
CONFERENCE ABSTRACT

Care Coordination - How can we measure it?

16th International Conference on Integrated Care, Barcelona 23-25 May 2016

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Introduction: In the definition of primary care put forward by Dr. Barbara Starfield, primary care refers those health-related needs of people “too uncommon to maintain competence and coordinates care when people receive services at other levels of care” (1)

Patients with poorly coordinated care are likely to have more costly and lower quality health care due to factors such as excess utilization resulting from redundant investigations, potentially harmful missed drug-disease interactions, and lower patient satisfaction. Therefore, the identification of patients at risk of poor coordination is essential. This presentation will address the impact of information on improving coordination of care across the spectrum of the health care and community services systems.

As morbidity burden increases the number of different clinicians seen rises(2), yet coordination of care is threatened when information does not readily flow between those involved in delivering care. Case-mix tools which transform routinely collected electronic health data into actionable information can support both the clinician's decision making process and the policymaker to provide better coordinated care through the exchange of clinical data, measurement of patients' needs, and a better understanding of the use of healthcare resources. Thus the imperative for coordination requires that all information generated in the care of patients be captured in the care provided over time.

Theory / Method: The Johns Hopkins ACG® System has developed four complementary coordination markers as well as a coordination risk score to systematically assess the risk of poor coordination of care. In combination, the markers can identify populations at risk for poor coordination which has implications for cost, quality, and performance assessment. Greater insight about the convergence of risk, medical utilization and prescribing patterns can be captured by combining risk defined by diagnoses with risk defined by pharmacy information.

Further, studies have shown that when clinicians share patients with other clinicians more frequently, they are more likely to have referral relationships and seek advice. With the release of Version 11, the ACG System introduced a measure of patient sharing among physicians, termed “Care Density”. This patient-level measure assesses the number of individual clinicians a patient sees and the degree to which those clinicians share other patients. The care density measure is based on the hypothesis that patients seen by clinicians

who share patients more frequently have higher levels of communication and information sharing. (3,4)

Results: An initial study of the Care Density measure on 9,596 patients with congestive heart failure (CHF) and 52,688 with diabetes (DM) demonstrated a significant correlation between lower inpatient costs and rates of hospitalization amongst those patients with high care density. Also, for diabetic patients with high care density, lower outpatient costs and higher pharmacy costs were found.(3)

A more recent study of the Care Density measure expanded its population size to 1.7 million patients with CHF, COPD and/or Diabetes. Among all patients, patients with the highest care density—indicating high levels of patient-sharing among their office-based physicians—had significantly lower rates of adverse events measured as Prevention Quality Indicators (PQIs) compared to patients with low care density (Odds Ratio [OR] 0.88, 95% Confidence Interval [CI] 0.85-0.92). A significant association between care density and PQIs was also observed for patients with DM but not CHF or COPD.(4)

Diabetic patients with higher care density scores had significantly lower odds of 30-day readmissions (OR 0.68, 95%CI 0.48-0.97). Significant associations were observed between care density and HEDIS measures though not always in the expected direction.(4)

Discussion & Conclusion: Through a better understanding of how patients are shared amongst clinicians, as well as identifying those patients at risk of uncoordinated care, coordination can be improved, rates of hospitalization reduced and potential cost savings achieved. Further research is necessary to substantiate these results in other health care settings.

References:

- 1- Starfield. Primary Care: Balancing Health Needs, Services, and Technology. Oxford U. Press. 1998.
- 2- Starfield et al, J Am Board Fam Pract 2002; 15:473-80
- 3- Pollack, et.al, Care Density and Costs of Care, J Gen Intern Med 2013;28(3):459-65.
- 4- Pollack, et.al, Patient sharing and quality of care: measuring outcomes of care coordination using claims data. Med Care 2015;53:317-323.

Keywords: carecoordination; referral behavior; physician networks; doctor sharing
