TITLE: The use of a dedicated appointment cancellation telephone line decreased number of “no shows” while improving practice volume and patient satisfaction.

AUTHOR: Paula Hudson
Supervisor Weill Cornell Internal Medicine Associates, Wright Center

I DECLARE THAT THERE IS NO FUNDING SOURCE AND NO CONFLICTS OF INTEREST WITH THE TOPIC MATTER

ABSTRACT:

BACKGROUND

Wcima @ Wright Center is an off-site Cornell Internal Medicine Associates Practice that provides primary care services for patients 18 years old and above. We see approximately 450-500 patients per month and generate a consistently high volume of phone calls. Access to our practice became a challenge for patients with a simple request such as cancelling an appointment. This process would require calling our main number, following the prompt of the phone tree and then the wait to be connected with a registrar. Most patients did not find this process efficient and neglected to use it thus creating an increase in our no-show rate.

METHOD

We explored the possibility of improving our no-show rates thru patients’ comments and feedback. A new phone tree was established with an added cancellation line. The phone tree now consists of prompts for emergency direction, cancelling an appointment only, referral/appointment request and medication/prescription refill request. We collaborated with NYP’s telecommunication department and the answering service operator to create a queue for these calls to be routed to. The operator takes the patient’s information (name, dob, phone number and date to cancel). Messages are forwarded via email and fax to the registration staff who completes the process.
RESULTS

A patient who wishes to cancel their appointment is removed from the schedule thus creating an opening for us to be able to add a new patient waiting to be seen. As of May 2017 we started to see a decrease of 10% per month in no-show rates, we opened an average of 40 new appointment slots per month and our patient volume increased compared to budget by 10% each month.

CONCLUSIONS

The Cancellation line has granted easy access to those patients who are faced with an expected or unexpected situation and can no longer fulfill their desired appointment slot to easily cancel and reschedule. Patients who utilize this line are happier with the convenience and the access to someone without going entirely thru a phone tree and waiting to be connected. We are constantly making patients aware and encouraging them to use the cancellation line that is available for use.

IMPLICATIONS

The cancellation line will be implemented at our main Weill Cornell Internal Medicine Practice.
TITLE: The use of Guided Imagery during phlebotomy to decrease subjective anxiety related to fear of needle in the outpatient setting: An Observational Study

AUTHOR: CHRISTINE S.TABLANG, BSN, RN-BC
CHARGE NURSE WCIMA AT WRIGHT

I DECLARE THAT THERE IS NO FUNDING SOURCE AND NO CONFLICTS OF INTEREST WITH THE TOPIC MATTER

ABSTRACT:

BACKGROUND

Phlebotomy is generally associated with some degree of pain, discomfort and apprehension. This is associated with such fear that avoidance is practiced (Cook LS, 2016). To help assuage the psychological stress in patients who verbalized fear and anxiety of phlebotomy, WCIMA at Wright Center—an off-site Cornell Internal Medicine Associates practice that serves patients 18 years old and above— instituted guided imagery, a calming method that involves deep breathing and visualization. The clinic investigated the applicability and effects of guided imagery in alleviating patients’ subjective anxiety in the outpatient setting.

METHOD

Patients of all demographics who expressed a fear of needles before phlebotomy were asked if they were willing to try a relaxation technique, termed guided imagery, to reduce anxiety during the blood-drawing process. On average, three out of five patients a month agreed to participate. Patients who were invited to partake in the modality were encouraged to close their eyes and take deep breaths. A conversation was initiated to engage the patient by asking, “Where would you rather be right now?” The patient was told to visualize a pleasant experience or a special place and describe the experience using the five senses: sight, sound, smell, taste and touch. Phlebotomy was conducted concurrently with the guided imagery.
RESULTS

Patients who closed their eyes when prompted to relax and engaged in a conversation benefited from the guided imagery. Patients unable to close their eyes hesitated to participate. These patients were unable to follow any prompts to relax and failed to continue the guided imagery. On average, three patients each month agreed to try the technique; however, only two typically did so successfully. The patients who participated expressed surprise at how guided imagery helped them get through the blood draw with decreased anxiety. This intervention has shown concurrent increase in our patient satisfaction scores during the same period of implementing guided imagery.

CONCLUSIONS

Guided imagery is a simple, portable tool available to anyone. Clinicians can implement guided imagery to help decrease situational anxiety caused by stress-inducing procedures such as phlebotomy. This modality is feasible, but largely depends on willingness of the patient to engage. While this intervention has shown an increase in our patient satisfaction scores, further testing is needed.

IMPLICATIONS

Future studies are planned to validate the efficacy and outcomes of guided imagery.
Abstract for Primary Care Innovations Symposium

Title: Improving Tobacco Cessation Services in Primary Care: The Nurse Practitioner-Patient Navigator Team

Authors:
Presenting Author: Stasi Lubansky, DNP, ANP, CTTS, Staff Associate, Weill Cornell Internal Medicine Associates.
Maria Colon BA, Patient Navigator New York Presbyterian Ambulatory Care Network.

Funding Source: New York State Delivery System Reform Incentive Payment Program (DSRIP).

Conflicts of Interest: None

**Background**
Tobacco addiction is the leading preventable cause of morbidity and mortality in the United States. It is estimated that 70% of smokers want to quit and 70% of smokers see a healthcare provider annually. 44% of smokers attempt to quit every year, but <10% are successful without assistance. Counseling and treatment by providers can increase the success rate, to quit rates of > 30%. It has been shown there are many barriers to provider treatment and counseling of smokers. These barriers include time constraints of visits, lack of knowledge of evidence based treatment options including pharmacotherapy and lack of confidence in counseling skills. As part of a quality improvement effort, we set out to proactively identify smokers in our hospital network, so that we could target them for smoking cessation interventions.

**Methods**
To identify smokers, we generated a daily report from the Electronic Medical Record (EMR) of all patients with primary care appointments who were flagged as tobacco users. Referrals were similarly generated from specialty practices. We employed a patient navigator to reach out to these patients either the day of their existing appointment or subsequently by telephone. Brief counseling was provided by the patient navigator and documented in the EMR. Interested patients were then scheduled to see the nurse practitioner for one on one treatment and counseling and optional group counseling. Follow up was arranged as needed. Certified Tobacco Treatment Specialist (CTTS) training was held for providers, nurses, social workers and community health works at our institution. Additionally, information regarding this training was sent via email to health care professionals within our network as well as local community health agencies.

**Results**
During the intervention period, the number of scheduled visits to our practice for tobacco cessation counseling increased by more than 600%. For example, in March 2017, we saw 75 patients for tobacco cessation, compared to 12 visits during the same period in
2016. Additionally, 30 providers underwent CTTS training. Trained participants
included providers, nurses, social workers, and community health workers.

Limitations
Our no show rate was 40% despite frequent reminders leading up to the appointments.
Tobacco users not appropriately flagged in the EMR were not included. Further research
is needed to look into the etiology of high no show and broken appointment rates for
these visits.

Conclusions
Identification of tobacco users from the EMR, combined with the presence of a Nurse
Practitioner / Patient Navigator team, increased visits for tobacco treatment and
counseling. This effort also provided education to health care professionals and
community health workers. Our hope is that this will increase the provision of tobacco
cessation service in a variety of clinical settings.

Implications:
Targeted identification of a population of tobacco users from our EMR combined with
reaching out to this population can substantially increase tobacco cessation visits. Future
work includes exploration of feasibility of utilizing tele-health and determining tobacco
cessation outcomes.
TITLE: The use of focused “Medical Emergency Preparedness” educational sessions provided the opportunity to enhance awareness, improve communication and comfort level of all staff during an emergent medical situation.

AUTHOR: Patricia Deely, RN, MA, CCRN

Weill Cornell Internal Medicine Associated: Helmsley Tower 4th Floor

I DECLARE THAT THERE IS NO FUNDING SOURCE AND NO CONFLICTS OF INTEREST WITH THE TOPIC MATTER

ABSTRACT:

BACKGROUND

- **Fall 2015:** A Patient Cardiac Arrest Took Place at WCIMA, Adult Out-Patient Internal Medicine. This event provided an opportunity to review Medical Emergency Preparedness for all disciplines.
- Focus on reducing confusion as to communication process, roles and responsibilities and location of emergency equipment related to “calling code” in this off-site practice.
- Confusion on the use of Zoll AED
  - P – Knowledge deficit as to Medical Emergency Process
  - I – Education Need on Medical Emergency process and Equipment location/use of Zoll AED
  - C – Confusion on Outpatient Medical Emergency process
  - O – All relevant staff become comfortable identifying the medical emergency process for the outpatient off site practice
  - T – During Office Practice Hours
  - S – Adult Offsite Out-Patient Internal Medicine Practice

METHOD

- This was a Quality Improvement activity.
- Sample population
  - Outpatient Clinical & Non-Clinical Staff
  - Sample Size= 50
  - WCIMA, Adult Outpatient Internal Medicine
- State the data collection period
- September 2016 - November 2016
- Data collected in a survey format with questions related to:
  - Communication
  - Equipment (Use/Location)
  - Roles and responsibilities
- Analyses performed:
  - Review of pre/post-survey results
  - Data analyzed by discipline (Clerical/Clinical/Provider)
  - Developed educational forums for clerical, clinical and provider staff

**RESULTS**

![Bar Chart: WCIMA Medical Emergency Preparedness Combined (Clinical & Non-Clinical) Sept./2016-Nov./2016]

- **Call "Arrest"? (% Correct)**: Pre - 58%, Post - 92%
- **Who to call sick? (% Correct)**: Pre - 87%, Post - 88%
- **Number to call (% Correct)**: Pre - 80%, Post - 96%
- **Emergency Equip. located? (% Correct)**: Pre - 78%, Post - 78%
- **3 pieces of equip. needed? (2 of 3) (% Correct)**: Pre - 47%, Post - 92%
- **Designated storage (% Correct)**: Pre - 36%, Post - 96%
- **Zoll AED Defib. (% Correct)**: Pre - 40%, Post - 96%

**Call "Arrest"**, **Who to call sick**, **Number to call**, **Emergency Equip. located**, **3 pieces of equip. needed**, **Designated storage**, and **Zoll AED Defib.** have shown significant improvements post-training.
Results:

- Pre-Education: Majority of staff scored < 60% Correct.
- Post Education: Majority of staff scored > 90% correct.

Areas of concentration include:

- Participants were confused as to the correct number to call in an emergency and should call 911 EMS team.
- Increasing familiarity with location and operation of our AED Defibrillator.

CONCLUSIONS

- Interdisciplinary debriefing after the Cardiac arrest assisted in identifying areas needing improvement.

- Infrequent episodes of medical emergencies and proper management in the adult outpatient practice including comfortably using the AED were identified.

Increasing the frequency of simulated interactive, interdisciplinary medical emergency review sessions will reinforce a best practice model. This supports strong team dynamics, increased awareness, closed loop communication and respective team collaboration and will better educate and prepare the team.

IMPLICATIONS

Future ongoing educational sessions will be provided.
Improving Drug Reimbursement Policy Usage and Reducing Cost: A retrospective analysis
David Hess-Homeier1,2 (presenting author), Maria Passarelli1,2,3, Andrew Iannone2,3, Pamela Charney4, MD (faculty mentor)
The authors declare no conflicts of interest.

Background: The Weill Cornell Community Clinic (WCCC) is a medical student run free clinic in Manhattan that aims to provide high quality, accessible primary care to uninsured adults at little or no cost. The high cost of prescription drugs is a barrier for patients that decreases medication adherence and leads to poor outcomes. At the WCCC, while patients are reimbursed for their prescription drug costs, utilization of this service has historically been limited. Low utilization of the prescription reimbursement policy among our patients could affect medication adherence and could lead to worse health outcomes. Furthermore, prescription reimbursement costs have been high and pose a significant fiscal challenge to the clinic. In order to improve utilization of the clinic’s reimbursement policy, while decreasing cost for both the clinic and patients, we conducted a quality improvement project and implemented changes to the clinic’s workflow.

Methods: The WCCC’s prescription drug policy provides $45 reimbursement per prescription per month with a $5 copay. Previously, new patients were given a copy of the policy at their first visit. Patients could then submit medication receipts for reimbursement during clinic hours.

We changed the clinic workflow to include a short consultation between a patient, their student clinician, and a pharmacy chair prior to checkout. During the consultation, the pharmacy chair explains the clinic’s drug reimbursement policy and provides cost-saving resources tailored to each patient’s medication regimen. Cost-saving resources include coupons from goodrx.com, the Blink Health app, patient assistance programs, prescription discount cards, and choice of generic drugs over name brands.

To evaluate the impact of our changes, we conducted a retrospective cost analysis comparing pharmacy reimbursement records from the past two fiscal years, before and after implementation of the new workflow.

Results: During the year before the workflow changes (Oct 2014-Sep 2015), the clinic reimbursed 178 prescriptions for a total cost of $3279. During the year following the workflow changes (Oct 2015-Sep 2016), the number of prescriptions reimbursed increased by 35% to 241 for a cost of $3888. While utilization increased, the cost per prescription decreased by 12.4%, a savings of $2.29 per prescription.

Conclusions: Our changes to the clinic’s workflow and aggressive pursuit of less expensive prescription drugs has both increased utilization of the clinic’s drug reimbursement services and stabilized WCCC’s pharmacy expenditures. In addition, average price per medication for patients has decreased. Utilization of the reimbursement policy eases the financial burden of buying prescription drugs often faced by our patients, which may contribute to increased medication adherence and better health outcomes.

