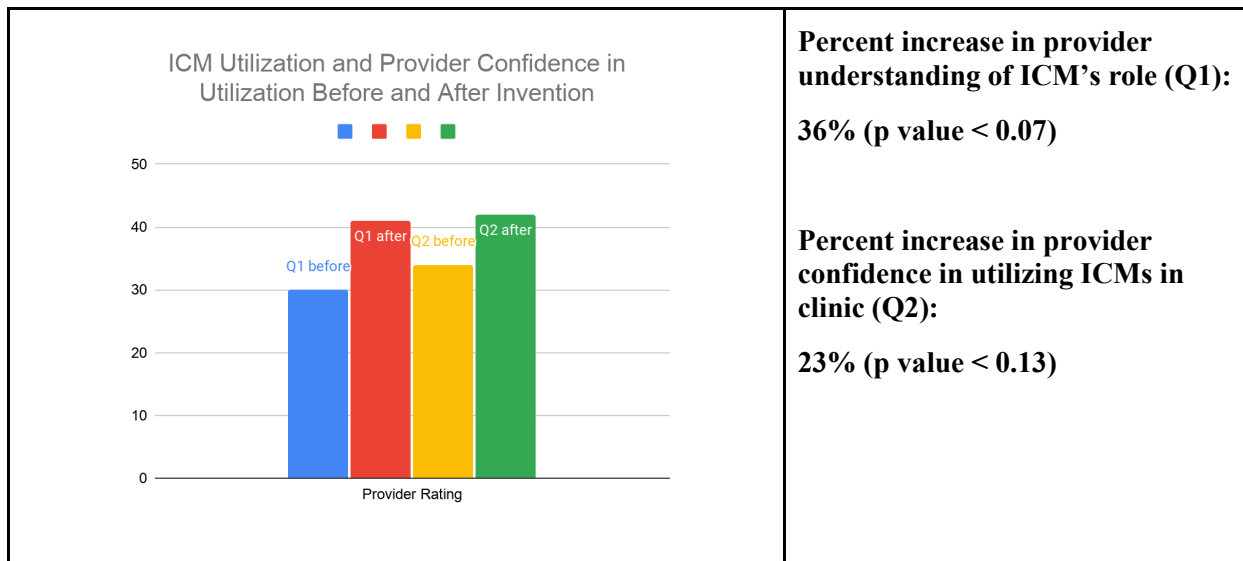
**PROBLEM:** Integrated Care Managers (ICM) can provide comprehensive behavioral health services in real time to patients in the primary care setting. Despite this, ICMs and providers at the FCHC alike feel that ICMs are not utilized to their full potential.

**AIM STATEMENT:** In order to promote effective utilization of Integrated Care Managers (ICMs) by providers in clinic we will increase provider comfort with utilizing ICMs by 10% in 2 months via a short educational intervention.

**DESCRIPTION OF INTERVENTION:** I engaged providers in a short educational intervention regarding ICM potential duties, and surveyed their attitudes regarding the ICM program pre-intervention and two months later. Provider responses were collected in person or via text message.

**BARRIERS:** One of the two ICMs changed roles and another was hired during this process, interrupting clinic flow during the onboarding process, which may have influenced provider responses to follow up questions.

### MEASURES/OUTCOMES:



**DISCUSSION:** This intervention showed a positive trend of increasing provider understanding/familiarity with ICMs in clinic, although the intervention did not reach statistical significance. Providers' understanding of ICM's role seemed to improve more than their own confidence utilization of ICMs.

**LESSONS LEARNED/NEXT STEPS:** Another intervention to identify barriers to assess why providers report low confidence in how to employ ICMs in clinic could potentially improve ICM utilization at the Flathead Community Health Center.

## Ancillary Materials

**Integrated Care Manager Job Description:** Integrated Care Managers (ICMs) serve as a liaison/coordinators between Primary Care Providers and Behavioral Health Interventions. Integrated behavioral health care providers blend care in one setting for medical conditions and related behavioral health factors that affect health and well-being. ICMs serve as real time agents of behavioral interventions for chronic conditions. Examples of effective utilization of ICMs include;

- Teaching breathing/mindfulness techniques to a patient with anxiety
- Discussing weight loss plans for patients with Diabetes
- Following patients for tobacco cessation
- Helping patients coordinate appointments and transportation/logistical aspects of care

To utilize the ICMs call Angie 406-885-2633 or Maddi at 406-885-1560

**KEY MEASURES FOR IMPROVEMENT:** Two question survey before and after intervention to assess provider's attitude toward the utilization of ICMs

Question 1: On a scale from 0-10 how well do you think ICMs are utilized in clinic?

0      1      2      3      4      5      6      7      8      9      10

Poorly

Extremely Well

Question 2: On a scale from 0-10 how confident are you in how to utilize ICMs in clinic?

0      1      2      3      4      5      6      7      8      9      10

Poorly

Extremely Well

\_\_\_\_\_ -

## Emily Anderson DO and Nick Zakovich DO

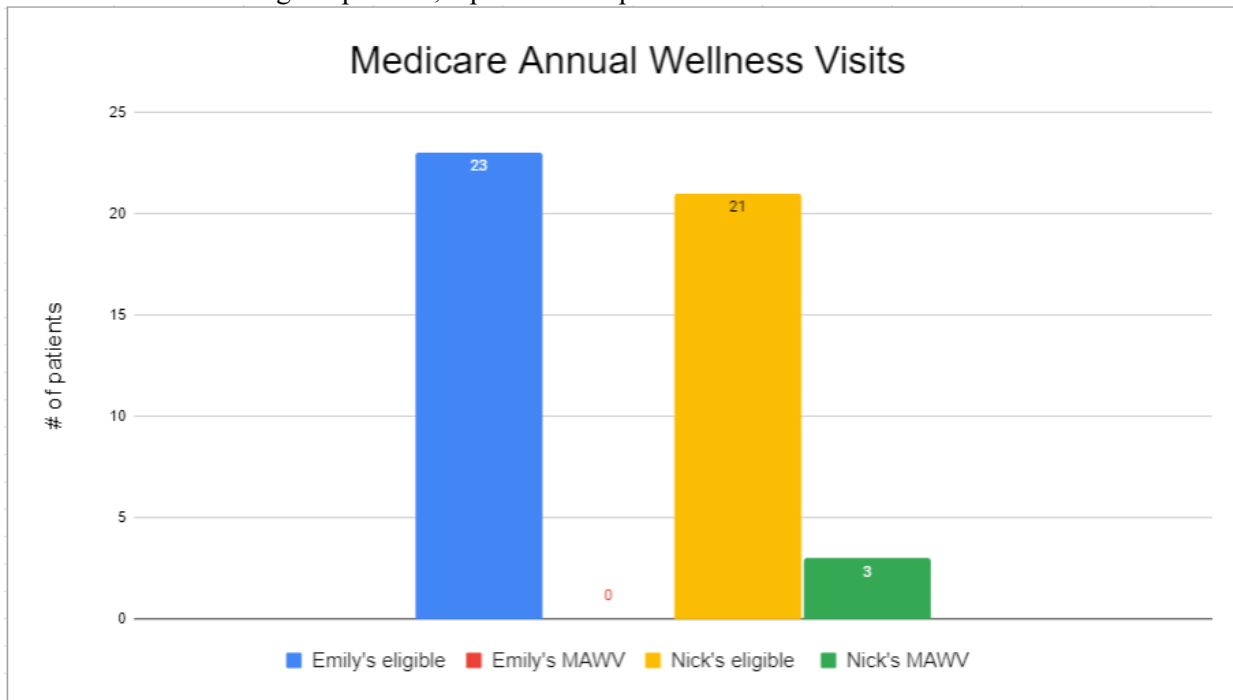
### Increasing Medicare Wellness Visits

**Problems:** At Partnership Health Center we found we were not performing any Medicare Annual Wellness Visits (MAWVs) despite having a modest number of geriatric patients in our respective panels. We both noticed that MAWVs were commonly performed in rural clinics we rotated through.

**Aim Statement:** Over the next 6 months, we will partner with the Geriatric task force team to identify Medicare patients who are due for a MAWV. We will send letters to these individuals with educational material regarding a MAWV and encouragement to schedule one. Our goal is to increase our MAWV from <1 per month to 2.

**Process:** First, the patients who were eligible for a MAWV were identified. Emily had 23 eligible patients and Nick had 21 patients. This was done by working with the Geriatric Task force and by data analysis on Azara. A letter was drafted that explained what a MAWV was and that they were completely covered by Medicare. The letter asked the patient to complete the pre-appointment paperwork (developed by Dr. Calle and included in the letter) and to call PHC to schedule the appointment. The letter is attached on the following page.

**Results:** Emily had one patient schedule a MAWV, however this visit was converted to a regular office visit due to acute concerns. Of Nick's eligible patients, 3 patients completed a MAWV.



**Conclusion:** Overall, our QI project was unsuccessful. Identifying eligible patients was easy with the help of the Geriatric Task Force. Drafting a letter, loading envelopes with pre-appointment paperwork, and mailing out the letters only took one evening. Unfortunately, the letters did not have the best engagement. Neither of us were close to our goal of doing 2 MAWVs per month. I think some of the patients identified may have only been seen for acute issues or very infrequently. These patients may have a PCP elsewhere which would make the response look less robust. To improve engagement with patients, our clinic could consider having PSRs contact each patient individually along with mailing a letter. However, this process would be much more labor intensive. Once the patient was scheduled, the MAWV was not very challenging even though not all the patients brought the paperwork in. We utilized the established ECW template while performing the visit.

**Example of our letter sent out to patients:**

To whom it may concern,

We are sending this letter to inform you that you qualify for a free annual visit through Medicare. It is called a Medicare Annual Wellness Visit. All you have to do is call Partnership Health Center to get scheduled with your primary care provider and fill out the forms that are in this letter to bring to your appointment. We want to help you take advantage of this program completely covered by Medicare that promotes your health and wellbeing as you age.

Partnership Health Center: 406-258-4789

Thank you,

Dr. Anderson and Dr. Zakovich

# Carey Downey MD, Ariel Fillmore MD, Sarah Horne MD

## Early Pregnancy Loss Management in the Clinic

### **Problem:**

Early pregnancy loss (EPL) occurs in anywhere from 25-33% of all pregnancies and yet many general practice providers do not feel comfortable managing EPLs in the outpatient setting. EPLs very rarely require the need for hospital care, but providers and patients are often misinformed about this. As a result, women frequently seek care in the ER or are sent there by their own providers. This results in unnecessary hospital costs and undue stress to the patients.

### **Rationale:**

The current structure at our clinic does not have any protocol for EPL management, and providers must rely on their own individual experience and knowledge when treating a woman who is possibly having an EPL. Providers who are not comfortable with basic treatment principles have no easily searchable reference and the safest approach often takes the form of ER transfer. Training providers and arranging for easily accessible EPL management material could help to decrease the amount of unnecessary ER referrals for what is most often treatable in the clinic setting.

### **Aim:**

Our aim is to increase the self-assessed confidence of PHC providers in managing EPL in the clinic. Specifically, we aim to increase PHC provider confidence of their ability to treat EPL by 50% over 1 year. Clinical goal is to incorporate miscarriage management into provider workflows.

### **Key measure:**

Providers self-assessed scale of their confidence with EPL management before and after intervention. This will be assessed by analyzing surveys given to PHC providers before and after completion of our below interventions.

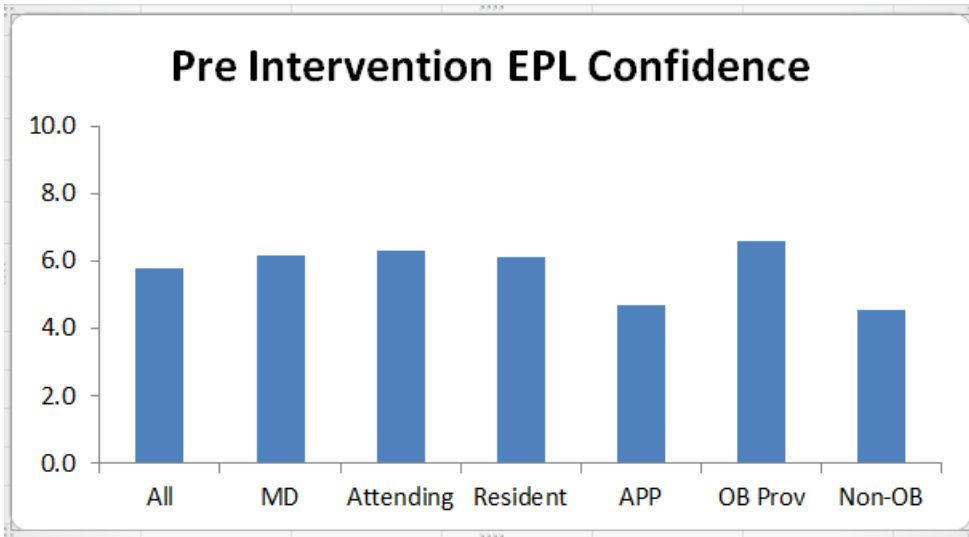
### **Intervention:**

Developed protocols for internal clinic use and provide half hour presentations to PHC providers on EPL management and how to utilize these protocols. Created documents available on the PHC internal page for providers to access that reviews EPL management. These documents include developed EPL protocols as well as documents that outline diagnosis, treatment options, and billing codes for miscarriage management. The intranet also includes consent forms and aftercare forms for all types of miscarriage management. In addition, we developed a template for ECW to be used for miscarriage management by medication.

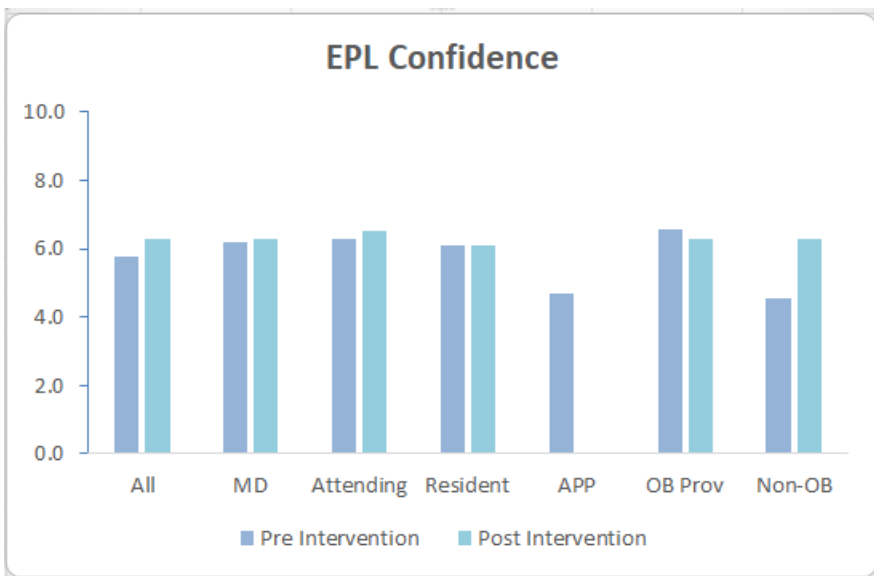
### **Analysis:**

Table 1 demonstrates providers', categorized by profession, self-assessed confidence in managing EPL prior to our intervention. Table 2 compares confidence levels before and after the intervention. These surveys were given to providers approximately one year apart. The first survey was done at a provider meeting prior to initiating our above interventions. The second survey was given to PHC providers after these interventions. For our first survey, we had 23 respondents. Initial survey showed an average confidence level of providers in treating miscarriages was 5.8 out of 10. In addition, 7 out of the 23 respondents felt that would need an OB provider to consult for miscarriage management and only 3 out of 23 providers felt that PHC had a clear workflow in how to manage miscarriages through the clinic.

**Table 1**



**Table 2**



**Effects of Change**

We reviewed the surveys before and after the above interventions. We noted a 5% increase in overall provider confidence in managing EPL from 5.8/10 to 6.3/10. Additionally, we noted a decrease percentage of providers who felt an OB consult was necessary for EPL management from 7 out of 23 respondents (30%) to 5 out of 22 respondents (22%).

**Lessons learned:**

Although we did not meet our goal of a 50% increase level of confidence, we did see higher degrees of confidence overall which is promising. Perhaps one of the barriers of increasing provider confidence is the low rate of EPL that is typically seen in the clinic. On average, PHC clinicians see 2 miscarriages per year. We feel that with further outreach, education, and awareness of available resources, provider confidence levels will continue to grow.

# Geoff Holman MD & Kelsey Morgosh MD

## Preparing Providers for PrEP

### **Problem:**

Pre-exposure prophylaxis (PrEP) for HIV is a safe and effective method for preventing HIV in high-risk populations. It is an emerging area in primary care and therefore lack of knowledge or training related to prescribing and managing PrEP is a common barrier for many health care providers.

### **AIM statement:**

Between October 2019 and May 2020 we will improve provider (MD/DO/NP/PA) awareness at Partnership Health Center in four key areas of HIV prophylaxis management: 1-appropriate counseling 2- medication regimens, 3-lab work, 4-follow-up. We aim to improve provider clinical competency by 25% overall across these areas as determined by pre and post knowledge-assessment questionnaires through targeted provider education, implementation of PrEP templates and order sets, and a Wiki resource.

### **Key measures for improvement:**

Average improvement of 25% as assessed on our pre and post knowledge-assessment questionnaire after implementation of our above interventions.

### **Process of gathering information:**

Data regarding current provider awareness and knowledge of PrEP was gathered through a pre and post-knowledge assessment questionnaire composed of 10 multiple choice questions sent out to all PHC providers.

### **Analysis for interpretation:**

	Number of participants	Average score
Pre-knowledge assessment	37	58%
Post-knowledge assessment	14	70%

### **Strategies for change:**

Multiple measures including targeted provider education, implementation of PrEP templates and order sets, and a Wiki resource. Targeted provider education occurred in the form of a condensed PrEP seminar during a PHC provider meeting.

**Effects of change:** We took a multi-faceted approach to improving PrEP workflows, which resulted in a moderate improvement in average score when comparing our pre and post-knowledge assessment surveys. It was our goal to both improve PHC and FMRWM provider familiarity and comfort with counseling, prescribing, and monitoring PrEP patients, and while our numbers are limited it does seem that we have moved the dial at least a modest amount in the right direction. Unfortunately, we did not reach our goal of improving provider scores by 25%, with our final score improvement being an improvement of only 12%.

**Limitations:** There were unfortunately multiple limitations to our project. We took a multi-faceted approach to improving the PrEP workflows and knowledge base both at PHC and in the residency. By taking this broad approach we were not able to fully isolate which change was in fact the vector that was most effective in improving provider comfort and knowledge about prescribing PrEP. Our provider education session was also unfortunately only attended by established PHC providers, with no resident attendance. The provider resource has yet to be implemented on the Wiki due to administrative review which has not yet happened, though it was sent to residents in the chief email with very positive responses received. It is unclear how widely used the templates and order sets have been, or how helpful, as our



questionnaire did not address these specifically. Another limitation was the significant decrease in number of participants in our post-knowledge assessment survey, potentially skewing our results towards those individuals with an interest in PrEP, who would likely score higher on the knowledge assessment.

**Lessons learned / Next steps:** Taking a multi-faceted approach to improving workflows in healthcare is a double-edged sword. While I am proud of the changes we were able to make within eCW and the education we were able to provide, there remains a large knowledge gap when it comes to PrEP with a few providers having a significant knowledge base and a large number of providers who continue to have limited knowledge. From a QI project perspective, measuring the effect of multiple interventions is difficult. In addition, making systemic change in a large organization is frustratingly difficult, with many unfortunate but unavoidable roadblocks such as scheduling, achieving consensus regarding new protocols and resources, and gathering large numbers of providers for education at any given time. As above, I am proud of the work we did to move the needle on PrEP at PHC and FMRWM, and hope to continue to advocate for this vulnerable population of patients and valuable prophylactic treatment. My hope is to remain involved in the PrEP program at PHC possibly in the form of a PrEP clinic but at the very least with a yearly PrEP didactic for the residents.

# James Jennings DO

## Effects of simple clinical changes on Point of Care Ultrasound Utilization at Partnership Health Center – Part 2

### **Problems:**

Many barriers in clinic exist and limit provider's ability to incorporate POCUS into potentially useful situations. Based on previous study, interventions were identified and implemented to increase utilization of POCUS in clinic.

### **Aim:**

To increase POCUS utilization by PHC physicians and residents by 10% by May of 2021.

### **Key Measures for Improvement:**

Baseline comfort level regarding POCUS and average use of POCUS in clinic were collected, along with most common types of scans that were performed in clinic. Most common perceived barriers to POCUS and suggestions to improve utilization were also collected. After implementing these suggestions use of ultrasound was measured.

### **Process for Gathering Information:**

Initial data was collected via anonymous surveys prior to implementing interventions in 2020. Response to intervention was gathered based on perceived use of ultrasound in clinic compared to last year.

### **Analysis and Interpretation:**

The results from the pre-intervention survey demonstrate multiple findings. The average comfort level with POCUS was exceedingly low as a whole which is further demonstrated by the lack of utilization. The largest barriers to use include lack of time (86% of respondents) and lack of training (68% of respondents). Even with the above findings, the interest in POCUS remains significant.

### **Strategies for Change:**

Multiple measures were found to potentially increase POCUS utilization based on pre-intervention survey. Several of these measures were implemented this year: POCUS templates were completed in procedure section of ECW. POCUS resources were created on a Wiki page. POCUS curriculum committee was created by FMRWM. POCUS credentialing process was created. Other, additional measures that may be useful moving forward would include increasing physician/resident teaching through demonstrations at Tuesday provider meetings and incorporating more POCUS teaching in the first year of Residency. Additionally, having an ultrasound machine on each side of clinic would significantly increase accessibility.

### **Effects of Change:**

Interventions and effects were unable to be quantified as POCUS use is not consistently documented or able to be tracked. However, perceived use of ultrasound by PHC providers and residents has increased. Moving forward, it would be helpful to have clear and consistent documentation of POCUS so use can be tracked.

### **Lessons Learned:**

Relatively simple interventions can potentially increase use of POCUS in clinic.

Lack of time continues to be a struggle for many aspects of care in the primary care clinic setting, including POCUS.

The interest in POCUS is significant amongst medical providers at PHC.

Consistent documentation of POCUS exams will be useful moving forward for monitoring use of ultrasound and for credentialing purposes.

## **Chelsie Russig DO**

### **CONFIDENCE IN AND FREQUENCY OF UTILIZATION OF OSTEOPATHIC MANIPULATIVE THERAPY BY RESIDENTS AND FACULTY PHYSICIANS ON OBSTETRIC PATIENTS**

#### **Abstract**

Given the many complications, potential risks, and vast unknown in the obstetric patient population, it is common for medical providers to be conservative, perhaps even apprehensive, in treating these patients for common conditions such as pelvic and low back pain. However, treating these conditions in pregnancy is limited by a lack of safety using traditional medications, so patients may often simply have to endure these issues as a result of a safe and reliable means of treatment. This project aimed to evaluate the comfort level and utilization of osteopathic manipulative therapy (OMT) on obstetric patients for physicians in the Family Medicine Residency of Western Montana (FMRWM).

