2019 Scholarly Activity and QI Work

Class of 2019
Scholarly Activity and QI projects

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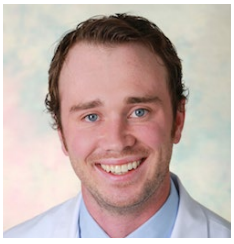

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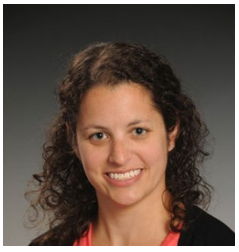

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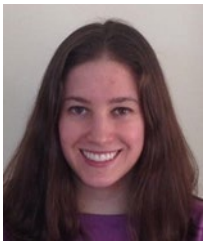

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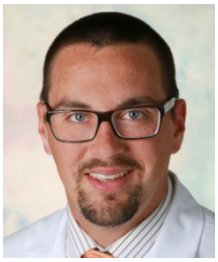

Kelby Wilson MD
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Next step: Syringa Hospital and Clinic - Grangeville, ID

CAITLIN BLAU DO

Scholarly Activity Work

#STFM Abortion Training presentation
Details of the project: Presented with Drs. Paddock & Gold & Ryann Milne-Price MS4 on the FMRWM RHEDI grant and rural abortion training model.
Outcome: Productive conversation with national group of OBs and FMs about what indicates competency in abortion care. Typically this is based on numbers, but we proposed that direct evaluation of skills provides a more meaningful metric of competency. Ongoing project with FMRWM and BMC.
Reflections: Great to take this to a national level. Valuable input from attendees. My first such conference presentation. Felt great to join the national conversation about abortion training.

STFM HIV/Hep C Presentation
Details of the project: Provided a resident perspective on the UW National HIV/Hep C online curriculum.
Outcome: Exposed a group of providers to a new evidence-based learning resource.
Reflections: Was good for a group of attendings to hear from a resident on this topic.

OMT in Chronic Pain Demo
Details of the project: Assisted Dr. McCarthy with a demonstration at the MT Pain Conference.
Outcome: Exposure to OMT for non-DO providers.
Reflections: A good experience for a resident to verbalize rationales for OMT.

Vaccine Handout
Details of the project: Created a handout with a few different evidence-based resources for information about vaccines, as well as biased resources to avoid. Created in patient-friendly language for St. Joe's in Polson. Goal was to be able to give this to vaccine-hesitant parents.
Outcome: Created a resource used regularly in the Polson Urgent Care. This resource has been helpful for my own patients as well.
Reflections: Created a simple and effective tool for providing vaccine-hesitant parents and other patients with more reliable information. A small step in combating the onslaught of misinformation out there about vaccination.

FPIN
Family Practice Inquiries Network (FPIN) "Help Desk Answer" Publications:
Richards C, Hipolito R, Blau C, Mussman M, Matheny A, Bell D. "What is the best treatment for female pattern hair loss." *Evidence-Based Practice*. 2018; 21(9): 65-67.

Reflections: Nice to review evidence and create a succinct reference for other providers.

QI Abstract

One Key Question: Improving Reproductive Health Screening and Counseling

Problem:
Unintended pregnancy causes significant negative impacts to individual patients, their children, and to society as a whole. Health care providers as a group do not consistently screen for patients' reproductive goals, and this leads to missed opportunities for both contraception and preconception counseling. Improving reproductive goals screening in a standardized format, using One Key Question, will lead to increased opportunities for counseling. This has the potential to lead to improved contraception access and to improved prenatal and perinatal outcomes.

Rationale:
The current structure at our clinic (and many others) relies on individual provider questioning to determine a patient's reproductive goals. Depending on provider values or knowledge of and comfort with contraception methods, patients may not be routinely asked whether they need or want contraception. This approach likely does not meet the needs of our patient population. We need further baseline data to assess current screening practices.

Aim:
To collect baseline data about reproductive screening, and to increase resident/faculty/PHC provider awareness of One Key Question by 25% over 3 months. Clinical goal (over future PDSA cycles) is to incorporate OKQ into provider workflows.

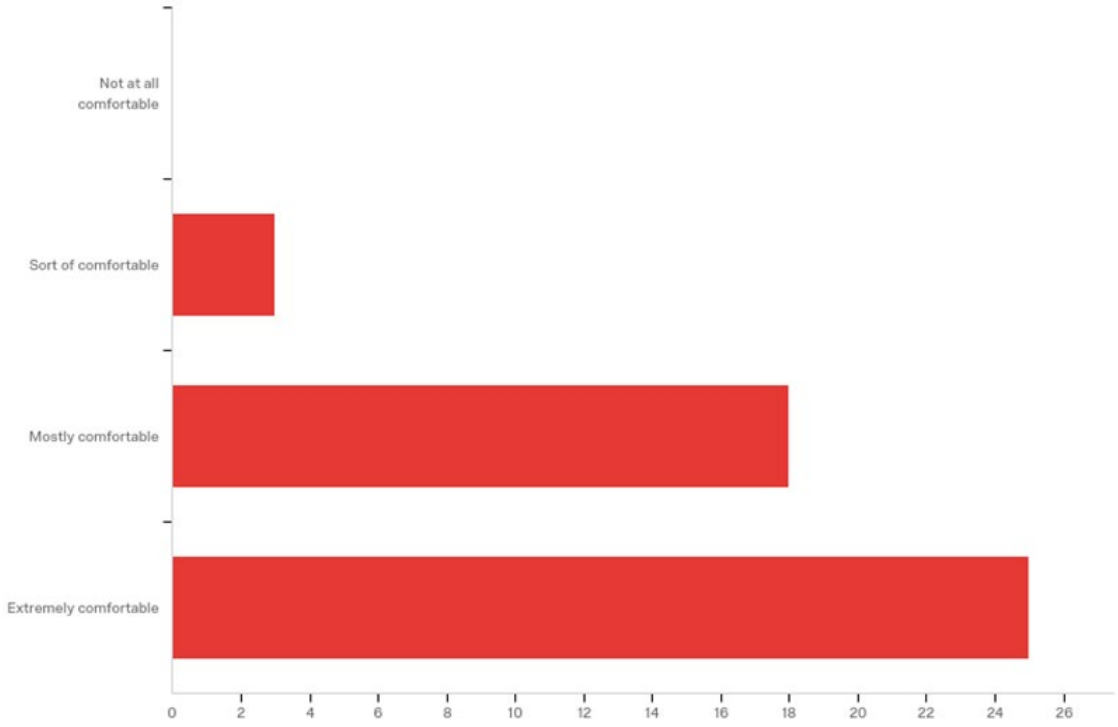
Key measure:
Percentage of providers aware of the One Key Question Initiative.

Intervention:
One hour presentation on the rationale of OKQ and methods for screening and counseling.

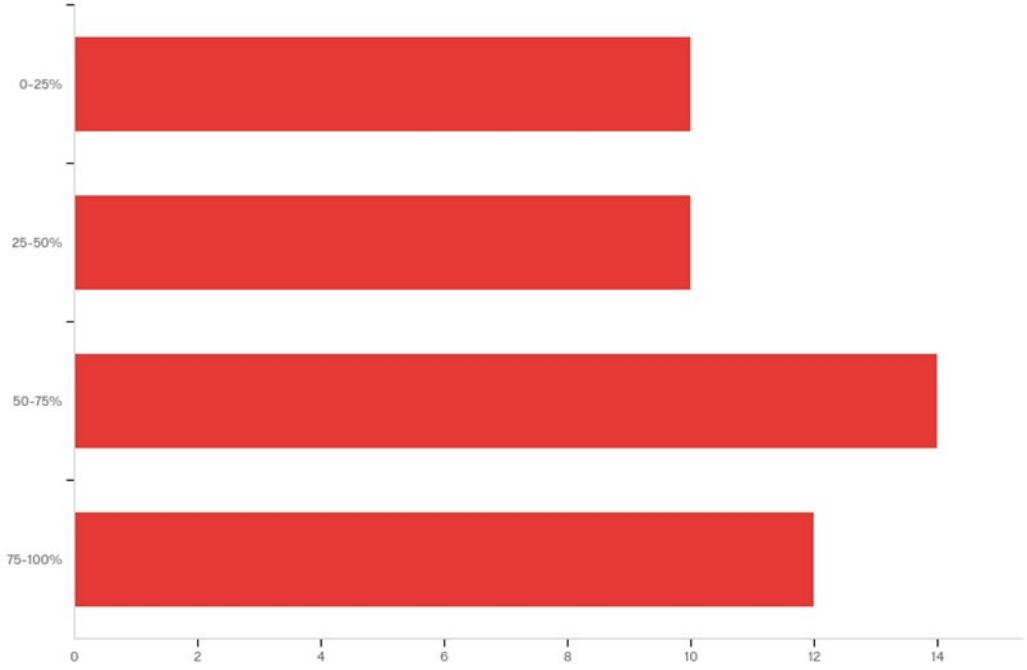
Analysis:
Survey was emailed to FMRWM residents, faculty, and PHC providers. Paper surveys were given to attendees at Friday Morning Medical Conference on this topic. Forty-six responded online, and 9 responded in person. Baseline data indicated that 25/46 or 54% of residency-affiliated respondents have already heard of OKQ. At the hospital based intervention lecture, only 2/9 or 22% of respondents had heard of the the OKQ initiative. After the hospital based intervention lecture, 9/9 or 100% of respondents had heard of the OKQ initiative.

Additional data was collected about baseline screening habits, as well as comfort with reproductive health screening and counseling. Extensive free text input was also collected about barriers to OKQ screening, and about what would improve provider comfort.

Q5 - How comfortable do you feel talking to your patients about their reproductive goals?



Q3 - What percentage of your patients capable of becoming pregnant have you EVER asked about their reproductive goals?



Lessons learned:

About half of FMRWM-affiliated providers have heard of OKQ and this was higher than anticipated. Most of these respondents also indicated they feel mostly comfortable or extremely comfortable discussing these issues. However, about half of respondents indicated that they have not screened the majority of their pregnancy-capable patients for reproductive goals. This means we are missing opportunities for contraception and preconception counseling.

Attendance at the intended intervention lecture was poor. About 9 survey respondents attended; a few more attended and did not complete surveys. However, this lecture did increase the percentage of providers aware of OKQ from 22% to 100%, for an increase of 78%. This met the goal of the initial PDSA. However, many attendants at this lecture were hospital-affiliated, which explains their low baseline rate of exposure to OKQ and reproductive health issues. A second lecture is planned for a Tuesday all staff meeting at the end of April; this will reach a larger number of FMRWM-affiliated providers and spark conversation about whether and how we want to incorporate this screening into our workflows.

Free text data input indicates that the major perceived barriers to implement OKQ screening are 1) time, 2) forgetfulness, 3) provider perception that patients do not wish to discuss these issues. Providers indicated they would feel more comfortable if given 1) more time, 2) frequent reminders (in EMR or via staff completing initial screening), and 3) if given more exposure to preconception counseling as well as LGBTQ-inclusive language.

Future areas of focus:

1) Focus group with residents, faculty, and PHC providers to decide if OKQ is a format for reproductive health screening that we wish to pursue.
2) Further exploration of barriers and support for providers. As an important reminder, existing data suggests that only 30% of patients screened with OKQ will require any follow up care. Follow up care can be completed at future visits if time is limited.
3) Exploration of pursuing official OKQ certification via Power to Decide Consulting services.
4) Adding OKQ to staff intake in ECW.

DALLAS CLARK MD
Scholarly Activity

Resident-led OB curriculum overhaul at FMRWM

Details of the project: Following a change in staff and safety concerns on the OB floor in the 2017-2018 academic year, it became apparent that work was needed to tune-up our OB curriculum. Residents on the FMRWM OB Curriculum Committee and the faculty director of the OB rotation re-structured the OB curriculum with the intent of creating a safe, engaging, and high quality learning experience. Over several months and multiple meetings the OB committee devised a list of educational Topics, Resources, and Expectations to provide structure and direction for residents during their 3 years in the program. Several changes were made to the OB curriculum as follows:

- The daily schedule was changed to remove morning lectures during this busy time of day and instead include rounding with a weekly attending at a consistent time each day. This provides continuity with attendings and a more consistent routine to aid in communication between residents, faculty, community attendings, and nursing staff.
- A visual chart of daily learning topics chosen by the residents and weekly attending helps to keep the team on track and guide self-directed, resident-led teaching every day during rounds.
- Hands-on "simulations" of various OB skills, procedures, and emergencies are done each week as part of the daily rounds teaching with the attending or senior residents.
- A Tracking Sheet of resident self-education topics was created. This is posted on the wall in the resident office to provide guidance for resident learning through the 3 year curriculum and visually represent resident educational progress for residents, faculty, community attendings, and nursing staff.
- The schedule was re-structured to provide 2 weeks of OB rotation orientation with senior residents for each intern during their first OB block.
- The 2nd OB block of the year was restructured to relieve the burden of nights from the 2nd year to be shared among all 3 residents on the rotation.
- A website was created to house and access high-yield/core resources we identified as a team.
- An OB handbook was created/updated to help with intern orientation and as a reference for cultural and logistical knowledge.

Outcome: The initial version of the new OB curriculum was a major improvement over the previous curriculum. It provided structure for self-directed learning, improved orientation for interns, makes space for daily resident-led group teaching and attending oversight, and the schedule is an improvement in quality of life. The visual materials help others appreciate the learning that is taking place and the consistent schedule assists in continuity with attendings and consistency in learning. The feedback from interns was that the rotation is now "not overwhelming" and they felt well-supported.

Reflections: Through this process we learned the challenge of integrating institutional knowledge and experience with new ideas and aspirations. We were able to start with clear goals and develop solutions to meet our needs. We found that some aspects worked well, such as structured daily morning rounds and teaching with 1 attending each week, writing learning goals on the white-board schedule, and providing a tracking sheet of self-study topics. We found that we needed to increase senior resident guidance to provide a more consistent orientation experience for future interns, and the website will need more attention and updating. Additional changes being made this year include the following:

- An additional senior handbook is being developed to better guide seniors orienting interns.
- The OB track is being changed to allow more flexibility for OB electives and share prenatal patients with other interested parties. The goals is also to help relieve the burden of OB coverage from being placed on the OB trackers and make the block schedule consistent year to year.
- Altering the July schedule to not cover nights due to a shortage of resident availability during that time

DALLAS CLARK MD
QI Abstract

Using a huddle checklist for improved clinical team efficiency

Problem:

1. Need for consistent clinic huddle to improve the value of the PHC clinic pre-half-day huddle.
2. Need for accountability for providers to consistently arrive in time for huddle.

Aim:

- We will huddle on 75%-100% of patients using a short structured checklist to help my MA and myself be subjectively more efficient in our clinic day together after using the checklist for 4-6 weeks.

Key measures for improvement:

- Subjective efficacy of huddle in improving our clinic efficiency, as measured by pre- and post-surveys of MAs and resident
- Frequency of use of huddle, measured on a yes-no basis for huddle completion for each half-day in clinic

Data gathering process:

- Pre- and Post-surveys were completed by the MAs and LPNs with whom I commonly work. I also filled out a pre- and post-survey.
- Recorded the number of days when huddle was completed during the 6 week study period.

Analysis and interpretation:

- See Table 1 for pre- and post-survey results and quotes.