1 The above authors contributed equally to this work.
2 Weill Cornell Medical College
3 Source of Funding: NIH MSTP grant GM07739
4 Weill Cornell Internal Medicine Associates
Weill Cornell Medicine’s Psychiatry Collaborative Care Center: Primary Care Referral Patterns, Patient Characteristics and Treatment Outcomes

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No funding source

Background: The negative impact of psychiatric disorders on medical outcomes and health care utilization has been well established. Despite advances in the management of mental health disorders, they remain under-treated (Kessler et al., 2005; Collins et al.; 2004). Notably, one study found that 83% of individuals with anxiety and/or depression presented to their family physician in the past year (Ohayon et al., 2000), reflecting the primary care physician’s role as a gatekeeper to mental health services. The Weill Cornell Medicine Collaborative Care Center (CCC) was created to address this need. Its aims are to provide patients in Weill Cornell’s primary care practices with a comprehensive psychiatric diagnostic assessment, formulation of a treatment plan in consultation with the primary care practitioner, an opportunity for brief treatments within the Center and where indicated, referral to community-based programs. This presentation will provide an overview of the CCC’s collaborative model and information regarding referral patterns for its first year of operations. It will characterize the approximately 1,000 patients seen to date, and describe treatment course and outcomes on symptoms and health care utilization.

Methods: Electronic medical record review will be used to describe patients evaluated at the CCC including age, psychiatric diagnosis and common comorbid medical diagnoses. Mean scores at baseline will be extracted from well-validated self-report questionnaires and presented for depression (PHQ-9), anxiety (GAD-7), suicidality (CSSRS), sleep (PSQI), alcohol use (AUDIT), quality of life (Q-LES-Q-SF), self-reported physical and mental functioning (PROMIS global health measure), and occupational, social and home functioning (Sheehan Disability Scale). Mean number of sessions and type of treatment will be presented. Treatment outcomes for anxiety and depression will be calculated by comparing PHQ and GAD scores across treatment. Changes in health care utilization
will be assessed by comparing number of outpatient visits in the 6 months prior to vs. following the assessment.

Results: Preliminary data on a sub-sample (n=720) indicated that patients had an average of 10.6 comorbid medical diagnoses in the prior 6 months. There was a significant decrease in PHQ and GAD scores between first and last session for those engaging in treatment (p<.05). The sample was 62% female, with a mean age of 42.3 (range = 19-91). Sixty-seven percent of patients had an anxiety disorder, 61% had a depressive disorder; other diagnoses included adjustment disorder, bipolar disorder, alcohol disorders, sleep disorders, and ADHD. Further analyses on the full sample are ongoing.

Limitations: This data reflects only patients who have presented for at least one appointment at the CCC and not the larger population.

Conclusions: Patients being referred to the CCC are predominantly diagnosed with depressive and anxiety-related disorders; most have multiple medical comorbidities.

Implications: 1) The CCC is a collaborative model designed to meet the psychiatric needs of primary care patients 2) Referred patients have a high medical and psychiatric symptom burden 3) Despite the complexity of the cases, mean change scores indicate significant improvement in psychiatric outcomes 4) More data is needed to determine if changes in psychiatric symptomatology are associated with changes in medical outcomes.
Title: A RESIDENT-LED QUALITY IMPROVEMENT INITIATIVE TO IMPROVE FOOD INSECURITY SCREENING AND REFERRAL AT THERESA LANG CHILDREN’S CENTER

Authors: Robyn Rosenblum, MD, Dr. Angela Chan (PGY-II) and Dr. Snezana Osorio

Background: Food insecurity, which is an inadequate access to food, is associated with adverse health outcomes, yet is not routinely addressed in clinical settings. Statistics show that as of 2013, there are 16 million children (21%) in the United States that live in households without consistent access to adequate food. The short and long-term impacts of food insecurity include increased rate of hospitalizations, malnutrition, behavioral/emotional problems, and poor academic performance. AAP’s Policy Statement in October 2015 recommends pediatricians to use USDA’s 2 question screening tool at health maintenance visits, to promote food security for all children. At Theresa Lang Children’s Center, there was no previous screening for food insecurity as of July 2016, and limited baseline data on the prevalence of food insecurity in the clinic’s patient population.

Objective: To:
1. Increase screening rate of household food insecurity to 50% by June 2017 at the NYP-Queens Resident Clinic.
2. Increase referral rate to WIC/SNAP for patients who screen positive to 90% by June 2017 at the NYP-Queens Resident Clinic.

Methods: The Model of Improvement was used for this QI project. From December 2016 to June 2017, residents screened patients for food insecurity using USDA’s 2-item screening tool and made appropriate referrals to WIC/SNAP/community resources. Residents performed 3 plan-do-study-act (PDSA) cycles focused on maintaining process improvements. Data were collected via electronic medical record review on resident documentation of screening and referrals. Statistical control charts were utilized to display and analyze the data. API rules were applied to detect special cause variation.

Results: Food insecurity rate (21.9%) at Theresa Lang Children’s Center was demonstrated to be at national level (21%). Residents’ food insecurity screening rate improved from 0 to an average of 57% over 6 months. Although screening goals were met, results showed that 64.2% of patients screened were already connected to community resources (WIC, SNAP, or both). On analysis of MCHAT screening rate, as a balancing measure, data showed that residents achieved balance in quality measurement, with a significant increase in MCHAT screening rate from 57% at baseline, to 85%.

Conclusions: Implementation of this QI initiative showed that the prevalence of food insecurity in our patient population at Theresa Lang Children’s Center is remarkably high, which had been largely unknown relative to national level, until routine food insecurity screening was performed at health maintenance visits. The study increased residents ‘awareness of food insecurity among our patients’ households and familiarity with federal nutrition programs and resources in the community. Residents demonstrated an improvement in both food insecurity and MCHAT screening, despite not having any interventions to improve the latter. Future studies can further assess the health impacts of food insecurity on growth and development, and the improvement in outcomes such as BMI and weight, at follow up visits, after referrals are made for children in food-insecure families.
Utility of Diagnostic Bone Biopsies in the Management of Osteomyelitis through Retrospective Analysis: How Golden is this Gold Standard?

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Background: Bone biopsy is considered the gold standard for diagnosis and treatment of osteomyelitis (OM), but few studies have investigated the extent to which it influences antimicrobial therapy in non-vertebral bones. The purpose of this study was to evaluate clinician-initiated changes to empiric antimicrobial therapy after obtaining bone biopsy results. A secondary aim was to identify predictors of a positive bone culture.

Methods: We retrospectively reviewed all cases of non-vertebral OM in patients who underwent image-guided bone biopsies between 2009 and 2016. Data on pathologic and microbiologic yield were collected and logistic regression was used to determine potential factors affecting the microbiologic yield. Post-biopsy empiric antibiotics and final antibiotics were compared to determine if there was a change in antibiotic treatment after biopsy results were reported.

Results: We evaluated 203 bone biopsies in 185 patients. Samples from 115 (57%) cases were sent to pathology, of which 33 (29%) confirmed OM. All samples were sent to microbiology and 57 (28%) yielded a positive result. Diabetes (OR=2.39, p=0.021) and white blood cell count (OR=1.13, p=0.006) were significantly associated with positive bone cultures in multivariate analyses. There was no association between positive cultures and number of samples cultured, needle size, prior antibiotic use, or antibiotic-free days. Post-biopsy empiric antibiotics were given in 138 (68%) cases. Therapy was narrowed to target specific organisms in 7 cases and changed due to inadequate empiric treatment in 3 cases. Targeted therapy was initiated in 4/65 cases, in which empiric antibiotics had been initially withheld. While final antibiotics were withheld in 38/146 with negative bone cultures, empiric antibiotics were discontinued in only 8 cases.

Conclusion: In patients with non-vertebral OM, bone biopsy cultures rarely yielded results that necessitated changes in antibiotic management. Identified bone organisms were treated by empiric therapy in most patients. While bone biopsy remains the gold standard diagnostic test for OM, further work is needed to identify patients whose management may be impacted by this procedure.
Title: Enhancing Internal Medicine Residency Training and Physician Retention through a Novel “One-Two” Rural Residency Training Program

Authors:

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Program Director: Internal Medicine Residency

with Drs. Byron Demopoulos and Lia Logio

Funding source: Grant provided through New York State Health Research Inc.

Conflict of interest: None

Background:

Cayuga Medical Center (CMC), located in Tompkins County, NY, is situated in the Finger Lakes Region, surrounded by several undergraduate institutions including Cornell University. Despite its robust academic, cultural, and outdoor offerings, Tompkins County is designated as a Health Professional Shortage Area (HPSA) for primary care by the Health Resources and Services Administration, highlighting the difficulty in attracting primary care providers to rural communities. This is further complicated by the shifts within internal medicine, moving from generalist to more specialist models or from community based to hospital based physicians. In 2011, the $2 billion total Medicare Graduate Medical Education (GME) payments to New York teaching hospitals were almost entirely allocated to urban-based programs. The funding for training is heavily misaligned with the geography of underserved areas. Creating programs to train physicians where they are most desperately needed requires innovative programs that partner experienced academic medical educators with motivated rural hospitals who lack experience in residency education. To address the shortage of primary care physicians in its community, CMC has partnered with the New York Presbyterian (NYP) Internal Medicine Residency to develop a unique training program with the goal of training highly motivated primary care leaders in rural New York.

Methods:

Cayuga Medical Center is actively developing a new Internal Medicine residency seeking ACGME accreditation in the spring of 2018. This program will pursue a “1-2” training model more commonly employed by Family Medicine residency programs wherein residents spend their first year at a sponsoring institution before completing their second and third years of training in a rural community. To the best of our knowledge, this program will be the first application of the “1-2” model to an Internal Medicine residency. The first year of training will be at the resource-rich urban center located in Manhattan focusing on inpatient and core specialty medicine while the final two years places the trainees in a rural community at several training sites less commonly encountered in urban settings.
Results:

The program will track residents after completion of their training. A primary goal of the new residency will be high retention of graduates to practice in the community.

Limitations and Challenges:

There are financial and sociologic barriers to the implementation of a new ACGME accredited residency. As a Sole Community Provider, CMC suffers financial limits on Indirect Medical Education (IME) reimbursements from the government. Furthermore, building a GME program at CMC will require a cultural transformation, targeted faculty development, new training models in population health, and curricular innovations to achieve its goals. Finally, while we believe this to be a unique and exciting model for resident training, marketing and recruitment of students into such a novel program may be a challenge.

Conclusions:

Tompkins County, like much of rural America, lacks the workforce to care for its aging and disadvantaged population. CMC’s partnership with NYP to build an innovative “1-2” Internal Medicine residency will provide rural New York with physician leaders committed to the state’s healthcare disparities and social mission.

Implications

The CMC and NYP partnership, if successful, may alter the paradigm for graduate medical education nationwide and drive the migration of rigorously trained primary care physicians into the geographic regions that need them most.
**Addressing psychosocial stressors through an arts-based intervention in a museum setting**

Kevin Liou, MD\(^1\); Rebecca Boas, MD, MBA\(^1\); Shannon Murphy, MA\(^2\); Ramin Asgary, MD, MPH\(^1\)

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Presenting Author: Kevin Liou, PGY3  
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Funding Sources: none  
Conflicts of Interest: none

Background: The prevalence of psychosocial stressors in primary care is high. Studies on museum-based interventions have shown psychological benefits for patients with cancer, dementia, or mental health issues. In this pilot project, the Long Island City Health Center in collaboration with The Noguchi Museum developed, implemented, and evaluated an innovative arts-based intervention at the museum for patients with psychosocial stressors.

Methods: Participants included English-speaking patients ages 18 to 65 who reported any type of stress. Patients were recruited at the Long Island City Health Center using flyers. Those with any active history of psychiatric issues or severe medical conditions were excluded. The intervention took place at The Noguchi Museum and consisted of one 3-hour session with different groups of 3-5 patients. Intervention activities were directed and facilitated by one museum educator using a constructivist approach, in which the art-viewing and art-making serve as catalysts for self-reflection and meaning-making. A biographical focus on Mr. Noguchi was incorporated to provide patients with opportunities to relate to and learn from the artist’s own struggles. After each intervention, a focus group was conducted to explore patients’ attitudes, experiences, and perceptions of the intervention. Audio recordings of focus groups were transcribed, coded, and analyzed using a qualitative descriptive approach.

Preliminary Results: 3 sessions have been completed with a total of 11 patients. Preliminary analysis showed that the intervention generally received positive reviews from participants. The majority viewed the museum as a relaxing space. Most participants noted that the activities of the intervention prompted self-reflection; several of them reported gaining insight into their responses to stress by relating to Mr. Noguchi and his artwork. Some participants suggested incorporating more practical stress management tools, such as meditation or yoga, into the museum activities. Most participants reported interest in revisiting the museum or exploring other community resources. “When I first came here, I was a little depressed, and then I came and saw certain things that made me feel happy. This felt like a happy place…peaceful and serene.” (Female, age 59)
Conclusions: Museum-based interventions could potentially serve a complementary role in addressing patients’ psychosocial stressors. Constructivist approaches may be helpful in empowering patients to discover their own ways of coping with stress that are more uniquely tailored to their own individuality. Adapting the group care model to the relaxing environment of the museum may be particularly beneficial for those who feel stigmatized in clinical settings. Museums can also potentially function as a gateway for patients to explore other helpful community resources. Additional research is needed to explore which characteristics of museum-based interventions contribute to their potential positive effects, and to determine their reproducibility at other community sites.

Implications: By empowering the community and demonstrating the value of local resources, this project has the potential to spark further collaborations between medical clinics and community organizations that can lead to innovations in primary care settings.

Limitations: This is a pilot qualitative study with limited generalizability. Long-term effects are unclear because patients participated in only one session without follow-up. Subsequent quantitative studies with comparison groups would allow for better assessment of the true therapeutic impact of the proposed intervention.
Title: Improving Resident-Patient Continuity in an Outpatient Primary Care Practice

Authors:
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Funding source: This project has received funding from the Weill Cornell Department of Medicine Quality University Program.

Conflicts of interest: The authors have no conflicts of interest.