#### **Problem**

Lack of physician confidence leading to infrequent use of OMT, a safe and reliable treatment modality for many common complaints, specific to the obstetric patient population.

#### **Aim**

To increase physician confidence in safety and skill of OMT on obstetric patients and thereby increase utilization of this therapeutic modality.

#### **Key measures**

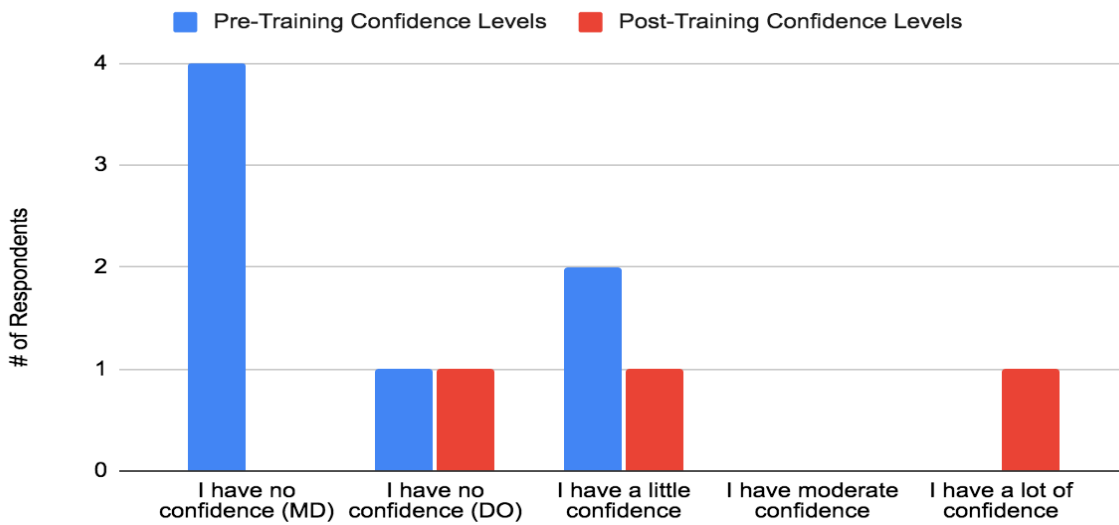
Percent improvement in self-reported scores of confidence and anticipated frequency of utilization of OMT on obstetric patients after a training/didactic session

#### **Process of gathering information**

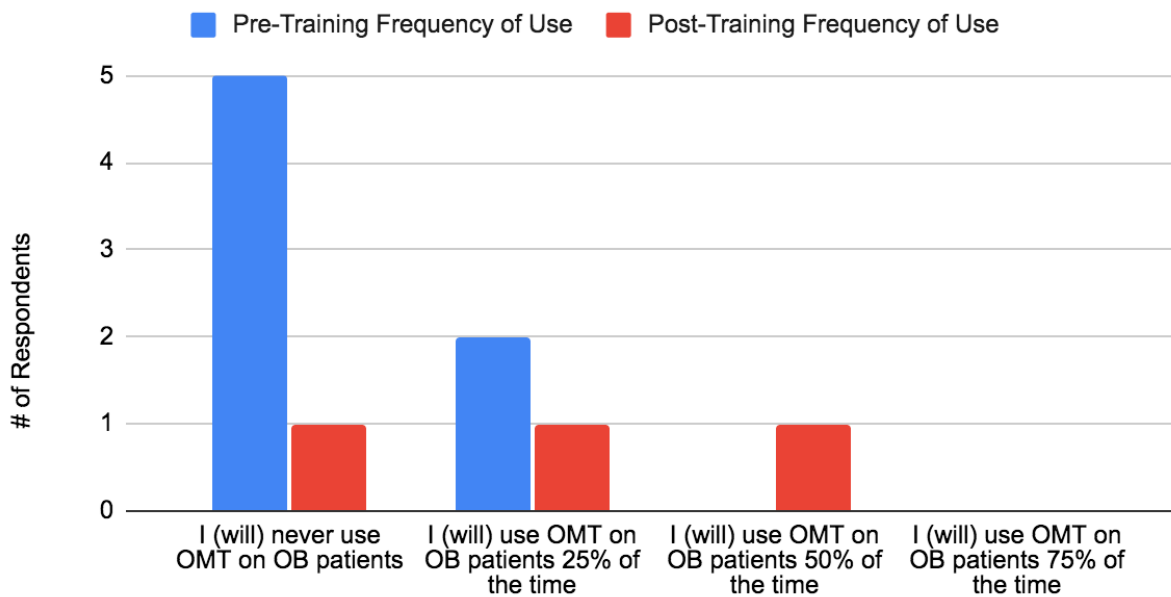
A survey was sent out prior to the training session, allowing the physicians to report how confident they felt and how frequently they were using these skills. Then, a didactic video was recorded and shared with osteopathic residents as well as allopathic residents and faculty who opted into the training. Finally, a post-training survey was sent out allowing these physicians to report on the same variables as before.

## Results & Analysis

### Confidence levels before and after training



### Frequency of use before and anticipated frequency of use after training



There was not enough data collected to discern whether there was a statistically significant increase in the confidence level and/or the anticipated amount of use of OMT for OB patients. The number of respondents in the pre-training survey was 7, and there were only 3 in the post-training survey. However, there did seem to be a trend toward increased confidence and anticipated frequency of use.

## **Development of interventional didactic**

A literature review was conducted to evaluate the available safety data regarding the use of OMT on OB patients to help improve physician confidence. Additionally, multiple training videos as well as professional collaboration with osteopathic faculty members were pursued to construct a list of common complaints and osteopathic techniques to treat them.

## **Discussion**

As evidenced by the data collected here, albeit small, the residents and faculty from FMRWM did not feel particularly confident in using OMT on OB patients prior to this training video. This may be attributable to lack of training, lack of knowledge regarding safety of use, as well as an inability to match common somatic dysfunction patterns with OMT techniques. This could be more thoroughly assessed by incorporating evaluation of residents' understanding of obstetrical OMT techniques during regularly scheduled formal osteopathic didactic sessions. This would likely in turn increase the utilization of this safe treatment modality for common obstetric complaints. Additionally, it is relatively difficult to find well-powered data supporting the use of OMT in general, let alone in obstetric patients. Not only that, but finding training in OMT specifically for obstetric patients is also difficult to come by. Residents and faculty, and ultimately their patients, would benefit from increasing the amount of exposure to osteopathic training for obstetric patients.

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## Eric Weber MD MS

### Symptomatic Disordered Sleep: A Missed Diagnosis

#### Problems & Concerns

Although the USPTF currently suggests an 'I' rating for screening for OSA in asymptomatic patients, OSA is associated with serious comorbidity that can decrease quality of life and lead to earlier mortality. Many patients in primary care complain of associated, but non-specific, symptoms like daytime fatigue. There is currently no USPTF guidance on symptomatic patients. By definition, a screening instrument is used on asymptomatic patients, and thus any patients exhibiting symptoms of associated with OSA, should be evaluated for it, especially if they also possess high-risk for OSA characteristics, as a course of normal work-up. Anecdotally, it was observed that few patients were being referred for OSA evaluation, regardless of symptoms, while our patient population often had characteristics associated with a high likelihood of OSA.

#### Aims & Intervention

The goal of this project was to increase the number of high-risk patients (having 2 of the following: being over age 50, treated for HTN, or having a BMI over 35) being referred for sleep studies, to 80% over a period of a month.

The proposed mechanism was to draw attention to associated symptoms (fatigue or snoring), using a form in the default HPI tab of the EMR, which then would trigger a provider to use a STOP-BANG questionnaire to assess OSA risk. A brief education was provided to providers via email (Figure 1). The intervention was launched March 31, 2021, with questions from providers answered as they arose.

*Hey guys! I've added a reminder to eCW to screen people for OSA. If you notice under the provider history tab (see attached photo), there is now an OSA section, if you click on that, and then mark either snoring or fatigue as "yes" (assuming they have those symptoms) AND then you click in the box below, it will bring in a url for a STOP-BANG screener, that will populate in your note. You can't actually hyperlink from eCW but you can copy and paste the link into a browser window. Anyone with a high risk of OSA should be referred to Sleep Medicine for eval. It's super clunky, and I apologize, but hopefully it's a little reminder to screen symptomatic patients for OSA.*

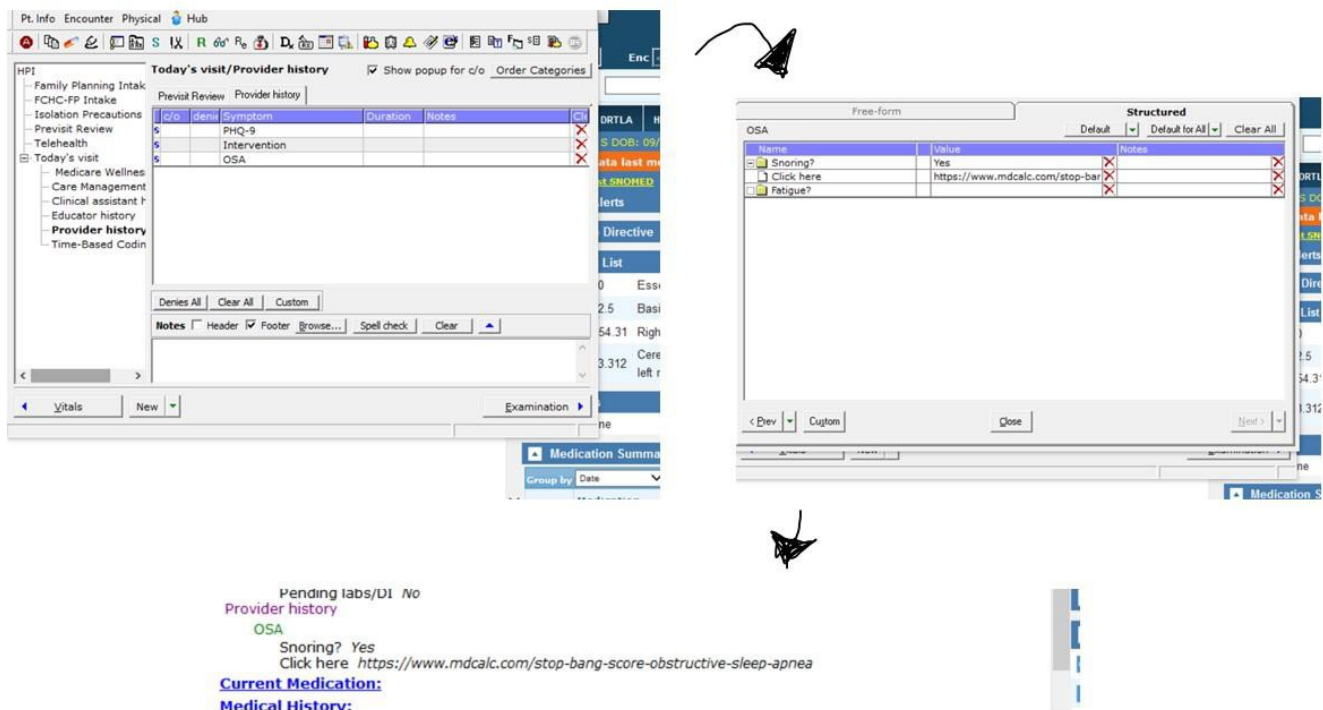


Figure 1

### Key measures for improvement

The target referral rate for high-risk patients was 80%, as calculated by number patients meeting inclusion criteria seen in a month that were referred for sleep evaluation divided by the number of patients seen in a month that met inclusion criteria.

Inclusion criteria were patients seen in clinic during the study time by medical provider having 2 of the following: being over age 50, treated for HTN, or having a BMI over 35. In addition, those patients having a prior diagnosis of sleep apnea or a prior referral were excluded. The baseline referral rate was 9 patients out of 213 eligible patients (4%) in the month of March 2021.

### Process of gathering information

Clinical informatics clinic staff was contacted to identify patients in the inclusion group for the months of March and April 2021 at our clinic. They provided Excel spreadsheets with patients seen over age 50 and treated for HTN, over age 50 and having a BMI over 35, and treated for HTN and having a BMI over 35. Additional spreadsheets with patients meeting those criteria and having a diagnosis of OSA or in the problem list or referral history. It is unclear the exact process that was used to retrieve this information from the EMR.

### Data Analysis & Results

For each month, each of the patient lists without a diagnosis of OSA was concatenated using patient account numbers as an index. Similarly, for each of the patient's that met criteria and had a diagnosis of

OSA, the lists were concatenated using account numbers as an index. For each month the array of patients having a diagnosis of OSA was subtracted from the array of patients not having the diagnosis. For March 2021, 336 patients were identified meeting criteria, with 32 having a prior diagnosis of OSA, leaving 304 patients for analysis. For April 2021, 296 patients were identified meeting criteria, with 35 having a prior diagnosis of OSA, leaving 261 patients for analysis.

On review of the data, it became apparent that that EMR information retrieval was flawed by several features. For the March data set, there were several patients identified that had no visits of any type in March 2021 and others that were seen by case management. In both groups, there were patients identified that did have a prior diagnosis for evaluation for sleep apnea, however coding may have been done using alternative ICD 10 CM codes to the presumptive G47.33 used to generate the datasets.

There were also patients included that only had nurse visits or had rescheduled or canceled their visits.

Due to the data contamination, each of the identified charts were reviewed by hand. Patients were removed from analysis if they were not seen by a medical provider or had a prior diagnosis of sleep apnea (any G47 code) or recent referral identified by problem list chart reference. In March, 213 patients remained included, with 9 getting a referral. In April, 200 patients remained included, with 5 getting a referral. The referral rate for April, post intervention, was 3%. Using a one-tailed t-test for categorical data, the value of z was 0.9683 with a p value of 0.16602. The referral rate did not meet the 80% goal, and in fact it decreased from baseline. The difference between the two studied months was not, however, statistically significant at a p value cut-off of 0.05.

## Discussion

The intervention was unsuccessful in increasing the referral rate. It is possible that email, with as needed further explanation, was not a sufficient way for introducing the intervention. It is also possible that, although the form was in a relatively accessible place within the EMR, it was not adequately integrated into workflow to trigger usage. The datasets also had integrity issues. The baseline set for instance included many patients who were not seen during the study, which calls into question the validity of the set for perhaps there were patients seen during the period meeting criteria that were not included. It is unclear whether this issue arose due to communication with clinical informatics staff regarding the requested information versus limitation of the EMR. It may be helpful in future endeavors to have closer interactions with clinical staff to clarify requested data, as well as allowing investigators to understand EMR data retrieval algorithms. I suspect those patients that were provided the data set as having a prior diagnosis or referral for OSA were only those with a prior diagnosis, and referral information in the set was whether our clinic generated the referral that led to that diagnosis. Further complicating the data was non-rigorous ICD 10 CM coding.

Based on discussions with other providers, however, I do think the project was successful in a secondary goal of increasing provider awareness of obstructive sleep apnea as an underlying cause to common complaints found in FQHC primary care clinic, specifically fatigue and daytime sleepiness.



# Class of 2022 QI Work



Genevieve Birang DO



Shannon Rossio MD



Zach Carlson MD



Kathryn Walicki DO



Grayson Cobb MD



Kayla Whitmore DO



Mallory Koula MD



Nick Zakovich DO



Michelle Metcalf MD

# Gen Birang DO

## Template Creation and Ease of Flow for Documentation of Patients Receiving PrEP

### **Problem**

- One commonly cited barrier to physician happiness and to clinic efficiency is documentation.
- While PrEP is safe, effective, and general practitioners are licensed to prescribe it, it is infrequently prescribed here at Flathead Community Medical Center. This means that many practitioners are likely unaware of some of the specifications and requirements for PrEP prescription and may not feel confident in counseling patients effectively.
- The information on PrEP prescription is available on the website for the company that manufactures Truvada but based on this author's experience is not easily readable.

### **Aim**

- This project was aimed at increasing the ease of PrEP prescription by increasing the ease of documentation by creating templates for PrEP encounters. A secondary aim was to aid in counseling of patients during prescription of this medication by having instructions with common side effects and precautions pre-written. The templates that were created by this author were public and had both patient instructions and common order sets pre-loaded, as well as markers for the physician to fill in with relevant patient information and prompts as to what that information would be.
- While other templates for PrEP prescription did exist, they were private templates and were not able to be edited by people other than their authors.

### **Measures for Improvement**

- Success was measured by comparing the number of patients receiving treatment with PrEP at this clinic prior to templates being posted and patients receiving treatment with PrEP at this clinic two months after the templates were posted.

### **Process of Gathering Information**

- A search of eCW for patients on PrEP was performed with the assistance of Hilary Naleway by searching for patients with Truvada, the medication prescribed by most practitioners at this clinic for PrEP, on their active medication lists.
  - The first search looked at the number of patients that had been prescribed PrEP in the past history of the clinic as of the date of published templates (3/11/2021). This acted as a baseline.
  - The second looked at the number of patients that were being prescribed PrEP at the time the templates were published (3/11/2021).
  - The third search was run two months after the second search (5/14/2021) for patients with Truvada on their medication list.

### **Strategies for Change**

- PrEP is prescribed with lab work done at an initial appointment. The patient follows up every three months and further lab work is performed at these appointments. This information was gleaned from the provider section of the website for the company that manufactures Truvada. Public templates were created based on this information.

- Shawn Shanahan, ARNP, WHNP, RDMS and Anna Danz, ARNP, WHNP, who are employed by Flathead Community Health Center also prescribe Truvada and did graciously loan their templates to this author as well.

### Analysis and Interpretation

- There have been 24 patients in the history of the clinic who have been prescribed PrEP. Of those patients, only three still had Truvada on their medication list on 3/11/2021.
- As of 5/14, two of those initial three patients continued to be prescribed PrEP. One was no longer being prescribed Truvada. Two new patients had been either started or restarted on Truvada.
- The template created by this provider and labeled below as “Birang Template” was never utilized for patient care.

Table 1: PrEP Template Use and Patient Attrition From 3/11/2021 to 5/14/2021				
Patient	Continued on PrEP?	Pre-intervention	Post-intervention	
		Template Use	Template Use	Birang Template
285111	Yes	No	No	No
223303	Yes	Yes	Yes	No
276404	No	Yes	Lost to follow up	
280249	New	No	No	No
281483	New	Yes	Yes	No

### Effects of Change

- This currently represents a two-month attrition rate of 20% and a 100% increase in number of patients currently being prescribed Truvada. The overall attrition rate for PrEP for the lifetime of eCW at this clinic was 84.6%.
- The template created by this provider, labeled above as “Birang Template” was utilized 0% of the time.
- Templates were used in general 60% of the time: this number was generated based on the pre-intervention data. It was assumed that had the patient who discontinued Truvada have been seen post-intervention by the same provider then a template would have been utilized at this visit as well.

### Lessons Learned

- These data are complicated by the fact that this physician neglected to notify prescribing clinicians that a new template had been created for PrEP prescription, and therefore clinician use was dependent on clinicians searching independently for a PrEP template.
- Based on a review of patient charts for patients who had Truvada listed in their medication list, providers who utilize templates for PrEP prescription will continue to utilize templates for PrEP prescription.
- Patients who are currently utilizing PrEP will continue to utilize PrEP for at least two months but will likely not continue to use it long term. Alternatively, patients who are utilizing PrEP will not continue to seek care at this clinic but may still continue PrEP. As numbers for this project were limited to only data available from this clinic, this would falsely elevate the attrition rate.

- Due to restrictions on eCW, searches could only be performed for medications that were on an active medication list. This creates a dependance on providers to inactivate medications that patients are no longer on a patient's medication list. In fact, a patient did appear on these searches as taking Truvada, but on chart review the medication had been marked "Not taking" but had not been removed from active list.
- Finally, as only 24 patients have been prescribed Truvada in the history of Flathead Community Medical Center since eCW has been in use, this is not a common medication prescribed to this patient population. Small sample size does complicate the usability of these results.

## **Zach Carlson MD**

### Process improvement of controlled substance prescribing at a FQHC in Montana.

#### **Problem:**

At our FQHC, family medicine residents, faculty physicians and FQHC employees (both physicians and advance practice providers) all work together to provide patient care, which may include prescribing controlled substances. While our FQHC had a policy to help guide clinicians in prescribing these medications, it primarily focused on clinical indications, safety, and monitoring without discussing the EHR process or required documentation associated with prescribing them. Additionally, our clinic's EHR is fairly limited in its ability to accommodate multiple prescriptions, so if a provider wanted to prescribe a controlled substance for multiple months they would either need to load the medication into the chart three times or load it only once but print three identical copies and date them accordingly.

Over time, this lack of a clear process for prescribing and documenting these medications coupled with the challenges of our EHR resulted in numerous workflows and documentation practices that varied greatly from one provider to another. Unfortunately, this made providing cross-coverage for providers who were away very challenging and time consuming, as the information needed to determine if a refill request was appropriate could be located in a number of different places within the patient's chart. Ultimately, this resulted in a large amount of redundant work due to the lack of a standardized process as well as the potential for adverse events due to difficulty tracking these prescriptions in the EHR.

This situation was further complicated by the part time nature of clinicians associated with the residency, who often were only in clinic a few times each week, meaning their patients' refill requests were frequently covered by another provider. Additionally, in the state of Montana, PGY-1 residents cannot prescribe controlled substances, so they are completely reliant on more experienced physicians to complete refills on their behalf. One can only imagine the frustration these residents experienced when each different provider they worked with had their own process for prescribing and documenting controlled substances.

#### **Aim:**

AIM Statement: Over the next 8 months I will develop and implement a standardized approach to controlled substance refills at our FQHC, Partnership Health Center. This approach will be based on recommendations made by the American Academy of Family Physicians and will include:

1. A standard way to document a refill, either in the clinic note or via a telephone encounter
2. A system for quickly identifying whether a refill is appropriate that answers the following questions:
  - a. When was the medication last filled?
  - b. When is the next refill due?
  - c. Do they need to see a provider prior to additional refills?
  - d. Are they up to date on their contract and urine drug screen?

In order to measure the success of this approach, I will administer a pre-intervention survey to objectively measure how well providers feel the current system works. Once implemented, I will administer a post-intervention survey to see if providers feel the updated system is working better.

#### **Key Measures for Improvement:**

- 1) Increased provider familiarity with the clinic's policy for prescribing controlled substances.
- 2) Reduction in the number of methods used to prescribe/document controlled substances.
- 3) Increased rates of agreement with the statement, "Controlled substances can be prescribed in a safe and monitored way."
- 4) Increased ease and comfort providing cross-coverage for other provider's patients.

5) Reduction in time spent completing a refill for another provider's patient.

**Process of gathering information:**

Shortly after beginning this project, I was contacted by the FQHC's medical director requesting we collaborate because addressing this issue was very high on the leadership team's priorities. I later learned that there had recently been a reported medication error for which the root cause analysis identified improper documentation of a controlled substance refill to be the cause, which ultimately allowed the patient to obtain multiple refills simultaneously. Over the next three months I worked closely with the medical director, clinical informatics team and quality improvement team via phone calls and virtual meetings to refine the goals of the project to a manageable scope and develop a survey that obtained key information that would guide the improvement process. This survey can be seen in **Figure 1** below.

