DEPARTMENT OF MEDICINE

Quality Improvement &
Patient Safety (QIPS) Committee

QUALITY IMPROVEMENT POSTER SESSION

POSTERS

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QIPS: Improving the Transition from Inpatient to OPAT Care in the ID Fellows' Clinic

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Introduction

- Since 2009, the volume of patients on outpatient parenteral antibiotic therapy (OPAT) has more than doubled at New York Presbyterian/WCMC, making OPAT a new standard in the treatment of infections requiring prolonged therapy.[1]
- Benefits of OPAT include decreased hospital stay lengths, reduced costs, and improved patient satisfaction.
- However, the transition from inpatient to home requires complex multi-disciplinary coordination, with the potential for adverse outcomes in the absence of adequate patient education and follow-up.
- Despite increased patient volume, no structured care transition process currently exists at NYP/WCMC.

Project Objectives

This study aims to assess the extent to which improved discharge planning -- through an enhanced care coordination intervention involving patient education administered by a medical student before discharge -- improves follow-up adherence in the ID Fellows' Clinic.

Methods

- The follow-up adherence rate of 163 OPAT patients was measured during the control period, January-June 2013.
- During the intervention period, July-August 2013, the project targeted 28 OPAT patients on the NYP/WCMC ID consult service, to be discharged to home.
- The intervention included:
  (1) compiling outpatient care plans from various healthcare providers;
  (2) scheduling clinic appointments with fellows who provided inpatient care;
  (3) administering a "patient agreement," including information on antibiotic type, duration, ID physician/appointment date, home delivery service, and associated side effects;
  (4) offering education on the importance of follow-up and monitoring symptoms.
- A prospective chart review was performed to assess adherence within 6 weeks of discharge.
- Results were entered into an excel database.

Results

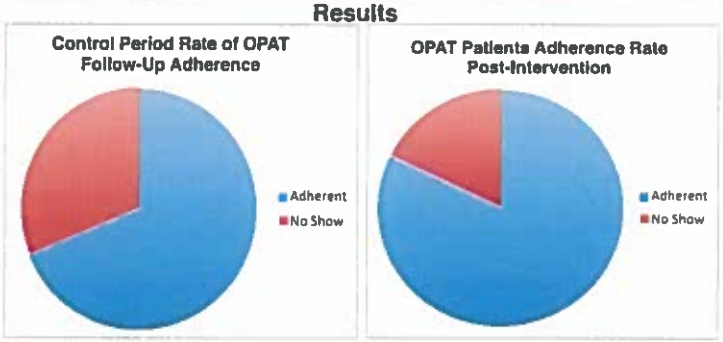

Figure 1: Follow-Up Adherence Rates.

- 82% (23/28) of OPAT patients with intervention adhered to initial ID Clinic follow-up within 6 weeks post-discharge.
- 69% (112/163) for OPAT patients from control period adhered to initial ID Clinic follow-up (Chi-square for comparison of pre- and post-intervention = 2.08, p=0.14). Furthermore, historical adherence rates indicate that only 73% of total patients adhered to ID Clinic follow-up in 2011.
- 92% (11/12) OPAT patients adhered to recommended additional ID follow-up visits.
- 52% (12/23) of the patients who adhered to follow-up required OPAT regimen alteration (prolongation, discontinuation, drug change).

Lessons Learned

- The ID Clinic is the primary practice responsible for providing care to OPAT patients at NYP/WCMC. Enhancing patient communication through multi-disciplinary care may play an important role in improving adherence to OPAT follow-up, which can have a meaningful impact on healthcare providers' ability to effectively treat infections and prevent toxicity in patients at NYP.
- Anecdotally, patients expressed gratitude that the ID team took the time to explain – and offer in writing – specific details on the care plan as they transitioned from hospital to home. Patients expressed satisfaction with having comprehensive information on the treatment course designed to overcome their infection, and felt that they understood how to move forward with the help of the ID team.

OPAT Process Map with Intervention

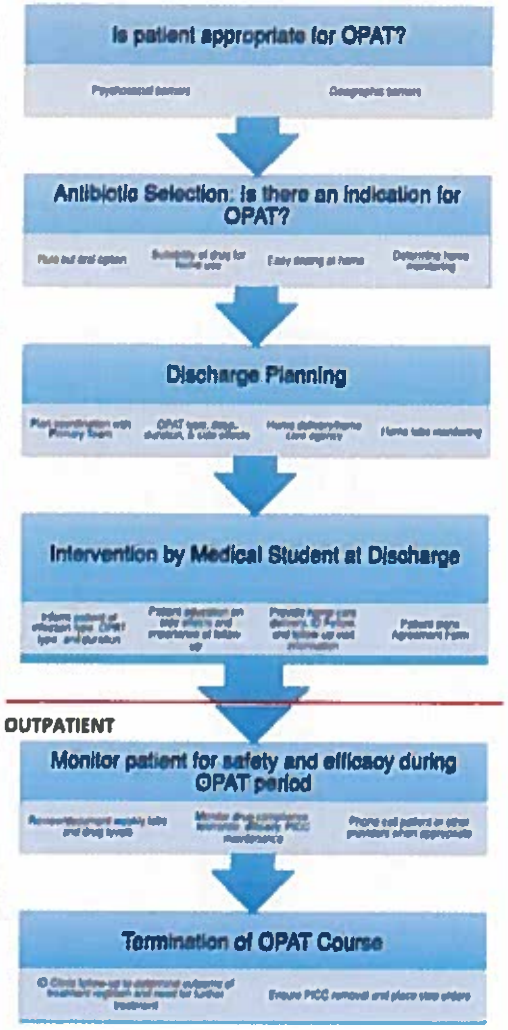

Figure 2: Process map for OPAT discharge and follow-up. Fellows, Attending Physicians, Pharmacists, and a Medical Student all took part in establishing and adhering to standard work flow.

Conclusions/Future Directions

A dedicated mid-level provider is needed to coordinate a formalized transition process from inpatient to OPAT home care, which would help enhance the quality and safety of OPAT management and improve patient satisfaction at NYP/WCMC.

Salary support for a dedicated full-time mid level provider could be offset by the substantial institutional cost savings attributable to earlier hospital discharge facilitated through the OPAT program.[1]

Previous studies have shown a 30-60% rate of adverse events with OPAT, highlighting the importance of a coordinated and closely monitored system for patients on OPAT.

The next part of this project will aim to compare adverse event rates in OPAT patients who adhered to post-intervention ID follow-up (cases) versus those who did not receive any intervention (matched controls).

References:
[1] Saltoun, M. et al. "Outpatient Parenteral Antibiotic Therapy (OPAT) Experience at NYP/WCMC." NYP/WCMC QIPS Poster Presentation, 2013.

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Evaluating Adherence to Clinical Guidelines For Thrombophilia Screening

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Background

- Thrombophilia disorders are identified in over 60 percent of patients with unprovoked venous thromboembolism (VTE).
- Diagnosis of thrombophilia is based on a combination of genetic, activity-based, antigenic, and serologic tests.
- Overscreening incurs significant laboratory costs and unnecessary consultation with hematologists.
- Screening guidelines have been published by the College of American Pathologists and the International Society of Thrombosis and Hemostasis to improve diagnostic yield.
- Clinical adherence to screening guidelines has not been evaluated at New York-Presbyterian Hospital.

Project Aims

1. To assess the diagnostic yield of thrombophilia screening at New York-Presbyterian Hospital
2. To evaluate physician adherence to published clinical screening guidelines at New York-Presbyterian Hospital

Methods

PART I: Computational analysis

- Laboratory results for thrombophilia screening tests ordered between August 2010 and June 2013 were analyzed with R.
- Positivity rate was calculated with R and confirmed by manual analysis of 100 randomly selected charts.
- Appropriateness of follow-up for abnormal results was evaluated for inherited and acquired thrombophilia. Follow-up was defined as replication of a given test within a specified confirmatory period.
  - ✓Activity-based and antigenic tests, 30 days after initial test
  - ✓Lupus anticoagulant (LA) and serologic tests for antiphospholipid antibodies (aPLs) and 12 weeks after initial test

PART II: Retrospective chart review

- Random selection (n=100) of patient charts in whom thrombophilia testing occurred between August 2010 and June 2013. Thrombophilia evaluation was defined as ≥2 thrombophilia tests including (but not limited to) protein C, protein S, and/or antithrombin (AT) analyte(s).
- Chart histories were reviewed to assess compliance with screening guidelines published by the College of American Pathologists (CAP) and the International Society of Thrombosis and Hemostasis.
- Rate of departmental adherence to clinical screening guidelines was noted during review.
- Exclusion criteria. Patients younger than 18 years old, and incomplete chart documentation.

Key Findings

A total of 2081 patients, representing 4630 unique thrombophilia panels, were identified during the specified time period.

Low diagnostic yield and low rates of appropriate follow-up were found with current screening practices.

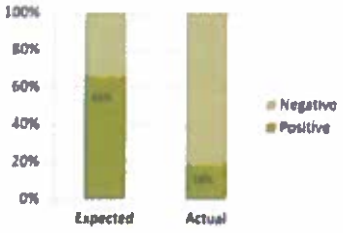

Figure 1. Low diagnostic yield of thrombophilia screening. Actual positivity rates for thrombophilia screening at NYPH are lower than expected positivity rates in high-risk populations (p<0.01).