Abstract:

Background
Numerous studies have shown a strong relationship between provider-patient continuity in outpatient primary care, and a wide range of important quality, satisfaction, and cost outcomes. These outcomes include decreased ED use,\(^1\) decreased hospitalizations,\(^1,2,3\) increased completion of recommended preventative care,\(^1,2\) increased care consistent with guidelines,\(^5,7\) increased patient disclosure of sensitive information,\(^7\) improved patient satisfaction,\(^4,6,7,8\) improved provider and staff satisfaction,\(^7\) decreased cost,\(^2\) and even decreased mortality.\(^9\) Despite these benefits, it is very challenging in a resident practice to preserve provider-patient continuity, given the logistical complexity of resident schedules, among other contributing factors. Many studies have reported low rates of provider-patient continuity in resident practices.\(^10,11\) However, there seem to be very few published papers describing concrete interventions to improve this problem.

At the Weill Cornell Internal Medicine Associates (WCIMA) outpatient primary care practice, currently, less than 50% of resident visits are with patients for whom that resident is the designated primary care provider. Improving this rate is one of the major aims of an interdisciplinary work-group that we have convened, composed of attending physicians, residents, Nurse Practitioners, administrative staff, and administrative leadership. This poster will describe a pilot intervention implemented by this group as the first phase of a QI project aimed to improve resident-patient continuity.

Methods
We are using a QI framework, utilizing an iterative PDSA-cycle approach to continuous improvement. The pilot project described here was the first phase in an ongoing improvement effort. This phase involved interviews with front-line staff, detailed process mapping of current workflows, followed by the design and implementation of a pilot intervention, and finally, the collection of feedback.
from front-line users. The pilot intervention involves the use of “Pod-Cards” – colorful printed cards containing photos of the patient’s primary care provider and the primary care team, or “Pod,” as well as a simple explanation of the role of the PCP and Pod. These cards are used as a tool to aid in communication and education, and as a visual reminder to promote continuity.

Results
During this initial pilot phase, the goals were: 1) to understand the current process; 2) to design a possible intervention; and 3) to gather feedback on feasibility and to improve the cards and to refine the process for utilizing them. Data was gathered through written surveys of residents, and oral surveys of front-desk staff.

Survey data was collected from a total of 44 residents. 64-88% responded positively to questions assessing the usability of the cards. 64% reported that the cards were useful to improve continuity. Numerous concrete suggestions were collected to improve the cards and the process for future iterations.

Limitations
This initial phase of the project focused on understanding the process, and testing the feasibility of a possible intervention. Concrete data on continuity outcomes was not collected. In subsequent phases of the project, this data will be collected.

Conclusions
The use of Pod-Cards as a tool to promote patient-provider continuity is a feasible intervention that was found to be useful by residents and staff.

Implications
The next phase of the project is to refine the Pod-Cards and process for using them, and to collect concrete data on patient-provider continuity rates.
References:


Title: Top Chief; A Primary Care Chief Resident (PCCR) can enhance the Ambulatory Assistant Chief Resident (ACR) Rotation

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Funding: none

Conflicts of Interest: none

Background: In 1997, the Primary Care Track of the Internal Medicine Residency Program at the New York Presbyterian Hospital/Weill Cornell Medicine instituted a structured 8-12 week ambulatory Assistant Chief Resident (ACR) rotation for all primary care senior residents. The rotation consists of a role in ambulatory education, practice administration, quality improvement and resident mentoring. 64 primary care residents who graduated between 1992 and 2008 were surveyed in 2010 about their postgraduate career choices and skills obtained during their residency. Primary Care graduates who did an ACR rotation were more likely to have remained in academics than those who did not (80% versus 50%). Didactic teaching, leadership and independent learning were the top three skills former ACRs felt they acquired. Skills acquisition in providing feedback, spontaneous teaching and precepting skills were rated lower.

Methods: 20 years later in 2017, we have created a PGY4 Primary Care Chief Resident (PCCR) position to improve the experience of the ambulatory rotation for all internal medicine residents and specifically to enhance the teaching role of the ACR. The PCCR joins our program’s complement of four other PGY4 chiefs, housed predominantly in the inpatient environment. The administrative and educational role of the PCCR focuses on the outpatient practices where internal medicine residents spend about a third of their training. A curriculum is being designed in a teach-the-teacher model whereby the PCCR will learn how to coach the ACR on their teaching skills, with the goal of improving the precepting and spontaneous teaching skills of both the PCCR and ACRs. The institution of the PCCR position, including the curricula being developed to support this role, will be evaluated through targeted questions added to the annual rotational evaluations and through surveys similar to that administered in 2010 of the PC graduates.

Results: A PGY4 PCCR was hired for 2017-2018 and one has been selected for 2018-2019.

Limitations: While there are 129 internal medicine residents in the NYPH-Cornell program, there are only 12-16 in the primary care track, each of whom serve as ACR in their senior year.
Data on the ACR experience will therefore be limited. In contrast, the number of ambulatory rotational evaluations from all internal medicine residents is robust, however there are multiple contributions to the overall ambulatory experience.

**Conclusions:** Pending

**Implications:** The roles and skills acquired by our PCCR can be adapted and disseminated locally to the 4 additional Cornell Chief Residents, as well as nationally for use by other Ambulatory, Primary Care and Chief Resident programs. More importantly, Cornell’s ACRship has a proven track record in its ability to recruit and retain academic general internists. In our current health care climate, academic leaders in primary care are more critical than ever and the addition of the PCCR can sustain and improve Cornell’s pipeline.
Developing a Resident Curriculum for the Care of Transgender Patients in the Primary Care Setting

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Funding
None

Conflicts of interest
None of the authors has conflicts of interest to disclose

Abstract Submission

Background:
Literature suggests that transgender patients face health disparities due to discrimination and misunderstanding by medical professionals. Primary Care Internists versed in the nuances of transgender care may be a valuable health resource for transgender individuals. We identified a gap in comfort and knowledge of transgender health in our Internal Medicine training program and designed a curriculum to address this gap.

Methods:
An anonymous survey was distributed to internal medicine residents assessing attitudes, prior education, comfort, and knowledge regarding providing comprehensive primary care to transgender patients. The results of this survey were used to inform the development of a multi-medium transgender health curriculum for internal medicine residents.
Results:
A full 97% of resident respondents (n = 67) felt that understanding transgender medical issues is relevant to their practice, however fewer than half (45%) had been exposed to education in transgender health during their medical training. A minority of residents were comfortable prescribing hormone treatment (9%) or referring patients for gender transition (27%). A majority of residents demonstrated knowledge of the increased prevalence of high-risk behaviors (56% FTM, 62% MTF) and mental health concerns (90%) in the transgender population. Based on this data, a curriculum was designed to address the deficits in comfort with and knowledge of transgender care.

Conclusions:
The curriculum is multi-medium and delivered on the ITunes University electronic platform. It consists of:

• Four unique videos capturing conversations between a provider and a transgendered patient highlighting how to perform a transgender-sensitive history and physical, tips for creating an accepting office environment, gender-affirming hormone therapy, surgical interventions.
• Links to content resources including a textbook on transgender health, guidelines for screening, PrEP, and hormone therapy.
• Schematics illustrating gender affirmation surgeries.
• Links to web-based resources like the CDC, the NYC DOH, and the UCSF center for excellence in transgender health.
• Local resources for referring transgendered patient to hormonal or surgical therapy.

Implications:
The curriculum is pending publication as an iBook in iTunes University. Next steps include evaluating resident response to the material.
Title
Young Adult Transition Clinic in an Internal Medicine Residency Training Program

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Funding
None

Conflicts of interest
No conflicts of interest to disclose

Abstract Submission

Background:
Transition from adolescence to young adulthood is a vulnerable one for patients, especially those with chronic illness, special needs, complex psychosocial situations, or reproductive health needs. Few successful models exist for transition between pediatric and adult care, particularly generalist primary care. Many Internal Medicine trainees/practitioners have limited exposure to adolescents and young adults and are not comfortable providing comprehensive care for this group – especially for chronic conditions of childhood and reproductive health. A transition clinic for young adults may be one way to address these issues.

Methods:
A Young Adult Clinic (YAC) was established at the WCIMA ambulatory practice in 2013. It is a weekly resident clinic precepted by an internal medicine faculty member board certified in Adolescent Medicine. Each internal medicine intern participates in four YAC sessions and acts as primary outpatient provider to the patients. There is a formal didactic curriculum on the unique health needs of young adults, including preventive health, reproductive, chronic disease, and psychosocial health. Patients are male or female, 16-30 years old, with or without chronic medical conditions, drawing from the Adolescent Medicine practice, pediatric and medicine subspecialty practices, and community pediatric practices. A formal protocol exists in the electronic medical record (EMR) to facilitate transition. A survey-based needs assessment was administered prior to interns’ initial YAC experience.

Results:
96% of respondents (n = 23) indicated they had no other training in young adult health during residency. 100% responded they thought formal training in young adult health is important to their education in internal medicine. Anonymous MedHub evaluations of the exposure have been highly positive.
Conclusions:
YAC is well-received by the residents and addresses a need for training in primary care for young adults.

Implications:
Next steps include 1) evaluating resident response to the educational material and clinical experience, and 2) comparing successful patient transitions before and after the establishment of the clinic.
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Abstract Title: Rapid Primary Care Follow Up from the ED to Reduce Avoidable Hospital Admissions

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Funding: None  
Conflicts of interest: None

ABSTRACT

Introduction: Hospital admissions from the Emergency Department (ED) now account for approximately 50% of all admissions. Some patients admitted from the ED may not require inpatient care if outpatient care could be optimized. However, access to primary care especially immediately after ED discharge is challenging. Studies have not addressed the extent to which hospital admissions from the ED may be averted with access to rapid (next business day) primary care follow up. We evaluated the impact of an ED to rapid primary care protocol on avoidance of hospitalizations in a large, urban medical center.

Methods: We conducted a retrospective review of patients referred from the ED to primary care (Weill Cornell Internal Medicine Associates – WCIMA) through a rapid access to primary care program developed at New York Presbyterian-Weill Cornell Medical Center. Referrals were classified as either an avoided admission or not and classifications were performed by both Emergency Medicine (EM) and Internal Medicine (IM) physician reviewers. Outcome data on rapid visit completion, ED revisits, hospitalizations and primary care engagement were also collected.

Results: EM physicians classified 26 (16%) of referrals for rapid primary care follow-up as avoided admissions. Of the 162 patients referred for rapid follow up, 118 (73%) arrived for their rapid appointment. There were no differences in rates of ED revisits or subsequent hospitalizations between those who attended the rapid follow up and those who did not attend. Patients who attended the rapid appointment were significantly more likely to attend at least one subsequent appointment at WCIMA during the 6 months after the index ED visit [N=55 (47%) vs. N=8 (18%), P=0.001].
**Limitations:** Since no standard admission avoidability criteria exist, we were required to devise our own assessment tool. This was a retrospective study with a subjective assessment by physicians not involved in the actual patient care interaction and thus may be open to biases. We were only able to collect follow up data at our own institution. Since this is an analysis of the first year of the program only, we had a relatively small number of subjects.

**Conclusion:** A rapid ED to primary care access program may allow ED physicians to avoid admitting patients to the hospital without risking ED revisits or subsequent hospitalizations. This has the potential to save costs over time. A program such as this can also provide a safe and reliable ED discharge option that is also an effective mechanism for engaging patients in primary care.

**Implications:** Efforts to reduce low acuity hospitalizations can include, for select patients, rapid access to primary care. Rapid access may also offer an opportunity to engage such patients in primary care.
Title: Vulnerabilities to health disparities and hypertension control in the Reasons for Geographic and Racial Differences in Stroke (REGARDS) study

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\textsuperscript{3}University of Alabama at Birmingham
\textsuperscript{4}Presenting Author

Location: Weill Cornell Department of Medicine, Division of General Internal Medicine

Funding: Funded by a cooperative agreement U01 NS041588 from the National Institute of Neurological Disorders and Stroke and R01 HL080477 and K24 HL111154 from the National Heart, Lung, and Blood Institute, NIH, Department of Health and Human Services

Conflicts of interest: Authors report no potential conflict of interest

Background: Disparities in the prevalence of hypertension and control of blood pressure among certain subgroups—blacks, elderly, females, uninsured and those residing in southeastern or rural regions—have been well documented, however less is known about the effect of multiple vulnerabilities to disparities within the same person. Our primary aim was to investigate the relationship between the vulnerabilities described above and the ability to achieve blood pressure control over a 10-year period.

Methods: Baseline and 10-year follow-up data were investigated for 7,656 participants with hypertension at baseline in the REGARDS cohort. Two outcomes were of interest: blood pressure control at 10 years (BP < 140/90 mmHg), and change in systolic blood pressure (SBP) among participants who were uncontrolled at follow-up. Individual vulnerabilities as well as a count of each participant’s vulnerabilities were regressed on both outcomes of interest, adjusting for enabling factors, perceived need factors and evaluated need factors that influence health services utilization.

Results: A majority of the study sample had blood pressure control at 10-year follow up (80.1%). 8.0% of the sample had 0 vulnerabilities, 24.5% had 1 vulnerability, 33.8% had 2 vulnerabilities, 22.4% had 3 vulnerabilities and 11.2% had ≥ 4 vulnerabilities. When individually modeled, only residence in the stroke belt region was significantly associated with blood pressure control (PR: 0.96, 95% CI: 0.94-1.00) adjusting for all characteristics described above. However, there was a statistically significant trend for lower prevalence of blood pressure control at follow-up as the number of vulnerabilities with a participant increased (p=0.003). There were 1,455 participants who were uncontrolled at follow-up. None of the individual vulnerability domains were associated with a change in systolic blood pressure among
these participants. Similar to blood pressure control, there was a significant trend in increased systolic blood pressure at 10 years with the accumulation of vulnerabilities (p=0.026).