Strategies for change:

- Developed a check-list of huddle items to cover for each patient in each huddle (Figure 1)
- Developed an "accountability calendar" to record completion of huddle for each clinic half day when the provider was seeing patients in clinic (Figure 2)

Effects of change:

- Huddle was performed 92% of half-days during the 6-week period in which the check-list and calendar were used, an improvement from prior, which was about 50% completion rate.
- Quantitative survey results from MAs/nurses are consistent with above, indicating huddle was completed 75-100% of the time.
- Qualitative survey results indicate huddle is valuable in helping all parties feel informed, prepared, familiar with patients and improves the sense of teamwork and efficiency.

Lessons learned:

- Based on survey results, the greater problem with huddle was lack of consistently performing it, rather than the content of huddle
- The "accountability calendar" to "check-off" when huddle was performed for each clinic half-day was most effective at helping the provider to prioritize huddle, arrive with time to do huddle, and be positively reinforced when huddle was completed
- We did not consistently use the checklist. It included too many points to be practical for rapid use for every patient. The most valuable points of huddle were reviewing preventive and chronic healthcare needs, some of which are reviewed and updated by the nursing staff / MAs in the current work-flow, so were already inherently included in our huddle process. Additional factors frequently discussed included patient social or behavioral factors presenting barriers to care or adding to complexity of care, document/record acquisition, testing that can be done prior to provider seeing the patient, supplies needed for procedures, and planning the general work-flow to accommodate patient needs or procedures.
- It is my sense that a huddle checklist is unlikely to add significant value to our current huddle practices, and would likely increase the time needed for huddle. However, if a checklist were desired for standardization among provider-MA pairs, a simpler revised checklist I would consider trying next is pictured in Table 2.

Table 1: Pre- and Post-survey results from MAs, LPNs, and provider regarding huddle

Question	Mean Pre-survey responses	Mean Post-survey responses	Representative Quotes (consistent among pre- and post-surveys)
How often do you huddle?	50-75% of time	75-100% of time	
How many patients do you huddle about?	Nearly All to All	All	
How useful is huddle?	Makes both mine and my partner's day more efficient	Makes both mine and my partner's day more efficient	
Explain huddle usefulness			"…good to know about why we are seeing [the patient] and what can be done, before, during, and after apt"
What is the best thing about huddle?			"Knowing about things I may not be aware of and being prepared"
What is the worst thing about huddle?			"Doing it late or not at all"; "Not having time to do one"
Other comments/ideas			"To do huddle every time"

Table 2: Revised huddle checklist

Huddle Checklist
Obtain records
Social factors/barriers to care
Tests to do prior to provider seeing patient
Vaccines needed and intended timing (before or after apt)
Procedures and supplies planning

Figure 1 HALF-DAY HUDDLE CHECKLIST

- ✓ **Personal** check-in
- ✓ **Clinic** processes check-in (team member changes, schedule abnormalities)
- ✓ **Patient** check-in, for each patient:

- Tests needed related to CC (ie UA, pregnancy test, STI testing, might order CXR, etc.)
- Relevant records/documents (ie discharge summary, specialist note)
- Anticipated procedures (ie toenail removal, IUD insertion) and brief set-up plan
- Tests needed for chronic/existing problems (ie A1c, UDS)
- Preventive items (ie due for pap, FIT test, up to date, etc.)
- Immunizations
- Social determinants of health at play

✓ **Plan** in case of anticipated no-shows / double books

✓ **Other** tasks for the day (ie urgent beans, patient calls, etc.)

_____

Figure 2 ACCOUNTABILITY CALENDAR

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	○ AM ○ PM	○ AM			
Week 2					
Week 3					
Week 4				○ PM	○ AM ○ PM
Week 5		○ AM ○ PM	○ AM	○ PM	
Week 6		○ PM		○ PM	

(days not included above are days when provider was not seeing patients in clinic)

JULIA GRUETZMACHER MD
Scholarly Activity Work:

Cases of Eosinophilia: Montana Academy of Family Physicians Winter Conference Presentation

Details: Gave a presentation on cases of eosinophilia at the annual "Big Mountain Medical Conference" run by the Montana Academy of Family Physicians in January, 2019. Spurred by a

difficult case that I was personally involved in and really wanted to dive in and understand more. The talk included discussion of the differential diagnosis of eosinophilia, evaluation and common misconceptions.
Outcome: Success! Well received presentation at both Friday Morning Medical Conference at SPH and the MAFP conference.
Reflections: I very much enjoyed giving a larger presentation and was honored to be asked to speak at this conference. I am looking forward to more opportunities to give presentations!

MATT KLIPPENSTEIN MD
Scholarly Activity Work

Medicare wellness exams at PHC

Details of the project:
Medicare wellness visits was picked as an area for possible quality improvement as they are underutilized at Partnership. This was identified as an area for improvement by PHC leadership. Additionally, when medicare wellness visits are completed, they are often not documented or billed

properly. A medicare wellness template was created and introduced to the clinic. This template included all necessary elements of the history, recommended screenings and intervals, and preloaded billing codes. Goal was to increase medicare wellness visit utilization, and to ease the process of correctly documenting and billing for these visits. We believed that this would improve preventative care for medicare patients and improve the workflow for providers.

Outcome:
There were 25 medicare wellness visits done in the year of 2018 (2.08 per month), in the 7 weeks since the template was introduced there were 5 medicare wellness visits done (2.86 per month). We did see a small improvement but this continues to be a work in progress.

Reflections:
Medicare wellness visits continue to be underutilized in our clinic. Provider education and buy in are likely two factors. Barriers to measuring and implementing this included data measurement and EMR constraints. We do think the template will aid in properly documenting and billing for medicare wellness visits. Expect that we will continue to see an increase in numbers of these visits done with further staff education and possible changes in clinic workflow.

JULIA GRUETZMACHER MD and MATT KLIPPENSTEIN MD
QI Abstract

Medicare Wellness

Problem: Underutilization of medicare wellness exams; and incomplete or improperly documented and billed medicare wellness exams.

Aim

By March 2019 we will increase the percentage of patients receiving an initial or subsequent medicare wellness exam by 10%.

Key measures for improvement
Number of medicare wellness visits conducted

Process of gathering information
Number of medicare wellness visits were counted using a query of billing codes G0438 (initial wellness visit) and G0439 (subsequent wellness visit).

Analysis and interpretation
Table 1. Number of medicare wellness visits before and after the introduction of a medicare wellness template into the electronic medical record.

	Prior to intervention	**Post intervention**	**Difference**
Number of medicare wellness visits	25 in 2018 (2.08 per month)	5 from 2/8-3/31 (2.86 per month)	+0.78 per month

Strategies for change
Deployment of a template to aid in documenting and correctly billing for initial and subsequent medicare wellness visits.

Effects of change
Small increase in utilization of the Medicare Wellness visits.

Lessons Learned
Data collection can be a barrier and limit ability to accurately measure baseline numbers as well as change.

Medicare wellness visits appear to be consistently underutilized at our clinic. Next steps could involve development of a new clinic workflow to better utilize all team members in the visit process. In addition, identification of all patients eligible for this visit and notification from our clinic would likely be beneficial.

Provider education and buy in may be a continued barrier.

RUBEN HIPOLITO MD, KATIE WILLIAMS MD and KELBY WILSON MD
Scholarly Activity

Effect of EHR reminder on screening rates for Hepatitis C in the 1945-1965 birth year cohort

Details of the project: We chose to attempt to improve rates of Hepatitis C screening for the birth cohort due to a perception that this was an area of deficiency for our clinic. We collected baseline data by running a registry in our EHR for the proportion of patients aged 54-74 for whom one of the investigators was listed as PCP, seen between January 1, 2018 through January 31, 2019 who had a documented Hepatitis C screening. After developing our intervention, a clinic-wide alert to remind

clinical staff to check for Hep C screening status for patients in the birth cohort, we then ran the same query for patients seen between March 1, 2019 and March 31, 2019.

Outcome: At baseline, 18.98% of patients meeting our criteria (n = 137) had a history of Hep C screening. 30.56% of patients seen during the month of March 2019 (n = 36) had a history of Hep C screening. This was an absolute increase of 11.58% but was not statistically significantly different with p = 0.13. We did have a delay in actually implementing our intervention, and ideally we would have analyzed our data over the next several months.

Reflections: Challenges of making effective change in a medical clinic include understanding and obtaining required approvals and working within systemic barriers. Some of the challenges we faced included getting the appropriate level of approval and then clearly communicating that approval from the chief medical officer to the chief technology officer. Additionally, the EHR limited our ability to both gather data and create an alert based on birth year, and data or alerts based on age will never match up perfectly with birth year. The medical team will still have to verify whether the patient is actually part of the birth cohort. Furthermore, the age range on the alert will have to be updated every year, which adds another human factor, prone to error.

RUBEN HIPOLITO MD, KATIE WILLIAMS MD and KELBY WILSON MD
QI Project

Effect of EHR reminder on screening rates for Hep C in the 1945-1965 birth year cohort.

Problem: Inadequate Hep C screening for the 1945-1965 birth year cohort

AIM: At the end of the study period 80% of out personal patient panel born between 1945-1965 who have been seen during the 2-month study period will have a documented HepC screen in their chart.

Key Measures for Improvement: Percentage of birth cohort patients seen during the study period with a documented Hep C screen.

Process of Gathering Information: Our chief technology officer at FCHC ran a registry through our EHR (ECW) for: patients aged 54-74 (it was not an option to run a registry using birth year), for whom one of the investigators was listed as PCP, seen between January 1, 2018 and January 31, 2019. A total of 137 unique patients were identified who met the above criteria. That registry was then queried for how many of those 137 patients had a documented Hepatitis C antibody screening test at any point in time recorded in our EHR.

After attempts at implementing our intervention the same registry was run again using the dates of March 1, 2019 through March 31, 2019.

Analysis and Interpretation:

	Prior to Intervention	Post Intervention
Number of patients above with a documented Hep C Ab screen	26	11
Patients in birth cohort with investigator listed as PCP	137	36
Percent Screened	18.98%	30.56%

This result was not statistically significant with a difference of 11.58% (95% CI -2.98 – 28.84, p = 0.1327). Our data collection was complicated by the fact that birth year could not be used as a criterion in creating a registry in ECW; therefore, we had to approximate the birth year cohort by using the patients current age which will never line up perfectly with the birth year cohort.

It is also possible that additional patients in this birth cohort have had screening but were not counted in our data due to improper data entry in the EMR. Furthermore, the fact that we were listed as PCP does not mean we were the appointment provider for those patients.

Strategies of Change:
Our goal was to create a clinic wide alert. We had hoped to create a CDSS alert, which is where most recommended health maintenance items are tracked in ECW. However, this was not an option. We instead created a clinic wide "regular" alert. There was no option to create an alert based on birth year, so it is based on age and will have to be updated every year. Given these complications, challenges determining what permissions we needed in order to make clinic wide EMR changes and other communication difficulties, there was a delay in implementing this alert.

Effects of Change:
We did find a non-statistically significant increase in the proportion of patients who were screened. We were short of our goal of 80%.

Lessons Learned:
Challenges of making effective change in a medical clinic include understanding and obtaining required approvals and working within systemic barriers. Some of the challenges we faced were getting the appropriate level of approval and then clearly communicating that approval from the chief medical officer to the chief technology officer. Additionally, the EHR limited our ability to both gather data and create an alert based on birth year, and data or alerts based on age will never match up perfectly with birth year. The medical team will still have to verify whether the patient is

actually part of the birth cohort. Furthermore, the age range on the alert will have to be updated every year, which adds another human factor, prone to error.

RACHEL LAROCCA MD
Scholarly Activity

Post-partum LARC Protocol

Details of the project: My project was developing a process for immediate post-partum LARC access for our patients. During my first obstetrics rotation, I had several patients who desired Nexplanon or IUDs for post-partum contraception. Many of these patients had barriers to accessing routine medical care, had significant psychosocial stressors, and/or struggled to take the best care possible for their children. As we know well, at least 50% of pregnancies are unintended. For any woman and her family, an unintended pregnancy is a disruption; for our PHC patients, an

unintended pregnancy can dramatically impact their lives. Unfortunately, the policy at CMC was to not allow placement of LARCs in the hospital due to billing challenges.

After researching the role of immediate post-partum LARC placement, the billing options for these procedures, and successful programs across the country, I developed a protocol for how to provide services to PHC patients who have Medicaid. The protocol was approved by CMC and PHC and is now in place to allow patients access to this potentially life-changing service.

Outcome: Nexplanon and IUDs are now routinely offered to Medicaid patients at PHC around 36 weeks EGA with plan for immediate post-partum placement. I have not been able to track how many patients have taken advantage of this option but it has become an essential piece of our prenatal care. With continued use of this option and advocacy, my hope is that more insurance providers and hospitals will develop policies to promote post-partum LARCs as the standard of care.

Reflections: This was an exciting project to undertake and I do feel it will have a significant impact on at least a small number of our patients. It was both a learning opportunity for me and a chance to advocate for our patients at the systemic level.

RACHEL LAROCCA MD and CHARLIE JOSE MD
QI abstract

Ages and Stages Questionnaire (ASQ) Developmental Screening at Partnership Health Center

Problems: Formal developmental screening rarely occurring during well-child checks and children are often not receiving the appropriate interventions in a timely manner. Unrecognized developmental delay can significantly impact long-term growth and development.

Aim: Increase the completion and documentation of developmental screening via age-appropriate ASQs by 50% within 2 months.

Key measures for improvement: Percentage of well-child check visits with ASQ completed and scored, developmental screening results documented in HPI, and developmental screening documented in A&P.

Process of gathering information: Initial data were gathered by reviewing 10% (N=45) of randomly selected well-child visits over a 6-month period. After implementation of nursing and PSR workflow, ASQ education, and WCC template updates, all well-child visits in a 1-month period were reviewed for completion of above measures.

Analysis and interpretation:

	Developmental screen completed and documented	**Development addressed in A/P**	**Missed intervention for developmental delay**
Pre-intervention	20/45 (45%)	20/45 (45%)	8/45 (18%)
Post-intervention	TBD	TBD	TBD

Strategies for change: Updating WCC templates to include documentation of ASQs, revision of ASQ workflow to improve completion, education of staff to increase awareness and understanding the importance of of developmental screening and resources for intervention.

Effects of change: Unfortunately, we have had a delay in the roll-out of our intervention and therefore do not have post-intervention data. We continue to work to introduce our improved workflow and anticipate having our EMR template completed in the coming weeks.

Creating a provider-friendly template requires back-end programming that can only be done by PHC IT staff *(see sample template below).* Templates were designed to:

- ➔ Integrate current information gathered from ASQ forms with nursing intake templates to minimize duplication of services
- ➔ Create relevant drop-down menus that focus on appropriate developmental areas
- ➔ Auto-populate text to guide documentation of developmental findings
- ➔ Promote documentation and coding of identified developmental delays

Lessons learned: We learned many lessons completing this project. Perhaps one of the most impactful lessons was regarding our QI "allies." Once we took the time to seriously contemplate all the stakeholders and participants in our process and invited them to the join in the discussions and planning, we discovered we had some extremely strong champions and many perceived barriers were quickly overcome. These individuals often had institutional knowledge that guided our decision-making process. This demonstrated to us how QI projects are most successful when multiple perspectives are included in the process.

Changes to make in all WCC templates (example reflects 2 month WCC visit)

Intake

- Make a WCC-specific intake template.

- Did your baby pass the newborn hearing screening test? Yes/No
- Does your baby move both hands and legs equally? Yes/No
- Does either parent have a family history of childhood deafness, hearing impairment, or vision problems? Yes/No
- Has your baby had any medical problems? Yes/No
- Do you have concerns about your baby's behavior (for example, eating, sleeping)? Yes/No
- Does anything about your baby worry you? Yes/No

HPI

Developmental Area	ASQ Raw Score	ASQ Scaled Score	Notes
Communication	___	*Drop-down as below*	___
Gross Motor	___		___
Fine Motor	___		___
Problem-Solving	___		___
Personal-Social	___		___
ASQ completed by:			___

ASQ scaled score drop-down options: White, Gray, Black

General HPI

The Bright Futures Previsit Questionnaire was completed by the parent/caregiver and reviewed (see scanned document).