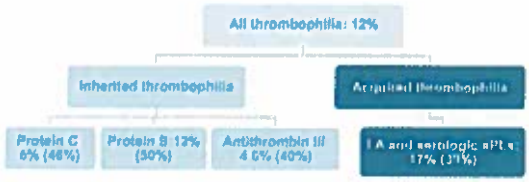

Figure 2. Appropriateness of thrombophilia screening follow-up. Initial percentage indicates rate of appropriate confirmatory follow-up performed within an appropriate period. Parenthetical percentage indicates rate of confirmed analyte abnormality when appropriate follow-up is performed.

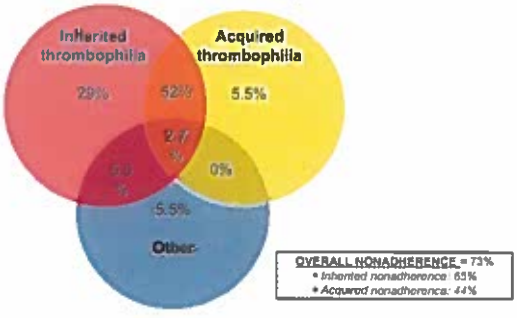

Figure 3. Reasons for non-adherence to clinical screening guidelines. Causes include overlook of inherited or acquired thrombophilia screening guidelines, medical conditions or medication interactions, and/or combinations of both. Percentages indicate proportions of incorrectly ordered tests due to listed factors (overall incorrectly ordered tests totaled 73 percent).

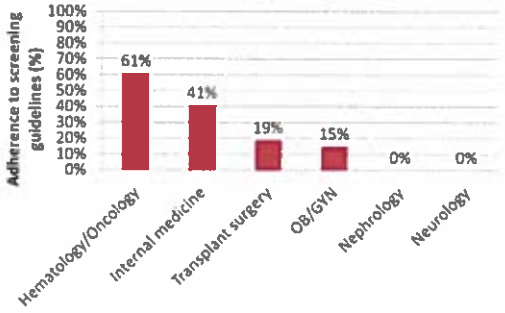

Figure 4. Adherence to thrombophilia screening guidelines by specialty. Hematology/oncology (n=18), medicine (n=15), transplant surgery (n=21), OB/GYN (n=13), nephrology (n=7), neurology (n=10), other (n=16). Other includes ophthalmology, cardiology, pulmonology, reproductive medicine, and surgery.

Lessons Learned

- The majority of thrombophilia screening is ordered in the absence of clinical indications. Non-adherence to guidelines, as well as overlook of medical conditions and medication interactions leads to falsely positive results.
- Confirmatory follow-up for thrombophilia testing is inconsistently performed.
- Physicians across medical specialties have poor adherence to thrombophilia screening guidelines.

Next Steps

1. To educate clinicians at NYPH about thrombophilia screening guidelines
2. To compare pre- and post-educational positivity rates
3. To assess cost-effectiveness

References 1. Arch Pathol Lab Med. 2002; 126:1281–1295. 2. Br J Haematol. 2010 Apr; 149(2): 209-20. 3. Seminars in *Thromb Hemostasis* 2012 Sep; 38(6): 600-12. 4. J Thromb Haemost. 2006; 4(2): 295-306. 5. Hematology 2007:127-135

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Characteristics of Medicine Inpatients who Engage the Discharge Appeals Process

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The Problem

Since 2007, approximately 39 million hospital discharges occurred each year in the United States. Discharging patients from the hospital is a complex and challenging process, requiring the coordinated efforts of a multidisciplinary team. Clinicians must ascertain the diagnostic and therapeutic demands for ongoing hospitalization while ensuring that the patient's medical needs can be safely met in the environment to which the patient will be discharged. Inadequacies in discharge planning may lead to delayed discharge or to unplanned readmissions to the hospital. In a patient-centered model, the timing of discharge from the hospital requires negotiation between the patient and their physician. Discharges against medical advice have been associated with a higher 30-day readmission and mortality rates and 385,649 cases were reported in 2011, nearly 1% of all discharges. On the contrary, little is known about patients who disagree with their hospital discharge and engage the appeal process. In July 2007, the Center for Medicare and Medicaid Services (CMS) required hospitals to inform all Medicare and Medicaid beneficiaries of their right to appeal their discharge from the hospital within 48 hours of admission. This ruling guarantees a due process involving review of the patient's medical record by a federally appointed Quality Improvement Organization, who may decide either to uphold or overturn the discharge, during which the patient is protected from liability for hospital charges. The appeal process is time consuming, necessarily leads to a prolongation of the hospitalization and may breach the trust inherent to the physician-patient relationship.

Project Aims

(1) To better understand the characteristics and motivations of patients who engaged the appeals process
(2) To identify the biomedical, psychiatric, socioeconomic and hospital-related factors that predict whether patients will engage the discharge appeals process.
(3) To determine the impact of the discharge appeal process on hospital length of stay and measures of quality of care, including readmissions and follow-up.

Methods

We identified Medicare/Medicaid patients admitted to the Medicine Service between July 2010 – Dec. 2012 who appealed their discharge. We hypothesized that biomedical factors, psychiatric, socioeconomic and hospital factors may be determinants of a patient's decision to appeal; hence, we conducted a retrospective chart review and analyzed a variety of parameters. A control group, matched by age (± 10 years) and discharge date (± 4 weeks) was identified using 1:1 matching. Statistical tests were used to compare variables between case and control groups including chi-square test for dichotomous variables and t-tests for normally distributed continuous variables. To evaluate the association of case vs. control status with prognostic factors while controlling for potential confounding variables, binary step-wise logistic regression analysis was used.

Key Findings

- For majority of appeals, QIO's upheld the decision to discharge.

Total Number of Appeals	174
Appeal Ended to Completion	159 (91.4%)
Appeal Canceled	15 (8.6%)
Discharge Appeal Upheld (i.e. hospital)	150/159 (94.3%)

- Characteristics of patients who appealed their discharge

Number of Appeals	174
Age	64.1 ± 17.9 (24 – 100)
Gender	51.7% female, 48.4% male
Median Income	$69,300 ± $35700
% below poverty level	16.58 ± 11.0
English language	93.8%
Ethnicity	70.7% white, 14.4% AA, 13.2% Hispanic, 0.7% other
Residence	62.1% live at home
	21.2% SNF
	16.7% undomiciled
Social Support	57.7% live alone, 42.3% with family
	17.5% with established home care services

- In a bivariate analysis, the following parameters were significantly ($p < 0.05$) different between appeals cases and controls:
  - Ethnicity (white race)
  - Residence and support system
  - Length of hospitalization
  - Number of previous hospitalizations
  - Number of ED visits
  - Procedural intervention
  - Narcotic use
  - Psychiatric history
  - Change in living situation at discharge
  - Home care on admission

- Patients appeal their discharge due to disagreement with care plan or because they are unhappy about their disposition after discharge. The two groups differ significantly in age, comorbidity and in their disposition at the time of discharge.

	Disagree with Care Plan (N = 83)	Unhappy with Disposition (N = 91)
Age (years)	57.01 ± 16.5*	70.36 ± 16.3
Infection Isolation (%)	19.0%	32.2%
Charlson Comorbidity Index	3.87 ± 3.51	5.54 ± 3.27
Length of hospitalization (days)	10.54 ± 12.65	17.8 ± 17.3
Change in disposition (%)	18.07%	51.65%
Home to home	71.1%	30.8%
Home to SNF	10.8%	39.6%
SNF to SNF	10.8%	20.9%
Home to home with services	7.2%	6.6%

- Among 174 appeals, 44 were generated by 16 individuals over a 30-month period (range 2 – 6 appeals).

- Appeal leads to significant delay in discharge, but no increase in readmission.

	Cases	Controls
30-day readmission	27.8%	28.6%
Physician follow-up at discharge	52.3%	35.1%
Median (mean) delay in discharge after appeal	3 (4) days (range 1 – 12)	

- Logistic regression analysis revealed predictors of discharge appeals

Parameter	Odds Ratio Point Estimate	95% Wald Confidence Limits	
Support: Living with Family vs Living Alone	0.314	0.165	0.597
Length of hospitalization	1.194	1.098	1.213
Number of hospitalizations in last two years	1.161	1.061	1.258
Number of ED visits in last two years	1.041	0.99	0.996
Narcotic administration during hospitalization	2.358	1.202	4.409
Discharge Disposition, Shelter vs Home	130.577	4.934	356.022

Lessons Learned

- The decision to appeal hospital discharge is impacted upon by a lack of social support systems, prolonged hospitalization and potential secondary gains for a small group of patients.
- Discharge appeals ultimately lead to QIO's uphold the decision to discharge the patient, but with resulting prolongation in hospital discharge and additional time investment.
- Is discharge appeal surrogate marker for inadequate communication between physicians and their patients?

