"SWEETBEATS" DIABETES CLINIC: YOUR ONE STOP SHOP
Reena Agarwal2; Marta Rico2; Carol N. Lau1; Joanna White1. 1Montefiore Medical Center, Bronx, NY; 2Montefiore Medical Center, Bronx, NY. (Tracking ID #1939147)

STATEMENT OF PROBLEM OR QUESTION:
It is unclear what is the best format to deliver diabetes care to a population with a high prevalence of uncontrolled diabetes.

OBJECTIVES OF PROGRAM/INTERVENTION:
1. To develop a multi-disciplinary "one-stop shopping" approach to diabetes care in order to make a diabetes management visit more convenient for the patient.
2. To integrate residents into this multi-disciplinary setting.
3. To improve the overall diabetes care of our patients

DESCRIPTION OF PROGRAM/INTERVENTION, INCLUDING ORGANIZATIONAL CONTEXT
The Bronx has a 12.1% prevalence of diabetes mellitus, as compared to 8.3% in the United States. Within our practice the prevalence is 18.2%, of which 20% are uncontrolled (have HgbA1c's above 9%). Our practice is a teaching site for internal medicine residents within a large academic medical center. It is a Federally Qualified Health Center and therefore a referral center for patients who are uninsured or unable to find a provider. Our population includes those with complex medical and psychiatric problems, significant psychosocial needs and low health literacy. We have a large proportion of patients with uncontrolled diabetes, and a continual influx of new patients who have not addressed their diabetes or are recently diagnosed. Our office offers multiple services for these patients including a health educator, dietician, social worker and pharmacist. However, seeing each of these providers quickly increases the burden of visits on our patients and can lead to a high no-show rate. We developed a weekly "Sweetbeats" diabetes clinic which incorporates a multi-disciplinary team in one clinical session. Patients are referred by providers either at an office visit or when a high HgbA1c is found by laboratory testing. As each patient checks in for their visit, the team huddles and assigns each patient 2-3 providers based on a review of their needs. The residents are integral to the huddle, and each patient sees one medical resident for medication management. We use the "one-stop" shopping approach even for the patient's room assignment: the patient stays in one room and the providers rotate between patients.

MEASURES OF SUCCESS:
The evaluation of Sweetbeats diabetes clinic is folded into our Primary Care Medical Home quality indicator monitoring. We monitor the quarterly HgbA1c, and annual LDL and urine microalbumin. We are in the process of improving our ability to track annual podiatry and ophthalmology visits as well.

FINDINGS TO DATE:
We are reporting data for the year of 2012. During this time we were referred a total of 151 patients. Our no-show rates range from 30-70% per session with no clear trend over the calendar year. The average HgbA1c prior to their Sweetbeats DM clinic visit was 10.14%, this improved to 8.99%. In addition, the average LDL decreased from 106 to 99.9. However, the number of patients who had a urine microalbumin checked decreased from 110 to 72.

KEY LESSONS FOR DISSEMINATION:
In an office with multiple resources we were able to develop a multi-disciplinary clinical session for patients with uncontrolled diabetes. This is more convenient for the patient by limiting the number of visits required. For those patients who do come, we have found improved diabetes control. A major barrier is our continued high no-show rate. We are in the process of eliciting some of the reasons behind this poor patient turnout.
REDESIGNING A RESIDENT CONTINUITY CLINIC TO PROVIDE EFFECTIVE POPULATION HEALTH MANAGEMENT

Alex H. Cho¹, Mark Dakkak¹, Adia K. Ross¹; Wei Duan-Porter¹,²; Lynn Bowlby¹; Daniella A. Zipkin¹; Lawrence Greenblatt¹; Natasha T. Cunningham¹,²; Jessica Simo³; Gina Green⁴; Holly Causey⁴; Benjamin Smith⁴; Chris Samples⁴; David Zaas¹; Aimee K. Zaas¹; Eugene Z. Oddone¹,³; Duke University School of Medicine, Durham, NC; ²Duke University School of Medicine, Durham, NC; ³Durham VA Medical Center, Durham, NC; ⁴Duke University Health System, Durham, NC. (Tracking ID #1936906)

STATEMENT OF PROBLEM OR QUESTION (ONE SENTENCE):
How does an adult medicine safety net clinic predominantly staffed by residents reinvent itself to provide more effective population health management?

OBJECTIVES OF PROGRAM/INTERVENTION:
1. Reduce excessive care utilization by patients with co-morbid mental health and substance abuse disorders.
2. Improve post-hospitalization follow-up for clinic patients.
3. Improve continuity and quality of patient care and resident education, simultaneously.