The following concerns were noted:
* Diet and physical activity:
* Sleep:
* Dental:
* School/preschool (changes, performance):
* Family situation (changes, caregivers, child care):
* Social/environmental (food, housing, safety):
* Screen time:

A&P

CPT: 99381 (New), CPT: 99391 (Est)
Z00.121 Routine child health exam with abnormal findings or Z00.129 Routine child health exam without abnormal findings

2 MONTH WELL CHILD CHECK:

WELL CHILD CHECK:

GROWTH
- Well child check performed today with no concerns.***
- Appropriate growth with height ***th percentile, weight ***th percentile.

DEVELOPMENT
- Appropriate development in communication, gross motor function, fine motor function, problem solving, and personal-social.*** OR
- Abnormal development in communication, gross motor function, fine motor function, problem solving, and personal-social. See developmental screening, below.***
- The ASQ is a tool that we routinely use to check a child's development. The first 5 years of a child's life is a time where they gain many skills. We want to help you follow your child's growth and development
- ASQ scores (see scanned copies for further details):
Communication - [BLACK/GREY/WHITE]***
Gross motor function - [BLACK/GREY/WHITE]***
Fine motor function - [BLACK/GREY/WHITE]***
Problem solving - [BLACK/GREY/WHITE]***
Personal-social - [BLACK/GREY/WHITE]***
- All 'WHITE' scores are considered normal.

ANTICIPATORY GUIDANCE
- Bright Futures guidance handout was given to the parent/caregiver with discussion of the following anticipatory guidance topics: development, behavior, safety, nutrition, and parenting.
- All questions answered and caregiver demonstrated verbal understanding.
- Return to clinic in 2 months for 4 month well child check or earlier if any new concerns.

IMMUNIZATIONS
- Immunization status was reviewed, with the following plan: Pentacel, Hep B, Prevnar 13, and Rotateq *** administered in clinic, infant tolerated well***

CPT: 96110
Z13.42 Encounter for screening for global developmental delays (milestones)

DEVELOPMENTAL SCREENING, WITH SCORING AND DOCUMENTATION, PER STANDARDIZED INSTRUMENT:
- Developmental delay in the following domains:
Communication - [BLACK/GREY]***
Gross motor function - [BLACK/GREY]***
Fine motor function - [BLACK/GREY]***
Problem solving - [BLACK/GREY]***
Personal-social - [BLACK/GREY]***

(IF GREY) *** - This score calls for closer discussion and monitoring, this does not necessarily mean your child is behind. We will refer your child to the Child Development Center to assignments and

exercises to get your child back on track. Our Pediatric Nurse Coordinator (Rachel) will follow-up with you during this process.
(IF BLACK) *** - This score calls for further assessment. Just because your child scored in this range today, it does not mean that your child cannot catch up. We will refer your child to the Child Development Center to assignments and exercises to get your child back on track. Our Pediatric Nurse Coordinator (Rachel) will follow-up with you during this process.

*** TO DO: Send Rachel Jacobson a TE to follow-up about providing teaching materials or getting patient to appropriate services

MADELINE MUSSMAN DO
Scholarly Activity

FPIN
Family Practice Inquiries Network (FPIN) "Help Desk Answer" Publications:
Richards C, Hipolito R, Blau C, Mussman M, Matheny A, Bell D. "What is the best treatment for female pattern hair loss." *Evidence-Based Practice*. 2018; 21(9): 65-67.

BOARD APPOINTMENTS
-Family Medicine Residency Board Member of the Institute of Health and Humanities, Jan 2017-Present

-Family Medicine Residency Board Member of the Montana Academy of Physicians, July 2018-Present

MADELINE MUSSMAN DO
QI Project

Lab Flow: Loses, gains, what remains the same after remodeling of the PHC Creamery Building

Details of the project: In the Fall of 2017, construction started on the PHC Creamery Building. There were multiple areas of construction including the basement as well as several areas on the main floor. One of the main floor areas was the space adjacent to the two phlebotomy rooms. Prior to construction, there was a designated lab waiting area for patients to sit after signing into a lab-specific patient list. From that list, patients were called and had their labs drawn by the individual phlebotomists.
During construction, the area where patients sat was transformed into offices and thereby no longer available. As such, it was reported that patients were being lost to follow up after getting labs ordered with their PCP at appointments and not presenting to the actual lab.

As a result, the Lab Flow Workforce was formed to address the disconnect between ordered labs and completed labs. A task force reflecting all involved was formed including representatives from front desk staff, nursing staff, phlebotomists and providers. It was determined that the barriers to patient's completing labs were multiple including structural (change in clinic layout), systems (front desk check in), logistical (Quest is required to have a patient list) and cultural (it is hard to change ingrained habits).
A multi-faceted approach was used with the following implementations:
-policy change: discharging patient from apt with visit summary listing ordered labs. This was communicated to providers via provider-specific communication channels (ex: residents were informed via their weekly chief email)
-structural change: MA's accompany patients to front desk/lab sign in
-cultural change: encouraging appropriately trained MA's and RN's to draw labs within clinic

Outcome: To accurately track the success, the Lab Flow Workforce Team had hoped to mine data including pre, during and post construction lab completions from the electronic medical record. Unfortunately, this was unattainable. As a result, we have relied on anecdotal evidence that lab orders are being completed at the same or better rate then prior to construction.

Reflections:
Lessons: when implementing change:
-it is advisable to include as many players at the decision table as possible.
-small changes have the capacity to make big impacts
-patient and provider satisfaction is not usually mutually exclusive and important to consider as interrelated when addressing change

KAREN VESELY MD
Scholarly Activity

Improving Naloxone Prescribing at PHC

Details of the project: Opioid overdose is a major health crisis across the United States. As prescribers of opiates, we need to be doing our best to identify patients at risk of overdose and providing them with potentially life-saving Naloxone. Observation of current practice at PHC shows that there is not a standardized practice for Naloxone prescribing or identifying appropriate patients. We should be thinking about co-prescribing Naloxone with every opiate we prescribe at every visit. My project aimed to start changing the culture of opiate prescription at PHC such that consideration of Naloxone is part of all opiate prescribing. This project started with a literature search on current guidelines for naloxone prescribing and evidence of benefit of naloxone. I spoke with clinical pharmacy regarding best practices for prescribing including types of administration and training. One of the barriers to prescribing naloxone is provider comfort with the practice, including identifying appropriate patients and the process of prescribing. I aimed to improve

provider comfort by 50%. A brief powerpoint presentation was given during a Tuesday morning provider meeting, pre and post presentation surveys were compared.

Outcome: Provider comfort with naloxone prescribing – both identifying patients and the process itself improved, though not by 50%. This is definitely a work in progress, and will hopefully be just the beginning of the discussion around Naloxone prescribing practices at PHC.

Reflections: Much more work needs to be done on improving rates of naloxone prescribing for appropriate candidates. Even the collection of baseline data was difficult for numerous reasons. Primarily, there is no standardized documentation for patients on opiates that would indicate if they are on chronic verses short term opiates, what their morphine equivalent dose is, and if they are co-prescribed benzodiazepines. This information must be entered by the provider at each encounter, if they think of it, and there is wide variation on what diagnosis these prescriptions go under; chronic pain, low back pain, or fibromyalgia to name a few. Because of this, pulling data required including any patient on any form of opiate, at any dose, over the given time period and then working backward. This was just to estimate a percent of patients that would be appropriate for naloxone prescription. Aside from difficulty pulling patient data, there are still many barriers to increasing Naloxone prescribing. Provider comfort did improve, however that was over a 10 minute presentation. My project did not look at if prescribing rates actually improved (again, limited by time and challenges with pulling this data). Asking providers during a busy clinic day to add one more step to their prescribing is a hard sell, especially when it comes to chronic opiates. Though we all recognize the importance of opiate prescribing safety, my goal would be to have naloxone brought up at every opiate prescription, in the same way as the prescription drug registry, controlled substance contract, or urine drug screen. In many ways, naloxone co-prescribing could be considered a more meaningful intervention, and potentially life-saving, than any of the above practices which are standard at PHC. I hope to see this project continued as it impacts the safety of some of our most vulnerable populations.

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eCW Efficiency

Details of the project: A major portion of our day is spent on eCW, being efficient means the difference in a smooth on-time schedule and frustration or burn-out. My Scholarly Activity time was spent learning to quickly and effectively use eCW, as-well-as help streamline work flow for other providers. In doing so I explored tools built-in to eCW such as templates, browse phrases, and order sets. I worked with IT and the faculty super-utilizer to brainstorm how these functions within eCW would be best used in clinic. I experimented with options for outside software such as phrase expanding programs to be used in combination with eCW. The other arm of my project involved obtaining common diagnoses at PHC and creating useful phrases to be used as a starting ground for HPI or plan. This was ultimately stored in a google doc and organized in outline format.

Outcome: Remains a work in progress. The process of learning ins and outs of eCW has been invaluable. Spending the time to learn tools and navigation that works for me has helped in clinic immensely. I am also able to help co-residents and providers trouble shoot challenges on a daily basis which is rewarding.

Reflections: Putting my effort toward maximizing my use of eCW was helpful though also felt very limiting. I'm not sure how much contributed to a benefit beyond my own personal knowledge. The majority of barriers I found were limitations within eCW itself. For example, only specific authorized users can create order sets, smart documents also either take an additional fee or need to be created by a specific user. I found this limited flexibility a barrier to my own projects, but also feel this would be a barrier to other providers using these efficiency tools. We like to make our documentation personalized and each provider's workflow is drastically different. Brainstorming ideas that would work within eCW at minimal extra cost, that providers would use, and would be efficient was more of an undertaking than I realized. Ultimately, I found that my google doc with common browse phrases that I could edit, customize, re-organize, and copy paste into any box to be the most user-friendly and reliable. Even with this, eCW changed formatting and a fair amount of editing was required for even a simple phrase.

KAREN VESELY MD
QI Abstract

Improving Naloxone Prescribing Practices at PHC
Effect of an educational presentation on clinician comfort with identification of appropriate patients and the process of prescribing naloxone for chronic opiate use patients.

Problem: The rate of death due to opiate overdose had doubled in the past decade, accounting for nearly 50,000 deaths in 2017. These deaths occur from both illicit and prescription drug use. Current guidelines recommend co-prescription of naloxone with patients on chronic opiates. However this practice has been left up to the individual clinician's knowledge and comfort of naloxone prescribing, many of which have received no training.

Aim: Increase understanding of appropriate Naloxone co-prescribing for patients at risk of opiate overdose. Ideally increasing Naloxone availability and the safety of opiate prescribing. A goal of increased provider comfort by 50% was set.

Key Measurements of Improvement: Provider comfort with identification and process of Naloxone prescribing, based on self reported survey data on scale from 1-10.

Process of Gathering Information: Back ground information on guidelines and evidence of benefit of Naloxone prescribing was initiated with pubmed search. From there, resources available to PHC providers and patients were discussed with the clinical pharmacy team. A brief power point presentation was complied which outlined the key components of Naloxone co-prescribing guidelines, identification of appropriate patients, the process of proscribing, and documentation in eCW. A pre-presentation survey was distributed prior to the weekly provider meeting. Providers were asked two primary questions: to rate their comfort identifying appropriate Naloxone candidates and rate their comfort with the process of prescribing naloxone on a scale from 1-10. The presentation was then given and a post-presentation survey was distributed. The results of pre and post presentation provider comfort with identification of appropriate patients and the process of prescribing Naloxone were compared.

Analysis and Interpretation: Table 1 shows results of self reported provider comfort before and after Naloxone Co-Prescribing presentation at weekly provider meeting, scale of 1-10. N=14

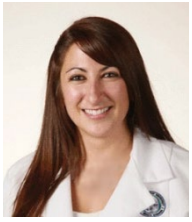
	Pre-Presentation	Post-Presentation	Difference
Identification of appropriate patients	5.4	8.9	40%
Prescribing Process	4.8	8.8	46%

Effects of Change: This intervention showed an improvement of provider comfort with identifying appropriate patients and prescribing naloxone. It fell short of the goal of 50%. Ultimately this outcome measure was selected as a first step in setting a clinic wide standard that all patients on chronic opiates be evaluated for appropriateness of Naloxone co-prescribing and that a potentially life-saving medication is made available to them with minimal barriers. PHC providers estimated that on average 30% of their patients who are appropriate candidates for naloxone are actually prescribed the medication. From this initial survey, practices seem to be bi-modal, with the majority of providers estimating that <10% of their appropriate patients are being prescribed Naloxone, while a small handful of providers estimate somewhere between 80-100% prescription rate. Clearly, practice is widely variable and there is plenty of room for improvement.

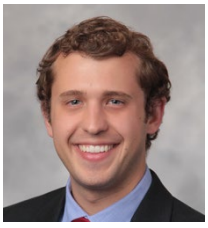
Lessons Learned: Collecting data on opiate prescribing practices is challenging. At the current time, there is not a consistently used diagnosis code such as “chronic opiate use” or the like. Therefore, when attempting to collect raw data, charts must be searched for patients on any opiate at any dose and then narrowed down by manually, calculating each patient’s morphine equivalence dose. This was a significant barrier to collecting baseline data of what current practices at PHC look like. It would be a huge help if there was more consistency documentation. Encouraging system wide change is difficult. While one brief powerpoint is helpful for getting started, the next steps for improving this critical practice would include thorough chart review with measurable outcomes such as percent improvement of Naloxone prescribing in appropriate chronic opiate use patients.

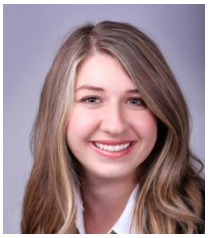
CLASS OF 2020
QI Projects

MISSOULA


Katie Camarata DO


Alyssa Cowell MD


Chris Hallberg MD


Amanda Hartman MD


Amy Richmond MD

KALISPELL


Jon James DO


Issac Billings DO


Brandon Bilyeu DO


Charlie Jose MD


Stella Seldon MD

KATIE CAMARATA DO and JON JAMES DO
QI Abstract

PHC OMT referral process improvement project

Problem:
Our QI project looked at current OMT referral processes at PHC. OMT providers and patients are often under-informed regarding the initial encounter. Patients may not have received adequate information about the nature of OMT, proper attire for optimal treatment, etc. Providers may be unaware of the reason, diagnosis, source, or timing of the referral, as well as previous workup/evaluation for the referral.

Aim: By March 2019, we will improve the workflow of OMT referrals for clinicians at PHC, with the goal of increasing appropriateness of referrals and patient's preparedness for the visit

Measures for improvement:
Several measures were targeted, including: the percentage of OMT sessions in which the provider was aware of the chief complaint/indication for OMT prior to the encounter; the percentage of sessions in which the patient had received appropriate workup to exclude red flag conditions such

as fracture, malignancy, infection, etc.; the percentage of sessions in which the patient was aware of what OMT is; the percentage of sessions in which the patient was appropriately dressed. We gathered baseline data by conducting an initial pre-intervention survey of OMT providers.

Intervention:
We created a smartphrase to be used by referring providers. This templated smartphrase is inserted to a progress note, and prompts appropriate patient education regarding the nature of OMT and optimal attire. Our template also allows providers to state the chief complaint, as well as previous workup and/or exclusion of red flag conditions as stated above. We plan to gather post-intervention data by conducting a follow up survey with the same questions regarding our improvement measures.

