Enhanced Data to Accelerate Complex Patient Comparative Effectiveness Research

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Project Period: 08/01/10 – 01/31/13
Grant Number: R24 HS19440-01
Data Description: http://dx.doi.org/10.3886/ICPSR34639.v1

Infrastructure Description

This project used data from the Medicare Chronic Condition Data Warehouse (CCW) to develop an easy-to-use suite of analytic files and pre-coded algorithms for the study of comparative effectiveness of strategies to prevent cardiovascular disease recurrence among complex patients. More than 100 raw data files were joined to create research-ready person and service-level analytic files and code templates and macros while at the same time adding granularity, precision, and uniformity to the study of comorbid conditions and other covariates.

Specific Aims

1. Create a data product consisting of analytic files for Medicare beneficiaries admitted with acute myocardial infarction (AMI) or stroke/transient ischemic attack. Tailor data elements to studying comparative effectiveness in complex patients. Create customized data products for AMI and stroke that contain a SAS® code library and macros for cohort selection, timeline, drug exposure, conditions and procedures; data documentation; and condition-specific summary files.

2. Expand institutional capacity to conduct comparative effectiveness research (CER) in complex patients by deploying the data product through an institutional collaboration between the Health Effectiveness Research Center and the University of Iowa’s Clinical and Translational Science Award (CTSA).

3. Engage Centers for Medicare and Medicaid Services to develop a mechanism for researchers at other institutions to use the data product.

Pilot Study

The enhanced data capacity was tested through a pilot study focused on the effectiveness and safety of statin use in individuals older than age 75 years with multiple chronic conditions, who had had an AMI in 2007.
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A project analyst with no prior administrative claims data experience was able to use this data infrastructure to create an analytic dataset with minimal support. The analysis of secondary prevention with statin medications for older adults revealed that both clinical complexity and CVD risk were found to increase with age, and statin treatment rates declined with advancing age. In contrast, the benefit of secondary prevention with statin medications was found to increase with advancing age.

Publications (as of September 2013)


(Additional papers currently in preparation).

Posters and Presentations

