

Review of individual readmissions by hospitalists: Preliminary findings of a quality improvement project.

Sumanta Chaudhuri¹, Vipulkumar Rana¹, Kartik Reddy¹, Ritesh Panwar¹, Adil Jadoon¹, Bipin Thapa¹, Kathleen Idstein¹, Binod Dhakal¹, Conti Mary¹, Siddhartha Singh¹¹ Internal Medicine, Medical College of Wisconsin, Milwaukee, WI, United States. (Control ID: 1339814)

Statement of Problem or Question (one sentence): Readmissions are considered a costly and avoidable waste in the healthcare system yet reasons for readmissions are poorly understood and reducing readmissions has been challenging.

Objectives of Program/Intervention (no more than three objectives): We undertook a quality improvement project where each faculty and physician assistant in our hospitalist section reviewed charts of patients discharged by them who were readmitted within 30 days. Its objectives were:

1. To allow hospitalists to learn from reviewing readmission cases and change their individual practice² To discuss important lessons learned and translate them into systems based changes³ To reduce readmission rates to our hospitalist section

Description of Program/Intervention, including organizational context (e.g. inpatient vs. outpatient, practice or community characteristics) : Starting January 2011, we provided all hospitalists a weekly list of patients discharged by them who were readmitted within 30 days. We asked them to write a short report on each case with an emphasis on strategies to prevent that readmission. Starting March 2010, we asked the hospitalists to use an online Microsoft Access based tool to abstract data from each case reviewed to allow easier collation of data. The fields in this tool are partly populated through the discharge abstract database and partly filled in manually following the review of the chart. It is housed on a shared but secure password protected drive. We also conduct monthly meetings where individual data on readmission rates are shared, strategies to reduce readmissions are discussed and a few exemplary cases are reviewed in detail in a group setting.

Measures of success (discuss qualitative and/or quantitative metrics which will be used to evaluate program/intervention): During the period March 2011 till May 2011 we have asked the hospitalist group to review a total of a 152 cases and a review has been completed on 79 (52%). Rich data has been collected about factors contributing to readmissions such as discovering that in approximately 10% of readmissions were related to medication changes made during index admission; only 22% of patients readmitted saw their primary care provider after discharge and in 18% each of cases social and psychiatric issues contributed to the readmission. In addition the monthly meetings have increased the collective awareness of the group to the problem of readmissions and we have brainstormed a number of issues relevant to reducing readmissions such as improvements in discharge planning, in the care of the non-compliant patient, and better input with consulting services at discharge.

Findings to Date (it is not sufficient to state “findings will be discussed”): The readmission rates for our hospitalist group for the period while we have reviewed readmissions (January to April 2011) of 15.9% has decreased significantly compared to a similar period last year (January to April 2010; 19.9%; P = 0.005) and also when compared to the immediate 4 months prior to our intervention (September to December, 2010; 18.7%; P = 0.019).

Key Lessons for Dissemination (what can others take away for implementation to their practice or community?): Hospitalists reviewing their own individual readmissions is feasible and is a valuable learning tool to determine factors contributing to readmissions. It also has the potential to act as an intervention to reduce readmissions.

Primary Care Providers Drive Generic Prescription Rates of a Multi-Specialty Practice

Julie L. Mitchell¹, Karen Fickel¹, Robert Acker¹, Nandita Nanchal¹, Christopher Spahr¹, Siddhartha Singh^{1,1} Medicine, Medical College of Wisconsin, Milwaukee, WI, United States. (Control ID: 1327341)

Statement of Problem or Question (one sentence): In the climate of value-based medicine, how can we increase our use of lower-cost prescriptions?

Objectives of Program/Intervention (no more than three objectives): 1. Increase the rate of lower-cost medications in a large multi-specialty practice² Respond to a pay-for-performance (P4P) initiative

Description of Program/Intervention, including organizational context (e.g. inpatient vs. outpatient, practice or community characteristics) : Over one year, we sent letters to all providers, met with clinical leaders, set benchmarks including the national overall and specialty-specific average generic rates for our state, developed a website with patient- and provider-oriented information about generics and links to formularies, and changed our EHR's e-prescribing defaults so generic prescriptions are prompted first. We targeted commonly prescribed non-preferred medications with low-cost alternatives.

Measures of success (discuss qualitative and/or quantitative metrics which will be used to evaluate program/intervention): We used pharmacy claims data from our two largest commercial payors. Payor #1 designates a tiered formulary where the lowest tier ("preferred medications") includes nearly all generics plus other selected medications. Payor #2's lowest tier is essentially generics and generics alone. We compared our historical preferred prescription rates (averaged over 12-months) to our post-intervention rates (averaged over 5-months).