Once finalized, the survey was loaded into, "Google Forms" and sent out to all providers at the FQHC via email. Approximately 75% of providers completed it in the two weeks it was available to them. The data was analyzed as a whole and also by provider type (resident, academic physician, or FQHC employee (physicians and advanced practice providers) to look for any differences unique to specific provider types. Next, the data was formatted into bar graphs and presented to key stake holders at the FQHC including the clinical informatics team, quality improvement team and multiple individuals from the senior leadership team. Ultimately, these results were concerning enough that a task force was created, which met roughly twice a month for the next three months to determine next steps and implement an improved, standardized process for prescribing controlled substances.

**Figure 1:** Screenshots of the survey that was sent out to all providers at the FQHC via email.

The image shows a screenshot of a Google Form titled "Provider Satisfaction - Controlled Substances". The form is divided into three sections. The first section is the title and subtitle: "Provider Satisfaction - Controlled Substances" followed by "Pre-Intervention Survey". The second section is a question: "Please identify yourself:" with three radio button options: "FMRWM Resident", "FMRWM Faculty", and "PHC Employee". The third section is another question: "How familiar are you with PHC's controlled substance prescribing policy?" with four radio button options: "I didn't know PHC had a formal policy.", "I've heard about it but never taken the time to review it.", "I've read over it briefly but don't recall the details or specifics.", and "I'm familiar with the policy and reference it when clarification is needed."

⋮

Which of the following methods do you use to prescribe/document controlled substance prescriptions at PHC?

- Load the same medication 3 times with different start/stop dates (have 3 of the same med on the med list)
- Load 1 med and print three times, writing in start/stop dates
- Create 3 different TE's with one med loaded on each
- Print 1 month at a time
- E-scribe all prescriptions
- Call in all prescriptions
- Other...

I feel like PHC has a system in place that enables providers to prescribe controlled substances in a safe and monitored way.

- Strongly Agree
- Somewhat Agree
- Neutral
- Somewhat Dissagree
- Strongly Disagree

I feel supported by colleagues and staff when I refuse to prescribe controlled substances to a patient who does not meet the criteria outlined in PHC's controlled substance prescribing policy.

- Strongly Agree
- Somewhat Agree
- Neutral
- Somewhat Dissagree
- Strongly Disagree

⋮

I feel comfortable providing refills of controlled substances for patients of another provider on my "team" if that provider is away when the refill is requested.

- Strongly Agree
- Somewhat Agree
- Neutral
- Somewhat Dissagree
- Strongly Disagree

⋮

I feel other providers at PHC implement the policy for prescribing controlled substances appropriately and that all patients receiving controlled substances are treated equally, regardless of the provider.

- Strongly Agree
- Somewhat Agree
- Neutral
- Somewhat Dissagree
- Strongly Disagree

When asked to complete a refill of controlled substances for patients of another provider on my "team", I feel like it is easy to locate the information needed to ensure the refill is valid and know when it is due.

- Strongly Agree
- Somewhat Agree
- Neutral
- Somewhat Dissagree
- Strongly Disagree



Please estimate the the average amount of time required to safely complete one controlled substance refill on behalf of another provider. (Count all relevant tasks performed, including: reading the initial message, reviewing the chart, checking the PDMP, speaking to the patient, coordinating with the care team and completing the Rx).

- Less than 5 minutes
- 5-10 minutes
- 10-20 minutes
- 20-30 minutes
- Greater than 30 minutes

Please feel free to share any additional questions/comments/suggestions with respect to prescribing controlled substances at PHC:

Long answer text

### **Analysis and Interpretation:**

There were a total of 39 responses to the survey, which included 16 residents, 14 FQHC employees and 9 academic physicians. The survey identified six unique workflows for prescribing and documenting controlled substances, the most popular of which was to complete one prescription but then print three copies and write start/stop dates on each hard copy. Interestingly, a few providers commented that they actually used multiple different workflows depending on the situation. When analyzing by sub-group, it became clear that residents were less familiar with the policy for prescribing controlled substances, less comfortable providing cross-coverage for other providers and took much longer to complete cross-coverage requests compared to the other clinicians surveyed. There were also a total of 10 responses to the free-text question at the end of the survey with a wide range of comments. A few that stood out included a provider who gave examples of refills that felt inappropriate (such as a combination of benzodiazepines and opiates), a PGY-1 who requested they not be asked to do cross cover since they are reliant on another physician to complete these prescriptions for them and a provider who openly shared that they sometimes fail to do their diligence and ensure a refill is appropriate before approving it because the process takes too long. Further details of the survey responses can be found in **Appendix 1** at the end of this document.

### **Strategies for change:**

Based on the results of the survey, the following changes were implemented:

- 1) A standardized method of providing a controlled substance refill for each of the following:
  - a. Electronic prescription
  - b. Hard-copy paper script
  - c. Calling a script in via telephone.
- 2) A pre-populated template that nursing staff will complete to give a cross-covering provider the key information needed to determine if a refill request is appropriate.
- 3) A revision of the clinic policy for prescribing controlled substances that includes a detailed explanation of the above changes.

- 4) Dedicated time to review the clinic's updated controlled substance prescribing policy and train providers and clinical staff on implementing the proposed changes.

### **Lessons learned:**

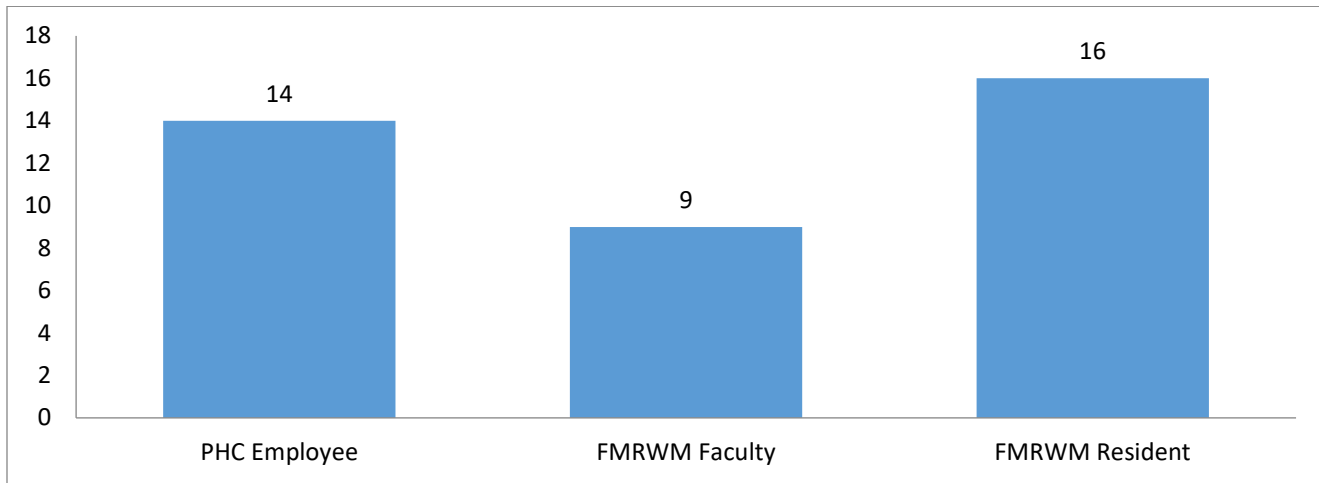
- If there is no clear procedure for a given task, providers often come up with their own, which may result in multiple redundant workflows, documentation errors and confusion amongst providers and staff.
- It is important to frequently re-evaluate our clinic's policies and procedures for prescribing controlled substances (especially opiates and benzodiazepines) to ensure they reflect the frequent changes in the knowledge base and overall culture related to these substances.
- In general, resident physicians were the least familiar with the clinic's policy for prescribing controlled substances, least comfortable with prescribing controlled substances on behalf of another provider and took the most amount of time to complete a cross-cover prescription. This trend may suggest a gap in the training of new residents that can be addressed in the future.

### **Next Steps:**

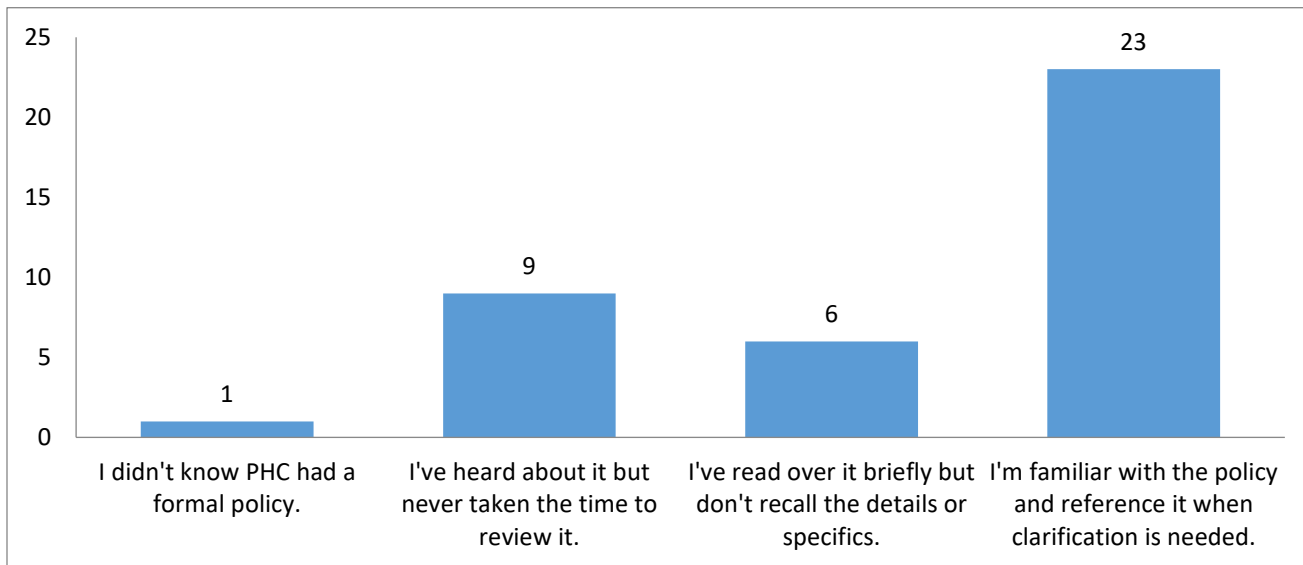
- Ongoing training for providers to ensure they are adopting the new workflow for prescribing and documenting controlled substances.
- Consider additional training for residents, as they appear to be the least comfortable and have the most difficulty with prescribing controlled substances.
- Administer the post-intervention survey approximately 6 months after the above interventions were introduced to monitor the key measures for improvement.
- Create a database and hire staff to track controlled substance refills and all of the care associated with them. The goal would be to develop a system for tracking when patients are due for follow-up visits, when they need to renew their contract and urine drug screen and provide reminders to their providers when they are due for a refill. Systems like this are described in the literature and have been successfully implemented in other clinics with improvement in patient, staff and provider satisfaction. I am hopeful that a system like this could greatly cut down on the need for cross coverage and allow us to be pro-active, rather than re-active with our approach to patients who are chronically on controlled substances.

**Appendix 1: Summary of Data from Controlled Substance Survey**

**Question 1:** Please identify yourself.

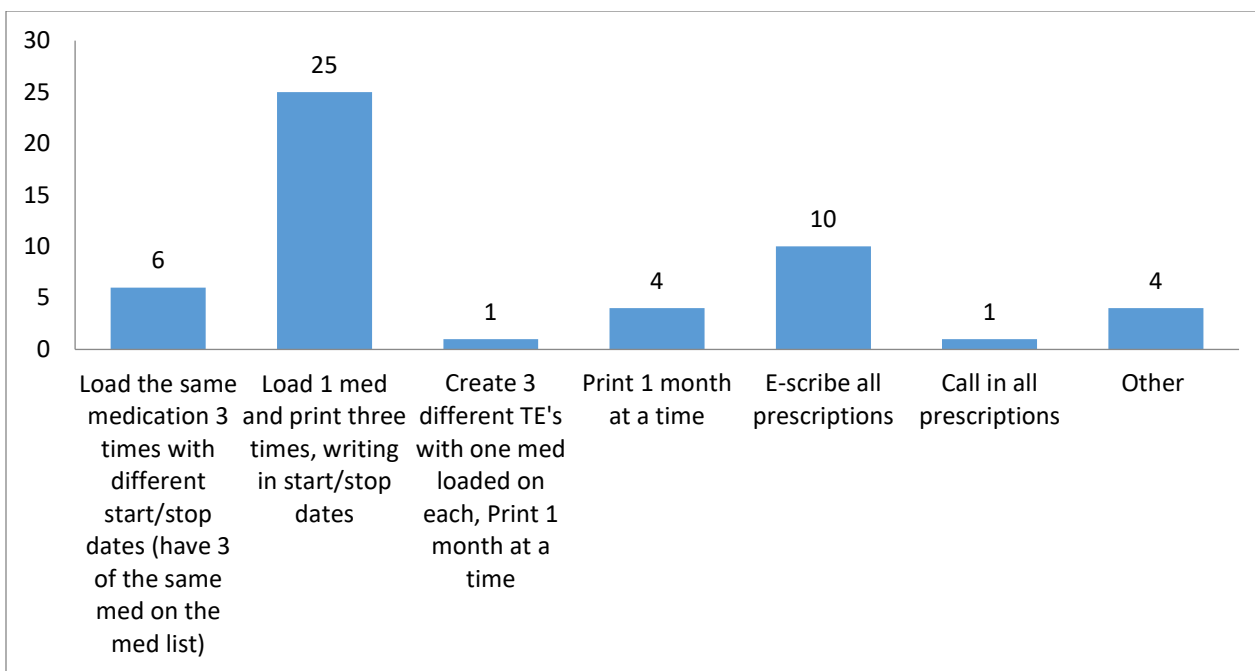


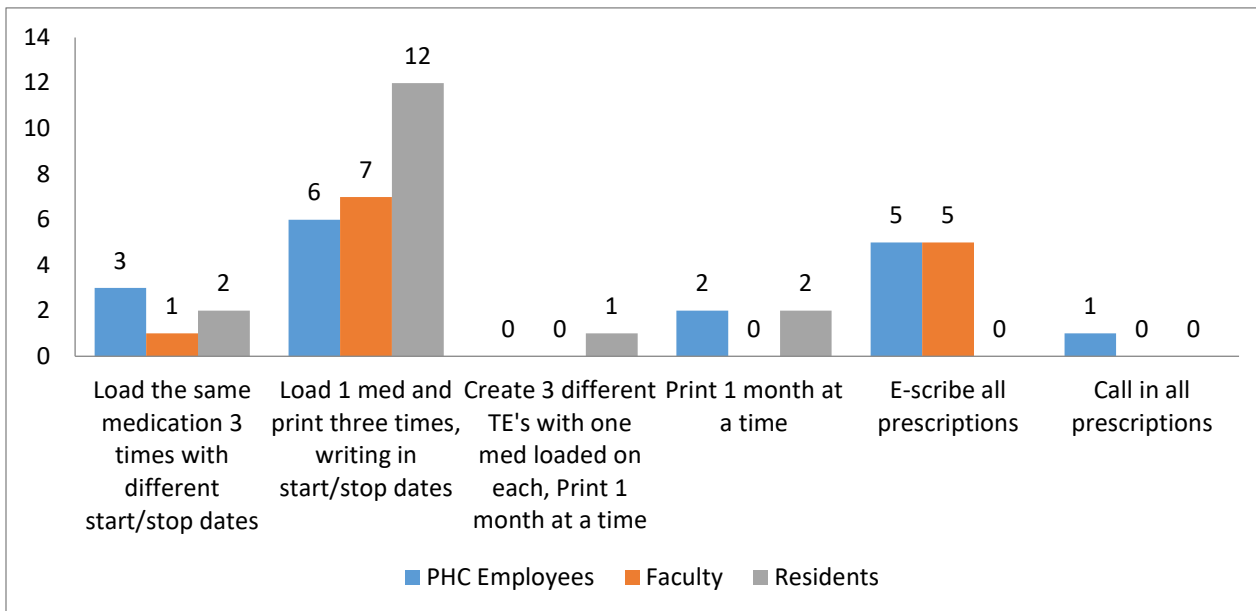
**Question 2:** How familiar are you with PHC's controlled substance prescribing policy?





**Question 3:** Which of the following methods do you use to prescribe/document controlled substance prescriptions at PHC?

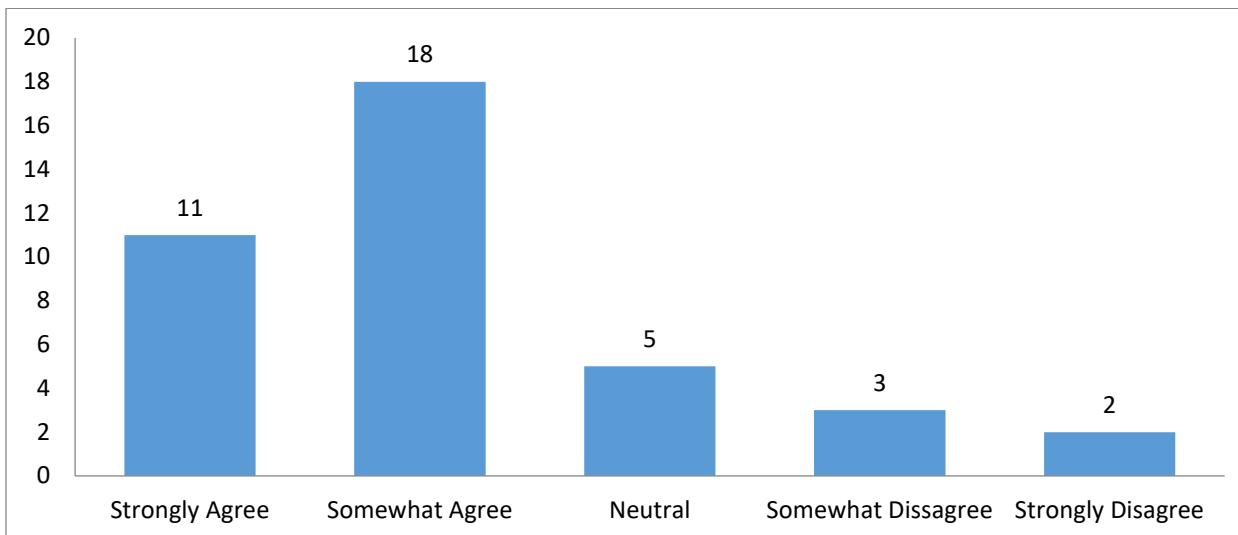


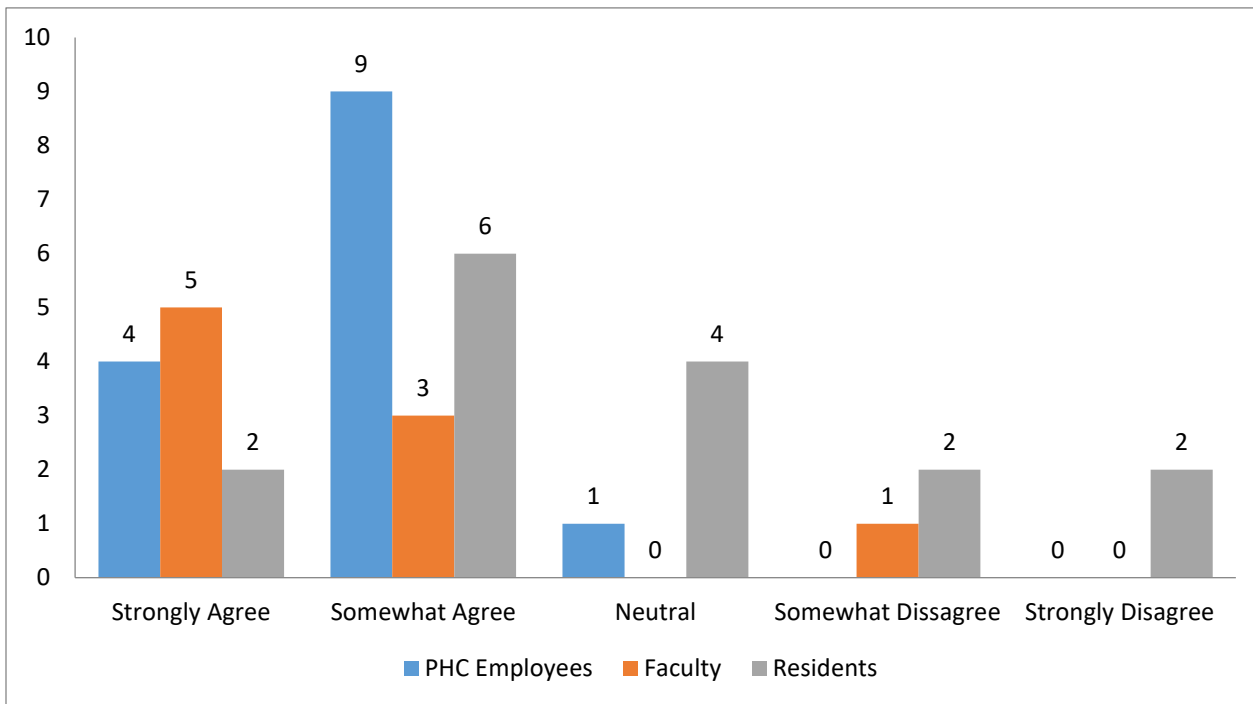


**Other Answers:**

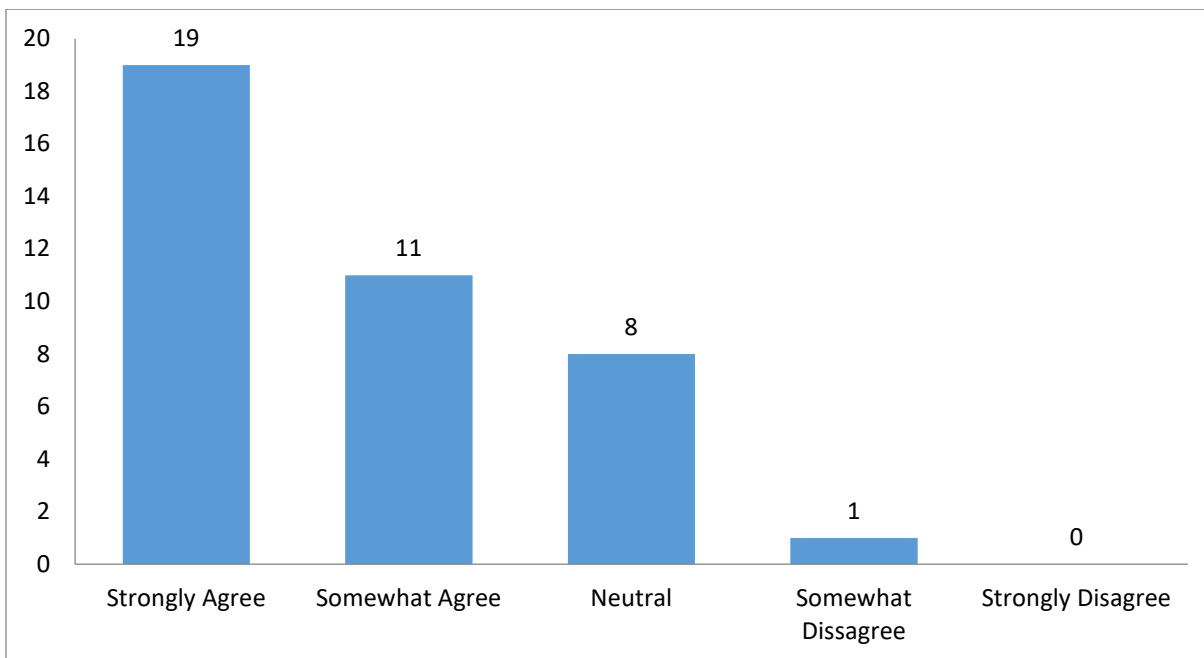
- For e-prescribing use the 3 TE method
- A combination of many of these things
- There's gotta be an easier way to do this... I feel like I do it differently each time
- Usually print 3 Rx, but will sometimes escribe just 1. Would be nice if we could escribe 3 months at a time in one TE.