Next Steps

- Dissemination/collaboration
- Unique to Cornell or similar experience at other hospitals
- Oral presentation at Society of Hospital Medicine 2014
- Develop educational materials for patients/families better explaining transitions of care at discharge, i.e. home care, sub-acute rehabilitation
- Frequent appealers – a population to target for intervention

Improving Alpha-Numeric Paging on a General Medicine Floor

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The Problem

- Alpha-numeric paging is underutilized at NYP/WCMC
- A previous QI initiative taught nurses about the advantages of alpha-numeric paging, resulting in increased use of alpha-numeric paging and subjective improvement in patient care
- One important barrier to utilization of alpha-numeric paging was nurse perception that using alpha-numeric paging leads to less callbacks, and therefore less closed-loop communication

Project Aims

- To increase utilization of alpha-numeric paging by providing nurses with their own alpha-numeric pagers
- To improve closed-loop communication

Methods

Setting and Study Population

- Nurses (n=20) and resident physicians (n=6) on the 5-Central General Medicine unit at NYP/WCMC

Intervention

- Nurse education sessions were held by the PatientCareDirector to review the 4 components of an ideal alpha-numeric page: 1.) Patient Name, 2.) Clinical Scenario, 3.) Sender's Name, and 4.) Sender's Contact Information
- Unique alpha-numeric pagers, similar to those held by resident physicians, were given to each nurse
- Resident physicians were instructed to use nurse-pagers as a means of ensuring closed-loop communication

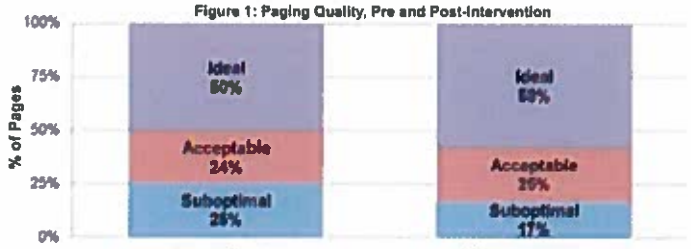
Data Collection

- Paging logs of resident physicians were reviewed for 7 days before and for 7 days after the intervention
- Pages were scored based on number of ideal components included—
  "Suboptimal" = 1 component; "Acceptable" = 2-3 components; and "Ideal" = 4 components
- Surveys were completed by nurses and resident physicians before and after the intervention, targeting perceived impact of alpha-numeric paging

Key Findings

- Number of pages received by resident physicians were similar pre- and post-intervention (225 vs. 238)
- Following intervention, the quality of pages increased (p=0.02), as shown in Figure 1

Figure 1: Paging Quality, Pre and Post-Intervention



- Among resident physicians (100% response rate) and nurses (100% response rate), most felt that alpha-numeric paging led to improvements in:
  - response time
  - closed loop communication
  - patient care
  - job satisfaction

  (Shown in Figures 2 & 3)

Figure 2: Resident Physician Impressions of RN Alpha-numeric Pager Impact

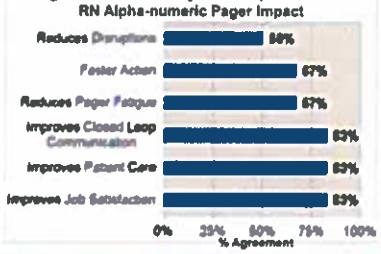
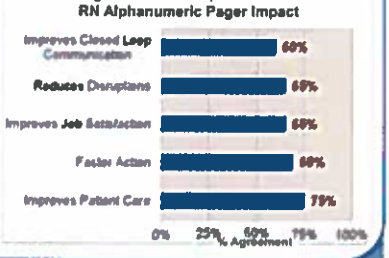


Figure 3: Nurse Impressions of RN Alphanumeric Pager Impact



Lessons Learned

- Nurse alpha-numeric pagers improve communication between nurses and resident physicians, and are perceived as beneficial by both nurses and residents

Next Steps

- Expand the intervention to other nursing units
- Test new technologies: 2-way pagers, mobile phones
- Measure whether closed loop communication improves metrics of efficiency and quality of patient care

References

1. Coiera E. When conversation is better than computation. J Am Med Inform Assoc. 2000 May-Jun 2000;7(3):277-286.
2. Edwards A, Fitzpatrick LA, Augustine S, et al. Synchronous communication facilitates interruptive workflow for attending physicians and nurses in clinical settings. Int J Med Inform. Sep 2009;78(9):629-637.
3. Sutcliffe KM, Lewton E, Rosenthal MM. Communication failures: an insidious contributor to medical mishaps. Acad Med. Feb 2004;79(2):186-194.
4. Nguyen TC, Battat A, Longhurst C, Peng PD, Curet MJ. Alphanumeric paging in an academic hospital setting. Am J Surg. Apr 2006;191(4):561-565.
5. Wong BM, Quan S, Shadowitz S, Etchells E. Implementation and evaluation of an alpha-numeric paging system on a resident inpatient teaching service. J Hosp Med. Oct 2009;4(8):E34-40.
6. Espino S, Cox D, Kaplan B. Alphanumeric paging: a potential source of problems in patient care and communication. J Surg Educ. 2011 Nov-Dec 2011;68(6):447-451.
7. Eiss B, Goyal P, et al. Optimizing Alphanumeric Paging on 5 Central. Poster presented at: Department of Medicine QIPS Poster Session2012; New York, NY.

Weill Cornell Medical College

The CARE Project::

Weill Cornell Medical College

A Multi-disciplinary Approach to Improve the Care of Hospital Super-Utilizers

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The Problem

Hospital super utilizers often receive inadequate care despite exorbitant costs incurred to the medical system; A multidisciplinary team that focuses on an individualized approach to care has been demonstrated in the literature to improve care and reduce costs in this patient population.

Project Aims

- To decrease annual inpatient admissions among hospital super-utilizers by an average of 30% over a 12 month period.
- To perform in-depth assessments of each enrolled patient to in identify barriers to care and unmet needs contributing to frequent hospitalizations; and based on this assessment to develop individualized intervention plans, that can be qualitatively measured for success.

Methods

- Team: A multi-disciplinary care team comprised of representatives from hospital medicine, social work, primary care, and emergency medicine has been assembled
- Patients: A hospital super-utilizer has been defined as a patient with five or more inpatient admissions to the Medicine service within a 12-month period.
  - 4 patients have been enrolled to date.
- Intervention: An in-depth assessment to identify barriers to care and unmet needs contributing to frequent hospital admissions is performed. Based on the findings, an individualized care plan in collaboration with the patient, caregivers and providers is created. Many of our interventions are directed towards unmet psychosocial needs, as well as facilitating care coordination and communication between providers.
- Outcomes measured: For the following variables we will compare the 12 months pre-enrollment to the 12 months post-enrollment:
  - Number of admissions to the Medicine service, number of 30 day readmissions; average length of stay (LOS) per admission; number of ED visits; and cost data (hospital charges vs. actual reimbursement)
- Data collection: Notification of re-admissions is through the ED or our colleagues. Contact with patients and providers is tracked through notes on EPIC. A data analyst will assess the measurable outcomes as data becomes available.

Lessons Learned

- As the current healthcare system is fragmented and often ineffectual in caring for super-utilizers, a commitment to innovation and clinical re-design is crucial to any program that aims to improve care in this patient population.
- Engage stakeholders early and continuously. Stakeholders need to be from both the outpatient and inpatient settings, as well as multi-disciplinary.
- As these patients often have significant psychiatric co-morbidities, partnering with a psychiatrist is crucial.
- Assisting these patients is a very time intensive process. They require ongoing psychosocial support and help navigating a complex, fragmented system. Much of our initial work is spent engaging patients and relationship building.
- Hospital super-utilizers represent a diverse group in terms of diagnoses and underlying problems leading to over-utilization of hospital resources, which is why a highly individualized approach is critical.

Next Steps

- Enroll remaining 6 patients.
- Initiate the home visit phase of project.
- Enlist the expertise of a psychiatrist .
- Present a poster at CCHP at the Jefferson Population Health Colloquium, (a component of the AAMC Hotspotting Challenge).
- Present a poster at SGIM 2014 Annual Meeting if our abstract is accepted.

References

Gawande A. (2011) *The Hot Spotters. Can we lower medical costs by giving the neediest patients better care?* Available: http://www.newyorker.com/reporting/2011/01/24/110124fa_fact_gawande. Last accessed 7th Jan 2014

Pillow MT, Doctor S, Brown S, Carter K, Mullikin R. (2013) An Emergency Department-initiated, web-based, multidisciplinary approach to decreasing emergency department visits by the top frequent visitors using patient care plans. *Journal of Emergency Medicine*. 44 (4), 853-60

Raven, M. C. (2011) *An intervention to improve care and reduce costs for high risk patients with frequent hospital admissions: a pilot study.* Available: http://www.biomedcentral.com. Last accessed 7th Jan 2014

Protocol for Emergency Department Placement and Management of Indwelling Urinary Catheters in Older Adults

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The Problem

- Indwelling urinary catheters (IUCs) are commonly placed in older adult emergency department (ED) patients for varying reasons.
- IUCs are associated with significant patient safety concerns: urinary tract infections, pain, falls, and delirium.
- IUCs are often placed in ED patients for whom it may NOT be appropriate or need them only briefly, sometimes simply for staff convenience.
- Once inserted, IUCs are rarely removed in the ED.

Project Aims

Phase I (qualitative): To explore ED provider knowledge, attitudes, and practice patterns surrounding placement and management of IUCs in older adult ED patients, and guide development of a clinical protocol for IUC use.
Phase II (literature review): To inform an evidence-based clinical protocol through an extensive literature review.
Phase III (protocol): To develop a new evidence-based clinical protocol highlighting appropriate indications for placement, reassessment, and removal of IUCs in the ED.
Phase IV (survey): To evaluate education of ED providers in appropriate usage of IUCs in older adults.