**Limitations:** Most of the baseline covariates were self-reported which may lead to bias. Additionally, 10-year follow-up data was not available for those who refused to receive or died before a second in-home exam and computer assisted telephone interview.

**Conclusions:** A greater number of vulnerabilities was associated with less blood pressure control and an increase in systolic blood pressure for those who did not have control at 10 years. This association was not explained by enabling factors, perceived need factors and evaluated need factors.

**Implications:** While the magnitude of the association between number of vulnerabilities and blood pressure is less dramatic than anticipated, their linear relationship warrants further investigation. Hypertension is one of the most modifiable risk factors for disease and mortality. By knowing the number of vulnerabilities to health disparities that a patient has, clinicians can target and treat individuals who are at the highest risk for not achieving blood pressure control.

**Table. Effect of number of vulnerabilities on blood pressure control at follow-up among 7,656 hypertensive REGARDS participants.**

<table>
<thead>
<tr>
<th>Vulnerability Count</th>
<th>Crude</th>
<th>Fully Adjusted&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nb</td>
<td>PR (95% CI)</td>
</tr>
<tr>
<td>0</td>
<td>599</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1700</td>
<td>0.99 (0.95,1.03)</td>
</tr>
<tr>
<td>2</td>
<td>2368</td>
<td>0.97 (0.93,1.01)</td>
</tr>
<tr>
<td>3</td>
<td>1542</td>
<td>0.95 (0.91,1.00)</td>
</tr>
<tr>
<td>≥4</td>
<td>720</td>
<td>0.92 (0.88,0.97)</td>
</tr>
<tr>
<td>P for trend</td>
<td></td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

<sup>a</sup> Full model adjusts for vulnerability count; enabling factors (usual source of care, living in a Health Professional Shortage Area); perceived need factors (medication adherence, awareness of hyperlipidemia); and evaluated need factors (obesity, current smoking, history of myocardial infarction, diabetes and baseline systolic blood pressure)

<sup>b</sup> Vulnerability count multiply imputed for 727 participants in sample

Abbreviations: REGARDS, Reasons for Geographic and Racial Differences in Stroke; PR, Prevalence Ratio; CI, Confidence Interval
Title: Quality of the Evidence Behind Recommendations for Creating Patient Education Materials: A Systematic Review

Authors: Masha G. Jones, MD, 1 Amanda S. Carmel, MD, 1 Monika M. Safford, MD 1

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This project was supported by internal funds.
The authors have no conflicts of interest on this topic.

Background: Patient knowledge of health-related information on medical conditions, risk factors, and treatment options is critical for shared decision-making. While there are existing recommendations for creating patient education materials, the quality of evidence supporting them is unclear. We conducted a systematic review of the literature to assess the strength of the evidence for current recommendations.

Methods: We searched OVID Medline from 1946-February 12, 2017 using the terms: [health education/ or consumer health information/ or health literacy/ or patient education as topic/ or teach-back communication] AND [Evidence-Based Medicine] AND [behavior/ or communication/ or information seeking behavior/ or literacy/ or teach-back communication/ or consumer behavior/ or patient compliance/ or medication adherence], resulting in 228 articles in the English language. Of these, we included randomized trials, cross-sectional and qualitative studies, reviews, and expert opinion that commented on the effectiveness of or satisfaction with approaches to presenting patient-facing information materials. With supplements from references of the reviewed articles, this resulted in 87 articles that were included in this study. We identified 13 recommendations, four of which had greater than four supporting randomized trials. We assessed each randomized trial supporting these four recommendations using a modified version of the critical appraisal approach of the Center for Evidence-Based Medicine. Guided by the GRADE framework, we also gave an overall quality rating to each recommendation.

Results: The trial evidence supporting each of the four recommendations is shown in Table 1. Nine moderate quality trials showed improved comprehension with the use of visual aids, particularly among individuals with lower education levels. Evidence for the use of pictographs was also robust. Pictographs consistently appear to yield the most improvement in comprehension compared to other formats presenting risk information, though the benefits of using pictographs over bar graphs is inconsistent. Overall, the sole use of verbal risk descriptors (e.g., “rare,” “common”) appears to be less effective than also presenting risk-related information numerically, though there is some inconsistency in findings. Lastly, although it is widely accepted that information should be presented clearly, there are few randomized trials testing specific strategies for achieving this. Examples supported by individual trials include presenting smaller amounts of information or presenting information sequentially. In many of the trials reviewed, participants were presented with hypothetical scenarios, thus potentially limiting their investment in interpreting the presented health information. Several trials were skewed
toward certain demographic groups, possibly limiting generalizability to people with lower literacy or educational attainment, and most trials were modest in size. Virtually all reviewed trials excluded non-English speakers, thus leaving out a large population of individuals with known barriers to obtaining health information.

Table 1. Summary of Evidence Supporting Each Recommendation

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Number of Randomized Trials</th>
<th>Total Sample Size of All Trials</th>
<th>Average Sample Size</th>
<th>Overall Quality Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Use visual aids</td>
<td>9</td>
<td>1846</td>
<td>205</td>
<td>High</td>
</tr>
<tr>
<td>2: Use pictographs or bar graphs</td>
<td>9</td>
<td>7239</td>
<td>804</td>
<td>High</td>
</tr>
<tr>
<td>3: Avoid sole use of verbal risk descriptors</td>
<td>7</td>
<td>2225</td>
<td>318</td>
<td>Moderate</td>
</tr>
<tr>
<td>4: Present information clearly</td>
<td>5</td>
<td>3615</td>
<td>723</td>
<td>Low</td>
</tr>
</tbody>
</table>

**Limitations:** We were unable to conduct a meta-analysis due to the heterogeneity of trials and the small number of trials testing the same intervention.

**Conclusions:** The amount of high quality evidence supporting recommendations for presenting health information to patients is limited. Existing randomized trials are largely of moderate quality. Only two recommendations have a sufficient number of trials with consistent results to warrant an overall high quality rating.

**Implications:** Since effective information transfer is essential for shared decision-making, additional rigorous research is needed to ascertain the most effective strategies, particularly for populations that already have barriers to receiving clear, accessible, evidence-based health information.
Primary Care Innovations Symposium - Abstract Submission

Presenting Author: Monika M. Safford, MD
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Abstract Title: The Patient Activated Learning System: a novel patient education platform
Authors: Monika M. Safford, Fred Pelzman, Sanjai Sinha, Arta Habili, Amanda Carmel
Institutions: Weill Cornell Medicine
Funding: PCORI, Pfizer, WCM institutional funds
Conflicts of interest: None

Background: Shared decision-making is increasingly emphasized as the US healthcare system moves toward more patient-centered care. However, shared decision-making hinges on patients understanding their options. This is challenging since the US Department of Health & Human Services estimates that only 12% of the US adult population has proficient health literacy. While it is clear that patient education is critical for shared decision-making to be meaningful, current patient education materials often fall short, with many being too text-heavy and providing insufficient visual depiction of data, overly general information (especially regarding medication side effects), and unclear conflicts of interest. We are developing a novel patient education platform to fill this gap in current patient education material called the Patient Activated Learning System (PALS).

Methods: The PALS draws on several established paradigms. We are using Adult Learning Theory to create Reusable Knowledge Objects (RKOs) in a question and answer format with a single learning objective; short, easily digestible answers in video format or at a 6th grade reading level; memorable sound bites reinforcing the learning objective; an assessment question testing understanding of the learning objective; and a rigorously researched evidence summary that outlines/compiles the scientific evidence behind each response. We use Bandura’s Social Cognitive Theory to engage and empower users by speaking directly to them and modeling behaviors and consequences in the site’s videos. We also use online gaming theory in the form of Bartle’s Taxonomy, which categorizes Internet user engagement into 4 types: achievers, socializers, killers, and explorers. The site will allow interactions within each of these 4 domains, and prioritizes user engagement through entertaining educational experiences. Users also control which content they want to view, with future development of individualized curricula that physicians can customize for specific patients. The system will allow physicians to track whether patients completed their assignments, and also which additional content their patients viewed, serving as a springboard for physician-patient communication.

Results: The Symposium audience will be invited to test-drive the website at palsforhealth.com and provide feedback to the developers. Current content focuses on hypertension medications and rheumatoid arthritis. Additional content is being developed for end-of-life care, pediatric asthma, and hospital discharge planning. Still in production, the site has already gotten over 20,000 hits from 37 different countries (Figure).

Limitations: Software development is a slow process, especially with limited funding. Research funders do not fund this kind of platform development. Content development to cover the entire breadth of medical information will take time. The system will be available only in English for at least another year.

Conclusions/Impact: The PALS fills a gap in currently available online patient education resources and serves a worldwide audience. The PALS is intended to support and encourage shared decision-making between physicians and patients, an increasingly emphasized dimension of high quality healthcare.

Figure. Distribution of hits to the palsforhealth.com website as of August 11, 2017.
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Department/Division: Department of Medicine, Division of General Internal Medicine

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Abstract Title: Building a Patient-Centered Cardiovascular Risk Reduction Program for Patients with Inflammatory Arthritis

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Location: University of Alabama at Birmingham; Birmingham, AL and Weill Cornell Medical College; New York, NY
ABSTRACT

Background: Cardiovascular disease (CVD) is the most common cause of death among patients with inflammatory arthritis such as rheumatoid arthritis (RA), psoriatic arthritis (PsA) or ankylosing spondylitis (AS). Comprehensive CVD risk reduction programs for patients with chronic inflammatory arthritis are scarce.

Objective: To obtain stakeholder input on the development of a patient-centered CVD risk reduction program for patients with chronic inflammatory arthritis using peer coaches.

Methods: We conducted a qualitative study guided by Bandura’s Social Cognitive Theory, placing special focus on knowledge about the relationship between arthritis and CVD as well as barriers and facilitators to receiving healthcare related to CVD risk such as screening and management for hyperlipidemia. Participants had to have either RA, PsA or AS and were recruited from a single academic center. After participating in the focus group, participants completed a questionnaire on demographic and clinical characteristics. Data were analyzed thematically.

Results: We conducted three focus groups with a total of 17 participants. Mean age was 56 (SD±7.7) years; 88% were females; 18% were on a statin; and 6% had established CVD (history of myocardial infarction or stroke). Five themes emerged (Table): 1) Participants expressed a strong need for information related to their arthritis, prognosis, and medications used to treat arthritis; 2) Participants expressed a desire to prioritize understanding of their arthritis and how best to treat it before focusing on CVD risk reduction; 3) Participants were receptive to a CVD risk reduction program, but wanted it to emphasize lifestyle change and to be integrated into arthritis education; 4) Many participants were not familiar with the concept of peer support, but once this concept was introduced, they expressed several ways they would like to utilize peer support, including support for exercise, communication with physicians, and medication management; 5) Participants were also interested in improving communication with their doctors in order to be able to ensure that their doctors understood their symptoms and to better understand the information and recommendations given to them.

Conclusion: This study highlights that patients with RA may be receptive to a CVD risk reduction program embedded into a larger education program on arthritis if it emphasized non-medication approaches and if coaching on optimizing communication with the physician is included. Peer-to-peer support appears to be of interest to patients and a reasonable tool for RA education and CVD risk reduction.

Limitations: Participants in this study were a convenience sample from a single academic referral center.

Implications: CVD risk reduction programs for patients with RA, if designed in response to patient preferences, could be developed to reduce this frequently overlooked comorbidity in inflammatory arthritis.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Key points</th>
</tr>
</thead>
</table>
| **Knowledge about arthritis**             | - Interested in understanding what the expectations are for living with arthritis  
- Arthritis medication side effects and possible interaction with other medications  
- Risks and benefits of being on medications for arthritis  
- Interest in learning about non-medical things they can do to avoid an arthritis flare (ex. exercise or avoid certain types of food) |
| **Knowledge about CVD and arthritis**    | - Learn about how arthritis affects the heart  
- Learn about the things that they can do to decrease CVD risk  
- Clarify misunderstanding that all laboratory tests include a cholesterol test |
| **CVD risk reduction program**            | - Participants were interested in learning about exercise as a way of helping arthritis and reducing CVD risk  
- Learning about diet for both purposes, help with arthritis and decrease CVD risk  
- Focus the CVD risk reduction program as an overall arthritis management and not as a separate issue  
- Participants preferred to engage in lifestyle changes to control cholesterol before considering initiating a statin. Still, they were not familiar with best ways to do these types of lifestyle changes |
| **Preferred ways of learning**            | - They saw their treating physician as the most reliable source of information about arthritis  
- The internet – although they expressed concerns about the authenticity and reliability of the information available online  
- Learn from another patient with arthritis who has gone through the process of starting treatment and initial struggles of the disease. They would like to learn from another patient with arthritis about the following topics:  
  - Things that they did to help with the management of arthritis  
  - The way that they feel about taking medications for arthritis  
  - What problems are they having with these medications  
  - How have these medications helped them  
  - Have they experienced CVD events and how are they managing to reduce CVD risk  
  - Best exercise program (weights, cardio, pool exercises)  
  - They would like the patient with arthritis to engage with them in a workout program (workout partner)  
  - Best ways to communicate with their doctors  
- These participants expressed concerns about working with another patient with arthritis in the following aspects:  
  - Confidentiality from these other patients with arthritis  
  - Authenticity of the information provided by them |
| **Communication with physicians**         | - Learn what kinds of questions they should ask their rheumatologist about arthritis  
- Frequency of communication and visits with the rheumatologist  
- Learn about better ways to engage their doctor in answering their concerns about medications, laboratory results and symptoms  
- Learn about better ways to communicate their symptoms and personal situation to their doctors |
Title: Improving communication with surrogate decision-makers: A primary care pilot initiative for internal medicine residents

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Funding: Dr. Meltzer was supported by the Arnold P. Gold Foundation, The Department of Medicine at Weill Cornell Medicine, and The Caregiver Insights Foundation.

