Exploring Health Center Program Presence in Medicare Spending Priority Areas

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INTRODUCTION

- Previous research suggests that higher rates of low-income health center penetration in Hospital Referral Regions (HRRs) may help reduce Medicare spending,[1] which can vary substantially by HRR[2]
- Medicare spending accounts for 20% of total national health expenditure and grew to $705.9 billion in 2017[5]
- Scant research exists on the potential of health centers for reducing Medicare spending
- As older adults are the fastest growing health center patient population segment, understanding the link between health centers and Medicare is increasingly important

PURPOSE

- To identify Medicare spending priority areas and explore health center low-income penetration in these areas

DATA SOURCES

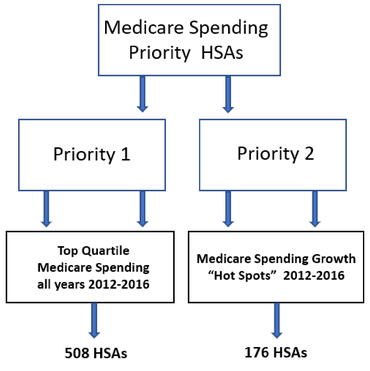
- HRSA's 2016 Uniform Data System provides demographic and clinical data on nearly 1,400 health centers, equating to about 12,000 service delivery sites across 50 states, 8 territories, and the District of Columbia at the ZIP Code Tabulation Level (ZCTA) level[3]
- The American Community Survey conducted by the Census Bureau provides low-income population data for ZCTAs[4]
- The Dartmouth Atlas of Healthcare provides a variety of Medicare data at multiple geographies, including hospital service areas (HSAs) 2012-2016[2]

UNIT OF ANALYSIS & MEASURES

- HSAs are local health care markets for hospital care, and are smaller than the often used HRR
  - *HSAs are created by aggregating ZIP Codes based on where residents in those ZIP Codes go the hospital*
- Medicare Spending (Price, Age, Sex, & Race- Adjusted Reimbursements per Enrollee)
  - *Total Medicare reimbursements (Parts A and B), hospital & skilled nursing facility, physician, outpatient facility, home health agency, hospice, and durable medical equipment*
- Low-Income Penetration Rates
  - *The number of health center patients divided by the total low-income population*
- Additional Health Center Data
  - *% of patients that are uninsured, on Medicaid, or on Medicare*

METHODS

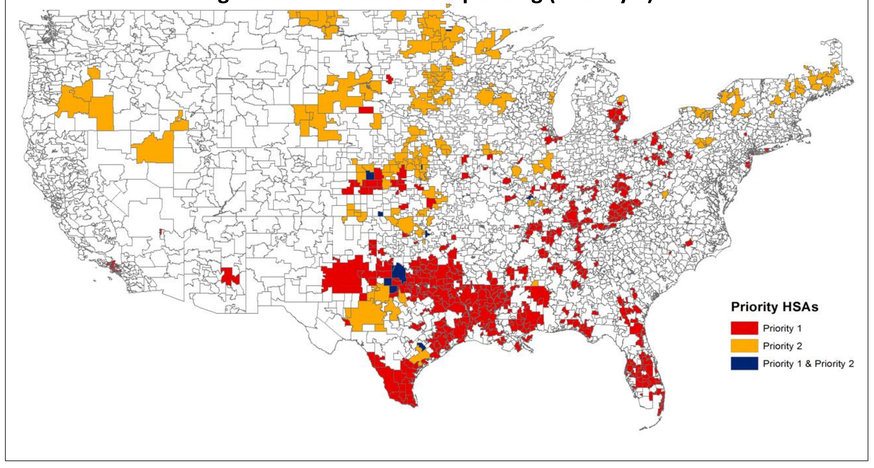
- Stratify HSAs by Medicare Spending quartiles for years 2012-2016
  - *Priority 1 HSAs are defined as HSAs in top (highest spending) quartile all five years*
- Perform a Differential Local Moran's I to identify Medicare Spending growth "hot spots" for years 2012-2016; "hot spots" are identified as HSAs with high Medicare Spending growth rates surrounded by HSAs that also have high growth rates
  - *Priority 2 HSAs are defined as "Hot Spot" HSAs*
- Convert ZCTAs to HSA geography for health center data
  - *Aggregate the number of health center patients and low-income population to the HSA level*
- Compare low-Income penetration rates and Medicare spending for Priority HSAs and non-Priority HSAs