Methods

Phase I: Four focus groups were conducted, each including a single ED provider type: attending physicians (n=13), residents (n=8), physician assistants (n=11), and nurses (n=8). Focus groups used a semi-structured format and ranged in duration from 23 to 33 minutes. The sessions were recorded and fully transcribed. Data were coded and analyzed to identify themes using NVivo10 (QSR International).
Phase II: An extensive literature review was completed to identify current clinical protocols extant regarding placement, care of, and removal of IUCs primarily in the ED setting, and the impact of these protocols on standardization of the decision making process and reduction in use of IUCs as a result. Additional literature review was done regarding evidence-based recommendations for use of IUCs in specific patient populations.
Phase III: Derived from expert consensus based on results from Phases I & II.
Phase IV: Developed a comprehensive, evidence-based educational intervention consisting of a 20-minute scripted slide presentation describing the components of the protocol. Written surveys, including 25 unique clinical scenarios where an IUC might be considered, were administered before and immediately after the intervention. 125 ED providers participated in this study: 47 resident physicians (RP), 17 attending physicians (AP), 18 NP/PAs, and 43 nurses (N). Descriptive analyses were performed using Stata v12.0 (StataCorp, College Station, TX).

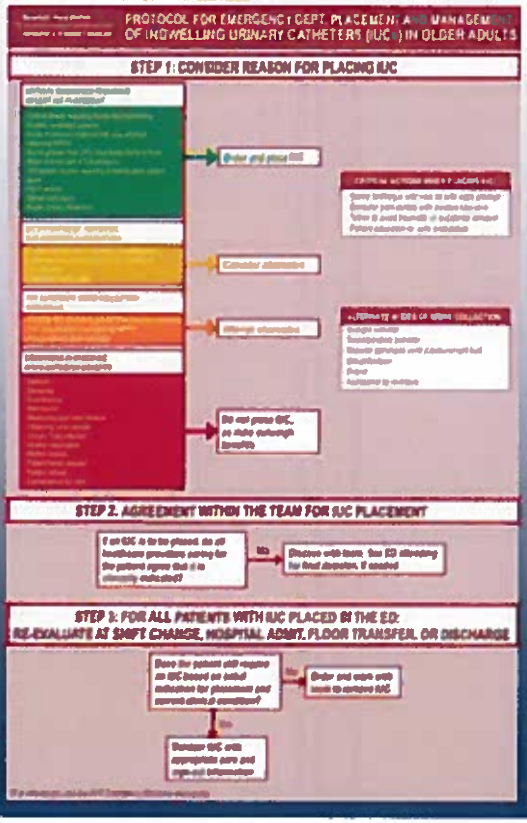
Key Findings

Phase I:
- identified 13 major themes and 31 sub-themes
- confirmed that current clinical decision-making for IUCs in older adults vary among ED providers
- 100% of groups acknowledged the known risks for patient safety and the deleterious outcomes associated with IUCs
- agreement that IUCs are infrequently removed once placed in the ED
- agreement that IUCs are often inserted primarily for staff convenience
- expressed desire for and a willingness to adopt a clinical protocol to standardize IUC use in older adults
- identified 10 key elements for a successful clinical protocol in our setting
- identified 13 potential barriers to practice standardization

Phase II & III: See protocol below.

Phase IV:
- 98% reported that the intervention made them more comfortable with the appropriate indications for IUC placement
- 87% reported anticipating that this intervention would reduce rates of IUC use and increase patient safety

After the intervention:
- increase in the mean percentage of correct responses to the 25 clinical vignettes
- improvement in participant recognition that placement of an IUC is inappropriate in older adults with delirium or dementia
- 91% reported intent to increase frequency of IUC re-assessment
- 78% plan to remove IUCs more frequently
- 92% anticipate that the protocol will be easy to incorporate into practice



Lessons Learned

Phase I: Participants confirmed that practice varies and IUCs are over-utilized in the ED. Despite existing barriers, a comprehensive, evidence-based clinical protocol to guide ED providers in the appropriate placement and management of IUCs in older adults is warranted.
Phase II & III: As incorporated into the clinical protocol (left).
Phase IV: A brief educational intervention on IUC usage in older adults may have a significant impact on EM provider practice.
Overall: Anecdotally, achieving group participation of all those involved in IUC placement in the ED (RNs, MDs, PAs, NPs) during development and implementation of the protocol has allowed for a successful adoption of the protocol into daily practice.

Next Steps

Phase V (quantitative): Quantitative analysis of the impact of the protocol, both short and long-term, on patient centered outcomes. The primary measure will be the number of IUCs placed in older adult patients in the ED before and after the protocol was initiated over 6 months, in addition to the number of hospital acquired infections attributed to IUCs placed in the ED.
Scholarly work: Abstracts submitted for national EM conferences. Manuscripts for each phase underway.
Changes in hospital or outpatient policies: This protocol is going to be introduced in both the Lower Manhattan and Columbia University Medical Center Emergency Departments this spring. Adoption of the protocol in other departments across the hospital is possible.

References

Fakih, M. e. a. . Effect of establishing guidelines on appropriate urinary catheter placement. Acad Emerg Med. 2010; 17(3):337-340.
Gould, C. V., Umscheid, C. A., Agarwal, R. K., Kuntz, G. and Pegues, D. A. . Guideline for prevention of catheter-associated urinary tract infections 2009. Infect Control Hosp Epidemiol. 2010, 31(4):319-326.
Hazelett, S. E., Tsai, M., Gareri, M., Allen, K. . The association between indwelling urinary catheter use in the elderly and urinary tract infection in acute care. BMC Geriatrics. 2006, 6:15.
Conway, L. J. and Larson, E. L. . Guidelines to prevent catheter-associated urinary tract infection: 1980 to 2010. Heart Lung. 2012, 41(3):271-283.
Tiwari, M. M., Charlton, M.E., Anderson, J.R., Hermsen, E.D., Rupp, M.E. . Inappropriate use of urinary catheters: A prospective observational study. American Journal of Infection Control. 2012, 40(1):51-54.
Vose, A. M. B. . Incidence and duration of urinary catheters in hospitalized older adults: Before and after implementing a geriatric protocol. Journal of Gerontological Nursing. 2009, 35(6):35-40.
Hadorn, D. C., McCormick, K., Diokno, A. . An Annotated Algorithm Approach to Clinical Guideline Development. , JAMA. 1992, 267(4):3311-3314.
Saint, S. W. J., Amory, J.K., Bernstein, M.L., Patel, U.D., Zemencuk, J.K., Bernstein, S.J., Lipsky, B.A., Hofer, T.P. Are physicians aware of which of their patients have indwelling urinary catheters? . Am J Med. 2000, 109(6):476-480.

Weill Cornell Medical College

NewYork-Presbyterian HOUSESTAFF QUALITY COUNCIL

Improving the Handoff Process Using Internet Protocol Phone Technology

Heidi Nicewarner, MD, MPH, Samuel Sultan, MD, Laura Gingras, MD, Augustine Chung, MD, Abra Fant, MD, David Bodnar, MD, Jose Fernandez, MD, Jennifer Lee, MD

New York-Presbyterian Hospital/Weill Cornell Medical College

The Problem

- Handoff practices between the ED and inpatient services at NYP-WC:
  - Vary widely
  - Cause frustration among housestaff
  - May contribute to adverse patient events
  - Are inefficient, delayed and *sometimes fail to occur at all*
- Contributing factors:
  - Land-line phone conversations
  - The busy and dynamic environment of the ED
  - Use of an overhead announcement system

Project Aims

Determine whether providing ED residents with Cisco Wireless *Voice over IP* (*VoIP*) phones would improve:

- Satisfaction with the handoff process
- The number of adverse effects on patients related to poor handoff communication (perceived by residents)
- The percentage of patients admitted without any verbal handoff between providers
- Time waiting for handoff
- Ease of reaching providers for handoff

Methods

- **Prospective, intervention-based study**
- **4 weeks in August and September 2013**
- **Nightfloat shifts only**
- **41 ED residents, 17 DOM residents**
- **~300 admissions**
- **Each *VoIP* phone is ~$1000**

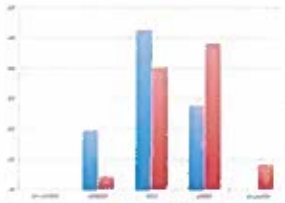
2 different methods of communication were studied:

1) Standard practice – land-line phone calls and overhead announcements
2) *VoIP* phones
   - ED residents in Areas A and C were each assigned a *VoIP* phone for use during an entire shift
   - DOM residents were given a directory with all the individual *VoIP* phone numbers to use if they preferred

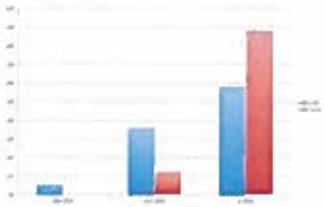
- Data collection via Pre/Post satisfaction surveys completed by housestaff regarding the communication process

Key Findings

Resident Satisfaction with Handoff Process



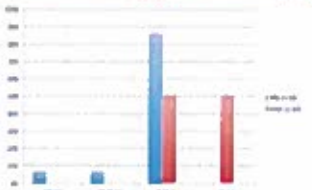
Adverse Effects on Patients Related to Poor Handoff Communication