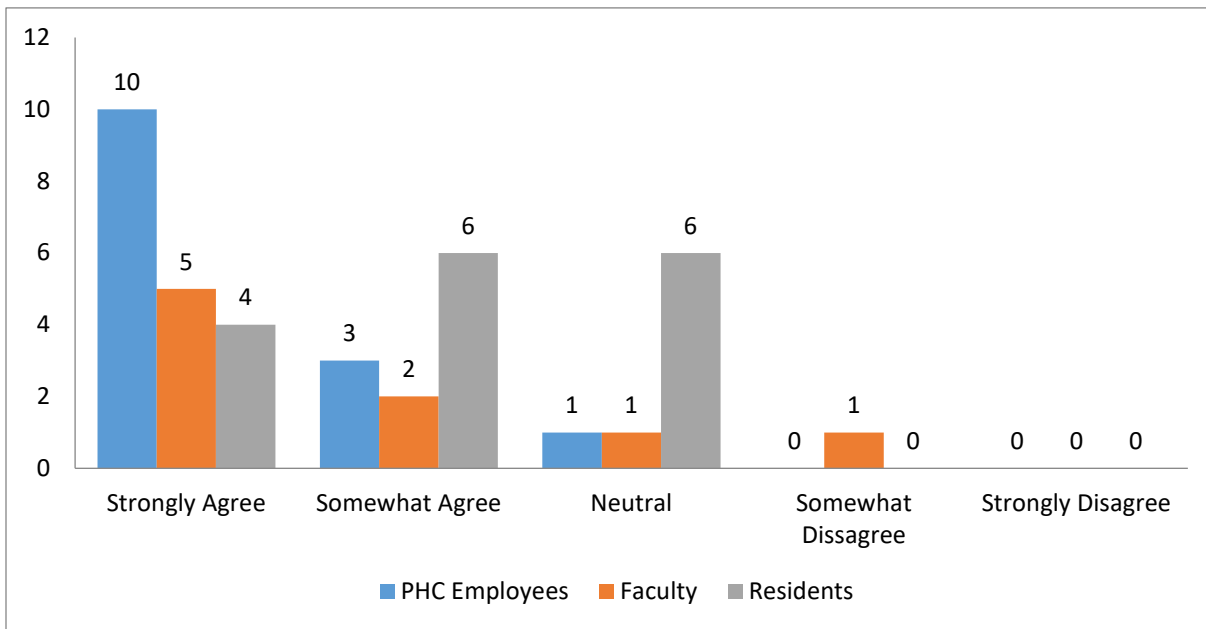
**Question 4:** I feel like PHC has a system in place that enables providers to prescribe controlled substances in a safe and monitored way.



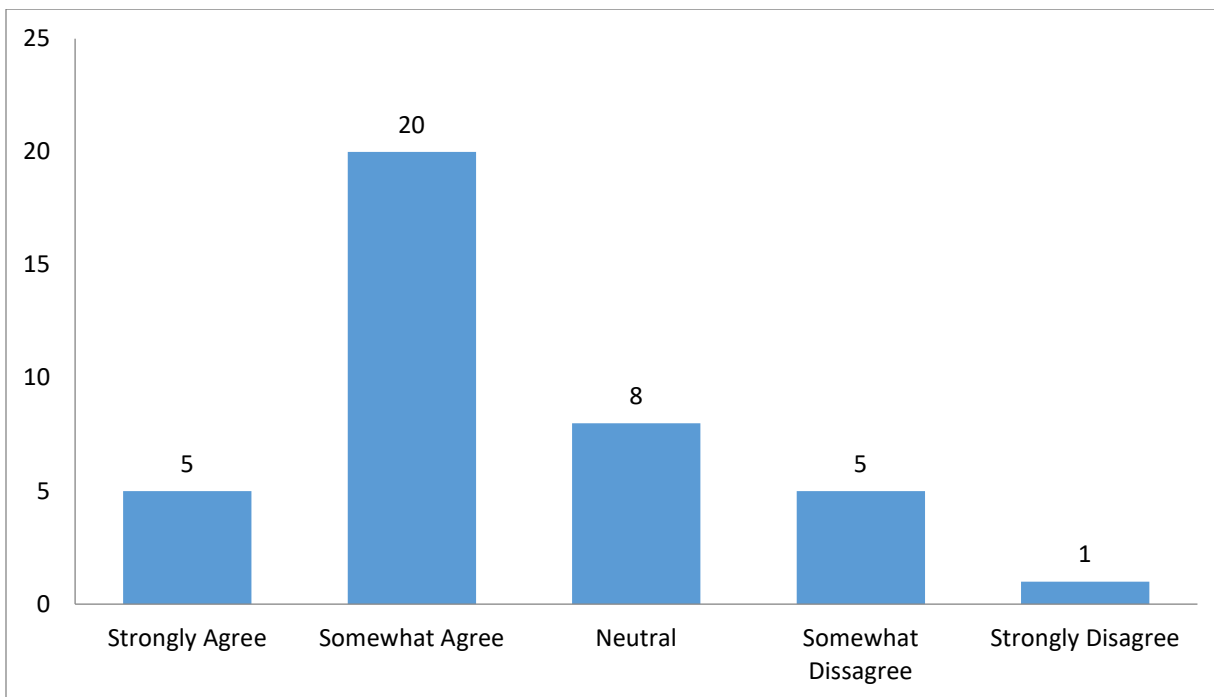


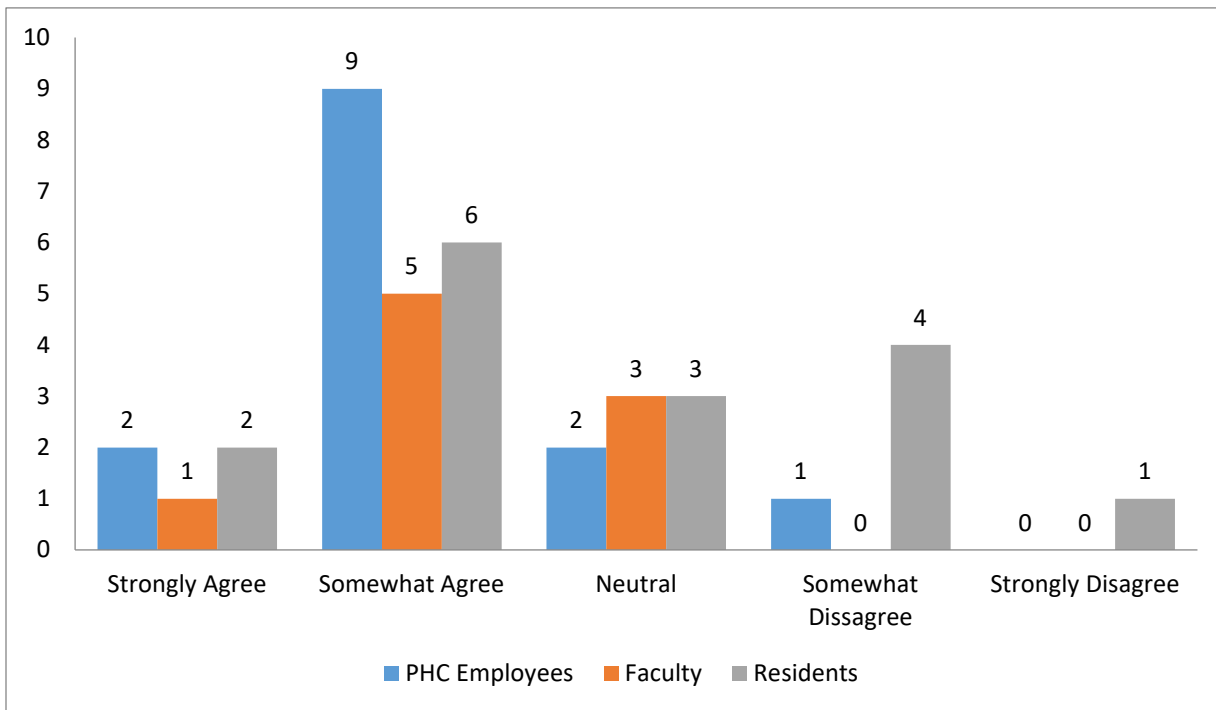
**Question 5:** I feel supported by colleagues and staff when I refuse to prescribe controlled substances to a patient who does not meet the criteria outlined in PHC's controlled substance prescribing policy.



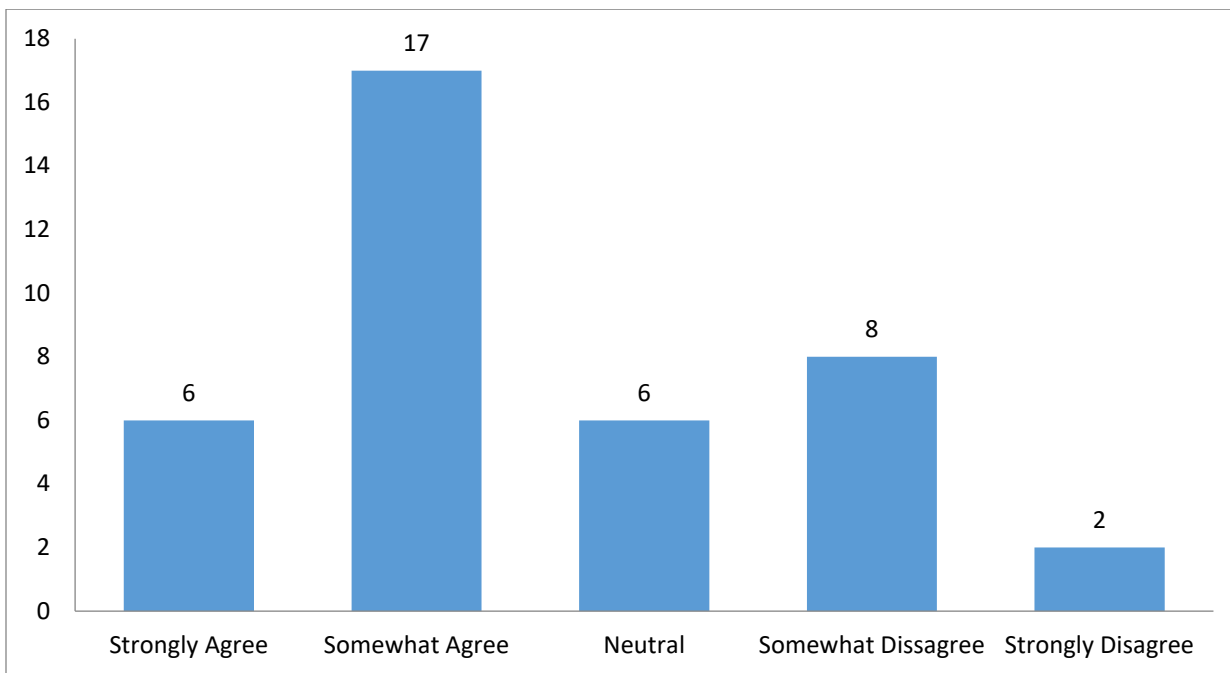


**Question 6:** I feel comfortable providing refills of controlled substances for patients of another provider on my "team" if that provider is away when the refill is requested.

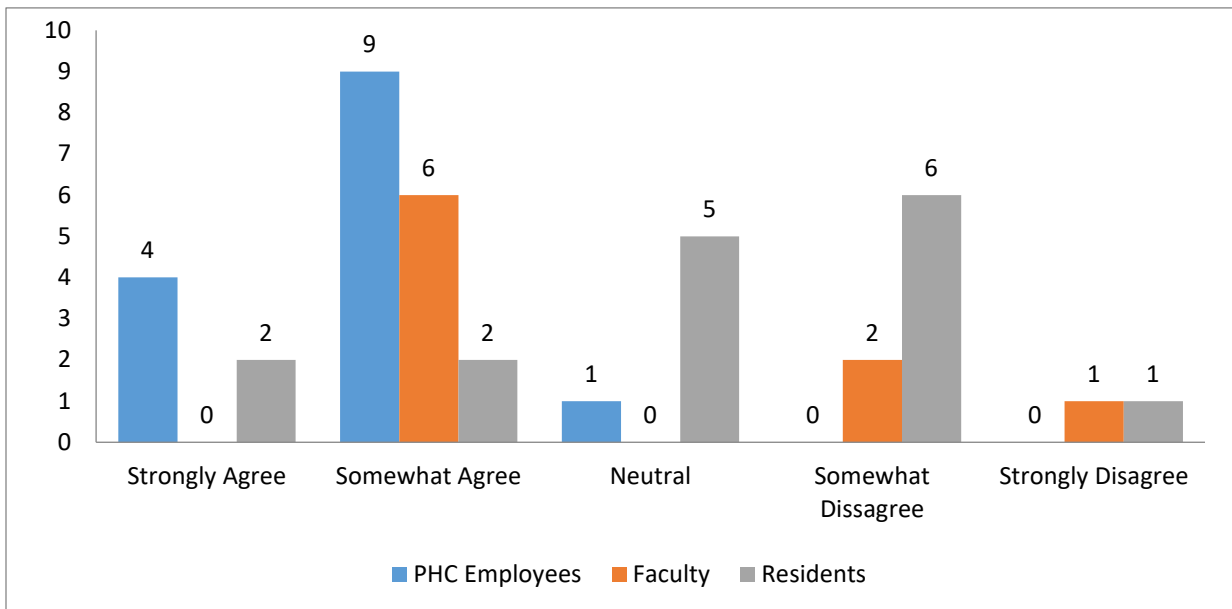




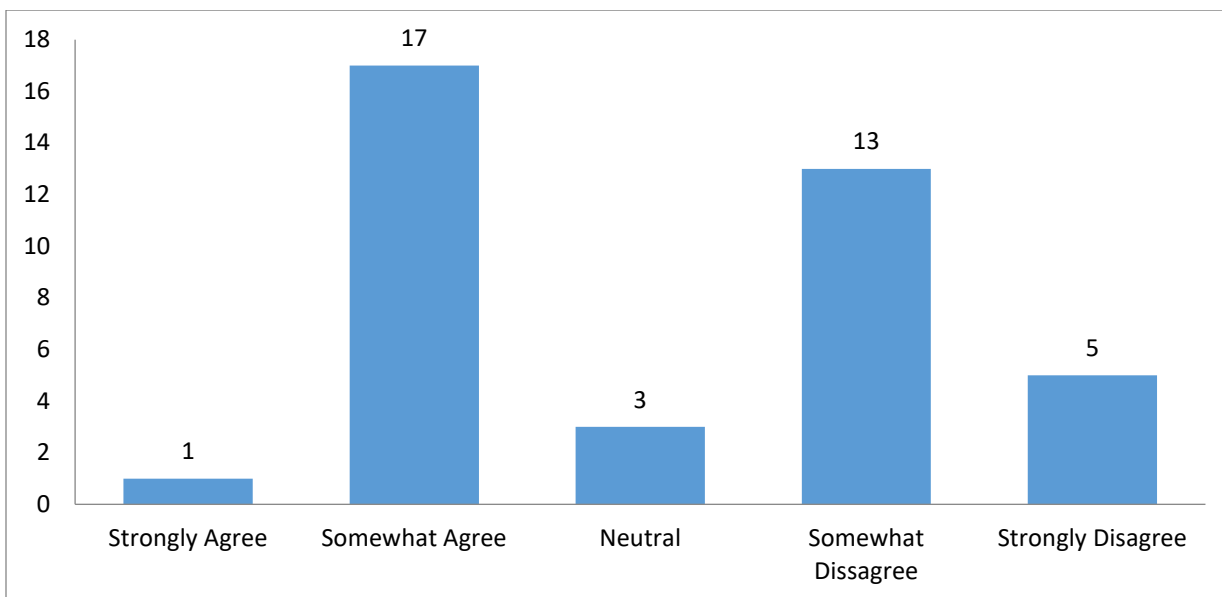
**Question 7:** I feel other providers at PHC implement the policy for prescribing controlled substances appropriately and that all patients receiving controlled substances are treated equally, regardless of the provider.

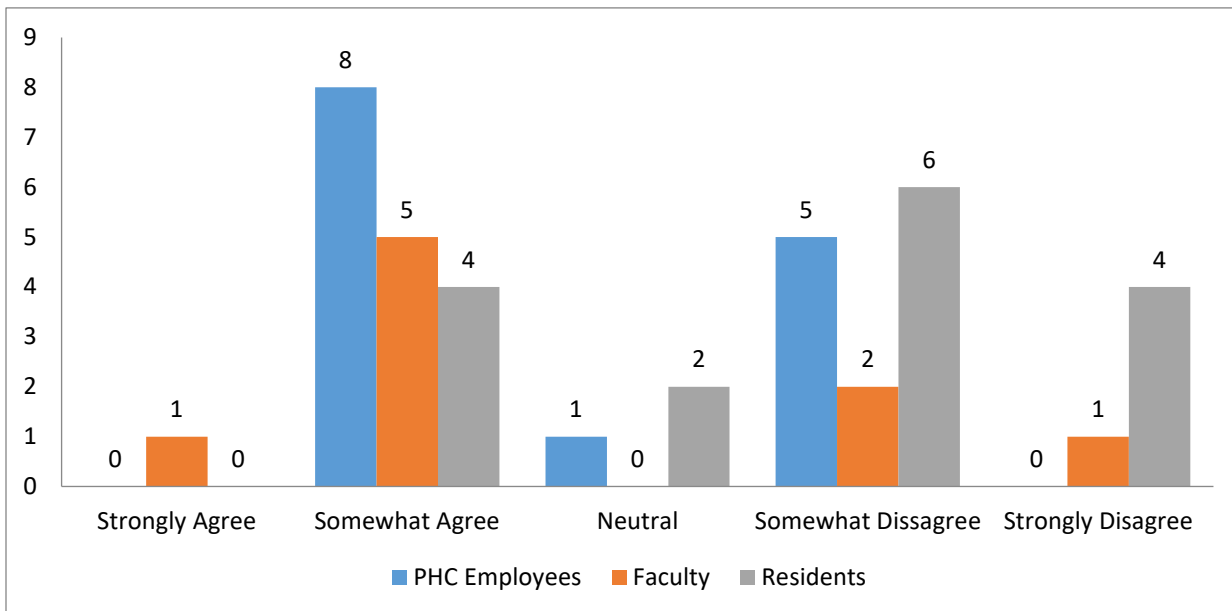




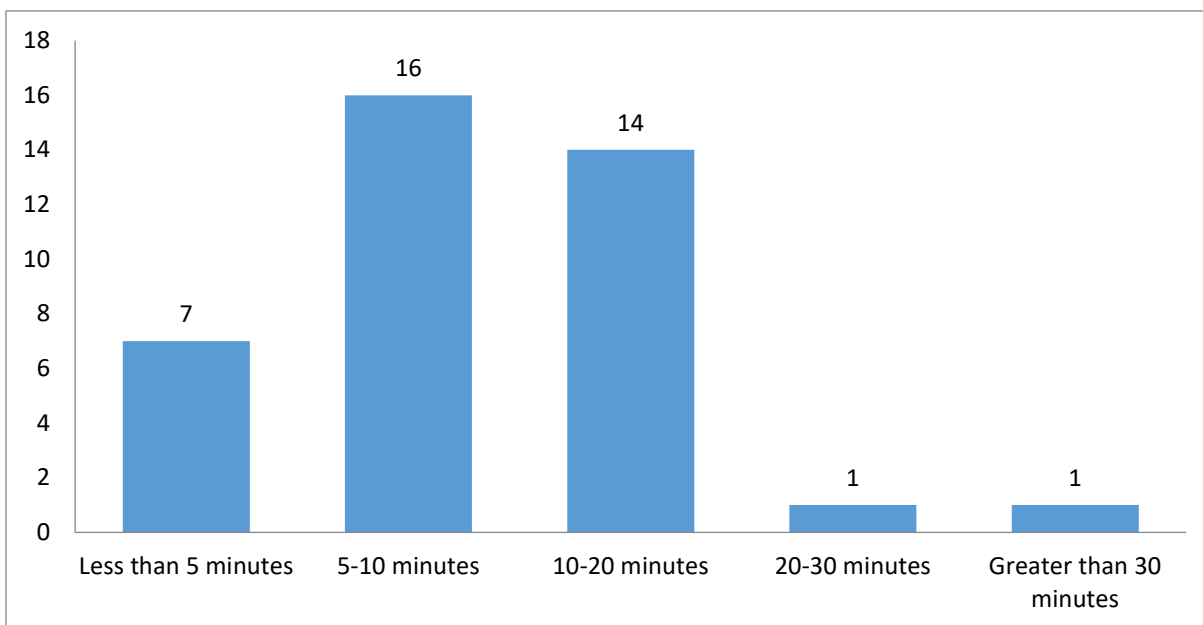


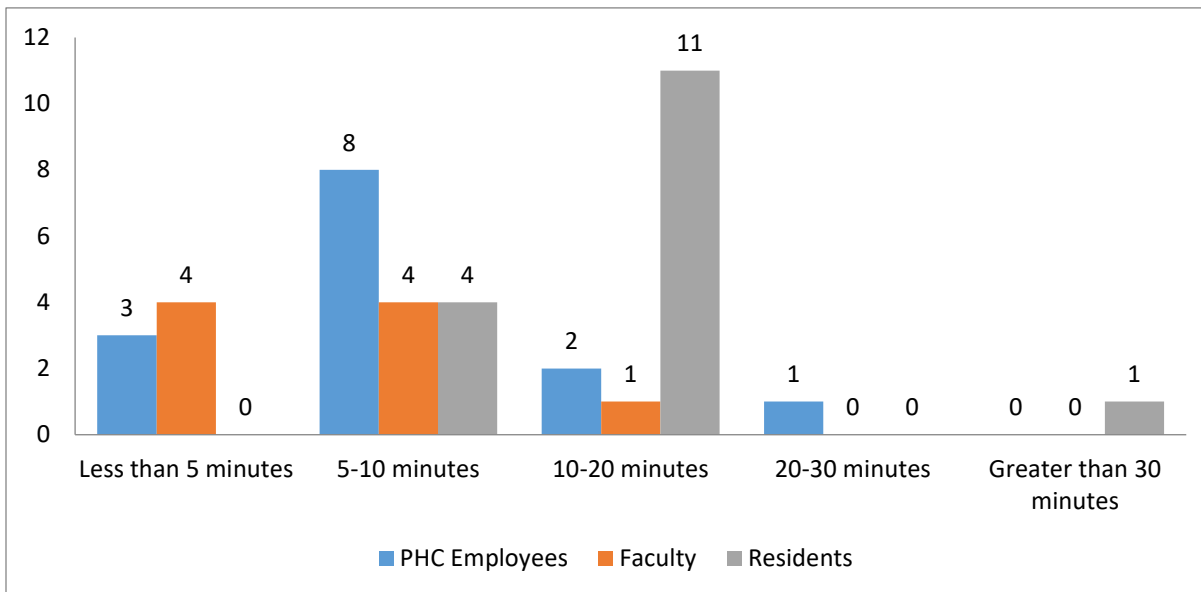
**Question 8:** When asked to complete a refill of controlled substances for patients of another provider on my "team", I feel like it is easy to locate the information needed to ensure the refill is valid and know when it is due.





