ONPOINT Health Data

VERMONT Blueprint for Health

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Risk-Adjustment Methods for All-Payer Comparative Performance Reporting in Vermont

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Blueprint for Health Background

- Vermont healthcare reform program, enacted in statute in 2006, with the goals of increasing healthcare access, quality, and affordability for Vermonters
- Multi-payer initiative, with emphasis on using data and payment incentives for continuous system improvement
- Key components: Patient-centered medical homes, practice facilitators for QI, community health teams, and healthcare supports including:
  - Self-management/coaching programs
  - Support and services at home for elders
  - Women's health initiatives
  - Enhanced substance abuse treatment programs

Study Objective

- Need for “whole-population” measurement at multiple system levels, including statewide, hospital service area, and specific practice levels
  - Measure outcomes
  - Variation as opportunities for improvement
- Need for enhanced risk-adjustment methods for comparisons across geographic units, organizations, and time
- BioMed Central Health Services Research: https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-017-2010-0

Primary Care Practice Level Variation

Adult Population (Commercial, Medicaid, Medicare)

Measure	Median	Minimum	Maximum	CV
Average Age	51.7	40.1	67.7	9.8
Percent Male Gender	46.1%	9.3%	58.6%	15.9
Percent Medicaid Population	18.4%	1.0%	47.6%	48.1
Percent Medicare Population	28.8%	0.0%	63.3%	38.3
Percent “Chronic” Health Status	25.0%	14.5%	35.4%	15.5
Percent “Significant Chronic” Health Status	12.5%	2.1%	36.3%	42.4

Risk-Adjustment Models

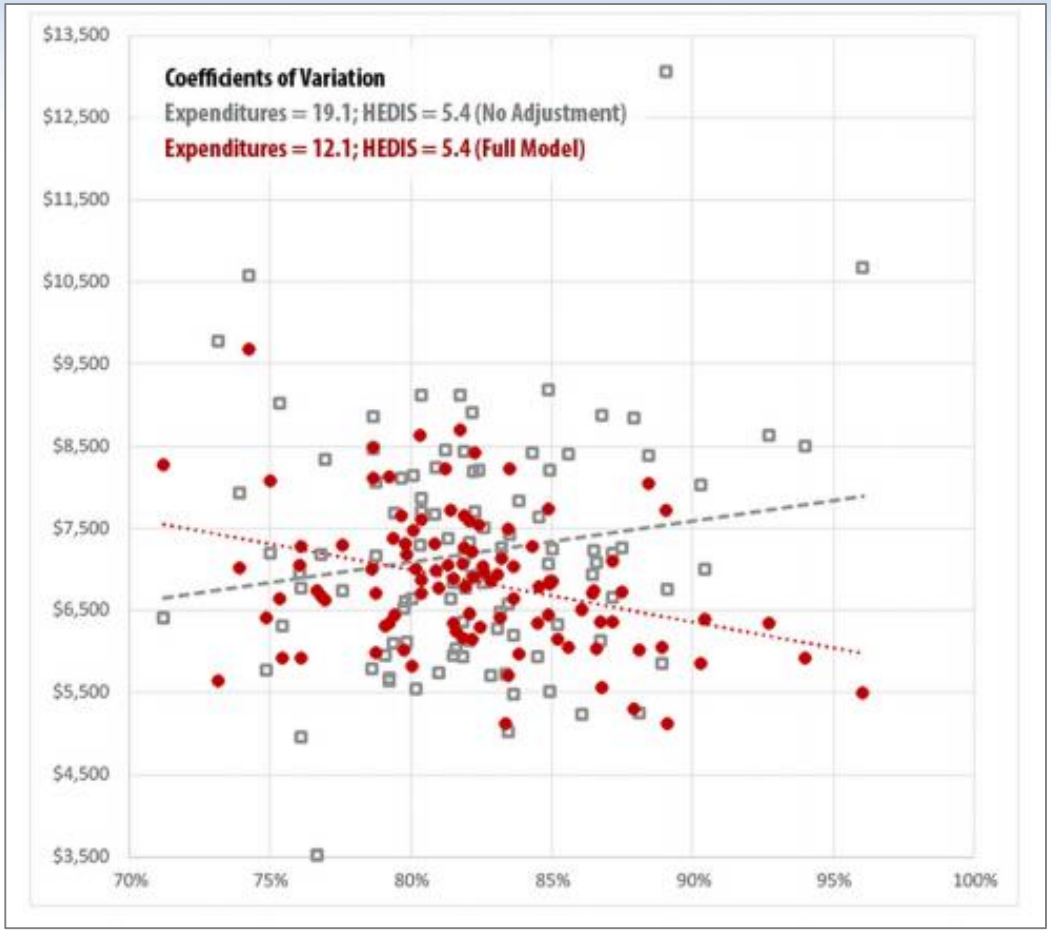
- Separate models for adult and pediatric populations
- Regression model variables
  - Patient level: age-gender interaction, maternity-Medicaid interaction, Medicare coverage, Medicaid coverage, dual-eligible status, disabled status, health status, special Medicaid services
  - Practice level: percentage of Medicare population, Medicaid population of each member's attributed practice

