Washington University Comparative Effectiveness Administrative Data Repository

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Infrastructure Description

This project expanded and enhanced the existing data repository of the Washington University Center for Administrative Data Research to facilitate comparative effectiveness research (CER) related to care and treatment for patients with multiple chronic conditions. This enhancement included developing existing server infrastructure for more efficient storage and analysis of large administrative data files, purchasing additional administrative data to extend the breadth of available information available, and providing data management and analytic expertise for health services and outcomes research throughout Washington University.

Specific Aims

1. Purchase, store, and maintain multiple large administrative databases that can be used for CER and other health services research.
2. Train and support physicians, junior investigators, and public health trainees on the ethical and secure use of administrative data for CER.
3. Provide a library of standard programming code for use with large administrative databases to create economy of scale for efficient CER.
4. Facilitate collaboration among interdisciplinary investigators using administrative databases.

Pilot Study

The pilot study evaluated the Center’s enhanced data management and training infrastructure, using longitudinal Medicare claims data from 2000 to 2007 to examine the comparative effectiveness of treatments for cardiac device-related infections in older patients.

Enhancing this existing data repository and providing training and support to researchers facilitated a study of the variation in the incidence of infection after insertion or revision of implantable cardiac devices among patients with multiple chronic conditions.

Data Sources

Medicare claims data from the Centers for Medicare & Medicaid Chronic Condition Warehouse (CCW); Healthcare Cost and Utilization Project (HCUP) data; The American Hospital Association (AHA) annual survey; The Health Resources and Services Administration’s Area Resource File (ARF); Nielsen Claritas data.

Data Access

Data are restricted to use by investigators at Washington University who have a signed Data Use Agreement with the involved agency. Data cannot be shared or removed from the WU Center for Administrative Data HIPAA-compliant server without permission from the involved agency.

Strategies Addressed from the HHS Strategic Framework on Multiple Chronic Conditions

1.B. Define appropriate health care outcomes
3.A. Identify best practices and tools
4.C. Increase clinical research
a broadly generalizable population of elderly persons, as well as among patients with end-stage renal disease and diabetes, two common chronic comorbidities in elderly patients with cardiac disease.

The incidence of cardiac device infection was significantly higher after complete device replacement than initial device insertion, and significantly higher in patients with diabetes or chronic renal failure, compared to individuals without those preexisting conditions.

Dr. Melissa Viray, a fellow in the Division of Infectious Diseases at Washington University, received a KM1 Comparative Effectiveness Career Development award to continue this work on cardiac device infections. She will examine complications in patients after device-associated infection and determine the incidence of systemic infection depending on the timing of device removal and subsequent reimplantation.

**Publications (as of September 2013)**


**Posters and Presentations**


Nagasako EM, Owens PL, Chen L. Physician supply and health outcomes: Do Hawaii counties with fewer health system resources have higher readmission rates? Translational Science 2013 Apr 17-19; Washington, DC.


Vemana G, Chen L, Strope SA. Sources of variation in expenditure after cystectomy. Society of Urologic Oncology Meeting, 2012 Nov 28-30; Bethesda, MD.


Jim J, Owens PL, Geraghty PJ, Sanchez LA, Rubin BG. Medicare age-stratified comparative effectiveness of carotid revascularization procedures: A national evaluation. 36th Annual Meeting, Midwestern Vascular Surgical Society, 2012 Sept 8; Milwaukee, WI.


Nepple KG, Owens PL, Strope SA, Sandhu GS, Kallogjeri D, Kibel AS. Hospital readmission after radical cystectomy for bladder cancer: results of a population-level analysis. American Urological Association Annual Meeting, 2012 May 19-23; Atlanta, GA.

Sandhu GS, Strope SA, Kibel AS, Owens PL, Tanagho YS, Kallogjeri D, Nepple KG. Predictors of the contemporary use of minimally invasive radical prostatectomy. American Urological Association Annual Meeting, May 19-23; Atlanta, GA.

Nepple KG, Owens PL, Strope SA, Sandhu GS, Kibel AS. Hospital readmission after radical cystectomy for bladder cancer: results of a population-based analysis from the California State Inpatient Database. Society of Urologic Oncology, 2011 Nov 30-Dec 2; Bethesda, MD. (Selected presentation for Young Urologic Oncologist program.)


Nepple KG, Owens PL, Strope SA, Bhayani SB, Kibel AS. Comparative effectiveness of open versus minimally invasive radical prostatectomy: results from the California State Inpatient Database. World Robotic Symposium, 2011 June; Miami Beach, FL.


Theodoro DL, V Fraser, S Boslaugh. The Incidence of Central Venous Catheters and Comorbidities in the Emergency Department Is Increasing. Society for Healthcare Epidemiology of America annual meeting, 2010 Apr 1-4; Atlanta, GA.

Awards


Nepple KG. Hospital readmission after radical cystectomy for bladder cancer: results of a population-level analysis from the California State Inpatient Database. Bladder Cancer Advocacy Network Think Tank, Coronado, CA, August 2011. John Quale Travel Fellowship Award for Young Investigators.

Nepple KG, Owens PL, Strope SA, Bhayani SB, Kibel AS. Comparative effectiveness of open versus minimally invasive radical prostatectomy: results from the California State Inpatient Database. World Robotic Symposium, 2011 June; Miami Beach, FL. Award for Best Abstract.