Analysis and interpretation:
We identified several limitations to our QI aim. First of all, our timeline proved to be too short to observe meaningful change. This is likely due to the high demand and long waitlist for OMT appointments. We have not yet begun to see many new OMT referrals with our included smartphrase. Thus, we have elected to extend our timeline and conduct our follow up survey at the 6 month mark, which will be June, 2019.
We also considered the limitation of our smartphrase. Currently, it is inserted into a normal progress note under the appropriate diagnosis code. This does not relieve the OMT provider from having to search back through previous encounters and documentation to identify the desired information.
The smartphrase is also poorly formatted due to EHR limitations, which may create extra work for referring providers. Additional interventions may include the creation of a dedicated OMT referral, which will be sent to the OMT provider directly. Other options would include the use of an easily trackable telephone encounter with the desired information. We are also considering the potential role of nursing and/or MA staff in the distribution of OMT handouts. We plan to consider these options for possible future QI projects.

ALYSSA COWEL MD AND AMANDA HARTMAN MD
QI Abstract

Phone Triage at Partnership Health Center

Background: The project addresses the deficit in phone triage protocol within Partnership Health Center. It was found that many of the staff answering patient phone calls did not feel comfortable with triage and that patients are not always triaged to the right disposition. In a patient-centered clinic, this leads to difficulties in appropriately treating patients.

AIM: The goal was to increase the comfort level of nursing staff to adequately triage patients by phone.

Key Measures: Nursing comfort level for phone triage, 0-10 with 10 being the most comfortable.

Process of gathering information: Survey of PHC PSR (patient service representatives) and nursing staff.

Analysis and interpretation: PENDING. Roll out of project this spring. We are working with PHC medical and nursing staff on this piece.

Strategies for change: We created a set of twelve browse phrases that can be accessed by any provider, PSR, nurse, or other eCW users at PHC. These should make it easier for anyone, regardless of medical training, to triage a patient with the most common complaints and decide whether they should be seen emergently in the ER, for a same day in the clinic, or can be scheduled out with their provider. Ideally these will be used by an RN or LPN but often PSR's and MA's end up having to triage patients and may not feel comfortable judging the acuity. We have also updated the list of "red flag" symptoms that should alert anyone triaging a patient to the acuity of the situation.

Effects of change: In progress - we plan to do a follow-up survey with nursing and PSR's to see if these phrases have made a difference in their ability to triage patients.

CHRIS HALLBERG MD
QI Abstract

Maximizing Continuity Through Active Schedule Management

Problem
At times, due to the current scheduling process, patients are scheduled with a provider who is not their PCP even though their PCP is in clinic. In some cases it may be possible to switch patients between providers' schedules to increase the percentage of visits where a patient sees their PCP with the ultimate goal of improving continuity and quality of care.

Aim
The primary outcome will be an improvement in the absolute number of successful appointment swaps. There is currently no one regularly reviewing each provider's schedule to identify opportunities to move patients who are scheduled with a provider who is not their PCP. A successful intervention would be two swaps made during a four week period, benefiting the patient and the provider, given the burden to the MA or PSR would not be overly burdensome.

Key measures for improvement
• Decrease the number of instances where a patient sees a provider other than their PCP when their PCP is in clinic during the same day averaged over a four week period.

Process of gathering information
IT clinical support staff will setup a report to run weekly which will be filtered to identify possible appointment swaps. These reports are automated, based on the PCP as documented in the patient's chart, and run on a weekly basis. The results of the data are placed in a shared folder on the PHC network drive. These reports are then filtered to generate a list of possible appointment swaps including the appointment date, time and patient name. Melissa- team lead, the team PSR or myself to contact patients at the beginning of the week to determine if appointments can be swapped or reworked to allow for a patient to see his or her PCP.

Analysis and interpretation
To be determined pending additional data collection.

Strategies for change
• IT staff were involved to generate weekly reports indicating possible swaps.
• PSR/MA/myself were tasked with contacting patients to see if they were willing and able to switch.

Effects of change
To be determined pending additional data collection.

Lessons Learned
• Last minute scheduling changes including same day changes or even changes made within hours of a visit's start time are common, making it difficult to identify opportunities to switch appointments and question the utility of using clinic staff time to rearrange schedules if patients commonly reschedule. Simply put, is this the best use of staff time?
• Accurate assessment of progress towards an aim requires an accurate metric definition. This project required the identification of a patient's PCP. For many patients this is not straightforward – for instance, if a patient has been assigned a PCP but has seen other providers and never seen their assigned PCP, who is their PCP? Or if a patient only presents to urgent care and sees a different provider at each visit, who is their PCP? This ambiguity made it difficult to decide when to intervene in adjusting appointments and how to measure the success of the intervention.
• Resident-led QI projects that depend on the resident to be present in clinic require extended periods for data collection or need to be designed to involve several residents to allow for statistically significant effects to be seen.
• Data collection for seemingly straightforward interventions cannot readily be collected by our EMR and requires hand-generated reports by IT staff.
• Nurses, MAs, and PSRs wear many hats and have limited ability to take on additional responsibilities such as making additional phone calls to patients to attempt rescheduling with PCP.
• I'm hopeful that in the future, EMR systems would contain "smart scheduling" features that would automatically identify and recommend these types of changes.

AMY RICHMOND MD
QI Abstract

Increasing Frequency of BMI Counseling with Primary Care Patients

Problems:
The rates of BMI counseling remain low despite a large proportion of patients who met elevated BMI criteria. There exists a lack of consensus about how to approach this counseling as well as how to appropriately document it in the EMR to meet quality measurement standards.

Aim:
Within my personal patient panel increase the percentage of overweight patients, as defined as BMI greater than 25 for whom there is documentation showing they received counseling about their weight from 31% to 50% within the study period.

Key Measures for Improvement:
Percentage of overweight patients who have documented receiving counseling about weight; provider comfort with approaching conversations about weight management and effectively providing this counseling.

Process of Gathering Information:
I worked with the QI team at Partnership Health Center using the Azara quality measurement program to define appropriate documentation practices for BMI counseling and analyze changes to this documentation over the study period.

Analysis and Interpretation:

	% of Patients with BMI >25 Who Have Received BMI Counseling
Prior to Study Initiation	31%
Midway Through Study Period	33%
End of Study Period	32%

Strategies for Change:
Increased awareness of necessary documentation measures; streamlined documentation process as able; provider-directed education about effective and compassionate BMI counseling techniques.

Effects of Change:
Percentage of patients on panel with elevated BMI receiving weight counseling did not show a statistically significant increase. However, there was a subjective increase in conversations about weight and documentation of these conversations.

Lessons Learned:
QI projects take time! From the time of implementation of this project to the time of final data collected, there were very few months (and even fewer days in clinic due to inpatient rotations) in which to effect change. Though my data does not show any real improvement, I don't feel this project was unsuccessful – I have gained comfort around discussions about weight, and have begun to more regularly implement them in my visits. It will just take time for this to be reflected in my patient panel. I have also caught myself having these conversations when seeing other providers' patients, and this improvement was not able to be captured by the current study design. Overall I would conclude this is quality improvement in its infancy, with the potential to make a real impact moving forward.

ISSAC BILLINGS DO, BRANDON BILYEA DO and STELLA SELDON MD

Improving Completion of the Ages and Stages Questionaire (ASQ) at Flathead Community Health Center

Problem:
Well child check (WCC) patients are frequently being roomed having not received their appropriate Ages and Stages Questionnaire (ASQ) from the front desk, and if they have received their ASQ it is frequently not completed. Nursing staff are not routinely checking during their intakes that patients received and completed an appropriate ASQ. This results in a low percentage (<50%) of patient's having received and completed an appropriate ASQ prior to the physician coming in the room.

Aim:
To increase the total percentage of completed ASQs with WCC visits prior to the physician entering the room to >75%.

Key Measures for Improvement:
consistency in front desk personnel giving appropriate ASQs to WCC patients at time of check in; nursing staff inquiring at time of rooming a WCC patient if they have received and completed an ASQ and if not retrieving the ASQ or having them complete it at that time

Process of Gathering Information:
No formalized tracking/documentation process was in place for ASQs at the time of starting this project. Conversations were held with front desk, nursing staff, residents, and clinic attendings to

determine perceived rate of completion of ASQs and frequency of needing to retrieve ASQs themselves for WCC visits or just simply doing without.
A discussion was held with front desk staff about the process of administering ASQs which consists of having a drawer in their desk filled with printed ASQs that span all pertinent ages. They are expected to remember at time of check-in to give the patient their appropriate ASQ. There are no other system reminders in place.

Strategies for Change:
A tracking tool for completion of ASQs was created within the Electronic Medical Record (EMR) and placed in the nursing WCC intake section. This question asks if an ASQ has been received and completed with the option of checking "yes" or "no". A training session for the nursing staff will be held to introduce the new question in their intake section of the EMR and if they select "no" to at that time retrieve the appropriate ASQ and have the patient complete it. They will then be asked to type in the "Note" box beside the question that the appropriate ASQ was retrieved and given to the patient.
Additionally, conversations were held with front desk staff and the decision made to attempt posting a simple reminder sign beside the front desk computers to assist remembering to give the ASQs.

Plan for Analysis and Interpretation:
The created tracking tool in the EMR will be utilized to check for percentage of completed ASQs prior to the physician coming in the room for all WCC visits in the clinic within a 1-month period following implementation of the above intervention.

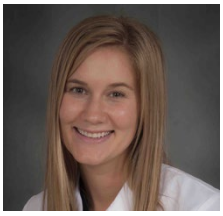
Effects of Change: Pending.

Lessons Learned:
Implementing changes in an EMR are not as complicated as they initially seem on the surface as long as you have the appropriate access (which can be complicated). However, careful consideration needs to be given to "click box burden" and the potential for detrimental effects on efficiency of a system and increased frustration with medical staff from having yet another "click box".
Additionally, it has been a useful exercise to discuss options of low vs high tech methods of creating a tracking tool and weighing the likelihood of compliance with various options as well as the potential cost on efficiency of various options. Ultimately, we have learned that creating a tracker that does not require an individual to go out of their way in order to utilize it or have to "remember" to utilize it is paramount. A well-made tracker intercepts an individual in their work flow at the time that the intervention being tracked is implemented and is made obvious so that individual does not have to "remember" to record the intervention.

CLASS OF 2021

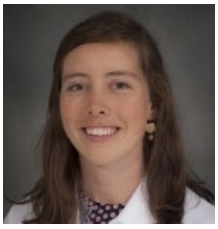
QI Projects-with a focus on personal wellness


Margie Albers MD


Ariel Fillmore MD


Emily Anderson DO


Geoff Holman MD


Carey Downey MD

 Sarah Horne MD

 Chelsie Russig MD

 James Jennings DO

 Erik Weber MD

 Kelsey Morgosh MD

MARGIE ALBERS MD
QI Abstract

Gratitude Statement Quality Improvement Project

Problem: Residency can lead to burnout and poor resiliency scores in physicians

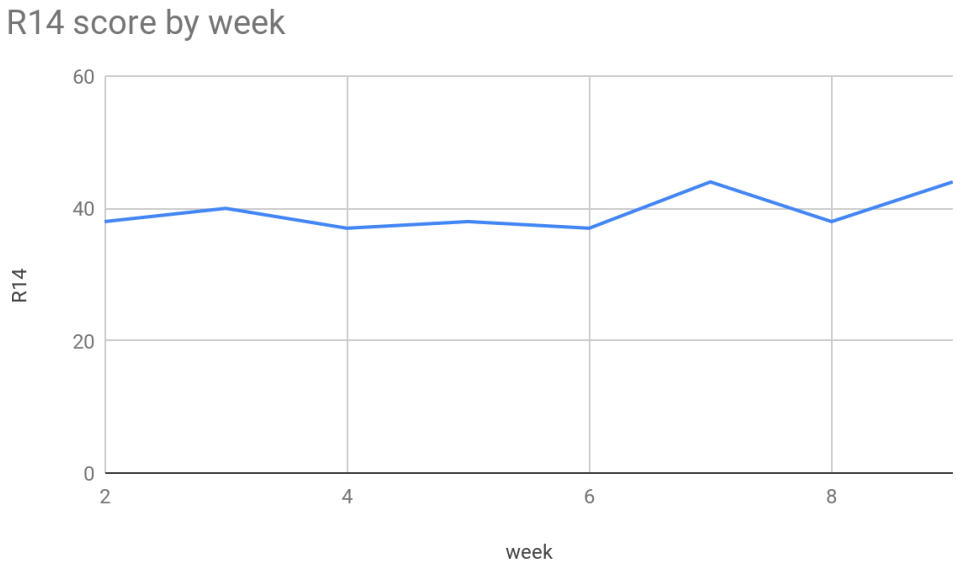
AIM: In order to prevent burn-out, I will practice gratitude by writing down 3 things I am grateful for daily, for 2 months (12/5-2/5) and rate my resiliency score on validated tool R14 once weekly.

Key measures: Measuring resiliency with the validated tool RS14 while practicing gratitude daily

Performance goals/gathering information: I wrote down daily gratitudes (3 per day), and rate my resiliency score with resiliency RS14 validated scoring tool once weekly

Barriers: forgetting to write Gratitude statements and/or R14 (cell phone reminder placed for both in late January on 1/30)

Measures/Outcomes: Resiliency score on R14 once weekly on R14 (0-56)



R14 scores
w1- 37
w2- 38
w3- 40
w4- 37
w5- 38
w6- 37
w7- 44
w8- 38
w9- 44
Ave 39.22
SD 4.95

Percentage change from w1-w9 18.9%

Discussion: It appears that weekly gratitude ratings may improve R14 ratings overtime (R19 scores increased by about 19% by the end of 8 weeks). Other factors on resiliency score may be rotation difficulty/vacation schedule.

Lessons Learned: Gratitude practice can be a helpful tool to prevent burnout during residency for this R1.

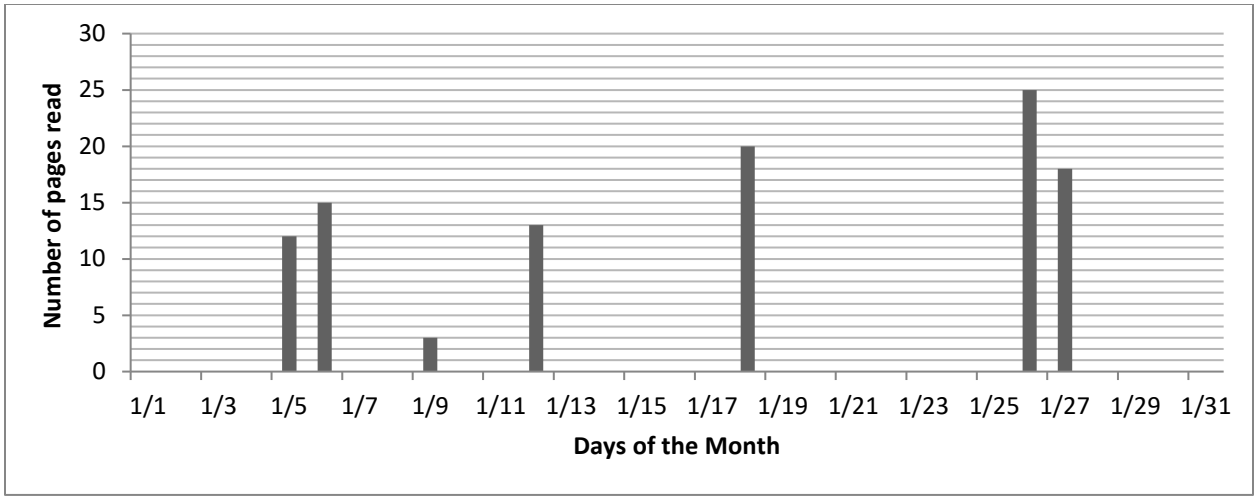
EMILY ANDERSON DO
QI Abstract

Strategy to Increase Monthly Non-Medical Reading

Background: Significant decrease in non-medical reading since starting residency. With non-medical reading I feel more connected to the community and to patients if I have knowledge of books and events to talk about.