**Question 9:** Please estimate the average amount of time required to safely complete one controlled substance refill on behalf of another provider. (Count all relevant tasks performed, including: reading the initial message, reviewing the chart, checking the PDMP, speaking to the patient, coordinating with the care team and completing the Rx).





**Question 10:** Please feel free to share any additional questions/comments/suggestions with respect to prescribing controlled substances at PHC:

- Overall the vast majority cross cover cross cover prescriptions I find appropriate but there are a handful that I certainly question, especially the ones on very high MED and patients on both opioids and benzodiazepines.
- I appreciate the opportunity to discuss normative expectations to create a more consistent approach. However, I feel it is valuable to have some latitude to flex to the patient situation.
- This has been more challenging with Covid with fewer in person visits (and not all providers enabled for e-prescribing or in house). Refills also then continue to come to covering doc, who routes to primary, causing delays
- When covering some MA/nursing staff will confirm last date filled, if CSC and UDS is up to date, when there last appointment was and if they have a pending appointment, which takes very little time on my end (check MPDR and safety for pt). Others will not include anything and just say "pt requesting refill of X", then it takes me 5-10 minutes to research all the data. It would be nice if there was consistency when asked to cross cover with information given.
- Sometimes cross cover really smooth, other times less so. It also depends on how thorough I am being that day (do I check for UDS/CSC and MPDR or do I just review the last PCP note that says continue and fill the prescriptions without much extra digging?).
- I would like to know how or if I can E prescribe more than one month at a time
- Think the workflow would be better if R1s did not get sent controlled substance refills from other providers. Since they can't check PMP and need co-sign.
- Three variations of, "Thanks for doing this survey".

## Grayson Cobb MD

### Addressing contraception in primary care clinic without gender bias

**Problems:** Lack of addressing contraception in my patients of childbearing age and with unintended bias toward certain populations, especially young women.

**Aim:** Over a six-week period, aim to discuss contraception options in greater than 80% of all patients of childbearing age at each clinic visit unless already discussed in the last four weeks.

**Key measures for improvement:** Process based measure to increase evaluation and discussion regarding contraception options with all populations of child bearing age.

**Method:** Initially, I began with retrospectively collecting baseline data from chart review to evaluate how frequently I was discussing contraception with both sexes in a childbearing population. This revealed not only a severe deficit in the frequency of discussion, but also bias toward questioning young women. Additionally, the conversations that this provider recalled were imperfectly and inconsistently documented in the electronic medical record leading to imprecise initial data collecting. I began with the intervention on February 1 and targeted to document this in an external document to avoid confusion with the complexities of the electronic medical record and continued the effort through March 9. My goal was to discuss contraception options with greater than 80% of all patients of childbearing age at each clinic visit unless already discussed in the last four weeks. Childbearing age was defined by WHO definition as between the ages of 15-49. This somewhat artificially narrow range was chosen to target the population at greatest risk for unintended pregnancy who would most likely benefit from screening for this issue. Exclusions to the denominator included patients who had already had documented discussion with this or another provider regarding contraception within the last four weeks or who had known sterilization procedures performed or who currently pregnant.

**Analysis and Interpretation** Below table shows results of the intervention

	Male	Female	Total
Evaluation of contraception	11/21 (52%)	3/6 (50%)	14/27 (52%)

3 total exclusions from the denominator because of permanent sterilization procedure performed and two others for known pregnancy.

**Strategies for change:** I attempted to perform establishment of care visit for each new patient to attempt to target lifestyle modifications. If patients have acute issues at their initial visit, I encouraged them to get scheduled for a visit dedicated to discussion of health maintenance at which time contraception would be discussed. This allows for time to discuss contraception. Additionally, I attempted to refrain from bias and ask every patient within the target age range about their choice of contraception.

**Effects of Change:** Balancing out the bias in male versus female addressing and counseling regarding contraception options. Achieved >50% counseling rate but still not at target of 80%.

**Lessons Learned:** I learned from this intervention that addressing health maintenance in a broad way is challenging given patient's various acute concerns and more pressing issues. It was apparent with this quality improvement project more than ever before than my goals for my patients often vary significantly from the issues that acutely impact them. I think the goal of balancing the bias between my discussion of contraception between men and women was a more reasonable goal and likely will result in fewer unwanted pregnancies having both genders a part of the discussion. In the future I continue to aim to address contraception with both sexes equally and will continue to provide counseling and options for contraception options. If I were to perform this project again a consistent and trackable way to document in the EMR could be by using the ICD code: Z30. 09: Encounter for other general counseling and advice on contraception. This would allow for longer term tracking and analysis and lack of duplication of efforts. Additionally, it would centralize documentation and allow for better follow up at future visits. I preferred for this brief intervention not using the complicated EMR but find it would likely have saved time inevitably by implementing this ICD code.

## **Michelle Metcalf MD Katie Walicki DO & Mallory Koula MD**

### Incorporation of One Key Question (OKQ) at Partnership Health Center.

**Problem:** According to a 2016 study, 45% of the 6.1 million US pregnancies that occurred in 2011 were unintended, 27% were “wanted later” and 18% were “unwanted<sup>1</sup>.” Notably unintended pregnancy rates are highest among low-income women (income less than 200% of the federal poverty level), women ages 18-24 and women of color while rates are lowest in higher-income, white, college-educated and married women<sup>1</sup>. One of the most effective ways to reduce unintended pregnancy is correct and consistent use of birth control. OKQ is more than a “yes” or “no” question. It acts as a launching point for opening conversations about preventative reproductive health in primary care. Given that approximately 59% of the patient population who receives care at PHC report living at or below 200% of the federal poverty level<sup>2</sup>, integrating a standardized approach for having conversations about preventative reproductive health is paramount. Not only does this approach hope to improve unintended pregnancy rates by ensuring access to appropriate contraception, but also identifies patients who may need further interventions or education for intended high-risk pregnancies.

**Aim:** Improve evidence-based preconception and contraception counseling in the primary care setting by incorporating OKQ into > 90% of clinic visits with patients of reproductive age (15-45 years old) who can become pregnant. To assist the incorporation of documentation into the EMR both an OKQ template and an educational browse phrase will be created.

**Improvement Measure:** To determine whether this project improves the frequency of discussions surrounding preconception and contraception counseling, data will be obtained both before and after incorporating the OKQ template and educational browse phrase. The number of patients where OKQ was asked, contraception counseling occurred and contraception was prescribed will be kept track of for evaluation and comparison to baseline before the OKQ was incorporated.

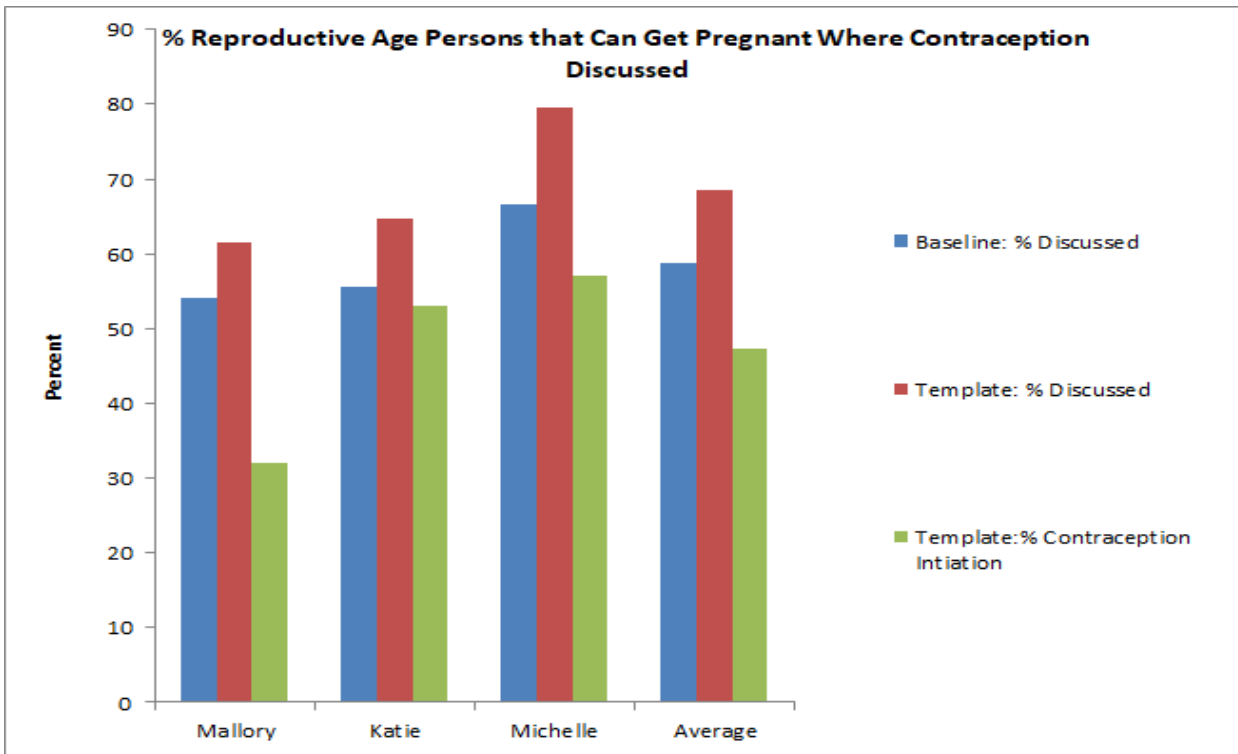
#### **Process of Gathering Information:**

Data on contraception counseling was gathered by authors’ individually data mining their patient panels through eClinical Works (electronic medical record). We retroactively gathered information on how often contraception was discussed with persons of reproductive age that can get pregnant over a 2 month time period as our baseline data. We did this by reading our notes on the days we were in clinic and seeing if contraception was discussed in the note. We then tracked how often we discussed contraception from October to April with the use of a contraception template that was created. Each author was responsible for tracking individual data and input this data into a shared Microsoft Excel data sheet.

#### **Analysis and Interpretation:**

Chart 1 shows how often contraception was discussed with the targeted patient population before and after incorporating the contraception template into the electronic medical record.

Chart 1:



There was a baseline variation between each author, in terms of how many reproductive age patients that can get pregnant were seen and how often contraception was discussed. Regardless of this, there was an increase in contraception discussion for each author during the time period we were to incorporate template. We did not track if the template was actually incorporated ahead of time in every appropriate patient encounter between October - April which may have falsely improved “Template: % Discussed” numbers. Chart 2 shows the percent improvement that was seen for each author’s patient panel after the contraception template was incorporated. The average improvement in contraception discussion was around 10% with the use of the template.

# Shannon Rossio MD

## Effect of House Calls on Access to Care and Diabetic Health Outcomes

### Abstract

This quality improvement project examines the effect of house calls on access to care and quality of care as it relates to diabetic health outcomes.

### Problems

Diabetes care requires a multidisciplinary approach that is difficult to achieve in a 20 to 40 min office visit. It also requires a deep understanding of patients' barriers to care, goals, and living situation – all of which may be better assessed in a patient's own environment. This is especially true in rural areas where poverty, lack of transportation, and distance to care adversely effect health outcomes. A need exists for health care models that reduce distance to care and improve access and quality.

### AIM

To improve access to care and diabetic health outcomes through house calls.

### Key Measures for Improvement

- 1). Percent reduction in A1C after 6-12 months of routine house call appointments
- 2). Patient satisfaction in access and quality of care

### Process of Gathering Information

Patient panels were screened for individuals with Type 2 diabetes whose most recent A1C was above 9.0%. From this pool of patients, calls were made to those that lived >30 minutes from clinic, lacked transportation, or had physical or mental disabilities that limited their ability to come to clinic. Five patients were selected to participate in house call visits with a resident physician under the direct supervision of an attending doctor. Two of these patients were scheduled for a one-hour house call appointment. During the visit, a review of their medical history, medications, and barriers to diabetes management were discussed with them. Their vital signs were recorded, along with a physical exam. An A1C was drawn if it had been greater than 3 months since their last A1C. Following the visit, the patients were contacted via a phone interview and asked if the home visit had improved their access to care and the quality of care they received.

### Analysis and Interpretation

Table 1.1 describes the patients' opinions on access to care and quality of care with home visits.

Table 1.1	Improved Access to Care	Improved Quality of Care	Starting A1C	Ending A1C
Patient 1	Yes	Yes	12.8	TBD
Patient 2	Yes	Yes	10.4	TBD

Following a home visit, both patients reported improved access to care and improved quality of care. When asked to elaborate on how the visit had improved access, both patient 1 and 2 cited mobility limitations that prevented them from driving to clinic and explained that the home visit had eliminated this problem. Both of these visits were also one-hour appointments compared to the standard 40-minute clinic visit. Patient 2 expressed that the longer visit allowed for more

thorough and comprehensive care. Patient 1 also felt that the home visit resulted in less anxiety and increased comfort with the medical appointment. The ending A1C of both patients is pending and will be measured at 3 and 6 months after their first home visit.

### Discussion

The preliminary results of this ongoing project suggest that patients feel home visits improve quality of care and access to care. Whether or not this project will demonstrate an effect on the A1C of patients with Type 2 diabetes is yet to be determined.

The barriers to implementing home visits included scheduling difficulties with both patients and physicians, the need for each visit to be supervised, and large blocks of time needing to be reserved for the home visit to occur. In fact, each home visit took 2 hours with 1 hour allocated for driving and the remaining hour for patient care. Although this allowed for improved quality of care according to the patients, it was seen as less efficient by clinic staff in terms of patient volume. For a home visit program to be feasible, it must be able to demonstrate that the improvement in quality does not result in a significant decrease in efficiency or revenue for a clinic due to lost patient volume.



## Kayla Whitmore DO

**Problem:** Inconsistent documentation at OB rotation leading to prolonged documenting time, missing critical information related to pregnancy course, and frustration amongst residents.

**Aim:** To improve accuracy and consistency of documentation and decrease time spent documenting by implementing high quality Quick Text phrases ('templates')

**Key Measures for improvement:** measures will be perceived time documenting, frequency of using QuickTexts, and satisfaction with documentation.

**Process of gathering Information:** An anonymous survey was sent to residents both pre-intervention and 3 months post intervention asking them to rank on 1-5 scale (5 being high/ideal) usage of templates/quick texts, amount of time spent documenting, and overall satisfaction (level of frustration) while on rotation. The resident responses will be compiled to get an average score for each end point measure.

3 months was arbitrarily chosen with hope that all residents will have been on OB at least once during that time frame and would have the ability to trial using the new QuickTexts

In addition, prior to creating the QuickTexts, I personally met with the OB attending providers one on one for direct feedback and analysis of resident documentation, looking for common inconsistencies or patterns of missing information to make sure they were captured in the quick text.

### Analysis and interpretation

	Pre-Intervention	Post-Intervention
Satisfaction	1.75	3
Time Spent documenting	1	3
Quick Text usage	1.5	3
Barriers	Too many boxes, no standardization templates, ECW (PN/OB)	Not on OB to utilize new templates

Unfortunately, there is a very small number of residents in Kalispell, and many of them were not on OB during the time the templates were implemented. However, of the small cohort who did implement the new text phrases, there was an improvement across all three measures: satisfaction with documentation, time spent documenting, and usage of templates.

Additionally, direct feedback from 3 providers on the OB service after implementation of new QuickTexts with generally positive reviews, and applauded for excellent quality and thoroughness of documentation.

**Effects of change:** improvement across all three measures, but limited given sample size and scope

### Lessons Learned:

This QI project was useful in learning about creating QuickText in the EMR.

This QI project was wrought with challenges. Firstly, implementation of QuickTexts was later in the year than I had originally anticipated, so there were fewer residents on OB (more Vacation, maternity leave, increased non-OB electives and rural rotations). I had emailed the QuickTexts and how to use the macros and some lost or forgot about the email by the time they were on their OB rotation.

Other limitations were the measures. I did not have residents time themselves while doing documentation and for complete accuracy in seeing if the templates did decrease time documenting I should have done that.

The last challenge with this QI project was some vagueness with questions on the initial QI survey. I had a final free text question which asked for specific challenges they had with documentation and what they would like to see changed, but I did not clarify this was OB documentation in the hospital, and much of the feedback received was related to OB documentation in ECW with Continuity Clinic patients. I ultimately did not include that question in the formal evaluation of my QI project, but does suggest an area worth exploring in the future.

## CLASS OF 2023 QI Work



**Phillip Anuta DO**



**Kati Lucas DO**



**Ben Merbler DO**



**Paige O'Connor DO**



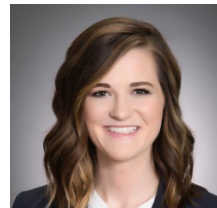
**Jacqueline Ordemann MD**



**Stephen Reale MD**



**Jonathan Rhea DO**



**Rachael Schmidt MD**



**Melanie Scott DO**



**Taylor Simmons MD**



**Barbara Steward DO**

# Phillip Anuta DO

## Effect of utilizing agenda setting to reduce going over visit time

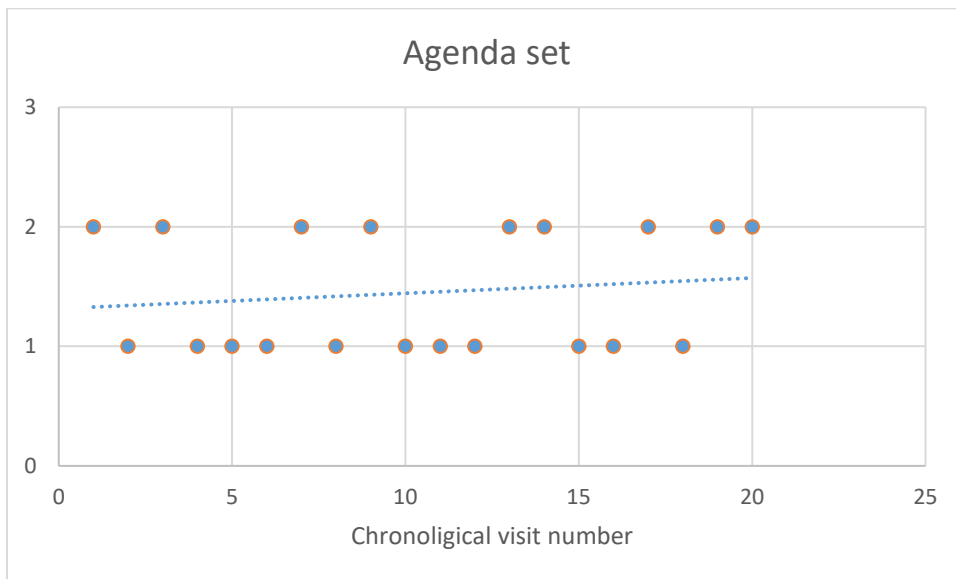
**Problem:** Keeping patient encounters within the allotted time is challenging, when visits go over it pushes back the other visits and clinic starts running late. What strategies can be utilized by the physician during patient encounters to help keep visits within the allotted time?

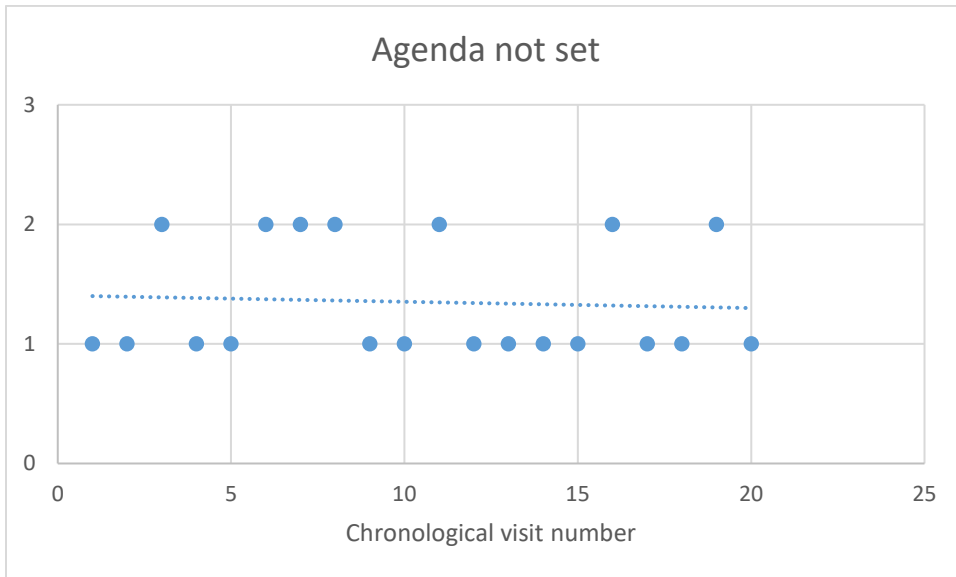
**Aim:** to start office visits with agenda setting to improve not running over time.

**Key measures for improvement:** Improvement was measured if agenda setting at the beginning of the visit prevented the visit from going over the allotted time.

**Method:** Over a 3 month period 40 visits were randomly assigned to utilize agenda setting or to not utilize agenda setting. Using the timer in eCW next to the patient visit status which begins once they arrived and are checked in, I would write down the value of the timer (or ask the MA to write the value down) when the patient was approximately roomed. After visiting with the patient, precepting the patient and then returning to the room to finish the encounter, I would record the value of the timer when I returned to my computer in the general pod area. The difference between the two would give the total visit time, this was then compared to the amount of time allotted for the visit. Simply assigning a '1 = over time' or '2 = within time' value to each visit identified if the visit was completed within the time allotment.

**Analysis and interpretation:** A total of 40 visit were used for this project, 20 visits where agendas were set and 20 visits where agendas were not set. Visits that went over time or stayed within time were plotted for each agenda/no agenda category. Examining the trend over the 3 month period and using a trend-line, completing visits within the time allotted became more frequent compared to the 'no agenda' category.





**Strategies for change:** During the visits where agenda was set, I would attempt to address only what I thought would be able to be adequately covered within the visit. As I performed more agenda setting I felt more comfortable estimating what was realistically able to be addressed in that visit and felt better about trying to adhere to time constraints.

**Effects of change:** Agenda setting appears an effective strategy over time as the last 10 visits had a higher number of ‘completed within time allotted’ compared to not setting agendas.

**Lessons learned:** Agenda setting is a power tool to help set patient expectations, figure out how many issues the patient wants to address, and can provide a framework to help you judge how indepth and how many topics can be adequately covered in a visit.