Areas with High Medicare Spending have Lower Penetration Rates Among Low-Income Health Center Patients

This research illustrates geospatial methods for aggregating health center data to Hospital Service Areas, allowing for exploration of links between Health Center Program presence and Medicare spending

Figure 1: Hospital Service Areas with Highest Medicare Spending (Priority 1) and High Growth in Medicare Spending (Priority 2)



Links to Data Sources

UDS Mapper

Dartmouth Atlas

RESULTS

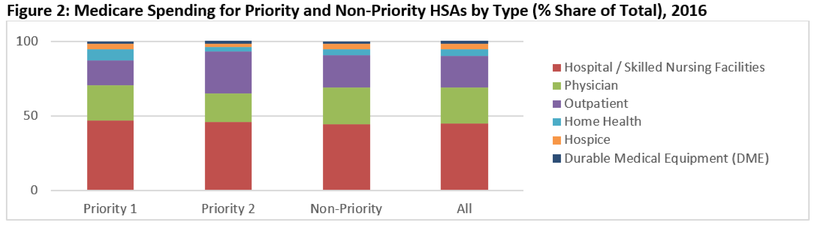
- We identified 508 HSAs that had Medicare spending in highest quartile all five years, 2012-2016. (Priority 1 HSAs), which were concentrated in the southern U.S. (Texas, Louisiana, Florida, Kentucky, Tennessee) and large cities (e.g., Los Angeles, Detroit)
- We identified 176 HSAs that were Medicare spending growth "hot spots" (Priority 2 HSAs), which were concentrated in central U.S., the upper Midwest, and New England
- On average, Priority HSAs (both Priority 1 and 2) have significantly lower (about 20%) low-income penetration rates than non-priority HSAs
- Priority 1 HSAs
  - Have significantly larger percentages of uninsured and Medicare patients
  - Have larger share of Medicare spending attributed to home health and hospital and skilled nursing facilities
- Priority 2 HSAs
  - Have significantly larger percentages of uninsured and Medicaid patients
  - Have roughly half the average number of health center patients and Medicare enrollees
  - Have much higher share of Medicare spending attributed to outpatient facilities

Table 1: Characteristics of Priority HSAs vs. Non-Priority HSAs (*2016 Health Center Data*)

	Priority 1	Priority 2	Non-Priority	All HSAs
Number of HSAs	508	176	2,752	3,436
Average Number of Health Center Patients	8,777	3,750	7,511	7,788
% Uninsured Health Center Patients	32.1[a]	31.6[a]	26.8[a]	26.6
% Medicaid Health Center Patients	39.1	34.1[b]	40.3[b]	38.1
% Medicare Health Center Patients	28.8[c]	34.4	33.0[c]	30.9
% Low-Income Penetration	21.7[d]	21.0[d]	26.2[d]	25.3
Average Number of Medicare Enrollees, 2016	8,224	3,906	7,883	7,740
Medicare Spending per Beneficiary (Price-Age-Sex-Race Adjusted), 2016*****	$12,545[e]	$10,430[e]	$9,788[e]	$10,212

[a] Both Priority 1 and Priority 2 areas significantly different than Non-Priority areas at p=.01
[b] Priority 2 areas significantly different than Non-Priority areas at p=.000
[c] Priority 1 areas significantly different than Non-Priority areas at p=.000
[d] Both Priority 1 and Priority 2 areas significantly different than Non-Priority areas at p=.01
[e] Both Priority 1 and Priority 2 areas significantly different than Non-Priority areas at p=.000

Figure 2: Medicare Spending for Priority and Non-Priority HSAs by Type (% Share of Total), 2016



DISCUSSION

- This research illustrates a method for linking health center data with Medicare data at the hospital service area (HSA) level
  - Linkage of disparate data sets using geospatial identifiers (i.e., ZCTAs) adds an additional analytical layer to traditional data analyses and can pinpoint specific states or communities apt for additional mixed-methods and qualitative studies
- Medicare spending Priority HSAs have significantly lower rates of health center low-income penetration and higher rates of uninsured patients, highlighting an opportunity for health centers to identify dually-eligible Medicare/Medicaid patients
- Future research could explore reasons for differences between consistently high spending areas (Priority 1) and high growth spending areas (Priority 2) and if health centers could play role in reducing spending in these areas
- Limitations include using only Medicare spending data; including spending data from other payers could provide further insights into the relationship between the Health Center Program and health care spending

REFERENCES

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