Conflict of interest: The authors have no competing interests.
**Background:** Often important and difficult conversations are not between doctors and patients, but doctors and surrogate decision-makers (i.e. surrogates). This is a necessity, as surrogates make 75% of medical decisions for critically ill patients, including decisions about code status. Poor communication between surrogates and physicians can exacerbate grief, anxiety, and guilt for surrogates, and lead to physician stress and burnout. This pilot study assesses the effectiveness of an experiential learning workshop, conducted in an outpatient, primary care practice, for improving resident physician communication skills specific to surrogate decision-making (SDM). We hypothesized that residents would not demonstrate baseline proficiency in SDM communication skills and anticipated the intervention would result in a measurable improvement.

**Methods:** To promote best practices for working with surrogates making difficult, end-of-life/ goals-of-care decisions, an intensive, 6-hour communication skills workshop was created for internal medicine residents at an urban, academic medical center on a 2-week ambulatory rotation. From April – June 2016, residents’ baseline communication skills were assessed through an Objective Structured Clinical Exam (OSCE) with actors instructed to play the role of standardized surrogates (SS); residents were reassessed via a same-day, post-workshop OSCE. All OSCEs were conducted in examination rooms in an outpatient, primary care practice. A faculty facilitator and the SS evaluated 12 distinct communication skills via the expanded Gap Kalamazoo Consensus Statement Assessment Form, a 1-5 Likert scale with scores of 3 (good) or greater defined as an appropriate level; below 3 as suboptimal. Wilcoxon Signed Ranks Tests (alpha of 0.05) compared mean pre- and post-workshop scores, as well as average scores for each of the individual 12 items. Linear regression analysis measured the association between self-report of previous instruction in best practices for SDM and current OSCE performance. Cronbach’s alpha determined the instrument’s internal consistency.

**Results:** Participants’, 33 of 44 (75%) residents, average pre-workshop OSCE scores [(\(M = 3.3, SD = 0.9\)] were significantly lower than post-workshop scores [(\(M = 4.3, SD = 0.8\)], \(Z = 4.193, p < .00, \text{effect size } r =0.52\)]. Average baseline scores were above 3 (good) for every skill except “understands the patient’s and family’s perspective” (2.7). As shown in the Figure, mean post-workshop scores increased significantly for each skill (\(p < 0.05\)), with the largest in “understands the patient’s and family’s perspective” (+1.4) and “demonstrates empathy” (+1.2). Pre-workshop (\(\alpha = 0.94\)) and post-workshop (\(\alpha = 0.90\)) assessment scales had excellent internal consistency.

**Limitations:** The study size was moderate, and the same-day assessment of participants’ post-workshop communication skills does not establish whether improvements will endure over time.

**Conclusions:** Resident physicians have room for improvement in SDM communication skills. This workshop showed promise in improving these, and other, skills and demonstrated the feasibility of bringing OSCEs and simulated practice encounters into a busy, primary care practice.

**Implications:** This pilot study identified and addressed the need for educational programs to teach communication skills specific to SDM. For others seeking to incorporate simulation into their clinical training, this workshop demonstrates that it is feasible to do so during an existing, outpatient ambulatory rotation.
Figure: Distribution of Pre-OSCE Scores vs Distribution of Post-OSCE Scores

Figure. Mean scores (N = 33) across all 12 dimensions of communication for Pre- (red) and Post- (blue) OSCEs assessed via Likert scale; p < 0.05 for all comparisons. Likert scale: 1 (poor), 2 (fair), 3 (good), 4 (very good), 5 (excellent).
Title: Rates and predictors of uncontrolled Diabetes among homeless diabetic adults in New York City shelters

Ramin Asgary, MD, MPH (Presenting author), Assistant Professor, Division of General Medicine, Department of Medicine, Weill Cornell Medical College

Abstract

Background: Data regarding the prevalence of Diabetes and its control among millions of homeless Americans is lacking. Methods: Socio-demographics, Diabetes related measurements and indicators, and factors associated with homelessness and diabetes were reviewed and extracted from medical records of a random sample of homeless diabetic patients (n=100) from six New York City shelters and shelter-based clinics in 2015. Results: The majority of patients was Black or Hispanic; up to 20% were female. Forty-five percent had a history of mental illness, 15% a history of substance abuse, 11% a history of alcohol abuse, and 30% were smokers. Forty percent had a hemoglobin A1c of above 7.5%; 15% had A1c of above 10%. One-third had uncontrolled Low Density Lipoprotein levels. Logistic regression evaluated the effect of age, race or ethnicity, health insurance, body mass index, other chronic disease, substance or alcohol abuse, and mental illness with diabetes control. Conclusions: Diabetes is often poorly controlled among homeless. Systems, provider, and patient levels approaches to target risk factors and specific barriers that complicate diabetes control in the homeless adults are warranted. Improving access and adherence and targeted health education using innovative mobile strategies, patient navigation or case management, and outreach at the shelters where the homeless habitually congregate should be considered.

No funding sources to declare
No conflicts of interest to declare

Learning Objectives:
• Evaluate the rates and predictors of uncontrolled diabetes among diabetes homeless using New York City’s shelters and shelter-based clinics
Discuss interventions aimed at improving diabetes control among diabetic homeless
A Resident Led Quality Improvement Initiative to Improve Dental Health in the Pediatric Patient Population at Community Health Network in Long Island City

**Background:**

Early childhood caries (cavities) is the number 1 chronic disease affecting young children. The incidence of dental caries is increasing; 28% age 2-4 year olds in the last decade. Medicaid Eligibility has been associated with greater risk for poor oral health. Majority of patients at Long Island City clinic have Medicaid insurance, and yet easily accessible dental referrals are lacking. Review of literature showed cost-effectiveness of preventive oral health care in medical office.

**Objectives:** The aim of this project was to improve overall dental health and reduce complications from ECC in our patients by:

1) Using an oral health risk assessment tool to improve dental screening of patients 9 months to 3 years to 90% at health supervision visits
2) Referring 75% of all patients to a dental home by age 3 years
3) Having an established dental home for 50% of all patients ages 12 months to 3 years

**Methods:** In this observational time series, data were collected monthly from November 2016 to June 2017 by EMR review. Data collection tool included modified American Academy of Pediatrics’ Oral Health Risk Assessment Tool and consisted of 3 parts: 1) Resident conducted dental history which included information on teeth brushing and flossing habits and when the patient’s most recent visit (if any) with a dentist was 2) Resident conducted dental exam with particular focus on any evidence of tooth decay, plaque or gingivitis and 3) A 3 question yes/no questionnaire known as “Modified Oral Health”. This tool asked whether mother had dentist, if she had caries, and if the child used a bottle for liquid other than water. Data were displayed and analyzed using statistical process control charts. Established rules for detecting special cause variation were applied.

**Results:** Our dental screening rate was 59.91%. Dental referral rate significantly improved from 49.94% to 87.50%. Positive dental screen rate was high at 75.31%. However, dental home (completed dental visit) was established at a rate of only 18.28%. Balancing measure i.e. tuberculosis screen was high at 82.68% and remained unchanged during the study period.

**Conclusions:** Implementation of this quality improvement project highlighted the need for continued emphasis on dental health in our patient population during routine health exams. The high number of positive dental screening questionnaires showed that there is still a significant gap in emphasis on and knowledge related to dental health among pediatric patients and their families. Furthermore, the initiative helped to increase awareness of the importance of the dental screening among pediatric residents in the clinic. Future directions aim to integrate the dental screening tool into our EMR to make it easier and more reflexive to complete. In addition, we hope to develop relationships with local dentists in order to help streamline referrals.
Background
Ambulatory education has been described as variable, unpredictable, and lacking in continuity. It has become a balance of teaching versus productivity. Here we identify and describe barriers to ambulatory education as perceived by interns and resident at a tertiary care resident ambulatory clinic.

Methods
Residents and interns were given an eleven question survey (from July 2017 to August 2017) prompting them to describe how and how often they prepared for patient encounters and to reflect on the knowledge gained from their last 5 patient encounters. The learners were given space to free write their thoughts.

Results
In contrasting the interns’ (n = 24) and residents’ responses (n = 35), we see knowledge gained from the interns’ perspective focused more on how to navigate the health system and how to better communicate with the patients (58.3%) as compared to 8.6% of the residents. From the resident perspective, the bulk of the responses (48.6%) cited that they did not learn anything from their last 5 patient encounters. Both groups similarly described concrete topics gained at 29.2% and 34.3% from the intern and resident responses respectively.

In asking the residents and interns what they would have done differently during the last 5 patient encounters, the following categories of beliefs similarly emerged from the surveys: 1) clearly setting the agenda at the visit, 2) concerns about control of session, and 3) doing more preparatory work in chart review.

Despite the realization that additional preparatory work would enhance patient encounters, 72.7% of the interns and 65.7% of the residents previewed the patients chart “Every time or Most of the time” prior the encounter. Of those residents, 34.8% reviewed the chart only “moments before the patient encounter” and 65.2% reviewed the chart the “day before”. In contrast, of those interns, 100% reviewed the chart the “day before”

Limitations
Our survey instrument limits details in data gathered.

Conclusions/ Implications
In an era where learners in the ambulatory setting perceive a lack of diverse patient problems and lack of educational opportunities, have less time to perform multiple task or lack skills to organize and prioritize tasks during visits, we need to find teaching models that integrates learning into the practice and process of caring for patients. Those interventions need to target those perceived barriers and help learners to develop organizational and efficiency strategies. The findings from our study are a platform to identify those barriers.
Title: The Role of Numeracy in the Management of Heart Failure: A Qualitative Study

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Trainee/Mentor: M. Sterling is a health services research and general internal medicine fellow in the Department of Medicine; M. Safford is her primary research mentor.

Funding: M. Sterling is currently supported by T32HS000066 from the Agency for Healthcare Research and Quality. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Agency for Healthcare Research and Quality.

Conflicts: M. Safford receives salary support for investigator initiated research from Amgen, Inc.

None of the other authors have conflicts to report.

Prior Presentations: This material was presented as a podium presentation at the Agency for Healthcare Research and Quality’s (AHRQ) 23rd Annual National Research Service Award (NRSA) Research Trainees Conference, on June 24, 2017 in New Orleans, LA.

The manuscript is currently under review.

Acknowledgements

We would like to thank all of the patients at Weill Cornell Internal Medicine Associates (WCIMA) who gave their time and offered us their valuable insights; Dr. Fred Pelzman and Dr. Judy Tung for their clinical support; Dr. Mary Charlson and Dr. Carol Mancuso for their research guidance; Dr. Travis Gossey for assistance with the electronic medical record; and Dr. Jim Hollenberg for creating a secure web-site on ClinvestiGator for data entry.
Abstract

Title: The Role of Numeracy in the Management of Heart Failure: A Qualitative Study

Background: Low numeracy is associated with adverse patient outcomes, yet, little research has focused on numeracy in the context of heart failure (HF), a condition which requires patients to use numerical skills to monitor their weight, fluid intake, and dietary salt. In this study, we sought to understand the perspectives of adults with HF about numerical concepts integral to HF self-care.

Methods: We conducted semi-structured interviews with HF patients from December 2016 to February 2017 at Weill Cornell Internal Medicine Associates, an urban, academic primary care practice. Eligibility criteria included: history of HF (≥ 1 year), seen at the clinic within the last year, and HF hospitalization within the last 6 months. Non-English speakers and those with severe cognitive impairment were excluded. Purposive sampling balanced gender, race, and type of primary care provider. The interview elicited perspectives on numeracy across three domains of HF self-care: 1) monitoring weight; 2) maintaining a diet low in salt; and 3) monitoring blood pressure. Interviews were audio recorded and professionally transcribed. Data was organized with qualitative software and analyzed using grounded theory.

Results: The 30 participants were mean age of 67 years (SD 10), 17 (57%) were female, 7 (23%) were White, 15 (50%) were Black, and 6 (20%) were Hispanic. 21 (70%) had at least a high school education and 12 (40%) had Medicare or Medicaid. On average, participants had HF for 11 years (SD 7.8), 22 (73%) were considered to have New York Heart Association (NYHA) classes two and three, and 25 (83%) reported taking 1-5 HF medications.

We identified five major themes reflecting participants’ attitudes towards numerical concepts pertaining to weight, diet, and blood pressure. 1: Provider communication was inconsistent. Some participants reported never having received critical information about these concepts, while others reported having received it, although they did so from a variety of sources (doctors, nurses, nutritionists, pharmacists). Impaired cognition, vision, and hearing were cited as communication barriers. 2: Information was often incorrectly applied. When given real-life scenarios, most participants were unable to carry out instructions, that they had previously reported understanding. [“2,000mg of sodium? What is that? What do I do with that?”] 3: Caregivers are critical to understanding and carrying out numerical instructions associated with HF self-care. Nearly all participants reported that someone helped them with disease management [“My wife does everything for me. Meds, groceries… takes my pressure.”]. These caregivers sometimes possessed little or incorrect information, creating additional barriers [“Whatever she (HHA) cooks me, I eat.”]. 4: Experience with other chronic diseases informed attitudes to wards numerical concepts associated with HF. [“I learned to watch my weight and pressure at dialysis.”] 5: Fear of numerical results served as a barriers and facilitator with respect to mastering numerical concepts associated with HF.