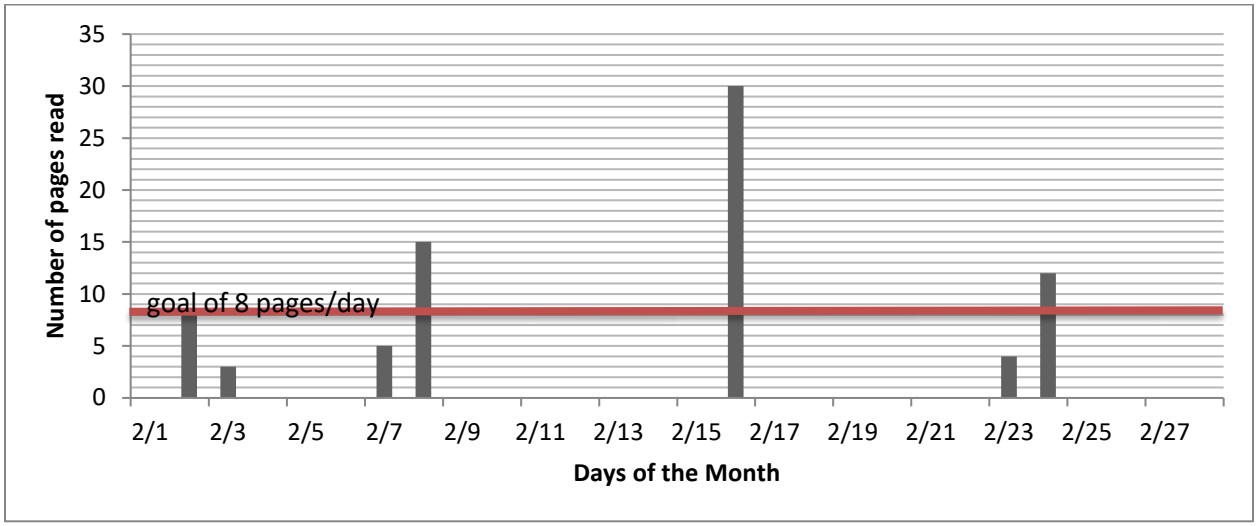
Aim Statement: To consistently complete reading of calculated daily number of pages with goal of completing one non-medical book a month.

PDSA Cycle 1:
Baseline Measure: I kept a calendar by my bed and recorded pages read every night for the month of January. Results showed that I was only taking time to read on the weekends. By the end of the month I had gotten less than halfway through the book I was reading.



Intervention: To divide number of pages in the book by days in the month to have a measure of how many pages to read daily to complete my book.

Outcome Measure: With a new book the calculated number of pages I would need to read daily to finish by the end of the month was 9 pages. Despite having what felt like an achievable small amount of reading nightly, I still mostly read on the weekends and did not finish the book by the end of the month.



Conclusion: Intervention of dividing book into daily quota of reading did not increase daily reading or completion of novel by end of the month. I think that probably other "wellness" activities ended up taking precedence. Other interventions to try in the future would be switching to audiobooks to listen to while exercising or doing other tasks as time is at more of a premium during weekdays.

CAREY DOWNEY MD
QI Abstract

Exercising Until Well

Background: Residency is difficult. We have many demands on our time, and often our own personal care is put to the bottom of the To Do list as a matter of necessity to accomplish the work the is required and give our patients excellent care. There is ample data concerning the benefits of exercise on personal wellbeing, cognitive function and overall health and additionally ample evidence that when these outcomes are maximized, patient care is improved.

Aim statement: To increase overall quality of life with regular exercise habits during residency.

Baseline Measure: The number of days per week that I was able to exercise were tracked along with the Quality of Life Scale (QOLS).(Figure 1) At the beginning of the project, my baseline QOLS was 65 and I was averaging 2 days a week of exercise.

Intervention: Increase the number of days exercising by an average of 1-2 per week each month.

Outcome: There was a small increase in QOLS related to an increase in average number of days exercised per week along with a proportional decrease in QOLS when the average number of days exercised per week decreased.

	Month	Ave Days/Week exercised	QOLS
Dec	0	2	65
Jan	1	4	66
Feb	2	5	67
March	3	3	65

Conclusion: There is a direct correlation between my personal QOLS and the amount of exercise I am able to get. On the QOLS, the majority was stable throughout the 4 months of the project. Main variations in scores were seen for items 2, 11 and 15 which allowed for an accurate assessment of the effect of exercise on my QOLS. The goal of the project was able to be met in months 1 and 2, however due to schedule restraints and increased demands directly from the concurrent rotation in

month 3 the number of days exercised per week decreased again with a resultant decrease in QOLS. While my QOLS increased during the project, the highest score on items 2, 11 and 15 was "mixed", which is highly disconcerting. Exercise during residency should be highly encouraged, and schedules made to allow time and energy for this.

Lessons learned: There does seem to be an improvement in my quality of life when I am able to exercise, however as a resident there is very little control over my time and priorities. There were days during the project where I wanted to exercise, but simply did not have the energy when I came home from work. If I was to work on this again, it would be prudent to add a component of scheduling planned activities during the week based on what I was required to do for residency requirements. This of course would not account for days when emotional exhaustion is the limiting factor, as emotionally taxing days are usually not predictable. This may be counteracted by a contingency plan to implement for high physical or emotional fatigue days with strategies to re-invigorate myself in order to complete the planned physical activity for the day.

Figure 1: QUALITY OF LIFE SCALE (QOL)

Please read each item and circle the number that best describes how satisfied you are at this time. Please answer each item even if you do not currently participate in an activity or have a relationship. You can be satisfied or dissatisfied with not doing the activity or having the relationship.

				Mostl v		Mostly Dissatisfied	Unh	
1.	Material comforts home, food, conveniences, financial security	7	6	5	4	3	2	1
2.	Health - being physically fit and vigorous	7	6	5	4	3	2	1
3.	Relationships with parents, siblings & other relatives- communicating, visiting, helping	7	6	5	4	3	2	1
4.	Having and rearing children	7	6	5	4	3	2	1
5.	Close relationships with spouse or significant other	7	6	5	4	3	2	1
6.	Close friends	7	6	5	4	3	2	1
7.	Helping and encouraging others, volunteering, giving advice	7	6	5	4	3	2	1
8.	Participating in organizations and public affairs	7	6	5	4	3	2	1
9.	Learning- attending school, improving understanding, getting additional knowledge	7	6	5	4	3	2	1
10.	Understanding yourself - knowing your assets and limitations - knowing what life is about	7	6	5	4	3	2	1

11. Work - job or in home	7	6	5	4	3	2	1
12. Expressing yourself creatively	7	6	5	4	3	2	1
13. Socializing - meeting other people, doing things, parties, etc	7	6	5	4	3	2	1
14. Reading, listening to music, or observing entertainment	7	6	5	4	3	2	1
15. Participating in active recreation	7	6	5	4	3	2	1
16. Independence, doing for yourself	7	6	5	4	3	2	1

ARIEL FILLMORE MD
QI Abstract

OUTDOORS TIME TO INCREASE SENSE OF CALM

Problems: Need for improved sense of calm after a long day at work, especially on days in which I work in a windowless room for 10+ hours.

Aim: Improve overall wellbeing and regain sense of calm after a long and stressful day spent working as an intern.

Key measures for improvement: Increase sense of calm before bedtime

Method: Initially, began with collecting baseline data. Sense of calm was recorded nightly at least 3 times per week. On this scale a "1" was a sense of absolute internal chaos and distress and a "10" was pure serenity. Minutes spent outdoors was recorded on these same nights, minutes were approximated and rounded to the nearest 10. Any time spent outdoors was permissible, this included time walking dog, running, biking, gardening, shoveling snow, etc. After this baseline data was recorded, a concerted effort to increase time spent outdoors was applied. Then the calmness scale and the minutes spent outdoors continued to be recorded, with a goal of 3x/week recordings.

Analysis and Interpretation Below table shows results of the intervention of time spent outdoors affecting the calmness scale.

	Prior to intervention	Post intervention	Difference
Average sense of calm	6.2	7.7	Total scale of 1.5 increase, 25% increased
Minutes spent outside	19	27	Increase of 8 minutes, 42% increase
Total number of days recorded	10	33	

Strategies for change: After collecting my baseline data and observing that I spent an average of 19 minutes outside, I made an effort to spend a minimum of 15 minutes outside every day. I told my

partner and my friends of this decision and asked for their support. For instance, I asked my partner to wait until I got home to take our dog on her longer walks.

Effects of Change: As can be seen from the above table, my effort to spend more time outside was successful. I increased the amount of time I spent outside from an average of 19 to 27 minutes. This resulted in a stronger average sense of calm at the end of the day. An increase of 1.5 on the calm scale or a 25% increase was observed.

Lessons Learned: As expected, I learned that being outside does make me feel calmer. I also feel that the biggest effort was made on days that I worked long hours. On these days, it would have been typical for me to come home and stay home, but after this effort was made, I was determined to at least go outside for 15 minutes. This was usually done by walking my dog. I think this is a sustainable change that will bring me a better overall sense of wellbeing.

GEOFF HOLMAN MD
QI Abstract

Little Book of Knowledge

Background: Finding time during residency to study has been a struggle, and I suppose will continue to be a struggle as our workload continues to increase. I have found that it is difficult for me to balance work, time with my partner, personal time, chores and everyday tasks, and learning. Also there are multiple times throughout each day where I am exposed to valuable nuggets of information that I struggle to retain and often find myself remembering having learned something at one point, but not remembering the details of what I learned. Something had to be done.

AIM Statement: I will engage in self driven learning by writing newly learned nuggets of information in my Little Book of Knowledge at least once per day every day that I work, with a secondary objective to review previously written nuggets at least once a week.

Baseline Measure: I kept a tally (in the back of the Little Book of Knowledge) for each workday that I wrote at least one thing in my Little Book of Knowledge. I ended with 44 tallies in the book. Intervention: Create and begin utilizing a Little Book of Knowledge daily during work days.

Outcome: Of 56 measured work days I recorded an entry on 44 days, or 78%. Prior to this project I did not have a book of knowledge or put entries into it.

Conclusions: I am pleased with this project and feel that there have been many positive takeaways. First, I feel more engaged in learning activities because now I have a place to record and retain knowledge that will stay with me. Second, I have recorded numerous entries that I have referred back to many times, specifically drugs and doses that are very handy to have easily accessible. Third, I have a review guide of all of the nuggets of information which I at one point didn't know, which is a perfect study tool. I am pleased with the 78% rate of entries. I think a good goal going forward would be to get to 80%, or 4 out of every 5 days per week. I hope and plan to continue using my Little Book of Knowledge throughout residency, and feel that this is one intervention that has only upsides and a very low lift on my part. I am optimistic that it will not only help me throughout residency but that I can establish this as a habit that I can continue into practice, to help me retain and grow as a physician throughout my career.

SARAH HORNE MD
QI Abstract

Happiness through Gratitude

Problems: The main problem assessed by this project was the need for sustainable, improved patient care in the setting of a job that requires above average work hours and emotional energy.

Aim: I will improve my daily mood by 25% through a 10 minute weekly gratitude practice for the next (2) months.

Key Measurements for Improvement: In order to assess outcome improvement, several items were measured, including number of days exercised per week, number of hours slept per night, and the number of times I complained about my job per day.

Process of Gathering Information: I used a journal at bedside to log my hours of sleep per night and whether or not I exercised that day. I emailed a reminder tally to myself with my phone whenever I complained throughout the day. Every (2) weeks, I logged all of this information in an excel spreadsheet.

Analysis and Interpretation: Table 1 shows the results before and after instituting a gratitude practice. It should be noted that over the course of this data analysis, the weather where I live dramatically changed to warmer, sunnier climate, although this was not recorded in any way.

Table:

Table 1 Analysis of Results	Prior to Intervention					Post Intervention									
	Week 1	Week 2	Week 3	Week 4	Average	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Average	Delta
# Days Exercised	5	5	6	6	**5.5**	5	5	6	6	6	5	5	6	**5.5**	**0.0**
Average # Hrs Slept/Night	6.4	7	6.3	6.2	**6.475**	7	7.5	7.6	7.6	7.5	7.8	7.7	7.8	**7.5625**	**1.1**
Average # Complaints/Day	5	5	6	6	**5.5**	4	2	2	1	2	0	0	1	**1.5**	**4.0**

Strategies for Change: In order to implement change, I established a gratitude practice where I ritually went to a local coffee shop once a week and spent 10 minutes writing down (3) things that I was grateful for with my residency program and in my life.

Effects of Change: After implementing a gratitude practice, I found that the number of times I exercised per week did not change significantly. However, the number of hours I slept per night seemed to improve albeit slightly. Most meaningfully, after implementing a gratitude practice, the number of times I complained throughout the day decreased dramatically. I took a mood questionnaire (WHO5 from Ohio State University) at the beginning and end of this project and my "happiness" improved by 22%. Of note, the questionnaire is designed such that a 10% improvement in mood is considered significant.

Lessons Learned: Gratitude affects my mood. I can't speak to anyone else, but the more I consciously practiced thankfulness, the more thankful I became. This appeared to be associated with increased sleep and increased happiness based on my measurements of improvement, which indicate to me that gratitude can be used as a way of staying positive and healthy throughout residency.

Keywords:
Gratitude, Mood

JAMES JENNINGS DO
QI Abstract

Effect of Physical Fitness on overall stress levels.

Problems:
Need for improved data to determine the amount of time that can be dedicated towards improving fitness while in residency as an intern.

Aim:
To increase the amount of time dedicated towards physical fitness and to correlate the effect this has on improving stress levels.
Key measures for improvement:
Time per week dedicated to personal physical fitness; max HR and power numbers; stress level questionnaire

Process of gathering information:
Data from each indoor bike ride will be gathered by both, personal cycling software and by virtual riding software that is used during trainer rides. This will collect: Heart rate, power, time, and cadence. The max HR will be recorded for each week and max 20 min power output will be recorded.

Analysis and Interpretation: See table 1

Strategies for Change:
Focusing more on physical fitness and improving time management strategies and completing Stress Level questionnaire at the conclusion of each rotation.

Effects of Change:
When examining the baseline performance and stress levels significant increases were made initially as would be expected when starting to increase training. However there was an unexpected decrease in fitness after week 12, which was not regained.

Lessons Learned:

Fitness and stress are directly related to rotation intensity. Rotations which were more time consuming did not allow for increased time towards physical fitness and stress levels were increased. There seemed to be a plateau after 12 weeks with no further progression and ultimately a decrease in both heart rate and wattage output. The results do not represent true fitness, as there was not a standardized 20 minute test performed each week or at the end of each 4 weeks where actual threshold or VO2 max was measured. Results also do not take into account extenuating circumstances which occurred outside of rotations and had an effect on ability to complete exercise program. Overall, I feel that this is a general well representation of my fitness progression and stress levels over the past 5 months. Having protected time during intensive rotations would be one way to circumvent the issues uncovered during this project.