DESCRIPTION OF PROGRAM/INTERVENTION, INCLUDING ORGANIZATIONAL CONTEXT: Over a two year period, the Duke Outpatient Clinic (DOC), a resident clinic caring for underserved and uninsured patients, undertook an effort to restructure its services to better serve its population and address avoidable utilization of ED and inpatient care. An overarching Six Sigma DMAIC framework (define; measure; analyze; implement; control) was used. Improvement of resident education was also an important goal. Three major interventions were proposed, and financial modeling done to make a case for the initial investment required; these were launched in July 2013: Clinic-based mental health-primary care coordinated care model To address the needs of DOC patients with co-morbid mental health conditions and high rates of ED and inpatient utilization, the HomeBASE program was created. This complex medical management intervention is supported by a care team consisting of two care managers, social worker, a mental health-trained advanced practice provider (MH-APP), and a dually trained medicine-psychiatry attending (MPA). Patients in the program are stratified into four levels of care management that vary by intensity. Detailed care plans created and entered into their records to guide other providers. All patients in the program also receive enhanced same-day clinic access to the MH-APP. The MPA supervises resident providers and provides onsite consultation. Managing post-discharge transitions of care Discharge from the hospital is a vulnerable time for patients in bridging care and maintaining accurate medical records and medication lists. To improve their transition to primary care, a team consisting of DOC front desk staff and pharmacists was formed to contact patients and perform medication reconciliation in advance of a structured post-discharge clinic visit. Clinic-based resident 'firms' Continuity had been a major challenge, not just between resident providers and their patients, but also between residents and their attendings. Acting on a resident proposal, a clinic-based ‘firm’ structure was adopted, in which residents are organized into teams with a lead attending, secondary attendings, a lead RN, and two certified medical assistants. These ‘firms' are also now the basis for population management and quality improvement efforts.

MEASURES OF SUCCESS:
A ‘dashboard' of metrics, updated quarterly, was created to monitor key components of the DOC redesign; including resident-attending and resident-patient continuity, post-discharge phone contacts and follow-up appointments, and the relatively hard outcomes of utilization (i.e., ED visits and hospitalizations) and direct costs for these services.

FINDINGS TO DATE:
Findings 3 months after the start of implementation are promising. 94% of resident clinic sessions were scheduled with assigned attendings and 42% of patient visits were with resident PCPs. Every DOC patient who could be contacted was within 2 business days of hospital discharge, and the percent of patients with follow-up appointments within 14 days of discharge increased from 59% to 84%. The coordinated care program has enrolled 38 patients; their ED visits and hospitalizations have decreased, driving a reduction in both numbers for the clinic overall. Direct costs for the inpatient care of DOC patients are $300,000 lower compared with the same period a year ago.

KEY LESSONS FOR DISSEMINATION:
Many academic resident-based primary care clinics care for socially and medically complex populations. Optimal patient care and resident education need not be mutually exclusive ideals. The DOC redesign for improved population health management and resident education was based on the Six Sigma DMAIC approach (Define, Measure, Analyze, Implement, Control). Interventions were designed over the course of a two-year iterative process that sought from stakeholder groups, conducted some pivotal pilots, and reviewed the internal and external landscape. Continuous monitoring of a ‘dashboard' of metrics will guide further refinements, improvements, and expansions of these interventions at the DOC going forward. The clarity of goals and focus in execution facilitated by the use of the DMAIC framework have been critical to its success. In addition, leaders of resident clinics may not be accustomed to making more than broad economic arguments for investment in changes they are advocating; we found that making a specific financial case was critical to understanding what would be sustainable long-term, and earning the support of health system leadership.
ENHANCING APPROPRIATE USE OF CARDIAC TELEMETRY TO IMPROVE CARE AND REDUCE WASTE

Daniel Henderson; Christopher Kelly; Deepa Kumaraiah. Columbia University Medical Center, New York, NY. (Tracking ID #1934836)

STATEMENT OF PROBLEM OR QUESTION:
Is a quality improvement effort to limit overuse of continuous electrocardiographic monitoring in general medical inpatients associated with improved rates of appropriate use?

OBJECTIVES OF PROGRAM/INTERVENTION:
1. To define clinical guidelines for the use of cardiac telemetry for general medical ward patients, a population for whom no such guidelines exist, in a large, urban, academic medical center.
2. To redesign the process of ordering cardiac telemetry around such guidelines, with oversight of extended use of telemetry, in order to curtail overuse.
3. To evaluate the redesigned ordering process for effects on use and overuse of cardiac telemetry.