Findings to Date (it is not sufficient to state "findings will be discussed"): Our multi-specialty adult and pediatric group included an average of about 900 physicians over the study period. For Payor #1, our preferred prescription rate increased from 65% to 71% ($p < 0.01$); 129,808 prescriptions were dispensed post-intervention. While primary care providers (PCPs) in internal medicine, family medicine and pediatrics represented 18% of the group's providers, they were responsible for 54% of the rate increase, largely because PCPs prescribed 47% of the prescriptions. General internists represented 9% of all providers but prescribed 27% of the prescriptions and were responsible for 34% of our rate improvement. Their rate increased from 68% to 76% ($p = 0.03$). For Payor #2, the generic rate increased from 67% to 72% ($p = 0.16$); 23,666 prescriptions were dispensed post-intervention. The most frequently prescribed non-preferred medications were the same for both payor data sets. While PCPs wrote 43% of the prescriptions, they were responsible for only 22% of the payor's medication costs.

Key Lessons for Dissemination (what can others take away for implementation to their practice or community?): We were able to increase the rate of lower-cost prescriptions about 5 percentage points, meeting our P4P goals. We found payors were interested in hearing about our strategies. We encountered resistance from physicians. A higher generic rate reduces costs and likely improves patient adherence to chronic medications. Our initiative, part of a P4P program for commercial payors, may have been perceived to be aimed at lowering costs rather than improving patient care, and thus may be less of a motivator for physicians. Physicians had trouble negotiating the payor's formularies. Although our practice subscribes to a point-of-prescribing service linking a patient's individual pharmacy benefits to our EHR, we found several limitations to this service, such as ease of use and untimely formulary updates. Primary care handles the bulk of prescriptions in a large multi-specialty practice. Any intervention to lower the cost of prescriptions must involve primary care to succeed. Future strategies will include making a stronger case for improving patient care with use of lower-cost of medications and a systematic approach to providing individual physician feedback on their prescribing practices.

An Outpatient Intravenous Diuresis Clinic as an Innovative Approach to the Management of Heart Failure

Sunal Makadia¹, Ugonna Nwosu¹, Tanya Simmons^{1,2}, Nowreen Haq¹, Kapil Parakh^{1,2,1} Department of Internal Medicine, Johns Hopkins Bayview Medical Center, Baltimore, MD, United States. ² Department of Cardiology, Johns Hopkins Medical Institutes, Baltimore, MD, United States. (Control ID: 1332888)

Statement of Problem or Question (one sentence): In this IRB approved study, we present pilot data from a recently launched, institution-based intravenous (IV) diuresis clinic as a novel approach to provide treatment and education for patients with heart failure.

Objectives of Program/Intervention (no more than three objectives): (1) To establish an institution-based outpatient IV diuresis clinic as a novel treatment strategy in heart failure (2) To utilize the outpatient IV diuresis clinic as a novel venue for heart failure education (3) To reduce costs associated with heart failure by reducing heart failure hospitalizations

Description of Program/Intervention, including organizational context (e.g. inpatient vs. outpatient, practice or community characteristics) : A clinic was set up at an academic community hospital to provide IV diuretics to outpatients. Protocol: On arrival, vitals are checked, and labs and EKG are obtained for every patient. A cardiologist evaluates all patients and assesses suitability for IV diuretic therapy. Where appropriate, IV furosemide is administered at a pre-determined dose with electrolyte supplementation as needed. Patients are monitored in clinic for at least 3 hours for adverse events. Urine output is recorded as well as weight on arrival and discharge. During diuresis, patients receive education from a dedicated HF nurse. Clinically unstable patients are stabilized and referred directly to the hospital. Patients are re-assessed by the cardiologist prior to discharge. Arrangements are made for subsequent sessions as appropriate. Patients are followed up by telephone call within 30 days to evaluate symptoms, quality of life, and number of readmissions to the hospital. All data reported in this study is routinely collected as part of clinical services provided.