Table 1:

Week	Time	Max HR/20min Power	Rotation	Stress Levels ISMA questionnaire
11/12 – 11/18	4 hours 40 minutes	265 watts	OB	
11/19 – 11/25	2 hours 22 minutes	280 watts	OB	
11/26 – 12/2	2 hours 18 minutes	288 watts	OB	
12/3 – 12/9	2 hours 30 minutes	281 watts	OB	12
12/10 – 12/16	4 hours 46 minutes	174bpm / 297 watts	Rural	
12/17 – 12/23	0		Rural	
12/24 – 12/30	2 hours 5 minutes	178bpm / 310 watts	Vacation	
12/31 – 1/6	2 hours 44 minutes	178bpm/ 311 watts	Vacation	10
1/7 – 1/13	1 hour 22 minutes	178bpm / 292watts	GYN	
1/14 – 1/20	2 hours 53 minutes	178bpm / 310watts	GYN	
1/21 – 1/27	4 hours 50 minutes	179bpm / 305watts	GYN	
1/28 – 2/3	2 hours 27 minutes	176bpm / 307watts	GYN	10
2/4 – 2/10	1 hour 58 minutes	181bpm / 313watts	Medicine	
2/11 – 2/17	31minutes	171bpm / 280watts	Medicine	
2/18 – 2/24	3 hours 35 minutes	179bpm / 310watts	Medicine	
2/25 – 3/3	2 hours 53 minutes	177bpm / 290watts	Medicine	14

3/4 – 3/10	1 hour 3 minutes	178bpm / 298watts	OB	
3/11 – 3/17	2 hours 27 minutes	178bpm / 294watts	OB	
3/18 – 3/24	2 hours 55 minutes	176bpm / 298watts	OB	
3/25 – 3/31	1 hour 55 minutes	174bpm / 304watts	OB	14

KELSEY MORGOSH MD
QI abstract

Pursuing Wellness through the Practice of Yoga

Background:
When considering a wellness project, I wanted to focus on something that I knew I could accomplish and would ultimately leave me feeling more resilient and refreshed rather than another to-do. I have practiced yoga somewhat regularly for the past ten years and felt this would be the perfect wellness activity to implement on a regular basis.

Aim:
I will improve personal well-being scores on a scale of one to ten as measured before and after practicing at least ten minutes of yoga >3 times weekly between January and March 2019.

Key measure for improvement:
Personal well-being scores on a scale of one to ten before and after practicing yoga with ten representing higher stress and therefore worse well-being.

Process of gathering information:
Scores were recorded pre and post practicing yoga with "baseline data" being represented by pre-yoga scores.

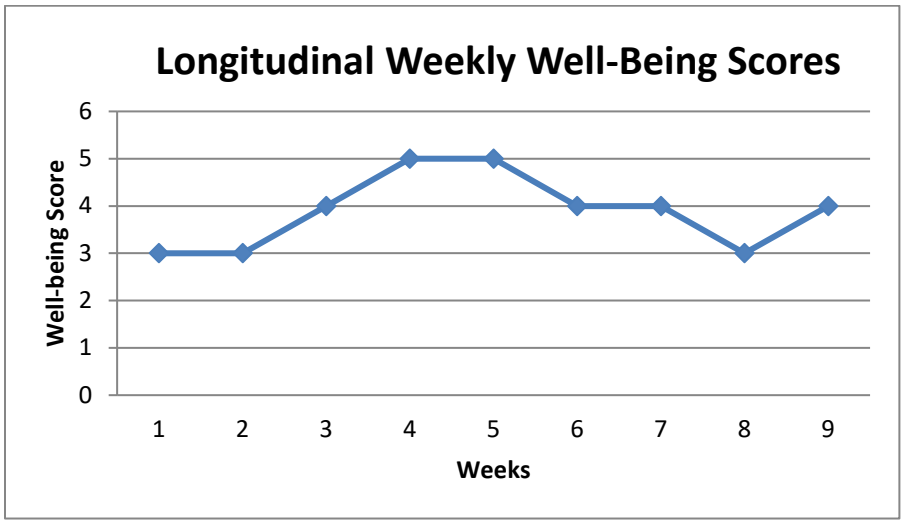
Strategies for change:
The intervention was practicing 10 or more minutes of yoga

Data analysis:
- Total days of yoga practiced: 32 sessions
- Total minutes of yoga practiced: 690 minutes
- Average time practiced: 22 minutes
- Average pre-yoga well-being score: 4.34
- Average post-yoga well-being score: 3.06
- **Average difference between pre and post well-being scores: 1.28 ($p<0.005$)**

Minutes of yoga	Average difference between pre and post well-being scores
10-19	1.58

20-29	1.20
>30	1.21

*No statistical difference between groups:
p=0.188 comparing 10-19 and 20-29
p=0.199 between 10-19 and >30
p=0.50 between 20-29 and >30



Data interpretation and effects of changes:

My primary outcome measured the difference between my pre and post yoga well-being scores. The average difference and improvement was 1.28 which was statistically significant with a p-value less than 0.005. I also compared the difference between pre and post scores based on the amount of time I practiced yoga: 10-19 minutes, 20-29 minutes, or >30 minutes and there was no statistical difference between the average pre and post yoga well-being scores based off of how long I practiced. Taken together, these results suggest that practicing yoga for at least ten minutes can improve my overall sense of well-being as measured by well-being scores in this analysis. *More simply put, it seems that getting on the mat at all makes a difference in how I'm feeling regardless of how much time is put in.*

Additionally, my weekly recorded well-being scores did not show a trend over time which seems to suggest that practicing yoga on a regular basis may benefit how I'm feeling in the short term but doesn't sustain. Varying levels of perceived stress on a weekly basis is likely also strongly circumstantial and varying with whichever rotation I'm on and the hours worked.

Lessons learned from project:

The bottom line is that for me personally, practicing yoga for even ten minutes will likely leave me feeling more calm, grounded, and resilient in the short term. I successfully met my measurement goal which was simply to improve my well-being scores on average pre and post practicing yoga. It's hard not to introduce ridiculous amounts of bias into a study like this that was based off of self-polling (no blinding here…). On the other hand, I think it served its purpose which was to get me engaging in an activity regularly that I know promotes wellness in my own life. If I were to do some variation of the same study, I would be curious to compare scores between sessions interrupted by my fussing infant versus those that carried on without interruption… then again that would not be very realistic or generalizable.

CHELSIE RUSSIG DO
QI abstract

Project Auf Gehts!

Quality Improvement on Wellness during Residency
Effect of tracking the number of times a learner will engage in learning a new language while in residency, and whether creating a tracking tool was an effective incentive to increase compliance with regular practice of new language skills versus ordinary tracking tool.

Problems
Residency can be one of the more challenging points in a medical professional's life. While it is important to work hard at keeping up your medical knowledge and application of skills, it is also important to have a life outside of that. Learning new things such as languages or other skills/recreational habits can be therapeutic and increase quality of life, but are difficult to achieve due to time constraints. Most residents have goals for these sorts of endeavors, but rarely are able to muster the energy to follow through with them.

Aim
To increase the number of times engaged in learning in a new language during time off.

Key Measures
Number of times that the learner logs on to and uses a language learning app before and after creating a spreadsheet for logging app use events.

Process of gathering information
In the first cycle, prior to the intervention, the learner did not have a recording sheet or any sort of tracking device except the tracking on the app itself. The app records "streaks," which are designed to encourage use by celebrating the number of days that the learner has accessed and used the app. The intervention was creating an excel spreadsheet to track the number of days that the app was accessed and used. Of note, this excel spreadsheet was in addition to the "streak" tracking.

Analysis and Interpretation
Figure 1 shows the number of days the app was accessed during a 7-day period, featured in the "Streak" format. This is a screenshot from 1 of the 4 weeks during the first cycle. All 4 weeks of the first cycle were identical to this figure.

Table 1 shows the number of days the app was used for 4 weeks after the excel spreadsheet was produced.

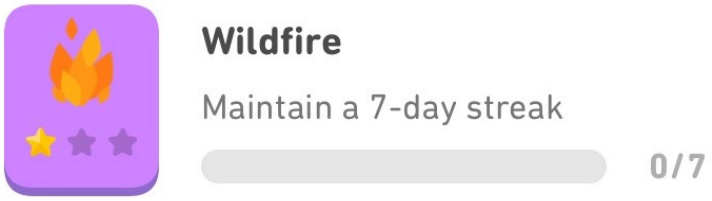


Figure 1

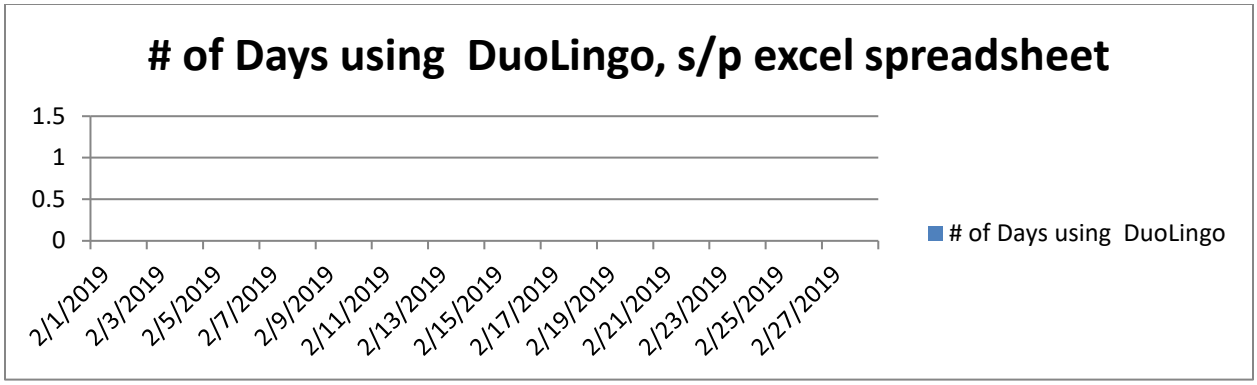


Table 1

Discussion

Unfortunately, this intervention was not an effective means of increasing compliance with frequent language learning. The intervention, creating an excel spreadsheet, was intended to increase the compliance by making accountability more present and visible.

There are many barriers to carrying out such endeavors for a medical resident. Time off is minimal and precious, and that time is competed for by other forms of relaxation, recreation, time spent with friends and family, and necessary functions of life such as cooking and cleaning. While certainly not impossible, this particular goal ultimately fell low on the learner's list of priorities.

QI abstract

Semper Paratus

The effect of a structured clinic preparation plan on subjective readiness and objective documentation efficiency (N = 1).

Problem:
Managing the stress of residency is a challenge, and increased flexibility during non-scheduled hours expands options for stress management, like exercise, reading, or spending time with friends. Often work hours, scheduled and non-scheduled, spread to occupy non-scheduled hours, which turns free time into work time. Finding ways to minimize work requirements during non-scheduled hours seems like an opportunity to maximize stress management capabilities during residency. Maximal efficiency during work hours probably occurs when preparation for scheduled work is optimized.

Aim:
To optimize preparation for clinical encounters, as demonstrated by increasing both a subjective readiness score and objective efficiency score by 10% over a trial period of 6 weeks compared to a baseline period of 6 weeks, using a systematic pre-encounter chart review intervention.

Key Measurements for Improvement:
1. Subjective feelings of readiness to address patient concerns.

$$\frac{Number\ of\ patients\ where\ resident\ felt\ ready\ prior\ to\ encounter}{Number\ of\ patient\ encounters} = Readiness\ score$$

2. Objective binary measurement of documentation completion speed with a cut-off of one hour of non-scheduled time worked for each clinic day. Assumptions include time to completed documentation of a clinical encounter inversely correlates with the preparation for such an encounter.

$$\frac{Number\ of\ charts\ completed\ for\ preceptor\ review\ within\ 1\ hour\ nonscheduled\ time}{Number\ of\ patient\ encounters} = Efficiency\ score$$

Intervention:
A systematic pre-clinical preparation routine, limited to 10 min per patient, to include review of previous encounter(s) and utilizing the AHRQ ePSS phone application for reviewing preventive service recommendations. Pre-charting notes documented in a plain text file for ease of import into EHR.

Process for Gathering Information:
A cloud-based spreadsheet, accessible by phone application on each day of clinic, was used to record date, number of appointments, number of encounters felt ready for, number of encounters where charts were completed within 1 hour non-scheduled time, and number of charts reviewed systematically on each day of clinical work studied.

Analysis and Interpretation:

Table 1. Mean normalized data with% change and t-test

	Baseline	With intervention	Change (%)
Readiness score mean	0.67	0.94	40 (p-value = 0.001)
Efficiency score mean	0.36	0.52	44 (p-value = 0.327)

Mean readiness and efficiency scores both increased by the 10% goal, however a t-test analysis of the daily scores (measure normalized to patient encounters per day) suggested the change in efficiency was not statistically significant. Furthermore, observationally, readiness may have increased due to increase in practical medical knowledge, improved awareness of clinic resources, and increased experience with the particular patient panel.
A secondary analysis with Pearson Product-Moment Correlation Coefficient calculations with both normalized and raw data compared to number of successful chart reviews showed mixed results.

Table 2. Correlation coefficients

	Readiness with Reviews	Efficiency with Reviews
Normalized	0.31	0.07
Raw	0.54	-0.15

While readiness showed a robust positive correlation with the intervention, it was not strong, suggesting other contributing factors. Efficiency showed mixed correlation depending on the preparation of the data, suggesting the number of daily encounters (normalization factor) was a driving force in results. A correlation analysis between appointments and efficient ($r = -0.08$) showed a weakly negative effect on daily encounters suggesting that, while increased number of patients may reduce efficiency, drivers are more complicated than simply number of daily encounters, and, observationally, may be related to complexity of the patients, number of add-on, appointments, length of appointments, and team composition.

Conclusion:
A structured pre-clinical review of anticipated clinical encounters provides some moderate benefit to subjective readiness feelings, and does not provide benefit to documentation efficiency, although significant confounding variables were identified.

Scholarly Activity

BRETT BELL MD
Scholarly Activity

Project Title: Substance Use Disorder management video series for the Montana Medical Association

Details of the project:
The Montana Medical Association produced a series of videos for online CME for physicians around the state to watch to learn about various problems related to addiction medicine and particularly to managing opioid use disorder. I prepared presentations for two videos, one on hospital management of patients with opioid use disorder and one on transitioning chronic pain patients to buprenorphine.

Outcome:
The video series will be available for online CME in the next several weeks

Reflections:
This was a fun project. This is a great way to extend the reach of addiction medicine specialists throughout a larger geographic area (Montana has 6 addiction medicine doctors in the entire state). It was really helpful to practice my presentation multiple times before filming, and it was a fun challenge to think about how to condense the concepts into 15-minute presentations.

DARIN BELL MD
Scholarly Activity

Snow cave study

Details of the project: Goal to evaluate different types of snow shelter construction in emergency scenarios. Evaluate time and effort to construct different shelters, insulative properties, to determine which type of shelter would be most effective in a given emergency situation.

Outcome: IRB has been submitted twice, with feedback both times (and not enough lead time to get done each season). Small study mostly designed, just waiting to be continued / completed.

Reflections: Need to reevaluate IRB proposal, study design, and resubmit prior to winter to have ready for winter wilderness weekend.

Rural Curriculum on Native Health Care

Details of the project: American Indians make up the largest minority group in Montana, and largely live in rural areas. There are many unique aspects to Native American healthcare that our program has not adequately explored for rural training and preparation. We are currently developing partnerships with Salish Kootenai Tribal Health to increase resident exposure to Native healthcare and explore options of providing services not currently offered by tribal health. These include curricular development, needs assessments, and development of contracting for provision of services. It has the potential to include both on-site and remote care (e.g. telehealth)

Outcome: Currently working on a grant application for supplemental funding. Initial rotation structure is being constructed. Preliminary conversations around expansion of services and partnership for providing care have been held.