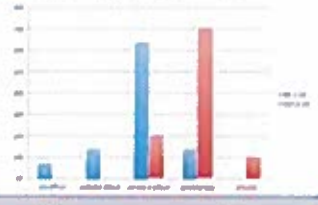
Percent Admissions without Handoffs

	PRE	POST
DOM	19%	9%
EM	23%	23%

DOM Residents' Estimation of Time Spent Waiting for Handoff



DOM Residents' Perception of Ease to Reach ED Residents for Handoff



Lessons Learned

Key Findings Post Intervention

- Improved handoff satisfaction
- Fewer adverse effects perceived
- DOM residents:
  - Perceived fewer patients to be admitted without verbal handoffs
  - Spent less time waiting for handoff
  - Had an easier time reaching ED residents for handoff

Other Findings

- Pre-intervention, ED residents were generally satisfied with the handoff process: 100% rated their level of satisfaction as "neutral" or "satisfied"
- Pre-intervention, the quality of the handoff was perceived as mostly:
  - "good" (59%) or "acceptable" (27%) by ED residents
  - "poor" (36%) or "acceptable" (43%) by DOM residents
- *VoIP* Phones had many ancillary benefits outside of the study:
  - Callback number for other services/consults
  - Direct line to a patient's PMD
  - Easier to speak with bed coordinator

Barriers

- Short time frame for residents to make *VoIP* phones part of workflow
- Resistance to carrying/utilizing phones
- Small sample size
- Data based on subjective reports, often retrospective

Next Steps

Remaining Questions:

- Are the results sustainable long term?
- Would the improvements be more pronounced once *VoIP* phones are universally available across the ED?
- Would *VoIP* phones be beneficial for use by DOM residents?
- Would the availability of *VoIP* phones improve handoff with services other than the DOM?
- Would a formal cost benefit analysis suggest *VoIP* phones to be beneficial for the hospital to invest in?

Next steps:

- Request purchase of *VoIP* phones for ED residents from NYP
- Further study regarding:
  - The quality of handoffs between the ED and inpatient services
  - The ideal form of communication for handoffs between ED and inpatient services (Is a verbal handoff the gold standard?)

Weill Cornell Medical College

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Testing an Insulin Titration Algorithm to Combat Clinical Inertia and Improve Inpatient Glycemic Control

The Problem: Hyperglycemia in the hospital setting is a common problem with serious consequences. Improving glycemic control has been shown to reduce complications in both medical and surgical patients, and decrease length of stay. Insulin is the drug of choice to manage inpatient hyperglycemia (McDonnell & Umpierrez, 2012; Umpierrez et al, 2012). The initiation and titration of basal (long-acting) and bolus (rapid acting) insulin is often delayed, secondary to fear of hypoglycemia and a lack of prescriber knowledge and comfort level with safe and effective dosing. After implementation of a comprehensive insulin order set in the inpatient computerized provider order entry (CPOE) system, our Inpatient Diabetes Team examined blood glucose trends over time. Data analysis revealed a decrease in rates of hypoglycemia with a concomitant increase in rates of hyperglycemia.

A limitation in the insulin order set is that only the initial starting dose is provided. We hypothesized that clinical inertia and prescriber lack of knowledge may lead to a delay in timely titration of both basal and bolus insulin. After the starting dose, it was left to the individual prescriber to adjust the insulin dose if glycemic targets were not met. The housestaff approved of our recommendation to create and test a titration algorithm for insulin dosing.

Project Aims: We sought a strategy for decreasing rates of hyperglycemia while maintaining or reducing rates of hypoglycemia in an effort to improve patient outcomes and safety.

Methods: We developed a simple titration algorithm based on blood glucose ranges to facilitate safe and effective titration of both basal and bolus subcutaneous insulin, while avoiding subsequent hypoglycemia. The algorithm was based on the Endocrine Society Guidelines insulin dose titration recommendations (Umpierrez et al, 2007; Umpierrez et al, 2012).

After IRB approval, we piloted the algorithm beginning in May of 2013 by educating the 5 North medicine housestaff in its use. The inpatient diabetes nurse practitioner (JJS) met twice a month for 15 minutes with groups of 5N housestaff responsible for ordering insulin. The new titration algorithm was presented to guide the housestaff on which insulin to adjust based on patterns of glycemia over the previous 24-hour period. To reinforce the teaching, a pocket card was distributed containing the key elements of the algorithm (see Fig 1).

Point of care (POC) blood glucose (BG) data from the 5N medicine unit was analyzed for three months after the intervention and compared to the same three calendar months from the previous year.

Fig 1. Insulin Titration Algorithm Pocket Card Version 1.0

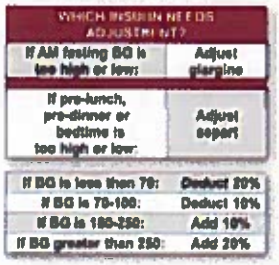
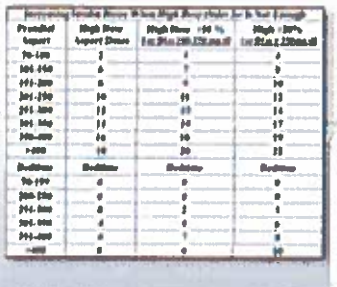


Fig 2. Titration Algorithm: How to Adjust Insulin Version 2.0



In June of 2013, housestaff feedback to the inpatient diabetes nurse practitioner indicated that they were uncomfortable calculating and entering the dose adjustments. This was due to an unforeseen difficulty in deciding how to round a fractional dosing increment (e.g. adding a 10% dose increase to 6 units).

To address this need, the intervention was modified by creating a new version of the algorithm which pre-calculated the 10 or 20 percent insulin dose adjustments (Fig 2). In September 2013, the inpatient diabetes nurse practitioner instructed the housestaff in the new version of the algorithm.

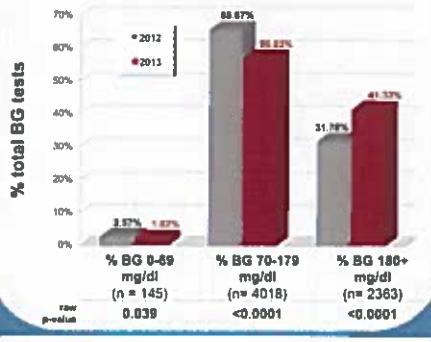
Key Findings: The primary outcome for the QIPS project was the change in glycemic control as shown by the rates of hypoglycemia and hyperglycemia after the education sessions (Fig 3) in 2013.

- ⬇ Significant decrease in hypoglycemia from 2012 (2.57%) to 2013 (1.82%), p=0.039
- ⬇ Significant decrease in blood glucose levels in the target range from 2012 (65.67%) to 2013 (56.85%), p<0.0001
- ⬆ Significant increase in hyperglycemia from 2012 (31.76%) to 2013 (41.33%), p<0.0001

Lessons Learned:

- The intervention to teach housestaff to use an insulin titration algorithm by hand entering percent dose adjustments was not effective in improving hyperglycemia rates.
- A second intervention, which includes the pre-calculated insulin doses, did not improve hyperglycemia rates.
- Possible reasons for the rise in hyperglycemia after the intervention include: an increase in clinical inertia due to poor acceptance of the algorithm, the algorithm doses may have been less aggressive than prior titration methods, patient variation from year to year, and new housestaff with different glycemic management knowledge and beliefs.
- Education in use of an insulin titration algorithm can be safely implemented without increases in hypoglycemia.
- Potential barriers to effective utilization of the algorithm included difficulty in calculating the appropriate doses and the complexity of entering the new doses into the computerized prescriber order entry (CPOE) screen.
- Use of a CPOE insulin titration algorithm with automated calculation and order entry might reduce these barriers and foster adoption of the algorithm.
- These results reinforce the importance of piloting any new initiative involving glycemic management strategies prior to hospital-wide implementation. This is especially important when the initiative involves insulin, as insulin is the #1 high-alert medication in both prevalence and severity.

Fig 3. Unit 5 North Blood Glucose Values May, June, September 2012 & 2013



References:

- McDonnell ME, Umpierrez GE. Insulin therapy for the management of hyperglycemia in hospitalized patients. Endocrinol Metab Clin North Am 2012;41:175–201.
- Umpierrez GE, Smiley D, Zisman A, Prieto LM, Palacio A, Ceron M, Puig A, Mejia, R. Randomized study of basal-bolus insulin therapy in the inpatient management of patients with type 2 diabetes (RABBIT 2 trial). Diabetes Care 2007;30:2181–2186.
- Umpierrez, GE; Hellman, R; Korytkowski, M; Kosiborod, M; Maynard, G; Montori, VM, Seley, JJ; Van den Berghe, G. Management of hyperglycemia in hospitalized patients in non-critical care setting: An Endocrine Society Clinical Practice Guideline. J Clin Endocrinol Metab 2012;97:16–38.

Next Steps:

- Implement and pilot test insulin titration algorithm in the CPOE with automated insulin dose calculation.
- Develop and implement a dataviz view in the CPOE to populate point of care (POC) blood glucose data into time buckets for rapid identification of overnight and mealtime insulin requirements.
- Analysis of time bucket POC blood glucose data to evaluate the effects of both the basal and bolus insulin titrations.