DESCRIPTION OF PROGRAM/INTERVENTION, INCLUDING ORGANIZATIONAL CONTEXT:
In 2013, our hospital, a 710-bed academic general hospital member of a 1600-bed academic medical center, faced unprecedented demands in the wake of a recent natural disaster and temporary closure of several major hospitals. In this context, our institution identified continuous cardiac telemetry as a source of delayed care and waste of resources. We redesigned the process of telemetry ordering to promote appropriate use and minimize resource constraints. Cardiac telemetry, once found only in coronary care units (CCUs), is now widespread in nearly all units of most hospitals, despite limited or absent clinical evidence for its utility beyond a limited set of cardiac conditions. A handful of studies have loosely linked telemetry with bottlenecks to patient flow, particularly emergency department (ED) waiting, and with adverse clinical outcomes as a result. In fall 2013, we redesigned our telemetry ordering process to curtail inappropriate use and relieve system pressures due to overuse. Through a systematic literature review, we identified a limited evidence base for telemetry use, especially in patients without major cardiac problems, where guidelines are sparse. We developed a list of conditions for which telemetry was clearly or probably indicated, with thresholds for discontinuation. We also created a set of conditions where telemetry was commonly ordered, but clearly not indicated. This information was disseminated and incorporated into order-entry functions of the electronic health record system for timely availability at the point of care. This presentation details our evaluation of telemetry orders in one-month periods before and after implementation to assess the appropriateness of orders, within the ongoing evaluation of the project's effectiveness in curtailing telemetry overuse and its sequelae.

MEASURES OF SUCCESS:
We measured the proportion of appropriate orders, per the new guidelines. Appropriate orders had one clear indications, and inappropriate orders, clearly non-indicated ones, as assessed by order free text data and focused chart review. Benefit of the doubt was assumed, and cases where a determination could not be made were counted as indeterminate. The goal was a 33% or greater reduction in inappropriate use between study periods.

FINDINGS TO DATE:
We will present our institutional guidelines for telemetry in general medicine ward patients, as well as the analysis of the improvement project. Initial evaluation of 100 randomly-selected patient telemetry orders from both study periods revealed 46% inappropriate orders in the pre-intervention period, and 32% in the post-intervention period, a 30.4% reduction, and a statistically significant effect at the 5% level by the chi-squared test. Indeterminate orders made up 12-18% percent of reviewed entries. These initial results show a significant effect, just below the specified goal of the measure. To ensure 80% power for a 20% effect, further analysis of 500 patients will be presented in the final results, along with stratified analyses to assess for confounding due to differential ordering practices by provider and service types.

KEY LESSONS FOR DISSEMINATION:
Telemetry is frequently overused, and this overuse is responsive to a simple intervention to improve practice. Guidelines for the appropriate use of telemetry can be developed to guide its use where a dearth of evidence exists, significantly improving appropriateness. Clinicians respond to informational interventions at the point of care.
INTENSIVE PRIMARY CARE FOR HIGH READMISSION RISK ADULTS
Colleen Lynch; Ania Wajnberg; Mathew Jacob; Maria Basso Lipani; Susan Bernstein; Claudia Colgan; Jill Kalman; Alex Federman. Mount Sinai School Of Medicine, New York, NY. (Tracking ID #1933012)

STATEMENT OF PROBLEM OR QUESTION:
Does intensive, team-based primary care consisting of low patient:provider ratios, open access, and social work services improve outcomes for high risk adults?

OBJECTIVES OF PROGRAM/INTERVENTION:
To examine the impact of intensive primary care on hospital stays, emergency department (ED) visits, and outpatient quality measures in a population of adults with high risk of readmission.

DESCRIPTION OF PROGRAM/INTERVENTION, INCLUDING ORGANIZATIONAL CONTEXT:
Mount Sinai Medical Center created the current Internal Medicine Associates- Preventable Admissions Care Team (IMA/PACT) primary care clinic in the fall of 2012. Patients are referred from PACT, an inpatient social work-led transition program begun in 2010 that has been shown to reduce hospital utilization. Core to the model is connection to a medical home; patients that do not have a primary care provider are referred to IMA/PACT. Patients are also referred by physicians within the Sinai system if they have similar high-risk criteria as the PACT program, including ≥2 ED visits or hospital admissions in the past 6 months, ≥3 chronic illnesses, and psychosocial complexity. Psychosocial complexity is subjectively determined based on markers including low income, low health literacy, psychiatric diagnoses, housing instability, and substance abuse. IMA/PACT is housed within the IMA clinic, an urban academic training practice. Care is delivered by teams consisting of 1 physician (MD), 1 nurse practitioner (NP), and 1 social worker (SW). Two teams are currently active and each team manages a panel of 200 patients. MD and NP roles are similar in terms of patient care, but MD team members provide NP oversight and clinical support. Providers become familiar with the entire team’s patients, and patients can see either panel provider for urgent visits. Open access is achieved by reserving one third of provider's daily slots for urgent visits. Patients see their SW at every scheduled MD/NP visit, allowing for rapid evaluation of psychosocial issues and ongoing supportive care for mental health and chronic illness management. New visits are 1 hour, and follow up or urgent visits are 30 minutes in duration for all (MD/NP/SW) visits. Team meetings are held weekly and the clinic is physically within one hallway, allowing for real-time communication around active patient issues. The high level of collaboration between MD/NPs and SW results in a holistic approach to patient care.