Conclusion: Our findings suggest that many HF patients lack basic understanding and skills required for adequate self-management. Many rely on caregivers who may lack self-care training. Patient-provider communication, and HF-specific training of caregivers may be more important influences on successful HF self-management than individual patient numeracy.
Primary Care Innovation Symposium Abstract Proposal

Title: Community Perspectives in Medicine—Clinical Skills Series Pilot Project
Author: Eric Kutscher, MS4, Weill Cornell Medical College
Mentors: Linnie Golightly, MD, Oliver Fein, MD
Funding Source: Medical School Executive Council, Weill Cornell Medicine
Conflicts of interest: none reported

Background:
Medical education traditionally teaches clinical skills and physical diagnosis during preclinical years, with supplemental teaching and enhancement during clinical curricula. With more medical schools creating dedicated research time during the third and fourth year, new opportunities and challenges exist in the teaching of clinical skills (defined as verbal and nonverbal communication skills required during the doctor-patient interaction). This pilot project sought to investigate if and how clinical skills can best be incorporated in dedicated research time to allow for further enhancement without taking away from other student commitments.

Methods:
With help from faculty advisors, a group of first and third year medical students planned a series of sessions focused on advanced clinical skills activities, particularly around topics that disproportionately impact underserved communities. Four topics were selected: substance use and abuse, sexual assault, integrating alternative medicine, and post-incarceration health. For each topic, a community-based physician came to discuss and demonstrate his or her approach to patients in an informal question-and-answer style setting. After the speaker left, students reflected on how the physicians’ best practices fit in with their experience during clinical years. Students evaluated each speaker and debrief session. The target audience was third year medical students, but all years were welcome to attend. Students could attend as many sessions as they wanted, and no academic credit was given for participation.

Results:
Student satisfaction for all sessions was 80% excellent (37/46 surveys) and 100% excellent or above average. Students rated the presentation topics highly (46/46 surveys indicating excellent or above average), as well as presentation content (42/46 surveys indicating excellent or above average). Students preferred having community-based speakers over Weill Cornell physicians teach the sessions (17/44 preferring community speakers, 0/44 preferring Weill Cornell speakers), but wanted more structure for both the presentation and debrief. Respondents were split between whether the a clinical skills series should be required during the area of concentration research block, with 15/44 responses in favor, 12/44 preferring optional sessions, and the remainder unsure.

Limitations:
Data collected includes responses from first year and third year students. A limited number of people who attended each session filled out the survey, perhaps biasing our results. Similarly, students who attended multiple sessions were able to fill out multiple surveys. Despite being called a clinical skills series, students were not given an opportunity to actually practice skillsets discussed, and thus data on changes in skills and techniques could not be observed or recorded.

Conclusions:
Teaching clinical skills can continue during research-dedicated blocks to supplement research experiences. Teaching through didactic sessions and debriefs was successful, but future work can investigate ways in which students can apply learned skills in an educational environment. We propose focusing on one skillset, such as motivational interviewing, and applying it across different topics to allow for concrete skill development.

Implications:
Interest exists among third year students during research-dedicated blocks to continue advancing clinical skills. Having community-based organizations teach clinical skills allows for development of skillsets tailored to working with patients from diverse backgrounds.
ABSTRACT

Background
Embedded psychiatrists in medical settings can improve and facilitate patient care (Desan 2011). Integrated behavioral health care is particularly important for older adults, in whom depression and anxiety negatively affect disease progression, treatment adherence, functional status, and mortality (Samuels, 2015). In this study, we assess the impact of an embedded psychiatrist on patient care for a geriatric medicine service, and evaluate the feasibility and experience of an embedded psychiatry rotation as a senior resident elective.

Methods
From July 2016 to February 2017, a fourth year psychiatry resident was embedded on a geriatric medicine service. The resident performed all psychiatric consultations, attended twice weekly rounds, and was available to the team throughout the week. Consultation- liaison (C-L) faculty directly supervised the resident. Data were compared to the equivalent period from one year prior when all consultations were seen by the general C-L service.

Results
Dr. Chait will present her data and review her experience of the embedded psychiatry rotation, including establishing its structure, balancing it with other clinical and academic responsibilities, and attending to her professional development. Dr. Chait performed 60 consultations, representing more than a 50% increase from the prior year. 65% of consultations were seen within 2 days of admission compared with 48.7% by the C-L service. Dr. Chait was more likely
to discontinue constant observation status, possibly demonstrating more rapid behavioral control. She both initiated and discontinued medications more frequently, likely representing an increase in the number of patients receiving treatment and a decrease in polypharmacy. Despite seeing a substantially larger number of patients, Dr. Chait was less likely to be asked to assess decision-making capacity, which may reflect the psychiatrist’s liaison function in providing education and supporting the team in its own determinations. She was able to assess and manage all cases requested by the team within the confines of a part-time elective.

Limitations
This pilot program did not address the impact of an embedded psychiatrist on length of stay, patient satisfaction, or health outcomes. Additionally, the general C-L service, compared to a single embedded psychiatrist, is composed of multiple psychiatrists who may have had a variety of treatment approaches. Barriers to replicating this model include funding and training of psychiatrists and primary teams to work in a collaborative care model.

Conclusions
The results demonstrate that an embedded psychiatrist can improve quality of care in a geriatric population, and validate the feasibility of an embedded psychiatry senior resident rotation.

Implications
Models of integrated psychiatric and medical care can enhance the delivery of mental health services to patient populations in need, and may improve medical outcomes and provider collaboration. Incorporating the integrated care model into an academic medicine environment may prepare and encourage physicians in training to work in multidisciplinary settings, regardless of their chosen specialty. Such models can be adapted to inpatient and outpatient clinical practice.

<table>
<thead>
<tr>
<th>Table 1: Patients Referred for Psychiatric Consultation</th>
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<tbody>
<tr>
<td>Number of consults</td>
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<tr>
<td>Average age (range)</td>
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<tr>
<td>Gender</td>
</tr>
<tr>
<td>Female</td>
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<tr>
<td>Male</td>
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<tr>
<td>Prior psychiatric history</td>
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<tr>
<td>New psychiatric medication started during admission</td>
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<tr>
<td>Psychiatric medication stopped during admission</td>
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<tr>
<td>Constant Observation Continued</td>
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<td>Constant Observation Discontinued</td>
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References

ABSTRACT:

Background

The separation of medical care and mental health care does not sufficiently meet the needs of the growing number of patients necessitating psychiatric treatment. Mental illness and substance use disorders are among the top five conditions resulting in disability. Furthermore, patients with serious mental illness are known to have higher and earlier mortality rates as compared to those with medical conditions alone. A significant portion of patient with mental illness are often seen in primary care practices. The collaborative care model was created in an effort to address the needs of the patients with psychiatric illness within the primary care system. This is a rapidly growing research field with ongoing quality improvement and educational innovations.

Methods

Presenter will describe the collaborative care model in the primary care setting and on the inpatient medical units. The challenges of implementing mental illness screening, care coordination and care management services, and tele-psychiatry will be discussed. Efforts to expand the trainees’ curriculum and training within the collaborative care initiatives will be examined. In addition, an emerging model of the role of an embedded psychiatrist on an inpatient medical service will be presented.

Results

Presenter will provide a summary of the evidence, barriers, and practical considerations of implementing collaborative care treatments in primary care. Specific cases from the inpatient medical service and primary care clinic will be presented to illustrate different effective ways of delivering mental health treatments in a primary care setting. Examples of engagement in interdisciplinary education will be presented to illustrate professional and educational benefits for clinicians working within the collaborative care model.
Limitations
Integration of mental health and primary care service requires thoughtful planning and partnership from both sides. This often requires overcoming institutional norms and offering specialized training for team members. Barriers to implementation such as funding and reimbursement will also be addressed.

Conclusions
Collaborative care has an extensive evidence base and a successful business case supporting its utility in primary care for patients with mental illness. The success of mental health treatment in the primary care setting depends on collaboration between interdisciplinary team members. Delivery of psychiatric and medical care that is both high-quality and cost-effective has been an ongoing challenge in a fragmented health care delivery system. The collaborative care model brings together a range of professionals from primary care and mental health settings to address this challenge.

Implications
This is an opportunity for medical providers to collaborate outside of their health care silos to provide comprehensive patient care. This has notable implications for cost effectiveness, improvement in disability, and promotion of evidence-based patient care.
Title: One Model of Integrating Mental Health Care into a Pediatric Resident Group Practice

Authors: Cori Green, MD; Matthew James Tirelli, MSN, PMHN-C; Justin Mohatt, MD; and Corinne Catarozoli, PhD

Affiliation: New York Presbyterian/Weill Cornell Medical College, New York, New York

Background: One in five youth are afflicted with a mental health (MH) disorder in the United States. Pediatricians have a growing responsibility to address MH problems in primary care, yet are not prepared to do so. The pediatric primary care clinic at this institute addressed these problems through faculty development of attending physicians, the implementation of universal MH screening, and referrals to community mental health clinics. While this increased recognition of MH problems, the majority of children referred for community services did not follow up. To address the treatment gap, an integrated MH model of care was initiated.

Aims – Describe a resident primary care clinic that uses an integrated MH model of care.

Methods: The pediatric primary care clinic developed an integrated model of MH care using an interdisciplinary team through two phases. Phase I, initiated 3 years ago, involved the addition of a psychiatric nurse practitioner (NPP), a care coordinator, and community health workers to a clinic of 40 pediatric residents, a social worker, and 10 pediatric attending physicians. The NPP provides on-site brief treatment for children with MH problems identified through screening or history, advises trainees and faculty on evaluation and management of MH problems, models difficult conversations with families, and co-manages patients with providers. Evaluation of this phase using a cross-sectional survey design of parents and chart review of patients is underway. Phase II, beginning this academic year, involves further integration with the psychiatry department at this institute. Six child and adolescent psychiatry (CAP) residents, 2 CAP faculty members, and an on-site psychologist will be added to the team. We will implement a “buddy” system pairing CAP residents with PGY-2 pediatric residents to provide non-urgent informal consultations on cases along with attending-to-attending and CAP attending-to-NPP consultation. Preferential access to the CAP outpatient clinic is provided to pediatric clinic patients unable to be managed within the integrated setting due to acuity. The on-site psychologist will co-precept pediatric trainees, teach brief interventions for anxiety, and provide short-term interventions to children on-site.

Results – In Phase I, over 250 children were evaluated by the NPP since the inception of the program. Qualitative surveys of patients have stated that they followed through with this referral due to trust in their provider, the institution, and a longitudinal relationship with this hospital and medical practice. Twenty-five surveys have been completed to date, with a goal of 200 total surveys to be collected for data analysis. Rates of recognition, patient engagement, and family satisfaction and preferences for care will be examined.

Conclusions – Integrating mental health services and providers into the pediatric setting is an effective method of building on already established trust in the institution and providers to increase access to mental health services. There have also been increased amount of appropriate referrals and mental care.
health treatment provided by pediatric residents. Phase II will further increase access to services and interdisciplinary collaboration.

Acknowledgments/Funding Sources- DSRIP
**Title:** A Winning Team: The WCIMA Diabetes Improvement Team approach to diabetes care.

Having diabetes is a full-time job. The person living with diabetes is faced with making many daily healthcare decisions. Research shows that a team approach is an effective way to help people better manage their diabetes. Teams provide access to education, improved glycemic control and quality of life, and decreased risk for complications and healthcare costs.

The importance and benefits of comprehensive diabetes team care are highlighted by team care inclusion in the Chronic Care Model and the Patient Centered Medical Home. The Chronic Care Model provides a framework for effective care of diabetes, incorporating team care as a vital component of delivery system design. The Patient Centered Medical Home model also includes team-based care, encouraging health promotion and chronic disease management through the use of individualized care plans as well as effective health care team member communication and coordination of care.

To that end, WCIMA’s Diabetes Improvement Team was formed to ensure a multidisciplinary approach to diabetes care that is collaborative, evidence based, and patient centered. This model of care has earned WCIMA NCQA certification as a Patient Centered Medical Home and Diabetes Center of Excellence.

The WCIMA Diabetes Improvement Team is comprised of nurses (NP/CDEs and RNs), physicians, registered dietician, care managers, social workers, practice administrator, and a patient representative. The team meets monthly to review current diabetes care recommendations and to explore ways to improve diabetes care. Multiple diabetes education/management and QI initiatives have resulted from the work of the team, including:

- DSME (Diabetes Self-Management Education) - AADE recognized (American Association of Diabetes Educators)
- Diabetes group classes- utilizing creative facilitation including peer support and games
- POC A1c testing - providing the opportunity for timely treatment changes; overcoming provider inertia
- EMR generated order sets, diabetes health maintenance screen, patient diabetes goals sheet
- Diabetes panel management feedback re process/outcome measures, benchmarks
- National Diabetes Prevention Program- on site

Important team member roles include:

- Patient representative- sharing the patient perspective of living with diabetes and navigating the health care system.
- RNs- DSME, including primary nursing follow-up
- NP/CDEs- Diabetes Management, focusing on medication management in collaboration with PCPs
- RD- Medical Nutrition Therapy
- Certified Tobacco Treatment Specialist- Tobacco cessation counseling and treatment
- Care Managers/Social Workers- Transitions and psychosocial support
Significant metrics collected to date include:

- 74% of patients receiving DSME showed improvement in A1c post-teaching
- 94% of POC A1c results above target resulted in intensification of therapy

Per most recent WCIMA Diabetes Provider Statistics (8/2/17):

- % of DM pts with A1c <7% exceeded NCQA minimum criteria by 11%
- % of DM pts with A1c >9% less than NCQA maximum criteria by 2%

Future projects of the team include launching a hybrid National Diabetes Prevention Program, incorporating telehealth, and developing a formal peer support program that could be extended to include other chronic diseases.

