Expansion of Research Capability to Study Comparative Effectiveness in Complex Patients – R24 Grants

Infrastruture for CER on Innovative Delivery Systems for Complex Patients

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Project Period: 09/30/10 – 09/29/13
Grant Number: R24 HS19678-01

Infrastructure Goal
Establish a statewide data infrastructure to support comparative effectiveness research on healthcare delivery innovations for medically complex, low-income patients in New Jersey.

Data Sources
New Jersey Medicaid claims/encounter data, charity care claims data, all-payer hospital billing data, and mortality data.

Data Access
Information not yet available.

Strategies Addressed from the HHS Strategic Framework on Multiple Chronic Conditions
1.D. Implement and effectively use HIT
1.F. Evaluate models of care, incentives, and other health system interventions
4.C. Increase clinical research
4.D. Address disparities

Infrastructure Description
This project established a statewide data infrastructure for conducting comparative effectiveness research (CER) using Medicaid and charity care claims, hospital billing data, and mortality records in New Jersey. This new infrastructure built research capacity by allowing researchers to compare the cost and quality of health care delivery system innovations to the care typically received by medically complex patients in low-income communities throughout the State.

Specific Aims

1. Build a sustainable longitudinal database of hospital, Medicaid, and charity care claims and encounter records in New Jersey.

2. Build and evaluate measures of resource use and quality of care for CER on innovative delivery systems for complex patients in low-income communities using the database developed under Aim 1.

Pilot Study
Evidence gathered as a result of establishing this statewide longitudinal database suggests that high utilizers of healthcare services often receive fragmented, uncoordinated care that achieves suboptimal outcomes.

Delays in state Institutional Review Board (IRB) reviews precluded linking Medicaid with other project data, and analyses proceeded on these databases separately. Analysis aimed to understand the determinants of fragmented hospital use and to devise measurement strategies to evaluate delivery system reforms. Poisson regression analyses were conducted on a sample of New Jersey residents with at least two inpatient stays in 2008-2009 (N=105,906).

Preliminary findings showed that more than 1 in 4 people with 2 or more hospitalizations within a 2-year period visited more than 1 hospital for care. The key correlates of multiple hospital use included behavioral...
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diagnoses and co-morbidities, urban residence, middle age, male sex, private insurance, and hospital choice.

Widespread fragmentation can lead to higher costs and lower quality of care. Fragmentation also may raise challenges for accountable care organizations and other delivery system reforms that require coordination of care and information systems across multiple providers who serve a common pool of complex, high-utilizing patients.

Conceptual research on performance measurement in reformed delivery systems for complex patients has contributed to the development of the New Jersey Medicaid Accountable Care Organization (ACO) Demonstration Program and advanced the literature on Medicare ACOs. Although delayed by the state IRB process, a Pilot Evaluation of an innovative care coordination program in Camden, New Jersey is underway and will be completed after the conclusion of the grant.

Publications (as of September 2013)


(Additional publications currently under review).

Posters and Presentations


Cantor JC. Factors affecting the fragmentation of hospital use: a Poisson regression analysis. Presentation at: Moving Ahead: Leveraging Knowledge and Action to Improve Health Care Quality. 6th Annual Conference of the Agency for Healthcare Research and Quality; 2012 Sept 9-12; Bethesda, MD.


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