Acknowledgements:

- We wish to thank the Department of Medicine Quality Improvement and Patient Safety Committee for their support of this project.

EMERGENCY DEPARTMENT LOW RISK CHEST PAIN FOLLOW-UP PROJECT

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The Problem

- Chest pain (CP) is the 2nd most common emergency department (ED) complaint, accounting for 8-10 million US ED visits per year[1,2]
- 2-5% of ED patients with acute coronary syndrome (ACS) are incorrectly diagnosed and discharged home[2,3,4]
- This incur a 2-3 fold increase in mortality and represents ~ 20% of malpractice awards against emergency physicians (EPs)[1,3]
- Resultantly, EPs' have a low threshold for admitting patients with CP for further diagnostic testing, a practice which is supported by AHA recommendations[5]
- Recent literature suggests that use of clinical prediction rules to identify "low-risk" patients undergoing ED evaluation for CP is a safe and efficient means to exclude ACS and reduce low-utility inpatient admissions, provided the patient has access to rapid outpatient follow-up[7]
- Outpatient evaluation by a cardiologist following ED evaluation for CP has been associated with a decreased risk of all-cause mortality and myocardial infarction, even when compared to follow-up with a PCP[4]

Project Aims

1. Provide WCMC ED providers with a standardized, evidenced-based clinical prediction tool to identify patients presenting with CP as "low-risk"
2. Implement a web-based information technology solution for discharging said "low-risk" patients from the ED with rapid (48-72 hour) cardiology appointments as an alternative to inpatient admission
3. Utilize phone-based clinical care coordination to facilitate patient compliance with outpatient Cardiology follow up
4. Evaluate the efficacy and safety of the protocol, including tracking the results of further testing and readmission
5. Evaluate the subjective patient experience of the protocol, from presenting to the ED for undifferentiated chest pain to seeing a specialist in the out-patient setting

Methods

A. Emergency Department Care

ED provider identifies chest pain patient as "low-risk" as per protocol criteria & patient consents to outpatient follow up (Based on work by Hess et al.[7])

↓

ED provider uses the Emergency Department's on-line, secure Wikisite @ https://[illegible].med.cornell.edu to arrange rapid (48-72 hr) cardiology follow-up:

↓

B. Patient discharged from the Emergency Department

Cardiology Clinical Care Coordinator Schedules Appointment
(C-CCC) schedules / confirms Cardiology follow up appointment, telephones patient for confirmation of date and time, ED-CCC notified via email

Patient Compliance Follow Up Call:
Post-ED discharge, ED Team contacts patient via telephone pre-cardiology follow up, reminding patient of date, time and location of cardiology appointment

↓

C. Cardiology Outpatient Care

48-72 hour Cardiology Follow up Appointment:
Patient evaluated by cardiology attending in outpatient setting +/- further diagnostic testing (provocative, sonographic, angiographic etc).

C-CCC keeps database of Low Risk Chest Pain patients referred:

1. **Cardiology appointment compliance**
2. **Further testing & results**
3. **Cardiologists working diagnosis**

↓

D. Emergency Department Follow Up

7 Day Patient Satisfaction Questionnaire: *Conducted by telephone*
Patient satisfaction questions independently address both ED and cardiology office encounters

60 Day Patient Follow Up: *Conducted by telephone questionnaire & chart review*

- *Has the patient been admitted to hospital for chest pain / chest pain related diagnosis over the past 30 days?*
- *If admitted, was the patient diagnosed with an acute myocardial infarction*

Key Findings

61 patients were screened for the protocol and initial Cardiology appointment scheduled

- 60 patients completed the protocol
- 1 patient admitted to hospital for sickle cell anemia pain control (subsequently excluded)

Among the 60 patients discharged from the ED and included in this analysis

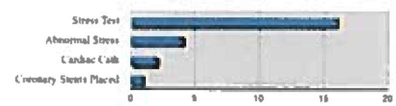
- 44 (73%) were compliant with follow up
- 9 (15%) cancelled
- 7 (12%) did not show up

Correlating Post-Protocol Events with Follow Up Compliance:

	Overall	Compliant w Protocol	Cancelled Cards Appointment	No Show Cards Appointment
Return ED visit within 60 days, n (%)	6 (10%)	4 (7%)	0	2 (3%)
Hospitalization within 60 days, n (%)	4 (7%)	3 (5%)	0	1 (2%)
MI or Death n (%)	0	0	0	0
Lost to follow-up*, n (%)	22 (36%)	16 (27%)	1 (2%)	5 (8%)

*all patients received EMR chart review

Cardiac Testing



6 patients re-presented to an ED within 60 days:

- 0 patients died or had MIs
- 5 returned complaining of chest pain
  - 1 was diagnosed with non-cardiac chest pain and discharged from the ED
  - 4 were admitted, 0 coronary interventions
    - 2 received stress tests after negative serial troponins
      - 1 abnormal, received medical management
      - 1 normal stress
    - 1 had negative serial troponins, left AMA
    - 1 had negative serial troponins, discharged & did not complete outpt stress
  - 1 returned complaining of epigastric pain, CT of abdomen and pelvis was showed cholelithiasis without evidence of cholecystitis

Patient Satisfaction

Overall, 75% of patients reported being satisfied with the ED process and care at 7 days and 95% reported being satisfied with cardiology care at 30 days. Overall satisfaction of the care was 85% positive

Lessons Learned

- Even with comprehensive strategies to optimize outpatient follow up compliance attrition is inevitable. This emphasizes that only reliable patients should be considered for this protocol
- 4% of patients who were initially determined as "low-risk" by this protocol resulted abnormal stress tests after cardiology evaluation. 1.6% end up with stents, ruling in for MI or had a significant other pathology requiring admission, emphasizing that this population is low risk but far from no risk
- A well coordinated rapid outpatient chest pain protocol can be implemented that will save hospital admissions, can be done safely and in a manner that is well perceived by patients

Next Steps

1. Present this above data to the WCMC ED providers to optimize faculty participation. Repeat pre-intervention faculty survey for measurable feedback and elicit informal feedback
2. Integrate Cardiac CT protocol into the clinical prediction algorithm to increase the proportion of patients in whom ACS can be ruled out with a certainty high enough to discharge from the ED.[8] This will hopefully further reduce low-utility inpatient admissions, shorten ED length of stay and reduce the risks inherited by outpatient follow up non-compliance
3. Utilize the WCMC ED call-back RN for continued reminder follow-up calls to optimize outpatient compliance in patients discharged using this prediction tool
4. Utilize the same format piloted in this study with other common ED complaints in an effort to find safe and rapid outpatient alternatives to hospital admission. A Rapid Outpatient Neurology Follow Up Protocol has already been started and others are in development

Bibliography

1. [illegible] et al. Emergency department care in the United States: a profile of national data sources. Ann Emerg Med. 2010 [illegible]
2. Pope et al. Missed diagnoses of acute cardiac ischemia in the emergency department. N Engl J Med 2000;342:1163-70
3. McCarthy et al. Missed diagnoses of acute myocardial infarction in the emergency department: results from a multicenter study. Ann Emerg Med 1993;22:579-82
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. [illegible]

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Improving Patient Safety by Implementing a Multidisciplinary Discharge "Time-Out"

Kathryn Arbour MD, Amiran Baduashvili MD, Micheal Berlin MD, Rowland Chavez MD, Mallory Delchanty MD, Lake Godwin MD, Maday Gonzalez MD, Romona Kerselius MD, Jonathan Mendelson MD, Nikola Natov MD, Monica Saumoy MD, Micheal Scordo MD

The Problem

- Discharging patients with unnecessary central lines can lead to infection, bleeding and other complications
- 4 patients in the last 6 months were discharged with central lines
- No mechanism in place to prevent discharge with unintentional hardware

Project Aims

Primary Aim:

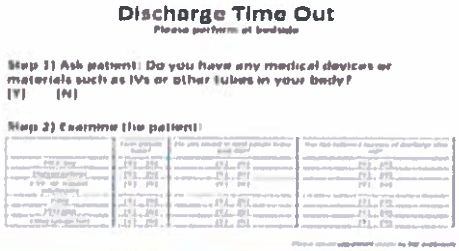
- To implement a discharge "time-out" tool for at least 50% of all discharges on the Medicine Orange and Yellow teams from 5W over three weeks

Secondary Aim:

- To evaluate compliance of discharge "time-out" tool without daily reminders

Methods

- Met with 5W nurses, residents and patient care coordinator to educate about project
- Quality tools:
  - Discharge "time-out" survey
  - Surveys placed in easy to locate areas on 5W
  - Physical Exam
  - Reminder pages for 1 week
- Metrics:
  - Primary: number of "near misses"
  - Secondary: percent of completed surveys
- Process Improvement:
  - No reminder pages for weeks 2-3 to assess sustainability



Discharge Time Out

Please perform at bedside

Step 1) Ask patient: Do you have any medical devices or materials such as IVs or other tubes in your body?