Additional factors that likely influenced the overall visit time: how much time the MA spent in the room, how complicated the patient visit was, whether typing an after-visit summary was implemented, multiple residents waiting to precept, issues with eCW, preceptors wanting to visit and re-summarize information to the patients. Inaccurate data collection of time patient roomed and time visit completed.

## Kati Lucas DO

### Happiness in the Clinic Setting

#### **Problems:**

Need for improved clinic demeanor in provider in order to ensure improved happiness of the provider, the team MA, and the patient.

#### **Aim:**

To increase provider happiness during clinic by 50% in 2 months; to improve clinic team satisfaction by 50% in 2 months; and to decrease error with patient management by 50% in 2 months.

#### **Key Measures for Improvement:**

Overall provider happiness on a scale from 0-10; MA overall satisfaction with the clinic half-day based on a 0-10 score; number of after office visit calls/emails/TE's/Daphne's/other forms of contact that pertain to incomplete or unsatisfactory care from their office visit.

#### **Process of Gathering Information:**

For two entire months, information was gathered and recorded after each half-day of clinic. This included a rating of provider's overall happiness and a rating of MA's satisfaction. Both of these were recorded as a number from 0-10, 0 being extremely unhappy and 10 being extremely happy.

Any patient who had been seen these 2 months who communicated with PHC for "negative" issues were also recorded as a single tally per issue. "Negative" communications included: needing to request anything after the office visit that should have already been done at original appointment like rx's, referrals, follow-up; any complaints or concerns; daphne reports; refill requests that should have been caught during their apt; or anything deemed as a provider "miss".

#### **Analysis and Interpretation:**

Table 1: Data Collection x2 months

Half-Day Clinic	Exercised Prior to Shift	Provider Happiness 0-10	MA Happiness 0-10	Number of patient/clinic "negative" communications
1/4	Yes	5	7	II
1/6	Yes	6	7	
1/14	Yes	6	7	I
1/15	Yes	8	7	
1/19	No	5	7	III
1/21	Yes	7	8	I
1/22	Yes	9	9	
1/26	Yes	7	7	
1/28	No	6	7	I
1/29	Yes	6	8	
3/5	Yes	7	8	I
3/10	No	6	7	
3/12	Yes	7	8	II
3/17	Yes	9	8	
3/18	No	6	6	II
3/19	Yes	7	7	
3/24	Yes	8	7	I
3/26	Yes	8	9	
3/29	No	5	9	I

Table 2: Analysis of Data

Results for days with and without AM exercise of at least 30 minutes strenuous activity.

	Exercise Days Averages	Non-Exercise Days Averages
Provider Happiness	7.1	5.6
MA Happiness	7.6	7.2
Patient Happiness	8 “negatives” in 14 days = ~1/2/shift	7 “negatives” in 5 days = 1.4/shift

**Strategies for Change:**

Lifestyle changes should be made to allow AM exercise before clinic. This could include going to bed earlier in order to still get 8 hours and wake up early to exercise, drinking more water during the day so the exercise is more tolerable, find time to stretch and eat well in order to prevent injury and continue doing this before every clinic day.

**Effects of Change:**

Happiness on average was increased for both providers and MA’s on days when exercise occurred prior to clinic. On average, less negative interactions/follow-ups/etc were encountered by patients on days where exercise occurred before their appointment, indicating overall better care during their office visit.

**Lessons Learned:**

Exercise is a good outlet for stress, increases dopamine, and helps provider’s overall well-being that directly affects their clinic day and is a good habit to continue in the future. Their overall increased happiness also positively affects patient care and team happiness with their MA.

Confounders considered, such as day of the week, number of patients seen, complexity of patient diseases/office visit concerns, preceptor interactions, and technical problems.

## **Ben Merbler DO**

### Meditation to Improve Mindfulness

**PROBLEM:** As I progressed through intern year, I began to notice that I felt increasingly like I was on autopilot both in healthcare settings and during my time away from clinic and the hospital. This realization was somewhat unnerving, as I've always felt confident in my ability to remain present in activities and tasks at hand. Upon recognition of this alarming change in my demeanor, I resolved to mitigate this shift as much as possible through daily meditation.

**AIM STATEMENT:** To improve mindfulness through daily meditation. This will be done by engaging in guided meditation using the headspace app for 10-15 minutes, 3-5 days a week over a three month span.

**MEASURES TO IMPROVEMENT:** Though mindfulness is somewhat challenging to quantify, I found the Mindful Attention Awareness Scale (MAAS) to be the most precise assessment of the areas in which I hoped to improve. This scale uses a 15 question survey, with each response rated on a likert scale from 1-6. The scores are then averaged for a mean rating.

**INFORMATION GATHERING:** After some consideration, I made the decision to rate my level of mindfulness only twice during my QI project. My motives for doing this were manifold, the most significant of these being that I hoped to avoid discouragement if my scores failed to improve on a weekly or even monthly basis. My baseline MAAS mean score was a 3.5, while my score after three months of consistent meditation averaged out to a 4.6.

**STRATEGIES FOR CHANGE:** In an effort to adhere to my AIM statement, I began setting my morning alarm 20 minutes earlier on Monday, Wednesday, and Friday each week to allow for a designated window of time for guided meditation. On days off, I would often meditate first thing in the morning to avoid getting lost in the trajectory of the day.

**EFFECTS OF CHANGE:** For the most part, the strategies for change that I settled on were effective. I was able to meditate for an average of more than 50 minutes per week over the course of my project. Aside from the quantitative data illustrating that these strategies were effective, I also perceived changes in how I felt on a day to day basis. Most importantly, I noticed significant improvement in my ability to remain present from moment to moment.

**LESSONS LEARNED:** Though I had spent some time meditating in the past, I had never done it with this level of consistency. Meditating on a regular basis has helped to show me that I have significantly more control over the way my mood, perception, and focus than I would have ever thought previously. I intend to continue meditating on a scheduled basis throughout residency, as I feel the benefits have been incredibly substantial.

## **Paige O'Connor DO**

### The Ectopic Brain

**PROBLEM:** I am exposed to a great deal of clinical pearls throughout the workday but have nowhere to keep this information.

**AIM:** I aim to improve my medical knowledge by documenting clinical pearls obtained on rotations in a Google Doc called The Ectopic Brain. My aim is to document and review three pearls per week.

**MEASURES:** As of March 3, 2021, baseline data is 228 clinical pearls. I will track number of clinical pearls added and reviewed for 5 weeks, until April 7. Barriers to the success of this project include getting too busy to document and/or review pearls. I can overcome these barriers by keeping the document open on my work computer, so that I can easily take notes or review past pearls during a spare moment.

**STRATEGIES FOR CHANGE:** Keep The Ectopic Brain document open on work laptop and note clinical pearls or researched topics. Review three pearls every week.

**EFFECTS OF CHANGE:** At the end of the intervention period of 5 weeks I had a recorded 17 clinical pearls for a total of 245 entries. This averages to 3.4 pearls recorded per week. Unfortunately, I did not have a good method of recording pearls reviewed.

**LESSONS LEARNED:** This document was inspired by Dr. Geoff Holman, who recommended I keep a “little book of knowledge” during my first clinical rotation on inpatient medicine, and I’m so glad I heeded his advice. I enjoy noting pearls that I learn from attendings, on rounds, during didactics or from relevant UpToDate searches. I have found that on medicine or OB, I will jot down the pearls on my rounding papers and later transfer this knowledge to my Google Doc. I keep The Ectopic Brain open during clinic hours to quickly lookup a high-yield pearls. The document has definitely improved my medical knowledge. For example, when I was first on Silver Team I could not remember the utility of the various scores related to alcoholic hepatitis. After recording the use of Maddry’s discriminant, Glasgow score and Lille score in The Ectopic Brain, I’m able to more thoroughly assess and treat patients with alcoholic hepatitis.

Going forward I will certainly continue to contribute to The Ectopic Brain, though I will change the organization of the document from bullet points to alphabetical order. I believe this will allow me to search through the document with greater ease. I would also like to make a system to review pearls weekly, such as reviewing for 15 minutes after didactics.



# Jacqueline Ordemann MD, MPH

## Increasing Physical Energy through Yoga

**Problem:** Need to feel less fatigued during and after work, especially on rotations like OB and Medicine where I work longer hours.

**Aim:** To improve my physical energy level by doing yoga for at least 10 minutes per day at least three days per week between October and March.

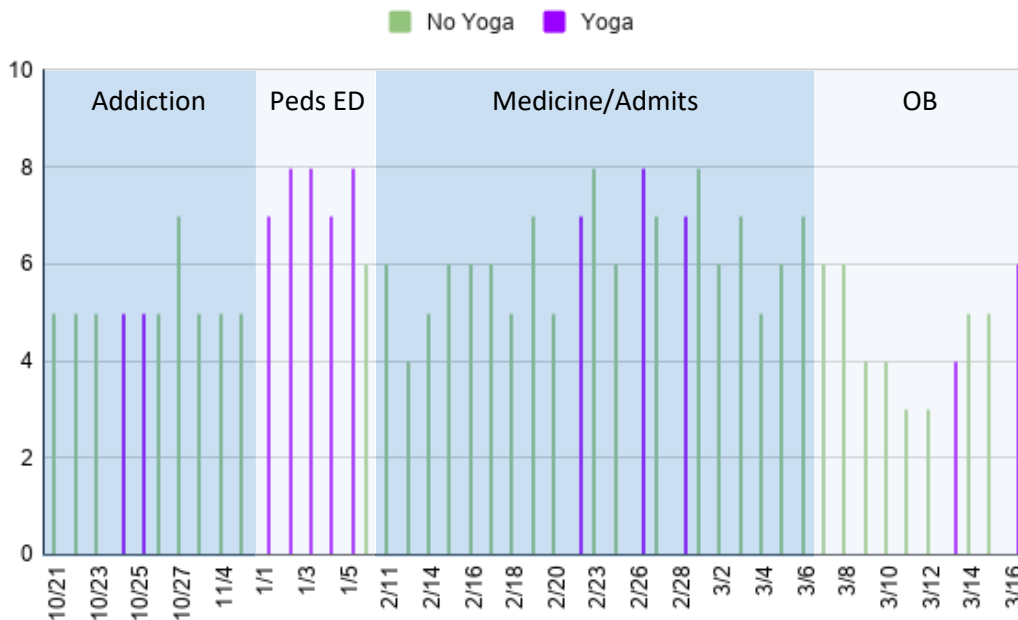
**Key Measures for Improvement:** Rate physical energy level on a zero to ten scale (0=most fatigued, 10=most energetic) each day and compare between days when I did or did not do yoga.

**Process of Gathering Information:** A google doc was created with columns for yoga (y/n) and energy level. Overall energy level for the day was recorded using the Sleep Cycle app as I was getting ready for bed at the end of the day. After 1-2 weeks of tracking, these energy levels were transcribed into the google doc along with whether or not I did yoga each day.

**Analysis and Interpretation:** See Table and Figure below.

	Without Yoga	With Yoga
Total Days	35	11
Average Fatigue Level	5.57	6.55

**Table 1.** Average physical energy level on the days when yoga was performed was significantly higher ( $p=0.0007$ ) than on days when yoga was not performed.



**Figure 1.** Energy level represented by rotation that I was on at the time, and whether or not yoga was performed. Energy level fluctuated throughout the year and the lowest level recorded was during OB.

**Strategies for change:** Used “Yoga With Adriene” videos on YouTube which made finding a quick yoga routine easy no matter the time of day. I also used the Sleep Cycle app, which I already use to track sleep quality, to track energy level which made it easier to remember to keep track. At the end of the week, YouTube history and Sleep Cycle records were used to transcribe data into a Google Doc.

**Effects of Change:** Doing yoga resulted in a significantly higher energy level based on the data collected and I also subjectively recognize that on days that yoga was performed, I felt less fatigued overall. Keeping track of my energy level throughout the year was helpful too because I was able to identify times, such as during a harder rotation like OB, when it would be most beneficial for me to engage in a yoga practice or other self-care practice in the future.

**Lessons Learned:** My initial Aim Statement included doing yoga before work for at least 10 minutes. I was able to do this while on Addiction Medicine and Peds ED, but not while on Medicine or OB where I had to get up before 6 AM in the dark in the middle of winter. I ended up amending this part of my AIM statement because it was unrealistic and not helping with my morale to fail to get up early enough every day. In the future, I don’t think that pre-6 AM is a reasonable expectation for myself to do self-care activities.

My Aim statement also said that I would do yoga at least three days per week and I did not do yoga this much. I found it hard to find time and motivation after long days of work and I think that in the future, setting an alarm or planning ahead would be helpful. Another surprising barrier to this was changing clothes. I tried sleeping in yoga clothes and doing yoga in pajamas but neither was ideally comfortable for both situations. The best configuration ended up being to get home from work and immediately change into more comfortable clothes to do yoga in, though this sometimes meant doing yoga right before bed so was not ideal for the initial goal of improving energy during the work day. But I found that this also helped to motivated me to do yoga and helped to de-stress after the work day.

Overall, I found doing yoga was a really good way to take some time for myself and my energy level was higher on days when I did it. On days when I was already feeling a higher energy level, I felt more motivated to do yoga and so I am not sure that there is actually a causal relationship between doing yoga and improved physical energy level. I think that this stresses the importance of carving out some time to do an activity like yoga on days when I feel more fatigued. Towards the middle of March, after about 6 weeks of medicine followed by OB, I recorded my lowest energy levels and this correlated with a time when I was really only going to work, eating, and sleeping. My energy levels improved towards the end of that month with adding in some yoga but I also added in doing at least an hour of any hobby after work each day. This significantly improved both my physical energy level and my mood. I think that moving forward, I will try to continue doing one of my hobbies on a daily basis, whether it be yoga or not.

# Stephen Reale MD

## Mindfulness Beyond Daily Meditation

### **Problem:**

It should come as no surprise that the pace of American society seems to be accelerating. In 2016, 52% Americans said they are usually trying to do two or more things at once, and, in 2018, 60% said they at least sometimes felt too busy to enjoy life. While many studies have shown that mindfulness can have a multitude of benefits leading to improved quality of life, for medical residents, especially, the time to stop and smell the metaphorical roses does not often have a place in the daily pandemonium.

### **Aim:**

To improve daily mindfulness by doing 5-10 minutes of self-guided mindfulness meditation every work day.

### **Key measures for improvement:**

Mindfulness as measured by the awareness subscale measures from the Philadelphia Mindfulness Scale

### **Process of gathering information:**

Data regarding mindfulness were collected with a self-administered digital questionnaire at the end of the work day on the last day of a work week, retrospectively applying the questions to the immediately preceding week. Baseline data were collected weekly from September-December 2020, and intervention data were collected weekly from January-April 2021.

### **Analysis and interpretation:**

Table 1. Average mindfulness before and after starting practice of daily mindfulness meditation

	Without Meditation	With Meditation	Difference
Average Mindfulness	30.9	33.6	+1.7 (p<0.0001)

Figure 1. Weekly mindfulness over time. Green line indicates start of meditation practice.

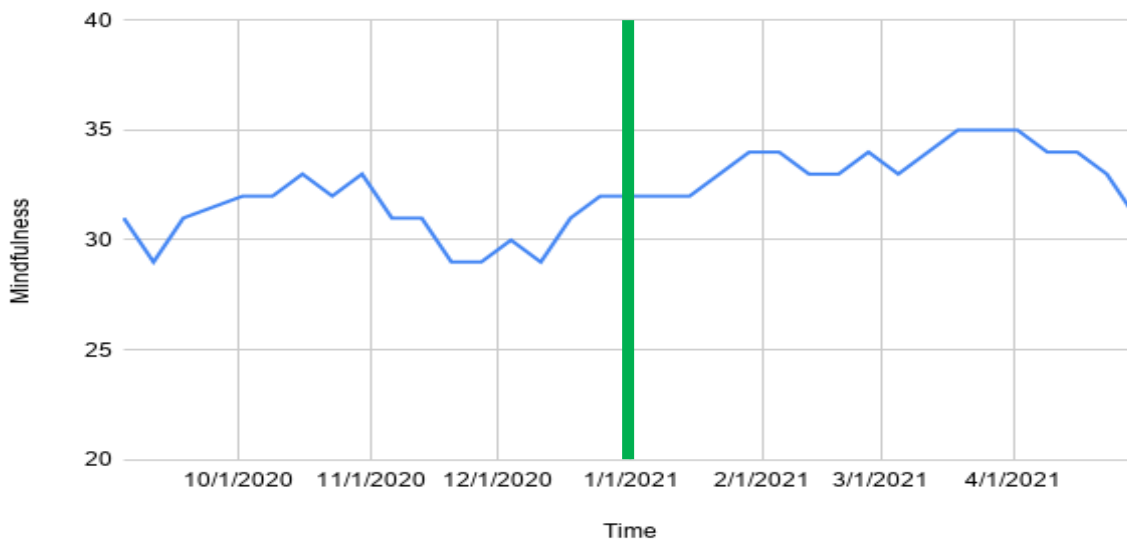
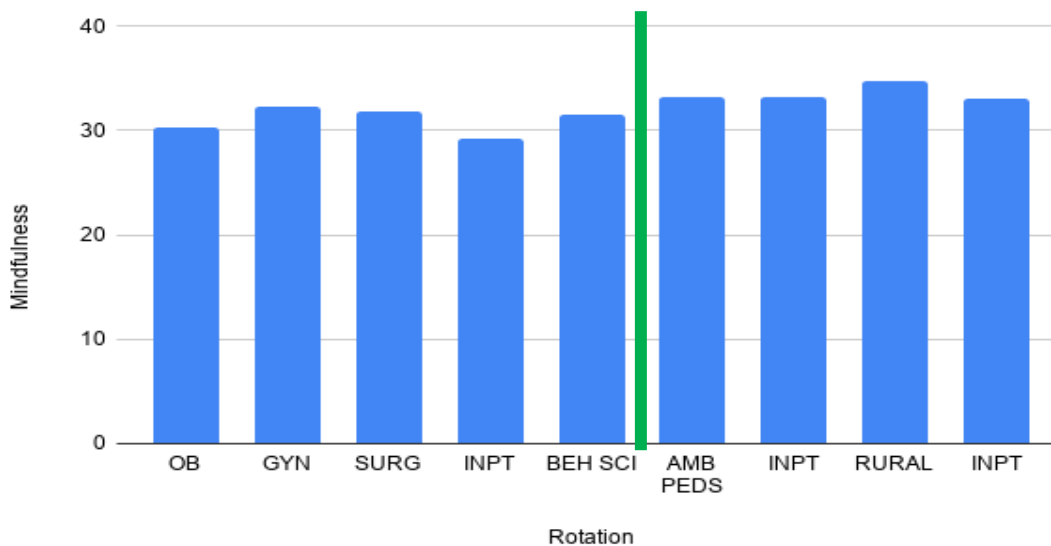


Table 2. Average mindfulness over time by rotation. Green line indicates start of meditation practice.



**Strategies for change:**

Self-guided mindfulness meditation for a total of 5-10 minutes on each work day

**Effects of change:**

Average weekly mindfulness of the four months pre- and post-intervention increased significantly from 30.9 to 33.6 (p<0.0001).

**Lessons learned:**

My mindfulness was variable within a fairly tight range from week to week, though the overall trend was increasing, and the averages pre- and post-intervention were significantly different at the level of p<0.0001, suggesting there was a significant increase in mindfulness over the study period.

While not tracked, meditating did become more regular over the course of the intervention period. In the beginning, remembering to meditate and making the time to do so proved more challenging, which was also the case on more taxing rotations. Both of these obstacles did become easier with time, both out of habit and out of necessity for the mental break on the more challenging rotations.

An underlying motivation of this project was to try to improve my engagement and empathy during patient encounters. Though this was not formally tracked from either my perspective or the patient’s, it did seem to improve based on my own perception.

While there are many potentially confounding factors such as difficulty of rotation and experience with rotations and residency/medicine in general, the cost of meditating is highly asymmetric and even if its contribution to mindful awareness was minor, which seems unlikely at the above level of significance, I plan to continue meditating.

## Jonathan Rhea DO

### Creating Accountability to Increase Learning Outside the Clinic

**Background:** As a new resident, I frequently felt uncomfortable with my medical knowledge and often encountered topics that I am unfamiliar with or needed to review. I have been told that an effective way to learn and improve retention is to review questions that came up during the day. It is presumed to be more memorable since there was a patient encounter related to the learning. I hoped to do this nightly and wanted to come up with a more formal process to hold myself accountable as the time demands of residency would make it easy to let this fall by the wayside.

**AIM Statement:** I will write down one topic I encounter per day to review when I get home. I will look up the topic using a source like Up To Date or Essential Evidence Plus and spend ten minutes reviewing the topic.

**Key measure and method for gathering information:** I kept a weekly tally in a small notebook, including topic reviewed and source, with a goal of accomplishing this four out of five days a week when not on vacation and achieving this goal seven out of every eight weeks.

**Analysis and interpretation:** Prior to implementation of this intervention I mentally reviewed my first two months of residency and realized I was only reading one to two nights per week. Once the intervention was implemented, I was able to achieve my goal 100% of weeks. Of the 35 weeks measured, I exceeded my four out of five nights reading goal 77.1% of weeks (27 out of 35).

**Lessons Learned:** As hoped, holding myself accountable by logging how often I was reading, I was significantly more likely to review topics. I did discover that it was often difficult to do my reading once I got home as there were numerous distractions and I was often tired after a long day at work. Ultimately I often shifted my topic review to the next morning and still counted it towards my goal. This reinforced something I have previously observed, I struggle to be productive after a long day of work so doing things (exercise, reading ...) before work is often a more successful strategy for me. One flaw emerged as I reviewed data and reflected on my AIM statement; I measured how frequently I read, but my ultimate goal was to boost my learning and retention and I had not set up an objective way to measure if my strategy was effective in accomplishing this goal. Objectively measuring change in knowledge from reading or if reading about topics encountered with patients improved retention would be challenging and beyond the scope of this project, but it would be interesting to challenge my underlying assumption that this was an effective learning strategy. One unrelated piece of data that I obtained was that I am very reliant on only one or two sources for quick review. Of the 168 days that I reviewed, I used Up To Date 69.6% (117 of 168 entries) and Essential Evidence Plus 22% (37 of 168 entries). This has encouraged me to be more diverse in the sources I use going forward.

Keywords: learning; knowledge retention; residency

# Rachael Schmidt, MD

## Regular Exercise and Sleep Quality in a First Year Resident

### Problem

It is already well understood that both exercise and high-quality sleep are critical to professional, emotional, and physical well-being. Given time restraints, it can be a challenge for medical residents to get adequate amounts of both sleep and exercise. Therefore, there is a personal need for objective data to determine the amount of time that should be dedicated to exercise to optimize quality of sleep.

### Aim

Throughout my intern year, I will increase the number of days a week to three times a week where I achieve at least 30 minutes of dedicated exercise to improve my percentage of restful sleep and sleeping heart rate dip.

### Key Measures for Improvement

Number of days per week dedicated to at least 30 minutes of exercise.

Weekly average percent of restful sleep and sleeping heart rate dip as measured by the sleep tracking app “SleepWatch”.

