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Organizational Factors and Inpatient Medical Care

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BACKGROUND/RATIONALE:

Over the past decade, significant changes have occurred in the organization and delivery of inpatient medical care. One of the most striking changes has been the emergence of hospitalists - physicians who spend the majority of their time in the care of hospitalized patients. As an innovation to inpatient care, hospitalist models have been adopted by 64% of VAMCs, in response to pressures to improve inpatient efficiency and recent mandates to restrict resident work hours. Early studies suggested that hospitalist models decreased length of stay and costs, while maintaining or improving quality. However, a recent multi-center trial found hospitalist models were not associated with improved outcomes. In light of these contradictory findings, a closer look at the impact of hospitalist care models in VHA is warranted, as well as an examination of how the effects of hospitalist models may be modified by other organizational factors such as teaching status, intensive care staffing, and 24-hour in-house physician coverage.

OBJECTIVE(S):

The objective of this study is to systematically study the impact of hospitalists and other organizational factors on the quality and efficiency of inpatient medicine services. This will be accomplished through three specific aims: (1) Describe practice characteristics and organizational features of inpatient medicine services, (2) Determine the associations of these practice characteristics on quality and efficiency, adjusting for potentially confounding patient and hospital characteristics, (3) Determine associations of organizational features identified in Aim 1 with quality and efficiency of care, and degree to which these features moderate the effectiveness of hospitalists.

METHODS:

This study has two phases,(1) a data collection phase that will involve the administration of surveys and (2) data analysis based on a patient cohort identified from inpatient administrative data. The surveys in phase one will collect both administrative and provider level responses. Assessment of organizational factors from administrative level individuals will occur at all 125 VAMCs, with surveys administered to chiefs of medicine(COM), medicine unit nurse managers (NM), and medical ICU directors (MICU). Provider level surveys of all inpatient physicians will be administered at a sampling of 36 VAMCs stratified to best represent the geographic and sociodemographic variation within VA. The phase 2 analyses will utilize survey responses and inpatient administrative data in the development of hierarchical models for the following

outcome measures: LOS, costs, ICU transfer, mortality rates, readmission rates, time of discharge, and Patient Safety Indicators. All models will be risk adjusted for any patient, physician, and facility level characteristics that may confound the relationship between the process measures and outcomes.

FINDINGS/RESULTS:

The project is in its fourth year. Data collection is completed and we are currently writing up the findings of the study.

IMPACT:

By providing descriptive information on the range of inpatient medicine services and how organizational factors within each structure relate to quality and efficiency, this study has the potential to help VA refine inpatient medicine services to best provide high quality care. The identification of practice and organizational factors that support inpatient quality improvement programs will help clinical and administrative leaders maximize the quality and efficiency of their programs. The early data collection has gone extremely well and the preliminary findings support the original project impact statement.

PUBLICATIONS:

Journal Articles

- Hockenberry JM, Burgess JF, Glasgow J, Vaughan-Sarrazin M, Kaboli PJ. Cost of readmission: can the Veterans Health Administration (VHA) experience inform national payment policy?. *Medical care*. 2013 Jan 1; 51:(1):13-9.
- Benzer JK, Sullivan JL, Williams S, Burgess JF. One-year cost implications of using mental health care after discharge from a general medical hospitalization. *Psychiatric services (Washington, D.C.)*. 2012 Jul 1; 63(7):672-8.
- Popescu I, Cram P, Vaughan-Sarrazin MS. Differences in admitting hospital characteristics for black and white Medicare beneficiaries with acute myocardial infarction. *Circulation*. 2011 Jun 14; 123(23):2710-6.
- Glasgow JM, Vaughn-Sarrazin M, Kaboli PJ. Leaving against medical advice (AMA): risk of 30-day mortality and hospital readmission. *Journal of general internal medicine*. 2010 Sep 1; 25(9):926-9.
- Go JT, Vaughan-Sarrazin M, Auerbach A, Schnipper J, Wetterneck TB, Gonzalez D, Meltzer D, Kaboli PJ. Do hospitalists affect clinical outcomes and efficiency for patients with acute upper gastrointestinal hemorrhage (UGIH)? *Journal of hospital medicine (Online)*. 2010 Mar 1; 5(3):133-9.

Conference Presentations

- Kaboli PJ, Lund BC, Abramoff MD, Alexander GC, Cowan C, Ross JS. Adverse Events after Intravitreal Injection of Ranibizumab and

Bevacizuman for Age-related Macular Degeneration. Paper presented at: VA HSR&D / QUERI National Meeting; 2012 Jul 17; National Harbor, MD.

- Charlton ME, Mengeling M, Halfdanarson T, Kaboli PJ. Randomized Trial of a Home-Based Intervention to Improve Colon Cancer Screening Rates. Poster session presented at: VA HSR&D / QUERI National Meeting; 2012 Jul 16; National Harbor, MD.
- Kaboli PJ. Bridging the Quality Improvement and Research Divide. Paper presented at: Society of General Internal Medicine Annual Meeting; 2012 May 9; Orlando, FL.
- Glasgow J, Johnson S, Kartha A, Merterko M, McIntosh N, Restuccia J, Kaboli PJ. Hospitalist Practice Characteristics: The VHA Experience. Poster session presented at: Society of Hospital Medicine Annual Meeting; 2012 Apr 2; San Diego, CA.
- Kaboli PJ, Glasgow J, Johnson S, Vaughan-Sarrazin MS, White R, Meterko M, Restuccia J. Computerized Patient Record Order Sets for Venous Thromboembolism (VTE) Prophylaxis and Associated Rates of VTE. Poster session presented at: Society of Hospital Medicine Annual Meeting; 2012 Apr 2; San Diego, CA.
- Richardson KK, Vaughan-Sarrazin MS, Cram PM. Cost of Post-Operative Complications after Total Hip and Total Knee Replacement Surgery. Poster session presented at: VA HSR&D National Meeting; 2011 Feb 17; National Harbor, MD.
- Richardson KK, Kaboli PJ, Cram PM, Vaughan-Sarrazin MS. Difference in the Receipt of Hip Repair in VA Patients Admitted to VA and Non-VA Contact Care Hospitals for Hip Fracture. Poster session presented at: VA HSR&D Rural Health / VA Office of Rural Health Field-Based Meeting; 2010 May 6; Portland, ME.
- Ohl M, Guggal M, Skanderson M, Scotch M, Kaboli PJ, Vaughan-Sarrazin MS. Rural Residence is Associated with Increased Mortality among Veterans Initiating Highly Active Antiretroviral Therapy for HIV Infection. Paper presented at: Society of General Internal Medicine Annual Meeting; 2010 Apr 29; Minneapolis, MN.

Center Product

- Kaboli PJ. Hospital Readmission: A Measure of Hospital Quality? [Cyberseminar]. 2013 Feb 20.
- Kaboli PJ. Research Panel on Medication Information Management and Reconciliation. [Cyberseminar]. 2012 May 22.

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