Evaluation of Risk-Adjustment Models

- Evaluated impact of the following variables
  - No adjustment(s)
  - Adjustments for age and gender only
  - Adjustments for demographics, major payer types, and health status information
- Outcomes
  - Expenditures, total resource use (risk-adjusted)
  - HEDIS composite (unadjusted)

Full Model Versus No Adjustment(s)

Annual Total Expenditures per Capita Excluding SMS



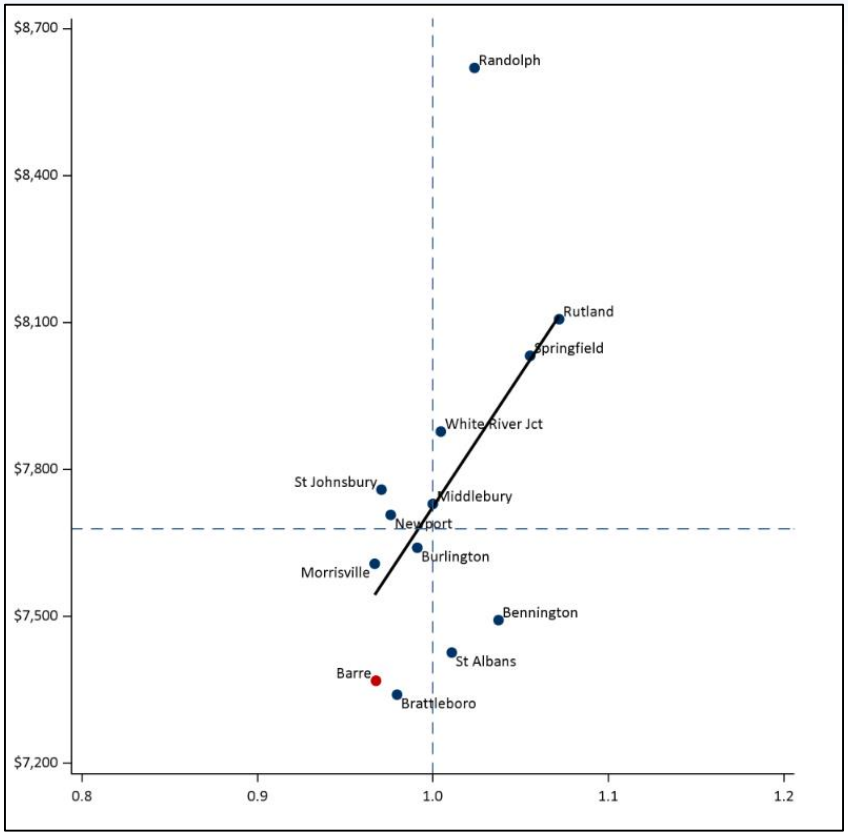
HEDIS Composite Measure (unadjusted)

Summary of Results

- R-square = 0.285 for “whole population” risk-adjustment model of total expenditures excluding SMS; At the practice level, the adult full model reduced variation between practices
  - No adjustment(s): CV = 19.1
  - Full model: CV = 12.1
- Similar results for resource utilization and pediatric population
- Full model changed the direction of association between cost and quality (compared to the no-adjustment(s) model)
- Indication of more comprehensive risk-adjustment models as effective means for comparing cost and utilization across multi-payer populations

Putting Data to Use

Annual Total Expenditures per Capita vs. Resource Use Index (RUI)



Annual Total Expenditures per Capita Excluding SMS (Adjusted)

Annual Total Resource Use Index (Adjusted)

Publicly available HSA Profiles:

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