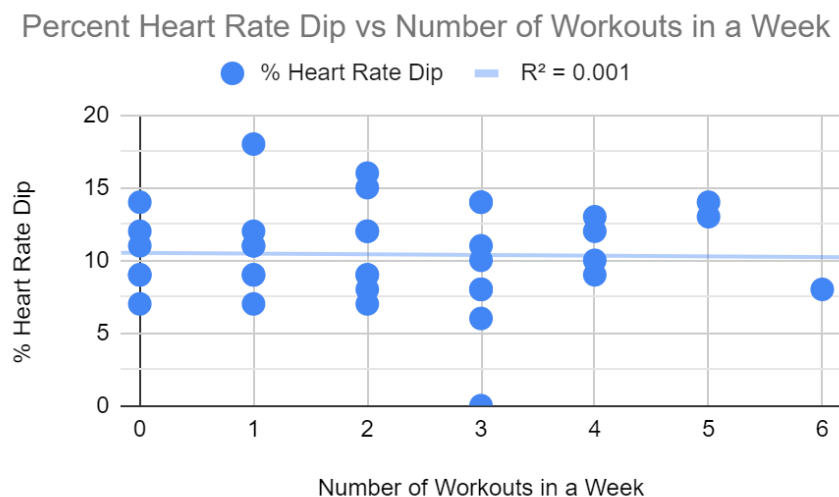
### Process of Gathering Information

A weekly log was regularly updated to record the number of days where at least 30 minutes of dedicated exercise was achieved. Neither exercise duration nor intensity were recorded. Duplicate exercises were not recorded, meaning that two or more workouts in the same day only counted towards one day of exercise. Through the Apple Watch sleep tracking app “SleepWatch” I was able to collect the weekly average percent of restful sleep and sleeping heart rate dip.

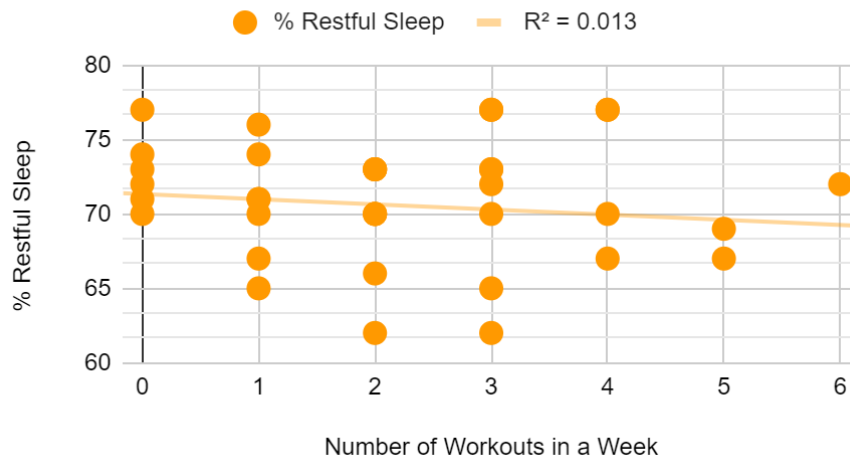
Unfortunately, due to an injury, I was non-weight bearing for several weeks. In addition, due to surgery, pain, and other sequelae of the injury, my sleep pattern was greatly affected. For these reason, those weeks were excluded from the study.

### Analysis and Interpretation

Data was collected as above and assimilated into a spreadsheet for analysis (as seen below). Over a total of 37 weeks, there were an average of 2.22 workouts in a week with an average percent restful sleep of 70.56% and percent heart rate dip of 10.4%.



## Percent Restful Sleep vs Number of Weekly Workouts



### Strategies for Change

By enlisting the help and motivation of friends and family I was able to establish a semi-regular exercise routine. Multiple forms of exercise were utilized including rock climbing, running, walking, and hiking.

### Effects of Change

The results of this study showed no statistically significant change in either my percent restful sleep or heart rate dip with increase in exercise frequency.

### Lessons Learned

Although exercise did not have an effect on the primary measures of this study, I still gained valuable insights into my own behavior and personal health. First, by conducting this study, I realized that I am far more likely to exercise when I am held accountable by either family, friends, or an exercise log. This was crucial for me, as it can be difficult to feel motivated to exercise after a long day of work. I found that I would workout significantly less if my climbing partners were busy or when gym availability was reduced because of COVID-19. Secondly, although not measured, I can say with confidence that my overall health and mood is improved when physical activity is a part of my life. Although exercise takes up valuable time in the day, it improves the quality of the free time I do have.

# Melanie Scott DO

## Meditation for Sleep

### BACKGROUND:

When choosing a project I wanted to pick something that was achievable and would potentially have a positive impact on my wellness. I decided to see if nightly meditation prior to sleep would improve my sleep as well as improve how well rested I felt. This felt manageable since I sleep every night and it wasn't necessarily something I had to take much extra time to do.

### AIM STATEMENT:

To meditate for 10 minutes at least 5/7 days per week before bedtime to improve sleep measured by both self-reported scale (1-10) and number of hours slept.

### MEASURES:

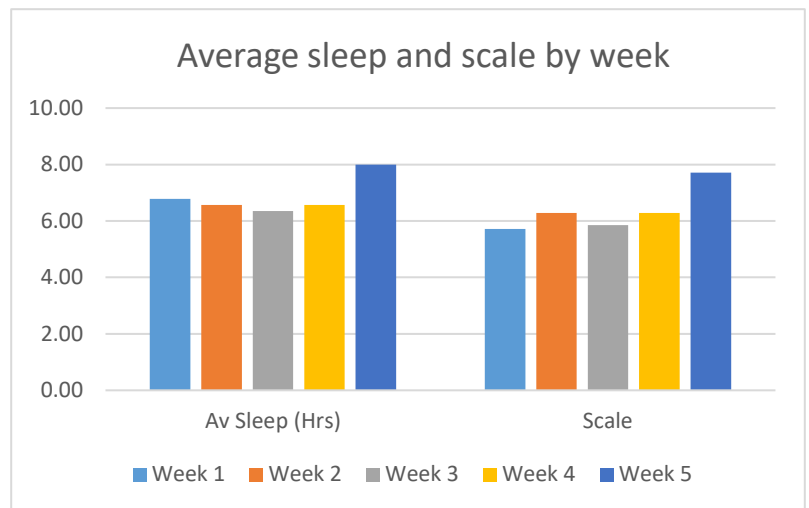
Hours of sleep per night was recorded. I also used a self-reported scale from 1-10 on how well rested I felt with 10 being the highest score. I took 1 week of data prior to starting the intervention of meditation and then 4 weeks of data for the intervention.

#### **Week 1: no intervention**

9/21/2020: 6 hours, scale 5  
9/22/2020: 7 hours, scale 6  
9/23/2020: 6.5 hours, scale 6  
9/24/2020: 7 hours, scale 6  
9/25/2020: 7 hours, scale 6  
9/26/2020: 6 hours, scale 5  
9/27/2020: 8 hours, scale 6

#### **Week 2: meditation**

9/28/2020: 10 minutes, 7 hours, scale 7  
9/29/2020: 10 minutes, 6 hours, scale 7  
9/30/2020: 10 minutes, 7 hours, scale 6  
10/1/2020: 15 minutes, 6.5 hours, scale 5  
10/2/2020: 10 minutes, 6 hours, scale 6  
10/3/2020: 15 minutes, 7 hours, scale 7  
10/4/2020: 10 minutes, 6.5 hours, scale 6





**Week 3:**

10/5/2020: 10 minutes, 6.5 hours, scale 6

10/6/2020: 15 minutes, 7 hours, scale 7

10/7/2020: 10 minutes, 7 hours, scale 6

10/8/2020: 15 minutes 6 hours, scale 5

10/9/2020: 10 minutes, 7 hours, scale 6

10/10/2020: 15 minutes, 6 hours, scale 7

10/11/2020: 20 minutes, 5 hours, scale 4

**Week 4:**

10/12/2020: 20 minutes, 7.5 hours, scale 7

10/13/2020: 15 minutes, 6 hours, scale 6

10/14/2020: 20 minutes, 6.5 hours, scale 7

10/15/2020: 20 minutes, 7 hours, scale 7

10/16/2020: 20 minutes, 7 hours, scale 6

10/17/2020: 20 minutes, 6 hours, scale 6

10/18/2020: 15 minutes, 6 hours, scale 5

**Week 5:**

10/19/2020: 15 minutes, 8 hours, 7

10/20/2020: 10 minutes, 8 hours, 8

10/21/2020: 20 minutes, 8 hours, 8

10/22/2020: 15 minutes, 8 hours, 8

10/23/2020: 15 minutes, 8 hours, 8

10/24/2020: 20 minutes, 8 hours, 7

10/25/2020: 20 minutes, 8 hours, 8

**DATA:****Pre-Intervention:**

- Average hours of sleep per night: 6.79
- Average self-reported score: 5.71

**Post-Intervention:**

- Average hours of sleep per night: 6.86
- Average self-reported score: 6.54

#### OUTCOME:

Compared to before meditating every night before bed, I slept on average 0.99% (p-value 0.398) hours more and self-reported an increase of 14.5% (p-value 0.025) of feeling well rested.

#### LESSONS LEARNED:

Overall I felt like my sleep improved while meditating prior to bed even if the number of hours didn't reflect that. I think this was limited by the rotation that I was on, which was inpatient medicine. I was limited in the number of hours I was able to sleep as well as having a harder time sleeping while on this rotation. I did have an increase in how well rested I felt, which was important. I also did not standardize how long I meditated for. I gradually increased how long I was meditating and I did not analyze this specifically because the last week of this I was also on vacation and I don't think that the data will be as accurate of an assessment. I don't think that the data I gathered was the most accurate for me over the course of the year, but more so while on a challenging and time intensive rotation. I will say that I overall felt better after this trial of meditation prior to bed and have continued to do this throughout the year on most nights. I don't necessarily think it makes me sleep dramatically more, but it seems to help with how quickly I fall asleep. Overall I think taking an extra 15-20 minutes for meditation prior to sleeping does improve my wellness.

KEYWORDS: Meditation, sleep

# Taylor Simmons MD

## **PROJECT TITLE:**

Cold Shower Therapy: Improving Stress Resilience

## **PROBLEMS:**

Resident physicians handle an extraordinary amount of responsibilities, often juggling multiple tasks at one time. The job demands physical, mental, and emotional sacrifices, and we know research shows chronic stress can be detrimental on overall wellness. There is a need for a technique to improve stress resilience and build internal tools to handle the requirements of residency without taking precious time away from a resident's daily routine.

## **BACKGROUND:**

Cold water therapy has long been used to relieve pain, decrease inflammation, and stimulate the nervous system. Studies have examined the benefit cold water can have on increasing metabolism, improving circulation, and boosting the immune system by increasing white blood cell counts. It is theorized that exposing the body to a stressor and training the nervous system to respond calmly to that stressor creates a positive adaptation response for other stressful encounters. The shock of cold water would normally stimulate the sympathetic nervous system, but when paired with controlled breathing or humming, it activates a parasympathetic nervous system response. Controlling the reaction in the moment may lead to improved levels of energy, relief of depression/anxiety symptoms, and increased adaptability in life situations.

## **AIM:**

Improve my adaptation response to stress and increase my stress resilience by taking a 3-5 minute cold (full blast, cold as it can go) shower every day for two months, paired with controlled breathing exercises, while recording my perceived stress level weekly.

## **KEY MEASURES FOR IMPROVEMENT:**

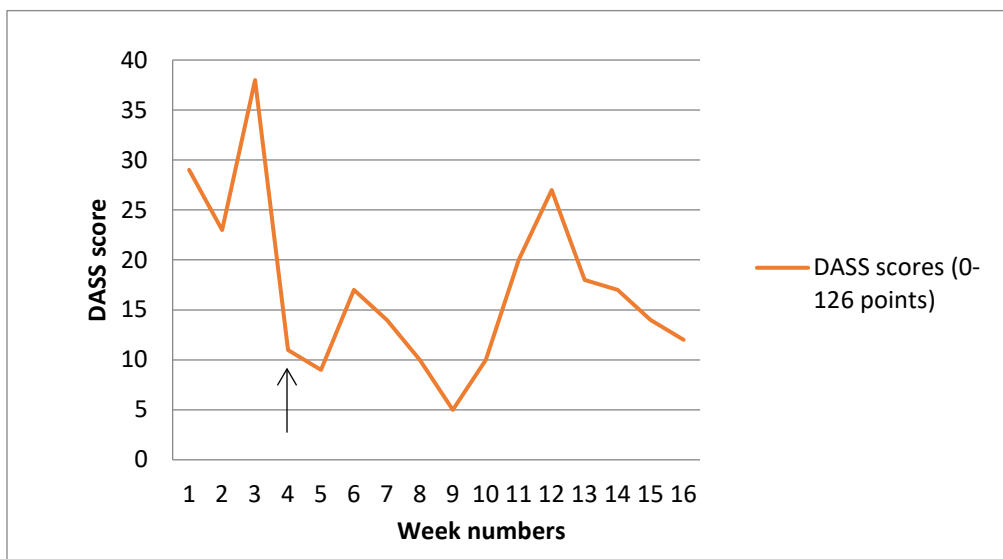
Improvement was measured using a validated self-screening questionnaire called the DASS (Depression, Anxiety, and Stress Scales), which is designed to measure three negative emotional states.

## **PROCESS OF DATA GATHERING:**

The DASS was filled out weekly and the score was recorded on a google drive document, along with my current rotation, daily adherence to cold showers, and comments for the week. Weekly scores were reported for a total of 16 weeks; baseline scores were obtained for four weeks prior to starting the cold showers, followed by 12 weeks of scores while taking cold showers.

## **ANALYSIS AND INTERPRETATION:**

Figure 1 graphs the results of the DASS scoring over the 16 weeks, keeping in mind the first four weeks were without cold showers and the next 12 weeks were with cold showers. The point of intervention is marked by the arrow. Table 1 gives a comparison of the scores prior to and after the intervention, while also giving the rotation in which I was participating. I was 97.6% adherent to taking daily cold showers.



**Figure 1**

DASS SCORES	Prior to intervention	Daily adherence	After intervention	Rotation
Week 1 - 10/31/20	29	X	X	OB
Week 2 - 11/7/20	23	X	X	OB
Week 3 - 11/14/20	38	X	X	OB
Week 4 - 11/25/20	11	X	X	Vacation
Week 5 - 12/5/20	X	7/7	9	GYN
Week 6 - 12/12/20	X	7/7	17	GYN
Week 7 - 12/19/20	X	7/7	14	Surgery
Week 8 - 12/26/20	X	7/7	10	Surgery
Week 9 - 1/2/21	X	7/7	5	Surgery
Week 10 - 1/9/21	X	7/7	10	Surgery
Week 11 - 1/16/21	X	7/7	20	Medicine
Week 12 - 1/23/21	X	6/7	27	Medicine
Week 13 - 1/30/21	X	7/7	18	Medicine
Week 14 - 2/6/21	X	7/7	17	Medicine
Week 15 - 2/13/21	X	6/7	14	OB
Week 16 - 2/20/21	X	7/7	12	OB

**Table 1**

**STRATEGIES FOR CHANGE:**

In order to be successful and have such a high adherence percentage, I incorporated the cold shower into my daily morning routine. At the beginning of the adventure, I would start in a lukewarm shower and then finish with my 3-5 minutes of freezing cold water. Over time, it became easier to step into a cold shower from the beginning.

**EFFECTS OF CHANGE:**

The scores clearly decrease over the beginning of the intervention. However, they seem to correlate more with the demand of the rotation I was on rather than be an exact linear decline from the beginning to end of the cold water experiment. The scores were highest on medicine and OB, which is to be expected given the high expectations on those particular rotations. Interestingly, my scores on OB without cold showers were much higher than the scores on OB at the end of my cold water shower intervention. This could be a reflection of increasing experience through my intern year and becoming more comfortable on service, or it could be a reflection of the cold water showers increasing my stress resilience. I believe it's a little bit of both.

**LESSONS LEARNED:**

Surprisingly, I grew to love my cold showers. It is a shocking sensation but being able to control your breath in that moment and avoid shivering gives you a sense of control over your mind and body. Regardless of the scores, I can't say enough how good it feels when you get out. I feel energized, awake, stimulated, refreshed, and ready to start my day. I also found that they are helpful for aborting migraines and recovering from hard workouts. I found myself commenting on how well I would handle a stressful day on OB with multiple triages or a day of medicine with many moving parts. It was a lesson of mind over matter. I cannot say it definitively made me handle stress better, but I can say that going through something temporarily uncomfortable proved to feel good overall in the long run. Oh, and yes, I'm still doing them beyond the two month mark, so that says something.

# Barbara Steward DO

## Exercise and Mood

Mood can be greatly impacted by different means including but not limited to social interaction, appropriate sleep, optimal nutrition, life stressors and exercise. My focus of the QI project is mood and exercise. Studies surrounding the topic of mood and exercise have been done. An excerpt from a 1984 study published in Sports Med with discussion of *Endorphins and Exercise* states, “Elevated serum beta-endorphin concentrations induced by exercise have been linked to several psychological and physiological changes, including mood state changes and 'exercise-induced euphoria’“. I decided to analyze this by using a subjective scale of how my mood was after a bout of exercise.

### Problems:

Residency can be difficult. Life can be difficult. During or after difficult times I need ways to improve my mood.

### Aim:

To improve my mood, I will exercise (including yoga, weightlifting, and/or cardio) 3 times a week for at least 20 minutes per session during the months of November 2020 and February 2021. I will measure my mood after each session on a scale of 1-10.

### Key Measurements for improvement:

Mood affected by exercise

### Process of gathering information:

I used a subjective scale of 1-10 of how much my mood changed immediately after a bout of exercise. I ranked my mood immediately after finishing the exercise.

### Analysis and interpretation:

I based a good mood on a scale of 7 or higher. A mood of 9 or 10 would be absolute elation as if I were on a vacation in Fiji, for which I was not, so no recordings of 9 or 10. I found that I chose to do yoga more often than any other activity, and this was likely due to the weather outside and the fact that yoga calms me. If you observe the chart below, you can see an increase in mood with almost every yoga session and no change when I completed a run and home exercises. Likely this data is skewed because as stated above there were more sessions of yoga completed and only one running session and one home exercise session. Many factors played into my mood, I was on a tough rotation with not much availability to exercise, the season was changing into winter, and my subjective analysis varies from day to day. This does not take into account confounders such as those stated above or others including personal life stressors, timelines, nutrition and sleep.

10														
9														
8			Red	Blue			Blue					Blue	Red	Blue
7			Red	Blue		Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue
6			Red	Blue		Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue
5		Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue
4		Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue
3		Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue
2	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue
1	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue	Red	Blue
	11/2	yoga	11/4	run	11/6	yoga	11/11	yoga	11/12	home	11/19	yoga	11/21	yoga

KEY:

RED: Mood before exercise

Blue: Mood after exercise

**Strategies for change:**

If I was to complete this again, I would likely pick one form of exercise to complete, although, I do enjoy switching my routine up. I would like to try during a month where the weather is changing from dark to sunny and possibly even analyze exercise and mood while not in residency.

**Lessons Learned:**

Exercise is beneficial to my mood. Whether I complete a full yoga session, go for a run and do in-home workouts, I feel the benefits and long-term am a happier person (even if I didn't document this). I found that it was difficult to analyze 2 separate months and because I was busy during the month I did record my mood, I did not complete 3 days of exercise each week. Since this data was collected, I have participated in a 30 day yoga challenge (which I did complete all 30 days!) and am currently in a 3 week fitness challenge for which I have missed only one day of exercise. I enjoy running, so, I know if I would have completed more runs an improvement of mood would have been shown. Exercise is a huge aspect of my life. Residency makes it hard to complete as much exercise as I would like, especially when sleep is fighting that position. Overall, exercise is not only beneficial to my mood but to my well-being and psyche. I plan to continue exercising as much as possible.

**Resources:**

Sports Med Mar-Apr 1984;1(2):154-71.

doi: 10.2165/00007256-198401020-00004.**Endorphins and exercise**

[V J Harber](#), [J R Sutton](#) PMID: 6091217

**FACULTY SCHOLARLY ACTIVITY 2020-2021**





## Darin Bell MD

**Project Title:** Book chapter on Interprofessional Education in Rural Healthcare Training: Rural Nursing Textbook

**Details of the project:** I was asked by the MSU Nursing faculty on the college IPE steering committee if I would be interested in co-writing a textbook chapter on IPE in rural training of healthcare professionals. We spent three months researching IPE in rural clinical training and writing up a chapter on opportunities, challenges and comparing medical and nursing training to illustrate how overlap can be achieved.

**Outcome:** With publisher, pending final review. Expect publication by sometime this summer.

**Reflections:**

- 1) It is a lot more work to write up a book chapter than expected. Coordinating efforts of co-authors and all the steps in the process are more time consuming than you might expect. In the future breaking out such an effort into more discrete steps with hard deadlines would make the process smoother. Overall, the process was not hard, but managing the time and organization requires some effort.
  - 2) There are a lot of opportunities that we could capitalize on more in rural training to better get residents exposure to entire healthcare teams, so physicians are better able to make use of the collective team skills and save themselves work and effort when in practice in rural areas. There are a number of opportunities we could move on regarding rural curriculum.
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**Project Title:** Rural Grant: Expanding Rural Access and Training (ERAT)

**Details of the project:** HRSA Grant to improve training to better prepare residents to practice in rural areas after graduation. Applied Winter/Spring 2020, Grant awarded to begin July 2020. % year grant implementing several training projects that FMRWM had been thinking about over the last several years: Rural intensive track; Rural Continuity Clinic; Rural partnerships with IHS/Tribal Health organizations; Data collection and analysis to determine what (if anything) we do training-wise that improves preparation and likelihood of successful rural practice after graduation.

**Outcome:** Work in progress.

**Reflections:** The majority of the first year was focused on planning and working out processes for some of the bigger projects. The next 4 years will focus on implementation and data gathering. There are lots of opportunities for resident involvement if interested – both with engagement in projects and regarding development and implementation as well as review, potentially leading toward presentations and publications.

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**Project Title:** Partnership for obstetrical Care with Tribal Health

**Details of the project:** One project of a Montana Healthcare Foundation grant to improve resident training for working with AI/NA populations after graduation. Plan to work out a process for providing OB care in partnership with Tribal Health of the Salish and Kootenai Tribes. Plan to utilize a process of on-site visits, telehealth, and partnership with local providers with delivery of patients by residents in Missoula and return of moms and babies to the care of Tribal Health (ideally with ongoing partnership with residents)

**Outcome:** Work in progress – delayed by COVID

**Reflections:** Grant technically ending this summer – in the process of applying for an extension. COVID delayed the process significantly. Relationship building has been a large part of the process for setting up this project. Now in process of working out details of how to implement. Lots of opportunity for resident involvement by interested residents.

## Ellen Bluett, PhD

**Project Title:** Comparative Effectiveness PTSD Trial of Sequenced Pharmacotherapy and Psychotherapy in Primary Care- University of Washington STEPS Trial

### Details of the project:

The University of Washington received a large, multi-million dollar grant from the Patient Centered Outcomes Research Institute to determine the most effective way to treat PTSD in primary care settings. The aim of the study is to compare three different treatment sequences for treating patients with PTSD in community health centers and VA medical centers. Specifically, the STEPS trial will determine whether primary care clinics should offer medications or talk therapy (written-exposure therapy) first to treat posttraumatic stress. In addition, for patients who do not respond to the first treatment, the STEPS trial aims to determine what treatment should be offered next (another class of medication or psychotherapy).