Measures of success (discuss qualitative and/or quantitative metrics which will be used to evaluate program/intervention): (1) Rate of admission to the hospital within 30 days (2) Quality of life within 30 days (3) Heart failure knowledge

Findings to Date (it is not sufficient to state “findings will be discussed”): To date, we have data from 66 total IV diuresis sessions from 16 patients. No patients required admission to the hospital after outpatient IV diuresis. One patient experienced dizziness and orthostatic hypotension the day after diuresis but these symptoms resolved. The cardiologist determined to not administer IV diuretics on 10 sessions based on clinical data (hypokalemia n=2, elevated creatinine, n=5, orthostatic hypotension n=3). One patient left clinic prior to receiving diuresis. Two patients were determined to require emergent care on arrival to the diuresis clinic and were referred directly to the hospital. Average length of visit was 3 to 4 hours and mean fluid loss was 1160±520 ml per session. To date, two of our patients have required inpatient admission for decompensated heart failure within 30 days of treatment. One of these patients died after admission. All patients treated have voiced significant satisfaction with IV therapy in clinic and report better quality of life. Patients report significant satisfaction with HF education and report better understanding of their illness and disease management. Providers and referring physicians expressed much satisfaction with the service.

Key Lessons for Dissemination (what can others take away for implementation to their practice or community?): Pilot data from the Johns Hopkins Bayview Diuresis Clinic suggest that outpatient IV diuresis appears to be a promising strategy to provide treatment and education for heart failure patients. As the cost of a diuresis clinic visit is significantly less than the cost of hospitalization, there is substantial potential for cost reduction. Further studies are needed to establish the safety, cost-effectiveness, efficacy, and impact on readmissions.

ECHO: An Innovative Campus-Community Partnership for Managing Resistant Hypertension in an Urban Underserved Area

Christopher Masi¹, Tamara Hamlish², Andrew M. Davis¹, Kristine Bordenave³, Stephen Brown⁴, Brenda Perea⁵, Glen Aduana⁶, Marcus B. Wolfe⁷, George Bakris¹, Daniel Johnson^{2,1} Medicine, University of Chicago, Chicago, IL, United States. ² Pediatrics, University of Chicago, Chicago, IL, United States. ³ Medicine, Humana Inc., Chicago, IL, United States. ⁴ Emergency Medicine, University of Illinois, Chicago, IL, United States. ⁵ Nursing, Advocate Healthcare Systems, Chicago, IL, United States. ⁶ Family Medicine, Chicago Family Health Center, Chicago, IL, United States. ⁷ School of Social Service Administration, University of Chicago, Chicago, IL, United States. (Control ID: 1291887)

Statement of Problem or Question (one sentence): Providers at community health centers often have limited access to specialists for assistance in managing complex, chronic diseases, including resistant hypertension.

Objectives of Program/Intervention (no more than three objectives): The objectives of this intervention were to increase 1) hypertension management knowledge and 2) hypertension management self-efficacy among primary care providers (PCP's) at six Federally Qualified Health Centers (FQHC's) on Chicago's South Side.

Description of Program/Intervention, including organizational context (e.g. inpatient vs. outpatient, practice or community characteristics) : We created an interactive videoconference network in collaboration with six urban FQHC's to support Project ECHO (Extension for Community Healthcare Outcomes), a 12-session educational program designed to teach state-of-the-art management of resistant hypertension. Each one-hour session began with a 20-minute lecture by a university-based hypertension specialist. PCP's then presented cases of patients with resistant hypertension. After each case, the hypertension specialist led an interactive discussion across the participating sites regarding management of the case. Learning occurred through the hypertension lectures, as well as through the case discussions. We hypothesized that this 'mini-fellowship,' case-based approach would enhance hypertension management knowledge and self-efficacy in the intervention group but not among controls.

Measures of success (discuss qualitative and/or quantitative metrics which will be used to evaluate program/intervention): Carter's 26-item hypertension management questionnaire was used to measure PCP knowledge at baseline and immediately following the intervention. We adapted Arora's disease management self-efficacy scale (1 = no skill at all, 7 = expert) to measure PCP confidence in managing hypertension at baseline and post-intervention. Twelve PCP's (9 intervention and 3 controls) participated in the study.

Findings to Date (it is not sufficient to state "findings will be discussed"): Demographic characteristics of the 9 intervention participants included a mean age of 33 years (SD = 4.3), mean duration of practice of 6.8 years (SD = 10.49), 7 female, 7 physicians, and 2 physician assistants; 3 were Caucasian, 1 African-American, 1 Latino, 2 Asian/Pacific Islander, and 2 East Indian. The mean number of correct answers on the 26-item hypertension knowledge test increased significantly in the intervention group (13.11 (SD = 3.06) to 17.44 (SD = 1.59), $p < .01$) but not in the control group (14.33 (SD = 3.21) to 13.00 (SD = 3.46), $p = .06$). Similarly, the mean score on the 7-item hypertension management self-efficacy scale increased in the intervention group (4.68 (SD = .75) to 5.41 (SD = .55), $p < .01$) but not in the control group (5.29 (SD = .49) to 5.62 (SD = .62), $p = .11$). Upon completion of the follow-up surveys, the PCP's requested additional curricula in diabetes, congestive heart failure, obesity, rheumatology, and dermatology. They also suggested that the sessions be archived for future use.