(Y) (N)

Step 2) Examine the patient:

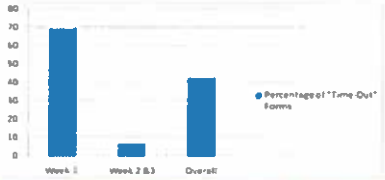
Key Findings

Collected 12 Time-out sheets out of 17 discharges from 7/24 – 7/31/13 (first week of intervention)
- 70.6% response rate

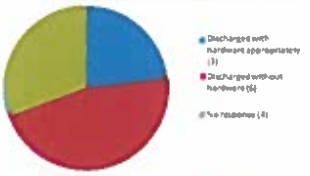
Collected 1 Time-out sheets out of 13 discharges from 8/1 - 8/14/13 (second week of intervention)
- 7% response rate

Total of 13 Time-out sheets out of 30 discharges
- 43.4% response rate

Discharge "Time-Out" Compliance



Discharge "Time-Out" Responses



Lessons Learned

- During 3 week period there were no "near misses"
- 70% compliance in week 1 with reminders and 7% in weeks 2&3 without reminders
- The drop in discharge "time-out" between weeks 1 and 2&3 is almost certainly due to lack of daily reminders
- 5W Orange and Yellow teams received surveys regarding barriers to performing "time-out"
- Barriers they pointed out included:
  - Difficulty coordinating timing with RN to complete "time-out"
  - Lack of standardized time for "time-out"
  - Resident time constraints
  - Some residents were not educated about discharge "time-out" tool
  - Lack of universal inclusion of 5W patients made it difficult to distinguish eligible patients for discharge "time-out"
- More time necessary to implement tool in order catch near misses
- Formal communication with all housestaff is necessary
- Reminder system necessary to improve compliance
- Universal implementation to improve sustainability

Next Steps

- Multidisciplinary focus groups with patient care directors, social workers nurses and residents to generate ideas for sustainability.
- Reminders of lines in place as hard stop for discharge order.
- Implementing universal discharge "time-out" for all teams in all locations.

References

Mohta N, Vaishnava P, Liang C, Ye K, Vitale M, Dalal A, Schnipper J. The Effects of a Discharge Time Out on the Quality of Hospital Discharge Summaries. BMJ Qual Saf. 2012 Oct; 21(10):885-90.

Lorincz I, Patel N, Schmidt S, Boczar B, Savitz J, Ahya V, Meyers J. An Intervention to Improve Medication Reconciliation: Discharge Time-Out. Presented at Hosp University of Pennsylvania Department of Clinical Effectiveness and Quality Improvement.

Talking "the talk":
A pilot quality improvement project to increase advanced directive conversations in a resident outpatient clinic.

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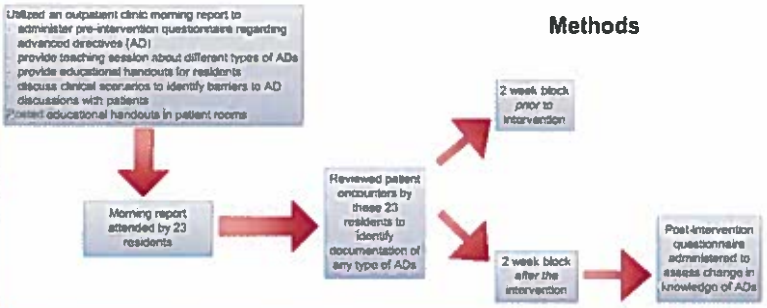
The Problem

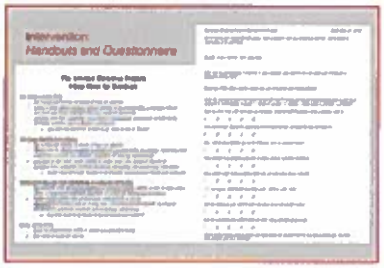
Studies show that the prevalence of outpatient physician-patient advance directive discussions is remarkably low (< 1.0%). Yet data confirm that such discussions strengthen clinical relationships and are welcomed by the patients regardless of age or health status.

Project Aims

We sought to define barriers to advanced directive discussions in our resident clinic. Additionally, we aimed to assess the impact of an educational intervention on internal medicine residents' knowledge and the frequency of advanced directive discussions in a resident clinic.

Methods

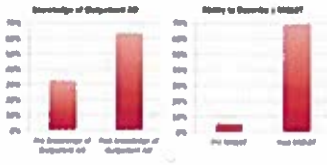




Key Findings

	Pre-intervention	Post-intervention
Advanced Directive Conversations	8	4
Total # of patient encounters	564	611
Percentage of visits with Advanced Directives conversations	1.4%	0.7%

X^2 P = 0.19797398



- Advanced directive conversations were documented in 8 of 564 resident patient encounters (1.4%) pre-intervention and in 4 of 611 encounters (0.7%) post-intervention, which did not represent a significant change (p=0.2).
- The percentage of residents who could define different outpatient advanced directives doubled from 32% before to 63% after our intervention, this did represent a significant change.

Lessons Learned

- Resident knowledge improved with our intervention but the frequency of advanced directive conversations did not.
- Advanced directive discussions at our clinic occur infrequently (0.7% to 1.4%) and reflect the reported national average.
- Lack of continuity with patients and continued knowledge gaps were identified as the two major barriers limiting advanced directive conversations.
- Patients with documented advanced directives varied in age and health status.
- Majority of residents agreed that elderly or chronically ill patients should have advanced directives.
- Residents did not perceive young healthy patients as a barrier.

Next Steps

- Future interventions should investigate the number of advanced directive conversations per total patient encounters as a function of recurrent visits with the same physician or total time a patient is known to a particular physician.
- Additionally, since patients welcome advanced directive discussions, an additional intervention could focus on teaching patients to initiate these conversations with their primary care physicians.
- Lastly, an additional study could focus on the impact of reminders to have advanced directive discussions placed in clinic or in the electronic medical record.

References

1. Advance directives for medical care--a case for greater use. Emanuel LL, Barry MJ, Stoeckle JD, Ettelson LM, Emanuel EJ. N Engl J Med. 1991 Mar 28;324(13):889-95.
2. Increasing the completion of the durable power of attorney for health care. A randomized, controlled trial. Rubin SM, Strull WM, Fialkow MF, Weiss SJ, Lo B.JAMA. 1994 Jan 19;271(3):209-12.

Improving Utilization of Interpreter Services by Admitting Medicine Housestaff

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New York -Presbyterian Hospital/Weill Cornell Medical College

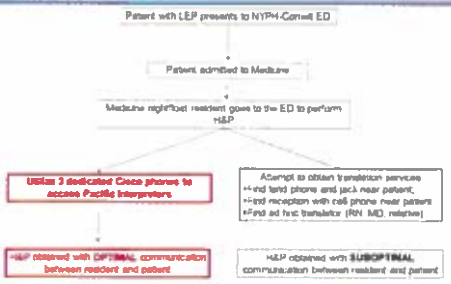
The Problem

- Nine percent of patients admitted to the medicine service at NYP-WCMC in June 2013 had limited English proficiency (LEP)
- Without formal interpreter services, patients:
  - Undergo more tests
  - Incur greater costs
  - More likely to be admitted
- Due to logistical barriers, residents find it difficult to utilize trained interpreter services when admitting patients with limited-English-proficiency from the Emergency Department. Admissions are often done using ad hoc interpreters or no interpreter

Project Aims

In one week,

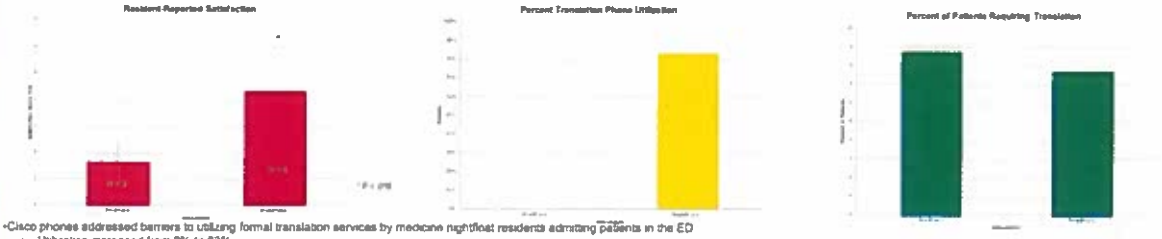
- To achieve at least 80% utilization of trained interpreter services by nightfloat admitting residents by providing portable phones (i.e. Cisco phones).
- To improve resident satisfaction with translation services by 50%.



Methods

- Metrics:
  - Self-reported interpreter-utilization data and satisfaction data collected by surveying nightfloat residents before and after phones were made available
- Process improvements:
  - Cisco (voice-over-IP) phone was provided for each night-float admitting resident.
  - Pacific Interpreters on speed dial, access code printed, speaker-phone availability
  - Resident education regarding how to use Cisco phones, in particular how to dial Pacific Interpreters

Key Findings



- Cisco phones addressed barriers to utilizing formal translation services by medicine nightfloat residents admitting patients in the ED
  - Utilization increased from 0% to 83%
  - Resident satisfaction increased by ~250%

Lessons Learned

- Formal translator services are underutilized by admitting medicine nightfloat residents in the ED
- Cisco phones are highly effective and popular
- The project was helped by the significant buy-in by residents, given other anticipated and unanticipated benefits of Cisco phones (such as resident-to-resident communication).

