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Title

Does lowering thresholds of patient continuity of care change its associations with costs and hospital use?

Priority 1 (Research Category)

Healthcare Services, Delivery, and Financing

Presenters

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Abstract

Context. Defining patient's continuity status by a threshold of 0.7 Bice-Boxerman Index (BBI) score, a commonly applied criteria in published literature, may be too high. By way of example, any patient with up to 70% of visits with one physician will have a BBI score at or below 0.5, well below the current continuity threshold of 0.7.

Objective. 1) To examine differences in continuity status established by lower thresholds of BBI of 0.5 and 0.3 compared to 0.7 at baseline and in 3 follow-up years, and 2) to assess the association between lower continuity thresholds and patient outcomes.

Study design. Longitudinal cohort study.

Dataset. Virginia All-Payer Claims Database.

Population. Virginians with 12-month continuous health care coverage in 2016 and insurance claims from 2016 to 2019.

Outcome Measure. We calculated the conditional probabilities by different thresholds for a patient to achieve continuity in 2017-2019 given the initial continuity status in 2016. Patient's total costs were calculated by averaging total allowed amount over 2017-2019. Patients were deemed to experience at least one hospitalization if any inpatient claim was filed.

Analysis. For each threshold, we tabulated the conditional probabilities of continuity status change by stratifying patients with 2, 3, and 4 or more primary care visits. We estimated percentage changes in total costs and odds of experiencing any hospitalization for Medicare, Medicaid, and commercial payers.

Results. Patients with 4 or more primary care visits and BBI>=0.7 in 2016 had a 62% probability of achieving continuity in 2017, compared to 28% of those with BBI<0.7. Lower thresholds increased patient's probabilities to achieve continuity to 67% (BBI=0.5) and 80% (BBI=0.3). This pattern held well

for patients with fewer (2 or 3) primary care visits and in follow-up years 2018 and 2019. Regardless of the threshold applied, total future costs were significantly lower for patients with continuity, -10.7% (BBI=0.7)~-12.3% (BBI=0.3) for commercial, -2.9%~-4.8% for Medicaid, and -3.6%~-3.9% for Medicare. Similarly, patients with continuity had lower odds of hospitalization, 0.96 (BBI=0.7)~0.92 (BBI=0.3) for commercial, 0.87~0.83 for Medicaid, and 0.96~0.96 for Medicare.

Conclusions. Lowering the continuity threshold did not seem to change its associations with favorable patient outcomes, offering flexibility for use as a clinical quality measure in payment programs.