Implications:

Multidisciplinary, collaborative teams that provide continuous, supportive, and evidence based care for people with diabetes can serve as a model for overcoming barriers associated with the complexities of diabetes management.
Title: Integrating a Novel Hybrid National Diabetes Prevention Program in Primary Care: Enhancing Program Attendance and Lowering Body Weight and A1C

Authors:
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Funding: none

Conflicts of Interest: none

Background: As of 2017, 86 million (or 1 out of 3 American adults) have prediabetes, a condition that if not treated often leads to type 2 diabetes. The National Diabetes Prevention Program (NDPP) is a community-based program proven to decrease the incidence rate of diabetes. The intervention relies on face-to-face group visits emphasizing behavioral change such as eating healthy and staying active. The program, however, is seldom offered in primary care office settings due to lack of reimbursement, though this will change in 2018 when Medicare provides payment for program participation. Another barrier to NDPP implementation includes poor program attendance (average of 9 out of 16 sessions). NDPP implementation research has identified that timing of sessions and transportation contribute to poor attendance. A hybrid approach combining remote visits via telephone (telehealth) with traditional face-to-face group visits could help alleviate barriers to attendance.

This study seeks to explore the effect of using a hybrid (face-to-face and telehealth) NDPP intervention in a primary care office setting on patient attendance, weight loss, and hemoglobin A1C (A1C) reduction within six months.

Methods: The study setting is a primary care provider practice. Forty patients will be selected based on hemoglobin A1C (5.7 – 6.4) and BMI (> 24 kg/m^2). The study will be a prospective cohort study, using a hybrid (telephone conferencing and in-person group counseling) NDPP intervention. The intervention will mirror the validated 16 week session NDPP core curriculum delivered with a hybrid approach.

Results: Study pending IRB approval

Limitations: Study pending IRB approval
**Conclusions:** The study will help determine if a hybrid method (telehealth and face-to-face group visits) improves program attendance in core sessions, and if biometric outcomes improve (decreased weight, A1C).

**Implications:** The novel approach of adopting the NDPP in the primary care setting would extend the reach of this intervention to the population. Implementing the program in a primary care setting gives organizations an advantage of already having established patient relationships. The participant’s familiarity with provider or organization, combined with the convenience of a hybrid intervention method, may reduce attendance barriers. Research has shown that the NDPP is effective in decreasing diabetes incidence; thus, finding ways to increase its reach, reduce barriers to participation and optimize its utilization is essential.
Abstract Title: A Pilot Study to Improve the Bedside Teaching of Clinical Ethics: A Novel Collaboration Between Hospital Medicine and Medical Ethics

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ABSTRACT

Title: A Pilot Study to Improve the Bedside Teaching of Clinical Ethics: A Novel Collaboration Between Hospital Medicine and Medical Ethics

Background and Objectives: Hospitalists now provide the bulk of primary care for hospitalized patients, where they confront a bevy of ethical quandaries in daily practice. Although the majority of these situations do not cross the threshold to prompt a formal Clinical Ethics consultation (CEC), they still cause significant moral distress. Despite abundant knowledge about the ethical issues for which CEC services are consulted, relatively little is known about the sources of ethical conflict encountered by hospitalists at the bedside, especially regarding these more quotidian cases, which nonetheless have meaningful ethical dimensions. We hypothesize that the ethical problems that hospitalists confront differ, in type and degree, from those that reach CEC services. Thus, we aim to characterize the epidemiology of clinical ethics issues that arise on the General Internal Medicine (GIM) hospitalist service and compare them to those seen by the CEC service of the Hospital Ethics Committee.

Methods: We will perform a cross-sectional study of all ethical problems consecutively identified during daily rounds on every teaching GIM hospitalist service. The projected observation time will lead to include an estimated sample of 260-312 patients. We will collect data on the frequency of ethical and contextual issues pertinent to clinical decision-making using a standardized instrument by two independent observers. This same instrument will be used to retrospectively review and catalog all consultations received during 2016 at the Division of Medical Ethics. We will then compare the baseline frequency of ethical and contextual problems between each group (i.e., Hospitalist vs. Medical Ethics).

Results: In initial pilot study on the house-staff GIM service, observer-ethicists identified a variety of ethical and contextual issues (TABLE 1). The global estimated frequency of ethical issues during the observation period was 54%. These involved conflicts with consultant physicians on diagnostic or treatment procedures, issues pertaining to interpreter services, de-prescription of usual treatment in an end-of-life setting, inpatient treatment non-adherence, and physician’s responsibility after a patient left against medical advice. No formal clinical ethics consultation was requested during the study period.

Conclusion: Hospitalists confront frequent ethical problems in daily practice, many of which differed in type from those that classically reach CEC services. These issues are routinely addressed without the assistance of formal clinical ethics consultation. A better characterization of the most common ethical issues that arise in the practice of Hospital Medicine may aid in the development of targeted ethical didactic sessions for students and practitioners, which may improve the quality of care delivered to patients.
TABLE 1. Ethical problems in the study sample (n=24)

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>FREQUENCY (n)</th>
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<tr>
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<td>Discharge planning</td>
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<td>Surrogate decision-making</td>
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<tr>
<td>Alternate level of care</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
</tr>
</tbody>
</table>
Designing a night float curriculum using a visual learning tool: a flipped classroom approach

Zaid I Almarzooq, MD1,*, Amiran Baduashvili MD1,2, Vishwas, MD1,2 Cathy Jalali PhD1

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Conflicts of Interest: None

Word count: 332

Background:
A night float curriculum has been in place at our institution that is delivered by the nocturnists as didactic sessions to the residents overnight. A survey of the 2015-16 PGY-1 class, as well as, the nocturnists at the end of internship revealed residents’ low confidence and skills with critical care topics that they would be expected to manage more independently as PGY2s. Supraventricular tachycardia (SVT) diagnosis and treatment, pacing and shocking with the cardiac monitor, and using non-invasive positive pressure ventilation were identified as the top three areas for improvement by both interns and the nocturnists.

Methods
A combination of animated didactic videos and hands-on simulation sessions have been developed to address these gaps. Using an animation software, 5-10 minute animated didactic videos were developed on each topic by a group of hospitalists and residents to be viewed by the interns independently. A pre-test for each topic was used to assess baseline level of knowledge in these topics. A hands-on simulation session was designed to follow the videos as an opportunity for residents to practice and apply the skills learned. A post-test was administered.

Results
A total of 33 (75%) of the interns have reviewed the videos and completed the pretest. On average, 54% (range: 22%-74%) of the responses were correct (SVT diagnosis and treatment = 60% [range 33%-100%]; pacing and shocking with the cardiac monitor = 69% [range 0%-100%]; using non-invasive positive pressure ventilation = 34% [range 0%-64%]). All participants (100%) have reported finding the videos clinically relevant and operationally helpful.

Discussion
We have described an intervention by which animated videos and hands-on simulation sessions may be effective tools to deliver a standardized curriculum about night float emergencies. Supplementing videos with a simulation session will help engage the interns and ensure that the learning material provided can be translated to clinical practice. Future directions include developing additional videos to address other topics identified by the hospitalists and interns as areas of low confidence and skill.
Title: Direct Observation of Residents: A novel financial incentive program to facilitate meaningful evaluation of EPAs

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Funding source: N/A
Conflicts of interest: N/A

Background

ACGME requires faculty to evaluate resident performance on measurable and frequently observable entrustable professional activities (EPAs). Many programs find achieving the required frequency of direct observations of residents challenging. Faculty need new strategies to promote consistent observation and feedback of resident performance.

Methods:

We implemented an incentive-based Direct Observation (DO) program in 2012 to increase the frequency of observations by faculty. A working group of members who had completed the ABIM DO training program developed a series of faculty development workshops around direct observation, and created a streamlined DO feedback form. A web-based database was implemented to track observations and faculty participation. The program was linked to a group financial incentive to promote faculty involvement in DO over competing patient care and teaching demands. Funding for the incentive was obtained by increasing the number of appropriately billed higher level 4/5GC visits. Each observed skill received a quantitative score and qualitative feedback. Faculty reports were distributed quarterly detailing faculty and residents' participation, and biannually summarizing the quantitative and qualitative data that helped inform residents' semi-annual evaluations.

Results:

Preliminary data showed that this program was feasible and acceptable to residents and faculty. Within the first three months 357 direct observations were completed, all 129 residents were observed for at least one communication and physical exam skill, and 84% of faculty had participated. Faculty agreed that DO was important for resident evaluation but noted conflicting priorities and time constraints as barriers. The group financial incentive was cited as a key motivator during the programs' initial adoption. A significant increase in the number of higher level visits, 159% for 9924GC and 119% for 9925GC visits was noted in the program's initial 6 months compared to the same time period the prior year.
The program has evolved to acknowledge some of its barriers while maintaining its intended benefits. The baseline expectation for minimal number of observation was pro-rated based on the number of precepting sessions the faculty perform. We shifted to an individual incentive system that acknowledges the faculty who perform more than their expected baseline. Lastly two 8-week direct observation focused blocks were created to help faculty remember to prioritize this important evaluation tool. In the 2016-2017 academic year 244 DO were completed and documented, demonstrating some sustainability of this program over its five years.

Limitations
This program was only implemented at one Internal Medicine Residency. Administrative support is required to monitor and report participation data.

Conclusions:
A direct observation program that includes a central collection system allows for the capture of meaningful performance data to inform semi-annual resident evaluation and provide more consistent feedback throughout the year. Periodic faculty development, regular reports, a financial incentive and focused direct observation blocks help keep faculty engaged in the program.

Implications:
A financial-incentive linked direct observation program is a promising approach to successfully evaluating residents. Directly observing EPAs and using cumulative DO ratings and comments allows educational leadership to more readily identify residents’ strengths and weaknesses.
Presenting author, Degree: Anna Cornelius-Schecter, BA

Mentor, Degree: Iris Navarro-Millán, MD, MSPH

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Abstract Title: Patient reported outcomes in rheumatoid arthritis: best domain, best interface

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Location: University of Alabama at Birmingham; Birmingham, AL and Weill Cornell Medical College; New York, NY
Title: Patient reported outcomes in clinical care: best domain, best interface

Background: Patient reported outcomes (PROs) provide physicians with quantifiable information about subjective symptoms experienced by patients, which can facilitate longitudinal chronic disease management. PROs have the potential to improve shared decision-making by making information more accessible and by incorporating both qualitative and quantitative descriptions of patients’ symptoms into clinical care. Electronic tools that provide this type of information are limited but are more efficient than paper alternatives, especially in a disease like rheumatoid arthritis, in which monitoring pain, joint swelling, etc. is critical to successful clinical care. The objective of this study was to determine which PRO domains rheumatologists commonly assess and how they would prefer to incorporate these assessments at the point of care.

Methods: We developed a survey based on qualitative data from 4 nominal groups with 25 rheumatologists. We used the responses to develop survey questions. Rheumatologists with American College of Rheumatology membership were invited to participate.

Results: We invited 600 rheumatologists and 56 responded to the survey (ongoing). The majority of respondents were 35-64 years of age; 65% were male. Aspects that physicians graded as very important are shown in Figure 1. A majority valued medication compliance, physical function, and quality of life. While the NIH-funded Patient-Reported Outcomes Measurement Information System (PROMIS) was known to 16 respondents, only 1 rheumatologist was using it regularly in practice. A total of 42 respondents used other validated disease activity measurements during most office visits. The majority of the respondents were interested in having PROs collected electronically and synchronized with the EHR (86%).

Limitations: While this survey was developed from a qualitative study, there may be topics not captured in the survey that could better represent the ways that rheumatologists view PROs and use or prefer to use them in clinical practice. Many RA patients may not readily adopt new technologies, but their access to the internet, email, and smartphone technology is growing. When PROs are collected at the point of care, staff may be needed for assistance with electronic devices. Finally, the results presented here are only preliminary and definite conclusions cannot be achieved until we have a larger number of responses to the survey.

Conclusions: Electronic collection of PROs that incorporates medication compliance and patient function and that interfaces with the EHR will make the collection of PROs more feasible for rheumatologists.

Implications: The results of this research suggest that many rheumatologists may prefer to use an electronic platform that can be integrated with EHR to collect PROs. Incorporating end-user feedback derived from this survey will enable development of a PRO collection tool tailored to physician preferences that should enhance uptake. Furthermore, such a PRO data collection platform is applicable to many chronic diseases such as hypertension, diabetes, heart failure, and other forms of arthritis.
Figure 1: Items that rheumatologists considered “very important” to measure while assessing an established patient with rheumatoid arthritis

- Compliance with medications
- Joint swelling
- Flares, and number of flares between visits
- Ability to perform activities of daily living (ADLs)
- Medication side effects
- Severity of flare
- Patient perception of their response to treatment
- Change in steroid use or dose
- Affordability of medication
- Patient’s perspective on their quality of life
- Work productivity (i.e. function at work)
- Ability to walk, run, and get around
- Length of flare
- Duration of morning stiffness
- Willingness to change treatments
Title
ITAR-In the Activity Remotely: Innovations for the Medical Student Primary Care Clerkship

Authors
Brian Eiss, Director of the Primary Care Clerkship, Weill Cornell Medical College
Pamela Eliach, Associate Director of the Primary Care Clerkship, Weill Cornell Medical College

Authors have to conflicts of interest to report

Funding source
None

Background
Weill Cornell Medical College offers students rotating through the Primary Care Clerkship (PCC) an opportunity to do this 6-week core clerkship off site in Ithaca, NY. This has, and continues to be, an excellent experience for the students, and an opportunity to see continuity of care in a rural setting. However, the current program can only accommodate 2-3 students per block (there are 8 blocks per academic year), less than 10% of the student body.

In an effort to keep the students' experiences in the PCC similar, we have initiated two new “tele-clerkship” experiences. We have used the principles of tele-medicine, being able to diagnose and treat remotely, to model educational activities for the PCC. Historically, students rotating through Ithaca are connected to the classroom in Manhattan for lectures via computer and telephone (where they can see and hear lecturers, and the people in Manhattan can see and hear them). The innovations are with tutor groups and the OSCE (Objective Standardized Clinical Experience).