- Limitations
  - Small sample size
  - Short duration of study (3 days pre-intervention, 7 days post-intervention)
  - Sustainability
  - Cost of Cisco phones
  - Self-reporting bias
  - Incomplete education of residents on how to utilize the phone
  - Demand for more phones by medicine residents

Next Steps

- Increase sample size and study duration
- Improve resident education on technical abilities of Cisco phones
- Expand Cisco phone availability to all medicine residents for ED and inpatient use

Improving Hepatitis C Screening Rates in a Resident Clinic: A Quality Improvement Project

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New York -Presbyterian Hospital/Weill Cornell Medical College

The Problem

- Chronic hepatitis C virus (HCV) infection is a major cause for liver transplant and liver-related deaths in the United States.
- Roughly 75% of those infected were born between 1945 - 1965 – the baby boomer population.
- The CDC and USPSTF recently recommended screening all patients in this birth cohort in order to increase early detection of HCV.
- *However, screening rates in our ambulatory resident practice, Weill Cornell Internal Medicine Associates (WCIMA) remain low (1.7%)*
- *We hypothesized that one cause of this low screening rate was lack of physician knowledge about current HCV screening guidelines.*

Project Aim

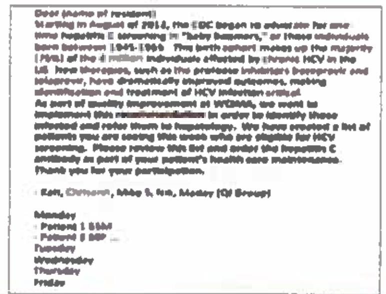
Primary Aim. To double the HCV screening rate in the baby boomer patient population at *WCIMA* resident clinic through the following resident focused interventions.

1) an HCV screening lecture
2) an enhanced HCV screening intervention ("targeted teaching")

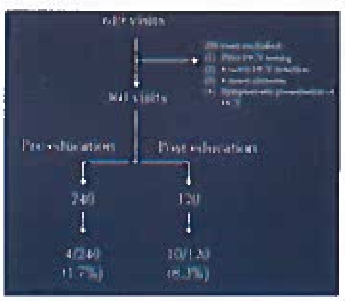
Secondary Aim. To assess the individual effect of each of the above interventions on HCV screening rates

Methods

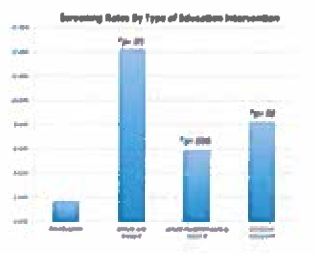
- Conducted a randomized, anonymous study in the internal medicine resident clinic.
- All residents received a lecture by a gastroenterology (GI) fellow regarding HCV screening guidelines.
- 20 residents were then randomized to the following two groups.
  - 10 residents randomly assigned to lecture alone (Group A)
  - 10 residents randomly assigned to lecture + "targeted teaching" (Group B)
- Residents in the targeted teaching group received a weekly email with the new HCV screening guidelines and a list of their scheduled patients who were eligible for screening.
- Screening rates and odds ratios for each group were calculated.
- Pre- and post-intervention screening rates were compared using the pre-intervention group as reference.

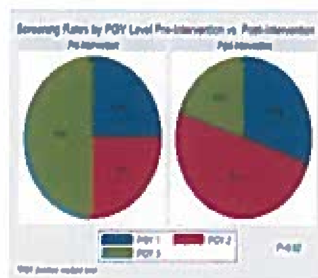


Key Findings



- **Both interventions combined** (Group A+B) increased the HCV screening rates by **250%** (1.7% vs. 8.3%,p=0.02).
- **The GI lecture alone** (Group A) resulted in a significant increase in screening (OR=10; 95%CI: 3-38; p=.01).
- **GI lecture plus targeted teaching** (Group B) resulted in non-significant trend toward increased screening (OR=4; 95% CI: 1-14, p=.056)

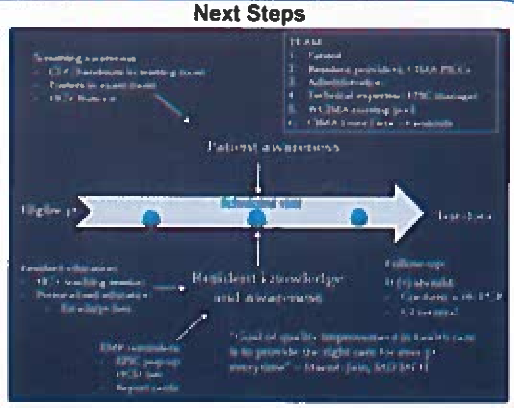




Lessons Learned

- Our interventions significantly improved HCV screening rates in the baby boomer population in our outpatient resident practice.
- Residents in the formal HCV screening lecture group had the largest increase in screening.
- Screening rates overall remained low despite our interventions indicating that further QI initiatives focused on HCV screening are needed.
- Additional targeted teaching may enhance screening but further study is required, given additional resources needed for this intervention.
- Future study of a larger resident population and longer time period are needed to assess the long term impact and sustainability of an HCV screening lecture.

Next Steps



References

1.) Davis G. Alter M. El-Serag H. et al. Aging of heptatitis C virus (HCV)-infected persons in the United States: a multiple cohort model of HCV prevalence and disease progression. Gastroenterology 2010;138:513-521

2.) Rein D, Smith B, Wittenborn J, et al. The cost-effectiveness of birth-cohort screening for hepatitis C antibody in U.S. primary care settings. Annals of Intern Med 2012;156:263-270

3.) Smith B, Morgan R, Beckett G, et al. Recommendations for the identification of chronic hepatitis C virus infection among persons born during 1945-1965. MMWR 2012;61

Weill Cornell Medical College

Weill Cornell Medical College

Improving Heart Failure Health Literacy through Daily Standing Weights and Patient Engagement in the CCU

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Background and Aims

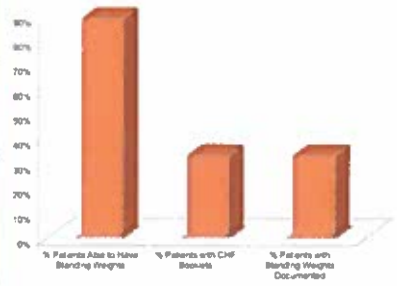
- Initial perception among physicians that:
  - Standing weights for CHF patients on 4N/4S were done/charted inconsistently
  - Moreover, those weights were not documented before rounds
- Initial aim was improvement of daily documentation of standing weights in the CCU.
- Preliminary data showed that among patients who were able to stand, standing weights were documented appropriately and in a timely fashion.
- Our new aim was to improve patient knowledge of CHF in patients on 4S through standardized educational booklets and daily weight documentation.

Strategy for Change/Methods

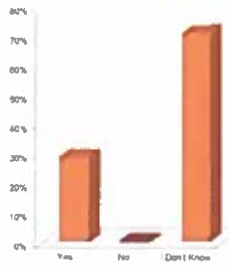
- Intervention: CHF booklets were distributed to all patients in 4S with the diagnosis of CHF (and who were actively being diuresed)
- Measured % patients with CHF booklet (based on a sample of patients on one particular day in the CCU)
- Measured baseline CHF knowledge via standard telephone survey (the PAKSAC Study Survey for the Congestive Heart Failure Outreach Program)
  - Patients were contacted within a week of discharge from 4S based on unit census data of patients diagnosed with CHF
- Process Improvement Goals:
  - Standardization and uniformity of booklet distribution
  - Standardization of daily weight documentation in book
  - Identification of knowledge gaps amongst CHF patients

Key Findings

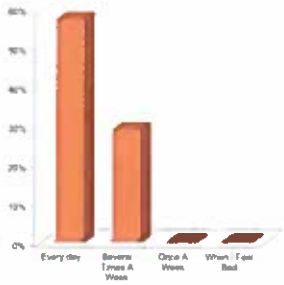
Distribution of Booklets



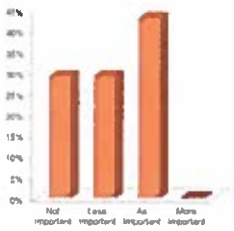
Q: Does weight gain mean worse CHF?



Q: How often should you weigh yourself?



Q: Are Daily Weights as Important as Taking Medications?



Discussion

- Patient's baseline health literacy about CHF is varied and there is a need to improve patient education and involvement
- Our results reveal the lack of full implementation of:
  - the distribution of booklets
  - the recording of daily weights in booklets
- Barriers to full implementation:
  - Limited time to completely train all day and night RNs
  - Limited amount of time for robust patient education
  - Limited amount of time to chart weight in booklet and Eclypsis
- Limitations of the study:
  - Few patients received (or were aware of) the booklets
  - Short intervention period

Lessons Learned and the Next Steps

- It is crucial to perform a careful needs assessment prior to designing and implementing a QI intervention
- There is a great need for to improve the health literacy of CHF patients in the Cardiac Care Unit (4S)
- More time is needed to roll out the CHF booklet/weight recording intervention on 4S
- Follow up patient surveys are needed to assess the intervention's impact.

Special thanks to: Dr. Jennifer Lee, Dr. Jim Horowitz, Dr. Vishal Dodia, Armelle Cuesta, and Natalie Hellmers

References

Lockwood EE, et.al. "Patient knowledge of self-care activities in congestive heart dailure: the PaKSAC study." *Journal of Cardiac Failure*. 10.4 (2004): S130.