Key Lessons for Dissemination (what can others take away for implementation to their practice or community?): By creating a community of learners using videoconference technology, the ECHO model increased hypertension management knowledge and self-efficacy among PCP's in an urban underserved area. The case-based, interactive discussions created learning opportunities for all participants, not just for those who presented cases. Videoconferencing is a convenient way to enhance interaction between community health center providers and university-based specialists, thereby increasing the likelihood that uninsured and underinsured patients will receive state-of-the-art care for complex, chronic diseases.

Bayview Patient Connection (BPC): An ambulatory intensive care experience for high-utilizing Medicaid patients in an internal medicine residency continuity clinic

Marc Larochelle¹, Melissa Dattalo¹, Huy Do¹, Sean Tackett¹, Justin Elfrey¹, Ryan E. Childers¹, Lauren Graham¹, Lana Elpert¹, Wendy L. Bennett¹, Laura Hanyok^{1,1} Internal Medicine, Johns Hopkins Bayview Medical Center, Baltimore, MD, United States. (Control ID: 1334968)

Statement of Problem or Question (one sentence): Delivering high quality care to high-utilizing medically and psychosocially complex patients in residency continuity clinics is challenging, and this experience may discourage residents from pursuing careers in general internal medicine (GIM).

Objectives of Program/Intervention (no more than three objectives): 1. Improve care for high-utilizing Medicaid patients through translation of evidence-based interventions.² Reduce unnecessary inpatient admissions and emergency department (ED) visits.³ Improve resident skill and satisfaction with caring for challenging patients.

Description of Program/Intervention, including organizational context (e.g. inpatient vs. outpatient, practice or community characteristics) : High-utilizing patients from a Medicaid HMO who receive primary care at the Johns Hopkins Bayview GIM Clinic were identified. 15 new July 2011 interns were assigned a high-utilizing patient whose PCP was an outgoing PGY3 resident. A multifaceted intervention was designed and implemented with the intern-patient pairs. Intervention patients were offered a home visit with their new PCP, with the goal of identifying psychosocial factors influencing health behaviors. Interns received training in shared decision making and motivational interviewing, and an Action Plan document was created to record and track goals. Every two weeks, interns met as a group with a faculty mentor and multidisciplinary team members to share experiences and problem solve. Intervention patients were scheduled office visits every six weeks with their assigned intern. Each intervention patient was assigned a case manager from the Medicaid HMO. 23 high-utilizing patients with rising PGY2 and PGY3 resident PCPs served as a usual care cohort for comparison.

Measures of success (discuss qualitative and/or quantitative metrics which will be used to evaluate program/intervention): Administrative data from the Medicaid HMO will be used to compare the number of inpatient admissions and ED visits. Patient-perceived quality of care, quality of the patient-provider relationship, and satisfaction with the outpatient experience for patients and residents will be compared using validated surveys. Resident specific outcomes include their attitude toward challenging patients and self-reported adequacy of training in Systems-Based Practice. Number of visits, phone notes, and Action Plans from the clinic EMR will be tracked to assess the degree of intervention implementation.

Findings to Date (it is not sufficient to state “findings will be discussed”): Of the 165 Medicaid HMO patients who regularly attend the Bayview GIM clinic, 49 (30%) accounted for 82% of hospital utilization with a mean of 8.0 inpatient admissions and ED visits for the 12 months ending February 28, 2011. During the program’s first 6 months, intervention patients attended, on average, a similar number of office visits (3.0 visits, 53% with PCP) compared to usual care patients (2.9 visits, 60% with PCP). Intervention patients had more contact with their PCPs outside of clinic visits. Ten (67%) interns visited their intervention patients at home, while no usual care patients received home visits. Intervention patients had phone contact with their PCP 2.0 times on average compared with 0.6 times for usual care patients.

Key Lessons for Dissemination (what can others take away for implementation to their practice or community?): This intervention has the potential to transform resident frustration with challenging outpatients into a learning opportunity that may increase self-efficacy and inspire more trainees to pursue GIM careers. If the model is successful, dissemination to other academic practices has the potential to add tremendous value with minimal resources.