MEASURES OF SUCCESS:
We are comparing 6- and 12-month all-cause ED visits and hospitalizations before and after IMA/PACT enrollment with a concurrent control group of patients not enrolled in the program but matched by clinical risk and healthcare utilization characteristics. We will also assess the program's impact on intermediate outcomes like blood pressure control and HgbA1c values, and on process measures like receipt of vaccinations and diabetic retinopathy screening.

FINDINGS TO DATE:
From September 2012 to October 2013, 171 new patients were enrolled in the program, 77% from the PACT program. The average age is 63 years, 63% are female, 70% have Medicare, 45% have Medicaid, and 18% are dually eligible. The average number of chronic medical conditions is 7; diabetes, hypertension, and asthma/COPD are the most common. Preliminary data show a 27% reduction in hospital stays and a 44% reduction in ED visits in the 6 months after program enrollment.

KEY LESSONS FOR DISSEMINATION:
Patients at the highest risk for ED visits and hospital stays may benefit from intensive, multidisciplinary team-based primary care.
DEVELOPING A GERIATRICS CONSULT CLINIC IN THE SAFETY NET
Anna H. Chodos¹; Christine Ritchie¹,²; Janet Myers²; Hali Hammer³; Edgar Pierluissi¹. ¹UCSF, San Francisco, CA; ²UCSF, San Francisco, CA; ³UCSF, San Francisco, CA. (Tracking ID #1938100)

STATEMENT OF PROBLEM OR QUESTION (ONE SENTENCE):
The health care safety net provides primary care to medically and socially complex older adults, but there are rarely geriatrics specialists available in this setting.

OBJECTIVES OF PROGRAM/INTERVENTION:
A. Create an outpatient geriatrics consult service in the San Francisco Department of Public Health's (SFDPH) safety net healthcare system using eReferral, an existing electronic health care record (EHR) referral mechanism. EReferral allows for iterative conversation between primary care providers (PCPs) and specialists, and allows efficient communication of recommendations and scheduling.
B. Measure the proportion of geriatrics referrals that were managed through:
   1) electronic advice (e-advice), or
   2) e-advice and co-management (eg. direct social work referral, call patients or caregivers) without seeing the patient, or
   3) comprehensive geriatrics assessment (CGA) of the patient in an outpatient setting.
C. Measure consult's impact on PCP satisfaction and PCP's feelings of self-efficacy in geriatrics.

DESCRIPTION OF PROGRAM/INTERVENTION, INCLUDING ORGANIZATIONAL CONTEXT:
In October 2012, we began a geriatrics outpatient consult service for 2 SFDPH primary care clinics, for patients age 65 or older. We accept consults via eReferral, and the staff of 1 geriatrics fellow and 1 attending meet twice weekly to review consult questions and accompanying patient records, and triage to 1, 2, or 3 as listed above. We have a once monthly half-day clinic for CGA and do home visits as needed.

MEASURES OF SUCCESS:
We measured the number of consults received, time spent for consults, and nature of referral questions. We used surveys to assess providers' satisfaction and self-efficacy with geriatric conditions after the consult.

FINDINGS TO DATE:
Over 54 weeks, PCPs referred 100 patients to the geriatrics consult service and 2 geriatrics providers each spent an average of 77 minutes (median 60 min) weekly reviewing and responding to them. Of the 100 patients referred, 20 were managed with e-advice only, 17 were managed with e-advice and time-limited co-management, and 63 were seen in the clinic. Most consults (68%) listed >1 reason for referral and 21% asked for CGA or management of medical complexity. Common consult questions were cognitive impairment (60%), social issues (27%), medication review (26%), and falls (19%). For the 63 patients seen (in 13 clinic sessions and 11 home visits), each visit took an average of 2.1 hours per patient. Provider surveys (response rate 65.9%) showed 94.9% would use it again, 78.3% strongly agreed that their question was addressed to a satisfactory level, and 97.3% felt their geriatrics knowledge improved.

KEY LESSONS FOR DISSEMINATION:
A Geriatrics consult clinic can provide effective support to PCPs in the safety net setting without seeing every patient. The most frequent reasons for referral were cognitive impairment, medical complexity and social issues. Providers felt the service was useful, including for patients seen with e-advice only. The next steps are to examine: 1) the nature of consult questions dealt with via e-advice vs. CGA, 2) the interventions of the geriatrics consult clinic, 3) patient outcomes before and after geriatrics consult, eg. number of inappropriate medications as determined by Beers criteria; health care utilization; documentation of advance care planning, and 4) identify ways to improve specialists' time-efficiency, particularly with CGAs.