The study will be take place in 12 community health centers and VA medical centers. Partnership Health Center was selected as one of the 6 community health center in the country to participate in this study, I am serving as the site Principle Investigator. We hope to obtain consent from 100 primary care patients with PTSD to participate in the study over the next two years.

**Outcome:** Recruitment for the study has just begun (4/2021). We are actively screening for PTSD, which is much needed in primary care. As part of the study, all of PHC's behavioral health staff completed a Written Exposure Therapy training and ongoing consultation from the National Center for PTSD. This was an incredible training opportunity for the behavioral health staff. In addition, as part of the study PHC primary care providers have curbside consultation available to them at any time from a team of psychiatrists at the University of Washington. Most importantly, our patients will now be offered one of the gold standard treatments for PTSD, right here in primary care.

**Reflections:** Running a pragmatic treatment trial in primary care is challenging. Clinics are busy and adding additional screening/consenting can be a barrier to enrolling in the study. I am confident our site will be a leader for patients enrolled. I am most excited to see that we are now actively thinking about PTSD as an underlying cause of many chief complaints seen in primary care.

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**Project Title:** University of Washington Alacrity Community Practice Board Member 2019-current

**Details of the project:** The University of Washington ALACRITY center is a NIMH-funded multidisciplinary center that aims to address critical problems in the implementation of evidence-based psychosocial problems. They bring together community members for input on their projects.

<https://www.uwalacrity.org/>

**Outcome:** I have attended two annual meetings as a member of the practice board. I have been able to learn about innovative and exciting research that is occurring in the WWAMI region.

**Reflections:** Researchers and funders are interested in including community stakeholders in the development of their research aims/studies. Conversation, reflection and feedback is a great place to start but their remains a barriers between research ideas and real world practice.

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### *Presentations*

“Implementing Integrated Behavioral Health in Rural Communities”- Co-presenter at the Rural Retreat 2020

“Mental Health During COVID”- Panel member at the University of Montana Women in Leadership Summit, February 2021

### *Peer Reviews*

*Comprehensive Psychiatry October 2020*

## **Ellen Bluett, PhD, Elizabeth Paddock, MD; Sam Greenberg, MD**

**Project Title:** Two Birds One Stone: The development of a longitudinal QI curriculum that fosters resident engagement and well-being

STFM-Scholarly Topic Roundtable Discussion, selected as a Live presentation for 2021 conference

**Details of the project:** Presented and shared details of our QI curriculum at STFM.

Quality improvement (QI) training has been recognized by the Accreditation Council for Graduate Medical Education (ACGME) as an important aspect of residency training. As a result, residency programs have been tasked with creating meaningful and engaging QI curriculum. In addition, the ACGME encourages residencies to attend to and promote resident wellness throughout their curriculum. Research suggests that engagement in quality improvement can be a tool of empowerment for physicians, allowing them to be agents of change as well as a buffer for burnout (Mari, Meyen, & Kim, 2019).

Over the past three years the Family Medicine Residency of Western Montana has developed a longitudinal, hands-on model to train residents in QI promotes physician wellness and engagement. Dr. Elizabeth Paddock was the brains behind the operation back in 2018. During the intern year, R1s are required to conduct a QI project that aims to improve personal wellness. As the residents advance in their training, they are encouraged to select a project that will meaningfully impact the patient and physician experience in primary care. Importantly, we have built a year-long training that introduces the basic principles of QI while maintaining protected time to conduct the project. We attribute the success of our program to the emphasis on small, actionable, time-limited projects that can be completed during protected time over the course of the year.

**Outcome:** We were selected as one of the few presentations that was presented live at this year's STFM conference. There was great attendance, robust discussion and a notable interest in our curriculum. Our curriculum felt novel, yet doable to many of the attendees. We have shared our slides, worksheets, and general framework of our curriculum with colleagues across the country. Sam, Elizabeth and myself are working to publish our work in a peer-reviewed journal this academic year.

**Reflections:** Curriculum evaluation is an achievable and realistic way to engage in scholarly activity at a community based program. We also should be measuring if QI actually improves well-being.

## Tim Caramore, MD, MS

**Project Title:** Friday Medical Conference Presentation

**Details of the project:** “Meanwhile in American Medicine: evidence updates that aren’t about COVID” – this was an annual FMC presentation. This is becoming a winter tradition in some venue or other, reviewing top EBM articles for family medicine from the year before.

**Outcome:** Gave the talk, happy with how it turned out. Came at an extremely busy time and I just about lost my mind preparing for it, but got through it.

**Reflections:** this is a great opportunity to share high-impact developments from the medical literature with colleagues and learners.

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**Project Title:** Presentation to primary care physicians / APPs with Sauk Prairie Healthcare in Wisconsin

**Details of the project:** 2 parts: 1. A less formal virtual presentation to a group of PCPs on my volunteer work at SUNY Downstate (Brooklyn, NY) and some ethical considerations in the pandemic. Extended Q&A with that. 2. A formal presentation to a larger group in a virtual grand rounds format – I gave the same presentation on EBM as above.

**Outcome:** well-received, good feedback.

**Reflections:** fun to connect with family physicians / people in primary care outside of MT – sometimes participating in events like this can serve as a reminder that we do interesting things and have knowledge and experience that is worth sharing

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**Project Title:** St. Patrick Hospital Journal Club

**Details of the project:** I oversee the every-other-week journal club experience with St. Pat’s.

**Outcome:** We went virtual this year because of the pandemic and the transition got off with relatively few hiccups. Having been a part of this thing for more than 8 years, I’m proud to see how much the quality of the papers and the analysis has grown over time. I always want more people to participate, but that’s just my hang-up. We’re reaching 10-20 people per week with important practice updates.

**Reflections:** I’d love feedback from faculty and residents on how we can continue to make this more valuable.

## **Rob Cruikshank MD**

### **Project Title: “Working with and Supervising Advanced Practice Providers” presentation**

**Details of the project:** didactics presentation to FMRWM residents

**Outcome:** Zoom presentation to about 15 residents which seemed to be well received.

**Reflections:** This was my first presentation that used Poll Everywhere to increase resident participation and engagement. Residents seemed to appreciate hearing stories from my practice experience with APP’s as well.

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### **Project Title: “Nephrology Day Didactics” coordinator and presenter**

**Details of the project:** Virtual didactics presentations to FMRWM residents

**Outcome:** I and three other presenters presented on various aspects of kidney disease and its management for 30-45 minutes each to about 15-20 resident learners.

**Reflections:** Early and frequent communication with co-presenters will help to reduce repetition of topics/learning points and presenter preparedness.

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### **Project Title: Pediatrics preceptor workforce development**

**Details of the project:** I am responsible for organizing the pediatric rotation experiences for FMRWM residents. This involves communicating with and developing the cadre of pediatricians and who are involved with teaching our residents.

**Outcome:** Grant Creek pediatricians started working with our residents on Fridays a few months ago. Several pediatric subspecialists are joining the teaching rotation as well.

**Reflections:** It is so helpful to have some excess teaching capacity to avoid overloading preceptors and to have some scheduling flexibility with resident rotations. Relationship connection with community preceptors is so helpful for maintaining their engagement with our teaching mission. It is important to think through how to best overcome the barriers of time and location to strengthen these connections.

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### **Project Title: IMAT and Refugee Health/Green Card committee**

**Details of the project:** These committees meet regularly to work on processes that improve the processes of care for our patients with substance use disorder and our refugee patients through collaborative interprofessional patient care discussions and quality improvement processes.

**Outcome:** The refugee health/green card committee has not been meeting since the COVID pandemic. IMAT team meets monthly for patient care planning.

**Reflections:** My participation in these clinical care committees has highlighted the value of interprofessional communication/ collaboration for improving care processes.

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## **Samantha Greenberg MD, MPH**

**Project Title:** Instituting a Prenatal Nurse at Flathead Community Health Center

**Details of the project:** Prenatal intake at FCHC was previously not a streamlined process. This resulted in several issues. First, patients would call for new OB appointments and get scheduled by the front desk, however, the front desk did not have the proper background/training for appropriate OB scheduling. Patients would often get scheduled much earlier than needed, or later based on provider availability. Balancing resident OB patient panels was also made difficult with this process. Second, if patients had medical questions prior to their first OB appointment there was no formalized triage/workflow for pending OB patients. Additionally, because there was no pre-intake assessing prenatal risk factors, residents were scheduled 60 minutes to complete a new OB appointment in which they reviewed all history and risk factors, ordered labs, performed ultrasound and did first trimester counseling. Not only was this sometimes not enough time, but 60 minute appointment slots are difficult to schedule, leading to limited access. Finally, because there was not a point person with more knowledge of obstetrics and knowledge of our patient panel, if a patient called clinic with a pregnancy related concern, there was not a streamlined and quick way to get patients' questions addressed and patients triaged to appointments when needed. This process was left to individual support staff, front desk staff and residents that were not always readily available in clinic. Speaking with PHC, their prenatal nurse alleviated many of these issues. A proposal for instituting a prenatal nurse was written, including hypothesized benefits, patient care and work flow improvements and presented to FCHC leadership. A nurse work flow for scheduling, prenatal intakes, prenatal education and work flow throughout a patient's prenatal and postpartum course was written. The proposal and workflow was approved by FCHC administration and a current support staff working to obtain her RN was identified as a candidate for this role.

**Outcome:** The prenatal nursing protocol was implemented in April with perceived success by administration, OB attendings and resident physicians. The prenatal nurse has expressed satisfaction with the process as well. We are continuing to work on optimizing the work flow. We plan to survey patients about their care experience and assess if the addition of our prenatal nurse improved the quality of their care experience, which we hypothesize it will. Further to come on quantitative and qualitative data of this project.

**Reflections:** Having a dedicated prenatal nurse is hypothesized to improve work flows, decrease burdens on support staff, improve patient experience, improve provider experience and lead to fewer prenatal chart errors. The enthusiasm and quick start of this project was appreciated but surprising, and speaks to the importance of clearly communicated projects, proposed work flow and outcomes. We hope to continue to further streamline our OB care by adding a non-stress test in the future and training our prenatal nurse to provide breastfeeding education to enhance her role and skill set.

## AMY MATHENY MD

### Projects/Scholarly Work:

- 1) 2020 Society of Teachers of Family Medicine (STFM) Annual Meeting Poster and Scholarly Round Table Contributor: “Building Resident Training for Hepatitis C Treatment for Rural and Underserved Populations” (co-authors: C Jose, K Morgosh, S Horne)
- 2) 2020 STFM Annual Meeting Seminar: “Training Residents for Rural Practice – Strategies for Engaging Rural Preceptors and Communities”, (co-presenter with D Bell and R Stenger)
- 3) Montana Academy of Family Physicians, Immediate Past President (2020/2021) and founding editor for the MAFP magazine, *Montana Family Physician* (2019 to present)
- 4) Western Montana AHEC Friday Morning Medical Conference, “Hepatitis C Management in Primary Care”, 2/2021
- 5) Co-Investigator for the HRSA PCTE-RTPC Grant (Primary Care Training Enhancement – Resident Training in Primary Care), a five-year, 2.5 million dollar federal grant funding a variety of initiatives to enhance and expand training that supports rural as well as American Indian and Alaska Native populations, including research into curricular impacts on future practice patterns.
- 6) Manuscript Reviewer for AAFP *FP Essentials*, “Liver Disease”, 5/2021
- 7) Quality Improvement project around use of the “Person-Centered Primary Care Measure” (ongoing)

### Details of the project:

- 1) Poster and brief recorded presentation outlining a model for a Hepatitis C curriculum in a community-based residency program, with a goal of increasing access to Hepatitis C care in rural and underserved communities in Montana. Presented August 2020.
- 2) STFM seminar outlining the structure of the FMRWM rural network, rural preceptor development, and ongoing network coordination to meet a goal of increasing the number of graduates matriculating to rural communities in Montana. Presented August 2020.
- 3) As Immediate Past President, I have continued coordinating content for the quarterly MAFP magazine, *Montana Family Physician*, highlighting Montana Family Medicine updates and the MAFP’s work and value to members. I have also worked on various advocacy issues from the state to national level, including COVID-19 concerns for family physicians in Montana.
- 4) Presented educational topic at FMC on Hepatitis C and incorporating treatment into routine primary care practice.
- 5) Ongoing work with FMRWM grant team and collaborators at University of Montana to create and subsequently study and publish on curricular interventions supporting rural training and practice, including care of AI/AN populations.
- 6) Served as a content reviewer for this national CME publication from the AAFP.

- 7) Collaborating with Drs. Paddock, Stenger, and Krebsbach on a QI project to explore use of the “Person Centered Primary Care Measure”(PCPCM) as published by the Larry A Green Center. This measure seeks to evaluate some of the key aspects of primary care that contribute to patient outcomes, including continuity, care coordination, comprehensiveness, accessibility, advocacy, and relationship.

**Outcomes and Reflections:**

- 1) It has been gratifying to develop continued scholarly work around a clinical area of increasing interest for me, especially as we start to see Hepatitis C treatment spread more across our area into the primary care setting. I would not have expected to have had this level of developing expertise when I started Hepatitis C treatment six years ago.
- 2) I have been involved with the MAFP Board since 2013 and hope to continue involvement with the Board and MAFP magazine. I hope to find additional ways to be involved in family medicine advocacy at the national level, perhaps through AAFP commission work or other national venues.
- 3) The FMRWM PCTE-RTPC grant has been an exciting new opportunity to explore the work of a HRSA grant and to partner with University of Montana faculty from other departments to work on research questions and future scholarly work.
- 4) Although still in its infancy at FMRWM/PHC, the PCPCM project will feed into data currently being collected in over 30 countries to evaluate these measures thought to truly reflect the value of primary care for patients, rather than specific clinical values such as A1c levels.



## Elizabeth Paddock MD

### Presentations

#### Friday Morning Medical Conference Presentation

- *Osteoporosis. A case based approach to Diagnosis and Treatment.* October 2020.

**Details of the project/ Reflections:** This was really a helpful presentation to me. I used the ACP 2018 guideline, EE+ and a recent AFP article to help frame the presentation. Osteoporosis treatment has always felt a bit confusing to me and this review of the evidence was really helpful.

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### Publications:

**Paddock E.** Osteoporosis. Review of the Evidence.

- Montana Family Physician. Winter 2021.

**Details of the project/Reflections:** The MAFP quarterly magazine is a great resource for updates and education with in our own Montana Family Medicine Community.

I was glad to summarize my Friday Morning Medical Conference presentation. I am hopeful this was helpful to physicians.

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### FPIN Peer Review for HDAs.

- “Does nicotine replacement therapy in pregnancy improve smoking cessation rates and maternal and neonatal outcomes?” Revised documented submitted.
- “Does an outpatient follow-up appointment within 14 days of discharge from the hospital reduce readmission rates?” Accepted for publication.

**Details of the project:** Roughly 2-3 x per year I will do a peer review of a FPIN “Helpdesk Answer”. Not all go on to publication. I like reviewing these because it makes me think harder about scientific writing and how to translate and present data into a helpful format.

**Reflections:** Editing for FPIN is something I plan to continue doing. I would like to write an HDA or other FPIN EBM review in the near future.

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### RHEDI Grant administrator

**Details:** The past 3 years I have spent a significant amount of time working on, writing up and organizing our RHEDI grant. I feel really proud of where this curriculum is.

The RHEDI grant is up as of December but the work we (Dr. Samantha Greenberg, Dr. Caitlin Blau, Dr. Joey Banks) have put into this project has resulted in a sustainable strong curriculum.

## Jennifer Robohm, PhD

### Project Title: “Climate Change in the Family Medicine Curriculum”

**Details of the project:** Provided a virtual presentation on climate change and health to the Program Directors of the WWAMI Network on 3/11/21. With Rob Stenger, sought and received permission from the WWAMI Network to survey member programs re: climate change in their program curricula. Hope to conduct the study this summer or fall.

**Outcome:** Plan to conduct the study as the “capstone” project for my Bloomberg Johns Hopkins MPH. Hoping to develop coalition of interested faculty/residents to develop toolkit and resources to facilitate integration of climate change into program curricula across the network. May try to do a companion CERA survey as well for family medicine programs across the country.

**Reflections:** Hopefully, this will help us to learn about obstacles to including climate change in the curriculum, and lead to improvements across the network. Would LOVE to get residents involved!

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### Project Title: “Climate Change and Human Health in Montana” Course

**Details of the project:** Received a small (\$25K) planning grant from the Montana Healthcare Foundation with co-PI (Hayley Blackburn, PharmD) to develop curriculum related to climate change and health. We developed and offered a course for 50+ UM/MSU undergraduates and health professions students this spring, and it was well-received.

**Outcome:** We’ll be working on a webinar series this summer for practicing health professionals, with similar (but condensed) content and clearer applications for clinical practice.

**Reflections:** Really fun opportunity to engage with climate change studies minors and health professions students from a variety of fields (nursing, clinical psychology, pre-med, pharmacy, PT, and public health), to sensitize them to ways that climate change will impact human health, and to get them thinking about ways that climate change will likely impact their practices.

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### Project Title: More climate change stuff

**Details of the project:** I’ve been involved in a number of additional climate change-related presentations in the past year:

- Lankford, G., Silverman, N., Hollar, M., & Robohm, J. (2021, April 26). *Solve Climate by 2030*. Virtual panel sponsored by the Climate Change Studies program at the University of Montana in Missoula, MT. Part of an international initiative (<https://www.solveclimateby2030.org/>).
- Robohm, J. & Blackburn, H. (2020, October 23). *Climate Change and Health in Rural Montana*. Invited workshop for FMRWM 8<sup>th</sup> Annual Rural Retreat: “Approaches to Rural Health and Education in Unpredictable Times.” Streamed state-wide via Zoom platform.
- Robohm, J. & Freeman, L. (2020, October 2). *Climate Change and Family Medicine: Important Role for Behavioral Scientists?* Virtual presentation for WWAMI Behavioral Scientists’ Annual Meeting.

**Outcome:** Continued local efforts to highlight climate change and its projected impacts on physical and mental health.

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**Project Title: COVID stuff!**

**Details of the project:** Wrote a short column for the *Missoula Current* at the beginning of the pandemic, and provided two related presentations:

- Robohm, J. (2020, October 28). *COVID-19 and Mental Health in Montana*. Invited virtual presentation as part of Western Montana AHEC's COVID Symposium.
- Robohm, J., Blackburn, H., & McDonough, P. (2020, May 1). *Coronavirus and Climate Change: Lessons Learned*. Invited to provide second CME ("Friday Morning Medical Conference") for St. Patrick Hospital in Missoula, MT. Streamed state-wide via Zoom platform.
- Robohm, J. (2020, April 1). Health beat: Mental health and self-care during the coronavirus virus. *Missoula Current*, <https://missoulacurrent.com/opinion/2020/04/health-beat-health-coronavirus/>.

**Outcome:** Good opportunities to highlight and normalize the mental health impacts of the pandemic.

## Rob Stenger MD

**Project Title:** Missoula City-County Health Board

**Details of the project:** I am the Physician member on our local health board. Responsibilities of this position (along with other board members) include general governance oversight of the health department, approving health code variances, health officer performance review and emergency response.

**Outcome:** This past year was by far the busiest year I have had in this position. I served on the COVID subcommittee of the board, and was actively involved in decision-making around local COVID public health rules. I also provided medical direction for the county's COVID testing site and we hired a new health officer for the first time in 30 years.

**Reflections:** At a time when there has been a lot of backlash against public health authorities in our state and around the country, it was great to feel so supported by our community in implementing public health measures to protect our community.

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**Project Title:** Family Medicine Residency Network Salary and Program Surveys

**Details of the project:** The UW family medicine residency network conducts an annual salary benchmarking survey, and a biennial benchmarking survey of program structure and finances more generally. I was asked to take over as the lead physician advising on the conduct of these surveys.

**Outcome:** I'm new to this role, so not much in the way of "outcomes" yet. I'm still learning the data sets and working with the network's consultant who manages the survey.

**Reflections:** The network surveys have been one of the best data sources nationally to determine the costs of operating family medicine residencies and of resident training in general. I'm looking forward to future opportunities to work on publications and presentation related to this data, especially as our region has probably more rurally focused programs or tracks than almost anywhere else in the country.

I'm collaborating on a few projects with other faculty, including a residency network survey on climate change curriculum with Jen Robohm and clinic curriculum development with Emma Wright.

## **Jeff Walden MD**

**Project Title:** Caring for the Forcibly Displaced. Introduction for the textbook “Immigrant Health.” Elsevier, 2021.

### **Details of the project:**

- Invited introduction for textbook on refugee and immigrant help.

### **Outcome:**

- Published 2021

### **Reflections:**

- It was a fair amount of work completing this before – and during – a move across the country. I’ve been involved in refugee, asylee, and immigrant health for the past 6 years, so it was nice to wrap-up an invited introduction.

## Emma Wright MD

**Project Title:** Improving Immunization Rates in Missoula/Montana

**Details of the project:** Collaborating with a vaccine specialist and epidemiologist at the University of Montana who is working to explore barriers to pediatric immunization acceptance/delivery in Missoula and Montana. Plan for research on COVID vaccine specific hesitancy in 2021.

**Outcome:** Work in progress. Currently helping this epidemiologist to design surveys for Montana providers on this topic.

**Reflections:** Many facets to this important work. PHC has huge potential to make a difference in vaccine rates in Missoula County because of the population we serve. From participating in this research, I hope to glean more insight into ways that we may be able to tackle the challenges of vaccine hesitancy. There is not enough education in residency about how to address vaccines with patients in order to encourage vaccine acceptance.

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**Project Title:** Pediatric Committee

**Details of the project:** Created to improve the delivery of pediatric care at PHC. Task force is comprised of representatives from nursing staff, PSRs, social work, dental, administration.

**Outcome:** Has thus far served as a great forum to collaborate around peds-specific initiatives. Our work is ongoing and we meet monthly to address a variety of topics from scheduling of pediatric patients, to sports physical workflows, and beyond.

**Reflections:** Would appreciate resident representation on this committee if possible.

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**Project Title:** Ambulatory Case Conference

**Details of the project:** Created to improve a venue for discussion about interesting clinical cases in the outpatient setting and encourage peer education for PHC providers, faculty providers, and residents.

**Outcome:** Have had wonderful turn out from PHC providers and some faculty in the past. Occasional residents have attended. Each meeting has provided a great opportunity for learning and discussion. All who have attended have found it extremely valuable.

**Reflections:** Would like to reinforce this as a recommended/required resident activity and would appreciate resident input.

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**Project Title:** Clinic Curriculum Development

**Details of the project:** Working to develop a more cohesive/explicit clinic curriculum to help residents to feel more confident, comfortable, successful, and happy in clinic. Collaborating with OHSU as they already have a clinic curriculum in place. Will be doing some pre/post surveys around this work.

**Outcome:** Ongoing. Working this year on IFM, with a plan to address first year curriculum over the next year.

**Reflections:** Appreciate any resident input. We are already covering a lot of the content that makes up a “clinic curriculum” but I am hopeful that this work will make it feel more useful.

Thanks to all for another great year of Scholarly Activity and QI Work!