Methods
Tutor group was begun in April 2017 and the goal has been to discuss real patient cases amongst a fixed group (6-12 students) for 3 separate sessions each block of the PCC. Each tutor group has a “theme:” patient with acute complaint, patient with chronic disease (management and use of motivational interviewing), patient with psychosocial issues complicating health (use of interdisciplinary team). There are 2-4 presenters per session, but every student writes up assessments and plans based on the write-up distributed by the presenters. Students in Ithaca are included as presenters and are expected to do all of the write-ups, and are conferenced in to these tutor groups to participate in the discussion and to give their analyses (diagnoses, evaluation, and treatment plans).

The OSCE for the PCC is based on motivational interviewing. Each student interviews a standardized patient who is a 54 year-old man with unhealthy behaviors and risk factors for heart disease including: cigarette smoking, overweight, elevated blood pressure, elevated blood sugar, high cholesterol, sedentary lifestyle. The goal is for the student to use motivational interviewing to guide the patient towards healthier behavior and lifestyle. It is a hands-off OSCE, making remote participation possible. This remote format was implemented for the first time on July 21, 2017. Skype was used, and the student had a remote patient encounter with the standardized patient. This will be a regular part of the PCC curriculum going forward.

Results
Since these two experiences have just been initiated in spring 2017, we have no feedback from the students at this time. We hope to see improved satisfaction with the PCC overall and high ratings of these two activities. Immediate benefit is that there will be more consistency in the students’ experiences throughout the PCC, an LCME requirement.

Limitations
Sample size of remote students (in Ithaca) is small, and historically that site has higher overall satisfaction scores for the PCC. It will be hard to determine how much impact these experiences will have.

Conclusions
As this is a new endeavor, our goal is to improve consistency and satisfaction with the primary care clerkship by:

1. Including a new learning milieu and activity via tutor groups
2. Having a motivational interviewing formative OSCE activity available to all PCC students

Implications
The PCC will be a clerkship that medical students look forward to, and will inspire students to consider a career in primary care medicine.
What to expect that you’re not expecting: Video education to improve self-efficacy around discharge medication barriers
Sanjai Sinha, MD

1. Statement of the Problem:
Large academic medical centers, like NYP carry higher than average readmission rates and suffer great penalties from payers as a result. The literature suggests that one factor driving readmissions is patients’ difficulty anticipating challenges with discharge medication adherence after they leave the hospital. Improving self-efficacy in developing plans to address medication barriers before a patient is discharged could lead to better overall comprehension of and adherence to discharge medications and ultimately lower readmission rates.

2. Objective/Aim of the study:
The objective of this initiative is to develop, test, and implement a standardized, video-based educational tool to deliver education on discharge medication adherence challenges, with the aim of improving self-efficacy by 10% after completing the video education.

3. Project Design/Methods:
Design: Single-arm intervention feasibility study
Population: General Medicine Inpatients at NYP-WCMC, disposition planned for home
Intervention: 5 brief videos on different medication adherence challenges
Survey tool: Self-efficacy questions for each video pre and post video, using 5-point likert scale adapted from MUSE (Cameron et al, 2010) The five confidence questions with response ranges from 1-5, will be added together to form a composite confidence score with a range from 5-25 for every study participant.
Primary Outcome: Change in median composite self-efficacy score of 5 questions
Feasibility Measures: Knowledge retention, time taken to complete intervention, Patient satisfaction with videos, nursing feedback.

4. Results:
The median composite self-efficacy score increased by 2 points, or 8%, from 21.5 to 23.5 (p=0.046) from the pre- to the post-intervention stage. Knowledge retention assessed by multiple choice questions in the post-intervention period was high with 95% getting 4 or 5 of the 5 questions correct. Average time taken to complete the videos was 14.4 minutes. 90% of patients found the intervention helpful. The majority of nurses interviewed (16/20) reported that discharge education, planning and communication were improved by the video education and that this intervention would not add to time spent doing discharge planning.

5. Conclusions:
Video education improves self-efficacy involving discharge medication challenges that lead to patient harm and readmission. Patients and nurses report satisfaction with the education. This video discharge education is feasible because it is a standardized tool which requires little extra time, can be incorporated into nursing workflow, and is inexpensive while being scalable.
Presenting Author (Name, Degree): Shani R. Scott, MD

Position: Resident PGY-3

Mentor: Monika M. Safford MD Chair of the Department of General Internal Medicine

Department/Division: Medicine

Email: srs9020@nyp.org

Abstract Title: Vulnerabilities to Health Disparities and Incident Diabetes Mellitus in the REason for Geographic and Racial Differences in Stroke (REGARDS) study

Authors: Shani R. Scott MD, Jessica Peña MD, MPH, April Carson PhD, MSPH, Doyle Cummings PharmD, Praful Schroff MD, Joanna Bryan MPH, Monika M. Safford MD

1 Weill Cornell Medicine (NY, NY)
2 University of Alabama Birmingham (Birmingham, AL)
3 East Carolina University (Greenfield, NC)

Location: Weill Cornell Department of Medicine, Division of General Internal Medicine

Funding: National Institute for Neurological Disorder and Stroke (U01 NS041588), National Heart Lung and Blood Institute (R01 HL080477 and K24 HL111154)

Conflict of Interest: The authors report no potential conflict of interest
Title: Vulnerabilities to Health Disparities and Incident Diabetes Mellitus in the REason for Geographic and Racial Difference Stroke (REGARDS) Study

Background: Lower socio-economic status (SES) is associated with higher incidence of type 2 diabetes among black women but not men. Residence in low-income neighborhoods also increases the risk of incident diabetes. Therefore, black women may be at high risk of developing type 2 diabetes for multiple reasons stemming from their social position. However, studies examining the association between cumulative social vulnerabilities and risk of incident diabetes are lacking. We hypothesized that as the number of social vulnerabilities increased, the risk of incident diabetes also increased.

Methods: The REasons for Geographic And Racial Differences Stroke (REGARDS) longitudinal cohort included 30,239 community-dwelling black and white adults aged ≥45 years from the 48 continental US states and the District of Columbia recruited between January 2003 and October 2007 with an oversampling from the Southeastern US. Telephone interviews followed by in-home visits collected data at baseline and 10 years later. The six social vulnerabilities related to health disparities included black race, female gender, low educational attainment, Southeastern residence, high area-level poverty, and lack of health insurance. Multinomial logistic regression investigated the association between the count of vulnerabilities and incident diabetes at 10 years among those without diabetes at baseline, accounting for death as a competing risk.

Results: The final analytic sample included 15,333 participants with a mean age of 65.3 years, of which 53.2% were women, and 34.0% were black. At the 10-year follow-up, 1,479 (9.6%) had developed diabetes, and 3,790 (24.7%) had died. Black women comprised over 90% of those with ≥4 vulnerabilities. A greater number of vulnerabilities was associated with higher relative risk of diabetes and death, even after adjusting for multiple patient characteristics (Table).

Limitations: No Hispanic/Latinos, some variables were self-reported, observational study design precludes drawing causal inferences, 10-year follow-up data was unavailable for participants who declined the second in-home examination and survey.

Conclusion/Implications: A greater number of social vulnerabilities was associated with higher risk of both diabetes and death over 10 years in community-dwelling adults. Black women were especially susceptible to having multiple vulnerabilities and, suggesting that they may represent a compelling target for diabetes prevention efforts.

Table. Vulnerability count and relative risk of diabetes and death over ten years, REGARDS study

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Vulnerability Count</th>
<th>N</th>
<th>Crude RRR (95% CI)</th>
<th>P for trend</th>
<th>Fully Adjustedb</th>
<th>P for trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>0</td>
<td>2211</td>
<td>Referent</td>
<td>0.003</td>
<td>Referent</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>5101</td>
<td>1.09 (0.97-1.23)</td>
<td>1.15 (1.00-1.33)</td>
<td>1.06 (0.91-1.24)</td>
<td>1.32 (1.10-1.58)</td>
</tr>
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<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2171</td>
<td>1.25 (1.09-1.43)</td>
<td>1.40 (1.14-1.73)</td>
<td>1.73 (1.36-2.20)</td>
<td>2.25 (1.67-3.03)</td>
</tr>
<tr>
<td></td>
<td>≥4</td>
<td>717</td>
<td>1.36 (1.11-1.66)</td>
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<tr>
<td>Diabetes</td>
<td>0</td>
<td>2211</td>
<td>Referent</td>
<td>&lt;0.001</td>
<td>Referent</td>
<td>0.012</td>
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<td>2.88 (2.23-3.73)</td>
<td>1.73 (1.36-2.20)</td>
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</table>

a Sum of vulnerabilities for each participant. Vulnerabilities included female gender, black race, lack of health insurance, less than high school education, living in an area with >25% poverty, and living in the Southeast. b Adjusted for age, physical functioning, health behaviors (alcohol use, current smoking) physiologic characteristics (body mass index, waist circumference, systolic blood pressure, diastolic blood pressure, total cholesterol, high density lipoprotein cholesterol, C reactive protein, baseline fasting glucose, triglycerides, dyslipidemia), and medication use (statins, anti-hypertensives).
The Sweetest Pea: The Effect of a Focused Primary Care Visit on Glycemic Control
Michael Chen MD, Janine Harewood MD, Jyoti Gupta MD, Cindy Sadikot MD, Blanca Sckell MD, MPH, FACP.
New York-Presbyterian Queens, Flushing NY

Statement: One in three adults are projected to have diabetes by 2050 [i]. In residency clinics, barriers to diabetes care include lack of continuity of care with providers, higher percentage of Medicaid patients, and medical complexity of clinic patients. Fewer patients seen in residency clinics achieve appropriate diabetes quality measures compared to practicing general internists [ii]. One possible solution is the use of a chronic care clinic for diabetes within primary care, which has been shown to be successful at improving clinical outcomes of glycemic control and in the completion of recommended diabetes care processes [iii]. We implemented a primary care based, resident run, diabetes clinic, Sweet Pea (SP) Clinic, supervised by a primary care attending, in order to improve glycemic outcomes for patients with type 2 diabetes.

Objective: The purpose of the study is to assess the effect of a primary care based resident run diabetes clinic at New York-Presbyterian Queens on glycemic control for patients with type 2 diabetes mellitus.

Project Design: Patients in the residents’ primary care clinic with type 2 diabetes and a hemoglobin-A1c (HbA1c) greater than or equal to 8.0% were referred by their primary doctor to the SP clinic from March 2015 through March 2016. The initial visit occurred within 2 weeks of the referral. During SP visits, the patient met with an internal medicine resident to address barriers to diabetic care, receive focused and extensive education and counseling of the disease process, lifestyle modifications from the resident and the nurse, and medication adjustments. Revisits occurred every 1-4 weeks at the discretion of the provider, until HbA1c of 7.9% or less was achieved. The primary outcome is HbA1c less than 8.0%. Data was collected from their first SP clinic visit until March 2017. We predict at least one visit to the SP clinic will result in at least 50% of the patients having an HbA1c less than 8.0% at the end of the follow up period.

Results: 57 patients were included in the final study. Patient population was 53% females and the average age was 62 years. The average HbA1c was 10.5% prior to the initial visit. Patients attended between 1-10 SP visits, with a median of two visits. The average maximum change in HbA1c was -2.7% (25.5% of the initial HbA1c) and the median was -1.9%. The average overall decrease in A1c, using the most recent HbA1c, was -1.9% (18% of initial) and median was -1.6% (range 3.5-7.5). Of the 57 patients analyzed, 56.1% achieved a HbA1c <8.0% and 38.6% achieved HbA1c <7.0%.

Conclusion: We were able to demonstrate that at least one visit to our primary care based SP clinic was able to successfully decrease HbA1c an average of 2.7%. Further analyses are needed
to see if this intervention also improves other diabetes quality measures and if it can be translated to other residency clinic sites.

A Resident Led Quality Improvement Initiative to Improve Visit Timeliness in the Resident Group Practice

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Background: The provision of care in a timely fashion is one of the six aims of health care quality put forth by the Agency of Healthcare Research and Quality (AHRQ), a division of the United States Department of Health and Human Services. The AHRQ states that prolonged waits and delays can be harmful for both those receiving and those giving care. In addition to being a marker of quality care, wait times have been shown to have a large impact on patient satisfaction and perceived quality of care by patients and their families.

Objectives: The aim of this project was to decrease the time between a patient’s physician encounter and the completion of procedures (“Procedure Time” i.e. blood work and immunizations) by:

1. Decreasing patient procedure time by 30%
2. Increasing patient/family satisfaction with procedure wait time by greater than 10%
3. Increasing overall patient/family satisfaction by greater than 10%

Methods: In this observational time series, data were collected monthly from December 2016- to June, 2017. The inter-professional team including residents, nurses, technicians and attending physicians performed a series of planned sequential interventions to improve the flow in the procedure area and to inform the patients of estimated wait time. Time data was collected with the use of a patient flow sheet (as the patients moved through the clinic the time of their arrival, registration, triage, physician encounter, procedures, and checkout were recorded). Patient satisfaction was assessed using a three question survey created by the residents. Answers were reported on a Likert scale. Statistical process control charts and established rules for detecting special cause variation were applied.

Results: Average overall visit time was 91.2 minutes with average time between the physician visit and completion of procedures (Procedure Time) of 26.6 minutes. Over the 6-month study period there was a consistent downward trend in the average “Procedure Time” from 26.6 minutes to 17.3 minutes (n = 114). Patient satisfaction scores (n = 32) were high and showed significant increase overall satisfaction from 4.73 to 4.93, family awareness of wait time from 4.5 to 4.73 and procedures done in timely fashion from 5.75 to 4.97. In assessing the balancing measure, time spent with a physician, it appeared that residents achieved a balance and there was no change in the average physician visit time of 41.2 minutes.

Conclusions: Implementation of this quality improvement project elicited important information regarding the wait time, an area that required improvement in the Resident Group Practice. In targeting one part of wait time residents were able to decrease wait significantly and improve patient satisfaction. Further studies are needed to address the wait times in other areas of a patient visit to help improve overall visit time and further increase patient satisfaction.