Reflections: This has lots of potential, and could go in a number of directions depending on the needs of our partner institution. Still early in the process with exciting movement forward.

Simulation training

Details of the project: Simulation training is becoming a growing part of residency training as well as that of other health professions. This is an area where we as a program have only recently begun to explore in depth. It is an area with lots of potentioal for expansion both within our program as well as interprofessionally within the college of health professions. .

Outcome: IPE simulation events take place on campus once per semester. Programmatic simulations are scheduled for twice per year.

Reflections: This area has the potential to expand and develop significantly throughout the next year or two. Incorporation of simulations could be an increasing part of didactics (on a small scale as an expansion of case based learning opportunities). In addition they have the potential to play an increasing and effective role in the incorporation of interprofessional education into the residency curriculum.

Scope of Practice Study

Details of the project: FMRWM has been quite successful in the mission of getting graduates out practicing in rural and underserved areas. But at this time we have little data on the scope pf

practice of our graduates, and how well trained they felt for various skills needed for practice in rural settings., as well as availability and support for various services in the rural communities in which they work. Having this information would be valuable as a guide to direct curricular and training changes and evolution as our young program continues to develop. At the same time partner organizations are interested in information about specific services offered in rural areas around reproductive options and care in relation to the RHEDI grant our program recently received.

Outcome: This project is very much in the initial planning stages. Work needs to be done on background analysis/lit review of available information, project design, survey construction , IRB approval, followed by data collection and analysis.

Reflections: This is an opportunity to get in on the ground floor of a project under development and help build it in whatever capacity you have available from the ground up. It is a mission driven project for our program and would provide valuable information for resident education in the future.

ELLEN BLUETT PhD
Scholarly Activity

Project Title: Examining the impact of integrated behavioral health for adults with multiple chronic conditions in an underserved community

Details of the project: This project is part of the Patient Centered Outcome Research (PCORP) Scholar Program through the University of Washington. The PCORP Scholars Program provides an opportunity to gain in depth education, mentorship and training of PCOR/CER principles.

Background: Studies have shown that between 40-60% of patients first seek mental health care by their primary care provider.[1] HRSA has deemed all but one county in the state of Montana as a "Mental Health Professional Shortage Areas" resulting in limited access to appropriate care. One study found that 52.5% of adults in Montana experiencing mental health concerns did not receive treatment.[3] Integrated behavioral health (IBH), the connection between behavioral health and medical services, may be the solution to provide comprehensive holistic care for adults in Montana with behavioral health concerns. Research has shown that integrated behavioral health has numerous benefits including improvement in patient outcomes, an increase in patient satisfaction, and improved access to care.[4,5] The aim of this project is to determine whether an integrated behavioral health service at PHC improves access, engagement and satisfaction for adults in Montana with comorbid mental health and multiple complex medical conditions.

Methods: The study aims to conduct a quasi-experimental design to determine if an integrated behavioral health service improves a) patient access to behavioral health services b) patient engagement c) patient satisfaction and d) provider satisfaction at PHC. We aim to measure access to behavioral health services (number of warm-handoffs conducted) and patient engagement (number of completed BH visits) pre- and post-implementation. In order to assess provider satisfaction, PHC's medical teams will be asked to complete a survey following 6 months of implementation. To assess patient satisfaction, patients engaging in a warm-hand off will be asked to complete a very brief survey at the end of the encounter. In addition, we will utilize data gathered in the electronic medical record to examine how patient satisfaction relates to age, ethnicity, poverty level, and number of chronic medical conditions.

TIM CARAMORE MD
Scholarly Activity

Journal Club overhaul

Details of the project: The journal club change grew out of frustration at the variable but often poor educational value of the prior incarnation of journal club. The project involved sitting down

with about half of all Missoula residents to gather their impressions (they didn't love journal club either) and ideas for changes we could make. A core group of residents and I drafted a proposal for a set of changes to the structure, content, frequency, and presentation expectations for journal club. I then met with numerous stakeholders to gather more ideas, build consensus for change, and work through obstacles. Those meetings resulted in a final plan to roll out journal club 2.0 in September 2018.

Outcome: Fully implemented as of September 2018. As of July 2019 every faculty member and Missoula resident will have presented at one journal club.

Reflections: Engaging a large number of residents and other stakeholders in the change process was key to building the case for change. I also learned that sometimes neglected institutions need a champion in order to be revitalized. Participation has grown considerably this year as a result of the changes.

Evidence-based medicine curriculum redesign

Details of the project: Evidence-based medicine was previously taught by Aaron Derry, PA-C, who decided to move on from the role prior to the 2018-2019 academic year. I assumed primary responsibility for the curriculum this year, which entailed developing 8 total didactic sessions for Wednesday afternoons. I based much of the curriculum on materials maintained by the Tufts Center for Information Mastery (https://medicine.tufts.edu/departments/clinical/family-medicine/center-information-mastery) and originally developed by some of the thought leaders in evidence-based medicine in family medicine, David Slawson, MD, and Allen Shaughnessy, PharmD. My intent has been to focus on high-yield EBM topics (the concept of patient-oriented evidence that matters, using online resources to critically appraise randomized controlled trials, systematic reviews and meta-analyses, likelihood ratios, number needed to treat) in an effort to cultivate skill and agility in navigating the continuous flood of medical information they'll face throughout their careers.

Outcome: Slate of 8 sessions successfully developed and offered this academic year.

Reflections: I learned a load about EBM with this project, and my sense is that this curriculum is proving to be a nice compliment to the journal club overhaul. In the future I'd like to integrate this curriculum further with other medical topics so that didactic sessions aren't just EBM.

Friday Medical Conference – Title: Blood Pressure and Cholesterol: What the heck am I supposed to do now?

Details of the project: Major new guidelines for blood pressure and cholesterol management were published in 2017 and 2018, respectively, and both included significant departures from prior practice. Both publications attracted considerable media attention and courted controversy. I took a deep dive into both guidelines and attempted to distill a small set of key recommendations for practice based on extensive review of existing literature.

Outcome: Presented March 2019. Key take-home points: 1. There isn't great reason to redefine hypertension; 2. We should pay more attention to the way we measure blood pressure; 3. Statins don't work very well in primary prevention; 4. There is minimal evidence guiding screening in children and adults younger than 40; 5. There is marginal additional benefit to be derived from chasing LDL reduction goals; 6. Beyond recommending fruits and vegetables, I'm at a loss as to which diet to suggest to people for general health and cardiovascular risk reduction.

Reflections: Preparing for a didactic session or conference presentation is a great way to broaden and deepen one's knowledge in some area of medicine (yes, I know that's obvious, but it's true). I'm hoping to work on improving PHC BP measurement practices in the future.

KERRY HANEY PharmD
Scholarly Activity

Development of Large Biannual Interprofessional Training Seminars in a Rural State
(with Keith Anderson, Terry Egan, Kate Chapin, Jenn Bell)

Details of the project: Several small pilot projects have been accomplished on the UM campus. Accreditation standards for many health professional programs have recently focused on incorporating IPE activities into the curriculum. A seminar was an educational format that could bring large numbers of students/residents together to learn about IP topics with a sustainable use of faculty resources and at a reasonable financial cost.

Outcome: 3 Seminars have been held with attendance ranges of 135-275. Student and faculty feedback has been predominantly positive. A poster abstract has been submitted for a national IPE meeting in Aug 2019.

Reflections: The plan is to host two events again next year.

AMY MATHENY MD
Scholarly Activity

Projects/Scholarly Work:

1) 2019 Society of Teachers of Family Medicine (STFM) Annual Meeting Poster Contributor: "Primary Care Endoscopy Training in Rural Montana" (co-authors: C Jose, R Cruikshank, D Bell)
2) 2018 STFM Annual Meeting Seminar: "The National HIV Curriculum: A New Standard in HIV Education", (co-presented with P Bolduc, C Bositis, G Liu, and B Gayle)

3) ABFM Continuous Knowledge Self-Assessment (CKSA) Question Writer, 2016 to present
4) Montana Academy of Family Physicians President-Elect, 2018/2019
5) Family Practice Inquiries Network (FPIN) "Help Desk Answer" Publications:
    a. Matheny A, Mata J. "Benefits and Risks of Preterm External Cephalic Version." *Evidence-Based Practice*. 2018; 21(5): 11-12.
    b. Richards C, Hipolito R, Blau C, Mussman M, Matheny A, Bell D. "What is the best treatment for female pattern hair loss." *Evidence-Based Practice*. 2018; 21(9): 65-67.

Details of the project:

1) Worked on longitudinal curriculum for a rural endoscopy elective based on growing resident interest in expanding this opportunity for training (2018/2019 academic year)
2) Participated in this seminar with other Family Medicine faculty from around the country on a curriculum that FMRWM utilizes on Community Medicine and the HIV/Hepatitis C elective
3) Invited by ABFM to participate in annual question writing meetings.
4) As President-Elect, this year I have spearheaded the development of a quarterly MAFP magazine, *Montana Family Physician*, which is soon to release its inaugural edition with the hope of highlighting Montana Family Medicine updates and the MAFP's work and value to members.
5) Co-authored these HDAs through the UW FMRN 2016/2017 Faculty Development Fellowship and another through the FMRWM HDA workshop in Spring 2017.

Outcomes and Reflections:

1) Successful initial pilot of this longitudinal curriculum, which is now under the direction of Dr. Cruikshank but serves as a model for other longitudinal elective experiences at FMRWM.
2) Presentation at STFM was well attended and was an opportunity for me to connect and collaborate with other Family Medicine faculty engaged in HIV and Hepatitis C care
3) I hope to continue to serve in role with the ABFM and use insight to drive continued refinement of our residency curriculum for success in our program's board performance.
4) I have been involved with the MAFP Board since 2013, and will serve as President in 2019/2020.
5) Two successful publications in *Evidence-Based Practice*. I have also served as a peer reviewer for FPIN for another HDA.

DA N MCCARTHY DO
Scholarly Activity

Grant Application: Osteopathic Manipulation and Cranial Hydrodynamics in Concussion Patients

Details of the project: The purpose of this research is to investigate osteopathic medicine's ability to affect physiologic change in patients who have had a concussion or brain injury. It has been demonstrated that some patients who are asymptomatic following even a mild concussion, have abnormal cranial physiology and hydrodynamics including decreased venous drainage and

decreased intracranial compliance. It has been proposed that these are irreversible changes. Our goal is to show that by utilizing osteopathic manipulative medicine, these changes can be improved or reversed. We will obtain baseline physiologic parameters using MRI, cognitive function scores utilizing virtual reality, and symptom scores using the Sports Concussion Assessment/Vestibular-Ocular Motor Screening Tool. We will then treat patients with osteopathic manipulation and recheck the parameters. Using this information, we will be able to determine if osteopathic medicine has the ability to improve patient physiology, symptomatology, and cognitive function following concussion. This is an experimental proof-of-concept pilot study with the intention to prove that osteopathic manipulation can improve symptoms, vestibular-ocular function, cognitive parameters, cranial blood flow, and intracranial compliance following concussion and brain injury. We hope to demonstrate that osteopathic manipulation should be utilized at the forefront of concussion and brain injury treatment. If we are able to prove this concept, future research potential in osteopathic manipulation and central nervous system pathology would be advanced. If we are able to improve cranial physiology, our findings could lead to study of a vast array of neurologic disorders. Other potential research could include a similar model for seizure disorder, neurodegenerative diseases, migraines, etc.

1. Background and Significance

Osteopathic manipulation has been shown to improve concussive symptoms, but data is limited to clinical experience and case reports (1). Patients who have suffered a concussion have altered cranial hydrodynamics (2). No data exists on osteopathic manipulation and its physiologic effects on cranial hydrodynamics. The purpose of this research is to investigate if osteopathic manipulation can improve cranial hydrodynamics/physiology, cognitive function, and symptomatology based on MRI, virtual reality, and survey based parameters.

Current concussion guidelines focus on symptom management including rest following injury, physical therapy, speech therapy, symptomatic medication use, and patient support, but no specific treatments have sought to affect patient physiology, limiting treatment success. MRI's in some post-concussion patients have been shown to be abnormal, and these abnormal findings have been speculated to be permanent and irreversible. Given the long history of utilizing osteopathic medicine in trauma and concussion/brain injury, there is a paucity of research in this area. By utilizing MRI to measure internal jugular flow, secondary venous outflow, and intracranial compliance, prior to and following osteopathic treatment, we will be able to determine if clinical experience translates to statistically significant changes in patient's cranial physiology. By administering the Sports Concussion Assessment Tool 5 (SCAT 5) and Vestibular-Ocular Motor Screening (VOMS) scores, both well-validated measurement tools for concussion, we will be able to determine if physiologic changes correlate with patient improvement in symptomatology and function. Virtual reality testing will allow us to evaluate brain function using other cognitive function parameters, which has never been done previously.

It has been shown that intracranial hydrodynamics are abnormal in patients who have sustained a concussion, often even if they are asymptomatic (2). Hydrodynamic changes include decreased percentage of venous outflow through the internal jugular veins, increased flow through secondary veins, and decreased intracranial compliance (2). The etiology of these hydrodynamic changes is not well understood. The jugular vein exits the cranial cavity through the jugular foramen which lies in the occipito-mastoid suture. The muscles of the sub-occipital region attach near the jugular foramen. Hyper-tonicity of this musculature and/or compression of the occipto-mastoid suture are well documented in osteopathic literature and likely increase pressure on the internal jugular vein. It has been proposed that cranial hydrodynamics are permanent and irreversible, but no treatment specifically targeting these parameters has ever been tried. The tenants of osteopathic manipulation include the body as a unit, structure and function are interrelated, and the body can heal. This research will determine the interrelationship of structure and function and the body's ability to heal following concussion.

It has been previously demonstrated that cerebrospinal fluid (CSF) clears metabolic waste from the central nervous system (CNS) including amyloid-β through the glymphatic system. It has been shown that there are three primary drivers for cerebrospinal fluid flow including venous collapse, arterial pulsation, and bulk convective flow (3). No previous research has tried to demonstrate if

cranial blood flow and venous drainage can be improved utilizing osteopathic manipulation. Knowing that normal blood flow is critical for driving the glymphatic system, we may gain insight into the ability to improve cerebrospinal fluid flow by improving blood flow.
The CSF also drains into the deep cervical lymph nodes, and ligation of the deep cervical lymph nodes in mice leads to a buildup of amyloid-β and decreased cognitive function (3)(4). The forces sustained during a concussion also dissipate through cervical musculature leading to hypertonicity, further contributing to lymphatic restriction in the cervical spine which likely further restricts CSF flow. Cervical lymphatics have been shown to be important for normal CSF circulation (5). Brain injury patients have enlarged perivascular spaces (CSF channels) in the brain compared to controls which is evidence of decreased CSF clearance (6). No previous research has attempted to normalize these parameters with a treatment intervention. Osteopathic manipulative medicine has the unique potential to improve patient function by normalizing patient structure. The only way to prove this concept is to utilize imaging and show physiologic changes following osteopathic manipulative medicine.
Concussion symptomatology is well documented but not well understood from a research standpoint. This research hypothesizes changes in blood flow leading to abnormal cerebrospinal fluid flow account for the ongoing symptoms in patients who suffer from a concussion. Metabolic waste elimination from the brain through glymphatic clearance is vital for normal CNS function and abnormal in post-concussion patients who have abnormal venous drainage, intracranial compliance, and arterial flow.
Osteopathic manipulation has been utilized to treat traumatic brain injury and concussion patients. No studies have been completed measuring cognitive function, cranial hydrodynamics, or symptomatology following osteopathic manipulation in concussion patients.
Osteopathic manipulation has been shown to be a safe modality to treat post-concussion patients (7). The physiologic benefit of osteopathic manipulation in post-concussion patients remains unstudied. The purpose of this research is to better understand the physiologic changes following osteopathic manipulation after concussion.

Outcome: Grant submitted to the American Osteopathic Association for 150K

Reflections: Grant writing is possible for anyone (even me). Seek help from people with experience. Gather a great team around you. Revise multiple times and the quality will improve.

MARC MENTEL DO
Scholarly Activity

Montana Pain Conference

Details of the project: Annual Multidisciplinary Educational Conference on how to better manage patients with pain in our state without a heavy reliance on opioids. It brings together expertise from physicians, nurses, physical therapists, behavioral therapists, and alternative medical practitioners to provide a holistic approach to this population.

Outcome: The goal is make sure that patients with pain in our state are still being cared for without causing harm to this population by overprescribing opioids. The outcome is still in evolution. While our opioid overdose rate in the state is near the pre-opioid epidemic rate, our state's suicide rate is the highest in the country. Suicide has been linked to untreated pain.

Reflections: There is still a lot of work to do this area. While the pendulum has swung away from the use of opioids, so too has the attention to this population. We need to stay vigilant to caring for these patients.

Substance Use Disorder Task Force

Details of the project: Subcommittee of the Montana Medical Association addressing substance use disorder in our state. The goal of this committee is to advocate for patients who suffer from substance use disorder and to also advocate for best practices to prevent substance use disorder. This committee is actively engaged with setting policy and lobbying for legislation at the state level. In addition, this committee is actively engaged in creating online education for providers in the state surrounding how to prevent, identify and treat substance use disorders.

Outcome: Thus far, this committee has been successful legislatively for the "Good Samaritan Law" which doesn't criminalize the act of bringing an individual who overdosed to medical care, and for the
"Narcan Law" which provides Narcan to all first responders in the state. We have also just completed 16 fifteen minute education modules on substance use disorders and appropriate opioid prescribing.

Reflections: There is still a lot of work to do in this area. Approximately 10% of Montanans suffer from a substance use disorder. These individuals are often overlooked and stigmatized. We can do better.

Montana Medical Association Executive Committee

Details of the project: The Montana Medical Association is a membership organization comprised of Montana physicians dedicated to improving patient care. Our mission is to serve our members as an advocate for the medical profession, quality patient care and the health of all Montana citizens. The MMA's priorities include the:

1. Preservation of the physician/patient relationship and patient choice of provider.
2. Promotion of ethical and professional behavior among physicians.
3. Promotion of the health and well-being of the populace of Montana.
4. Promotion of evidence-based health care practice and delivery.
5. Promotion of a legislative and regulatory environment that will enhance and not limit or impede priorities 1-4 above.
6. Collaborative effort with other health care entities and organizations to promote programs that support the priorities of the MMA.

Outcome: The MMA continues to be a fiscally sound and thriving organization that continues to improve health care for Montanan's.

Reflections: Advocating for our profession and the care of Montanans' is a continuing work in progress.

ELIZABETH PADDOCK MD
Scholarly Activity

Implementation of a QI curriculum at FMRWM. First Annual Scholarly Activity Showcase!

Details of the project: In July 2018 FMRWM changed our scholarly activity and QI requirements to be more in alignment with ACGME guidelines: "Residents should complete two scholarly activities, at least one of which should be a quality improvement project".
This fall was the start of 6 month QI curriculum. The curriculum was very informal with 3 of the 6 sessions having very brief teaching points and introduction to QI with the rest of the time dedicated to project work time. Each class had a separate focus for their QI projects. R1s focused on individual wellness projects, R2s on a clinical topic to complete the ABFM requirements and the R3s on a project of their choice. R2 and R3s were able to work in groups of 2 or 3.

There was a sense that having time to work on individually driven QI projects would be empowering to residents: providing them with a systematic way to proactively address problems encountered in the health system — and giving an alternative to merely complaining and throwing their hands up in frustration.

Outcome: Our 6 month QI curriculum cycle is wrapping up and I've been super pleased by the quality of the projects pursued by residents. Though these were small and resident driving they have attempted to tackle some big issues. In addition it seems that residents have had a very positive experience with this and have learned things about QI which was our goal.

Reflections: Our very first FMRWM Scholarly Activity Showcase is coming up shortly. I'm excited to share all the great work that our resident and faculty participate in. I also hope that this helps shore up confidence in the academic quality of our program- we have been doing a lot of great work all along but not sharing it well. Finally a post QI curriculum survey has been sent out, and will close shortly, following that we will do a comparison of before and after resident feelings around QI, as well as start planning for next year's curriculum.

RHEDI Grant.

Details of the project: It has been well established that miscarriage management and abortion care are within the scope of family medicine.[3] However, in many rural areas, family physicians do not provide abortion care nor MVA for miscarriage as a part of their practice. The reasons for this are likely multidimensional, ranging from fear of professional stigma and political attention to lack of training during residency.
Given this context, it is a priority to train family physicians who plan to practice in a rural/provider shortage setting in comprehensive reproductive health, including abortion care.
FMRWM has applied for and been granted a 2 year RHEDI grant to focus on abortion training for our residents. The grant started in January 2019 and will go through December 2020 with the goal of establishing a set curriculum for interested residents that will continue on after the grant cycle. Our application for the grant proposed a different model than a traditional RHEDI grant for the following reasons:

1. We are training our residents to be rural family physicians. This means they need to have a broad range of skills and cannot focus on just one procedure or skill set.
2. We do not have the capacity in our small city to train all residents to competency in aspiration abortion. With some additional financial support we will have the personnel and resources to train a small subset of motivated residents to competency in aspiration abortion. We expect all residents can be trained to competency in medical abortion.
3. Because our graduating residents are being asked to move out to rural communities and start providing a new service (vs replacing retiring physicians) we need to provide additional resources to support that transition. We have devoted a significant amount of time and effort into creating a "Bridging to Practice" curriculum that we believe will be the key to empowering graduating residents to provide comprehensive reproductive health care.

Outcome: While we have successful received the grant we have been slower in the role out due to changes at Blue Mountain Clinic and All Families. We are now in a place to start having residents longitudinally rotate at BMC and (and perhaps planned parenthood in the future) starting this July! After an initial inquiry into resident interest it appears the next challenge may be accommodating all those interested!

Reflections: This entire grant application process, as well the implementation of the grant has been a learning process. Navigating the multiple parties involved, budget balancing, primary investigator training etc have all been unique challenges. That said I'm really excited to officially role this out, as well as develop our "bridging to practice curriculum" which we hope will empower

residents to bring a whole scope of potentially controversial skills to their new settings (such as POCUS, HIV/Hep C treatment, imAT, trans care, miscarriage management and abortion care).

Patient perspectives on the impact of social determinants on their personal health: A narrative from a community health center population (with Dr. Kate Krebsbach)

R**esearch question:**
Do patients at a community health center who have been identified as having vulnerabilities in the areas of housing security, food security and relationships recognize these issues as impacting their overall health?

Details of the project: While there is a significant amount of data on the health effects of basic unmet needs; based on our literature search there seems to be little to no information on affected individual's awareness of the impact social determinants of health have on their ability to achieve a state of health. We would like to see if patients who have been identified as having basic unmet needs in our pilot project recognize these issues as impacting their health. We also would like to get a patient oriented perspective on how the health care system can change to better serve them.
To this end we have interviewed 6 patients asking a variety of questions around unmet basic needs, ACEs etc. The stories shared by these patients have been really moving and at times heartbreaking.

Outcome: This remains a work in progress. While some of the narrative responses have been shared in several venues (STFM, UM Institute for Health and Humanities Heath Equity Summit, and a recent WPRN meeting) I have not yet found the time to organize the interviews into either an auditory experience or a visual tool.

Reflections: This project was started in May 2017 and I have had a hard time completing primarily due to time constraints and feeling like it is out of my skill set. I still plan to wrap it up and hope to recruit some help with this- perhaps from an interested resident, or UM students.

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1. FMRWM POCUS Training Course. 2. Expansion Projects: FMRWM Rural Retreat; and ½ day course in Libby; POCUS at SPH.

Details of the project: FMRWM has committed to familiarizing residents with POCUS and is moving in the direction of a more formal curriculum and broader scope of practice.
To date we successfully implemented a credentialing protocol at PHC, purchased a newer machine, allotted time for resident training during IFM and didactics. We also run a yearly 2 day introductory training course.
Our faculty are becoming more facile on the use of POCUS.

We are now planning a course in Libby for providers there spearheaded by a resident, and are starting to talk with the SPH hospitalist group about obtaining a portable US.

Reflections: While we have had many successes, at this point needs going forward are a resident champion or champions to help spearhead advancing our curriculum and creating means for additional training.

FPIN: 1. HDA publication 2. Peer editor role.
-Family Practice Inquiries Network (FPIN) "Help Desk Answer" Publications:
Paddock E, Clark D, Erikson E, Dear-Ruel A, Hoganson L. What is the best pharmacologic treatment of hyperemesis gravidarum? Evidence-Based Practice. 2019; 22(1): 15-16

-I have also served as a peer reviewer for FPIN for several other HDAs.

Reflections: I would like to devote more time to FPIN. I think the HDA process while somewhat unwieldly, is a nice way to be thinking about EBM and learning what a best practice is for any given topic.

Family Medicine for America. Health Equity Curricular Toolkit

Paddock E, Murph B. *International Efforts to Reduce Health Disparities.* In: Edgoose J. (ed) *Health Equity Curricular Toolkit.* Parkway Leawood, KS: Health Equity Team for Family Medicine for America's Health; 2018.

Atwell K, **Paddock E,** Westby A. *Access to Primary Care is not Enough: A Health Equity Roadmap.* In: Edgoose J. (ed) *Health Equity Curricular Toolkit.* Parkway Leawood, KS: Health Equity Team for Family Medicine for America's Health; 2018.

Reflections: This was a neat project in that I got to think about health equity from a variety of perspectives, familiarize myself with the work of Barbara Starfield and the recent Starfield Summits and work with family doctors from all over the country.

JENNIFER ROBOHM PhD
Scholarly Activity

Enhancing the Functioning of Collaborative Care Teams (with Ellen Bluett PhD)

Details of the project:
We know that resident satisfaction in continuity clinic is, in part, contingent on good working relationships with the medical assistants and nurses with whom they work. We conducted a focus group with PHC's MAs/nurses, to get a better sense of their experiences working with FMRWM residents. We also surveyed PHC's MAs/nurses, FMRWM residents, and FMRWM faculty about their experiences on collaborative care teams at PHC and FCHC. Specifically, we asked about skills and strategies that contribute to effective interprofessional collaboration, communication, delegation, and conflict resolution, and which promote efficiency and positive working relationships. We will use our findings to shape a training curriculum for the residents around leadership and teamwork skills, and to develop related in-service training for the MAs/nurses on their collaborative care teams, to improve team functioning and workflow within the residency clinic.

Outcome:
A total of 22 MAs and nurses attended the PHC focus group. In addition, we received 29 MAs/nurse responses, 26 resident responses, and 13 faculty responses to the surveys. (It is difficult to assess our overall response rate, since some individuals may have completed the survey more than once if they work with more than one MA, residents, or faculty member.) We are reviewing the survey responses now, to identify key areas for skills development that will inform a didactic session in late May, and "take home" messages for PHC leadership. (Preliminary review suggests that the didactic will cover "huddling," setting clear expectations, addressing conflict, and giving/seeking feedback, among other essential skills.) We hope the didactic will prompt resident reflection around their role as collaborative care team leaders, and help to enhance clinic workflow and team satisfaction.

Reflections:
Although the quality of collaborative care team functioning likely contributes significantly to physician satisfaction or burnout, we have done little in the way of training to support our residents (and our faculty, for that matter!) in their role as team leaders. We hope to change that with this project and would love to work with any residents with particular interest in this area.

The Health and Mental Health Impacts of Climate Change

Details of the project:
Climate change is "the greatest threat to global health in the 21st century" (WHO, 2015), as global warming will cause significant morbidity and mortality due to heat-related stress, respiratory illnesses, vector-borne infectious diseases, extreme weather events, mental health impacts, threats to food and water supplies, and damage to health care infrastructure (Haines & Ebi, 2018; Watts et al., 2018). Physicians have a significant role to play in mitigation and adaptation to climate change, given their roles as medical professionals, health educators, and community leaders (Sarfaty & Abouzaid, 2009). Mental health professionals will also play a key role in helping communities to build resilience and to manage the mental health impacts of climate-related changes (Doppelt, 2016). With several community partners (Climate Smart Missoula, the American Lung Association, and possibly the Missoula County Health Department), I will be applying for a "Partnerships for Better Health" grant from the Montana Healthcare Foundation to promote education and advocacy around the state related to the health and mental health impacts of climate change.

Outcome:
We're still planning our proposal right now. It will likely include a needs assessment, several workshops, a "toolkit" for health care professionals in impacted communities, and a listserv to create an online community of professionals who want to take a more active role in the face of climate change. But we're definitely open to other ideas.

Reflections:
I would love for the FMRWM to take a leadership role related to climate change mitigation in the state of Montana. Please let me know if you'd be interested in becoming involved!

SARAH WATSON DO
Scholarly Activity

EMR optimization

Details of the project: As a full time clinic provider, I am interacting with the EMR 40+ hours/week. Over time, I have noticed there are many features and ways to improve the use within the EMR that not only improve patient care but greatly optimize provider and nursing wellbeing when interacting with it. We have many areas of focus, including onboarding, ongoing training, streamlining documentation, optimizing the alert system to automatize things were possible.

Outcome: Remains a work in progress… forever.

Reflections: EMRs and health systems are very far from perfect, but it is important to be a physician voice in making change. The more the system is designed by people who are non-users of the system, the further it gets from optimal design.

EMMA WRIGHT MD
Scholarly Activity

Reach out and Read

Details of the project: Implementing the evidence-based ROR program at PHC.

Outcome: Work in progress. Have successfully been piloting this at the Lowell School Clinic for several months. Plan to roll out at PHC in September 2019.

Reflections: Still working on more permanent funding and logistics of workflow around incorporating this into the WCC workflow.

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 immunization acceptance/delivery in Missoula and Montana. Will be working to gather data that is PHC- specific which we can use to improve our immunization rates. This is one component of several initiatives to improve vaccination rates at PHC.

Outcome: Work in progress. This vaccine specialist will be coming to PHC clinic meeting to address providers and nurses/MAs to discuss vaccine safety. We will be exploring such issues as the importance of language around recommending vaccines. We will also be exploring the use of a reminder system for vaccines.

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. There is not enough education in residency about how to address vaccines with patients in order to encourage vaccine acceptance.

Pediatric Task Force

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 on initiatives such as improving the collection and recording of pediatric vital signs. In the works is a switch of the EMR from pounds/ounces to grams. There is a nursing training on how to take pediatric vitals correctly coming up soon. We are also working on improving overall peds workflows including templates and delivery of screening tools to patients (see Rachel and Charlie's ASQ project). We are exploring options for vision screening for children. We are working on making PHC a more family-friendly physical environment and considering projects to improve the waiting rooms. Have tackled scheduling issues such as how to get families scheduled together.

Reflections: Would appreciate resident representation on this task force if possible.

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. 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.