Geographic Variation of Medicare Expenditures in Florida Home Health Care

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Background

- Post-acute care is one of the fastest growing categories of Medicare spending, and as the population ages, home health care continues to grow in popularity (Kane, Lin, & Blewett, 2002).
- CNBC recently called South Florida a "hot spot for health-care billing fraud schemes that target the huge federal Medicare program," as evidenced by the many charges filed against fraudulent home health care agencies in Florida since 2014 (Mangan, 2016).
- Geographic variations in post-acute care Medicare costs are not driven by regional price differences, but rather by differences in utilization (Gottlieb, et al., 2010).
- A 1996 study found that there was massive geographic variation in home health care use among Medicare patients, indicating a lack of consensus on its appropriate use (Welch, Wennberg, & Welch, 1996).

Objectives

- To determine which Florida counties have the highest usage and Medicare costs associated with home health care, particularly in comparison to other types of post-acute care settings
- Identify independent factors that are predictive of a county's per capita home health spending
- Generate data and maps that can inform policymakers where Medicare cost-saving measures may be most effective or where home health care fraud may be of concern

References

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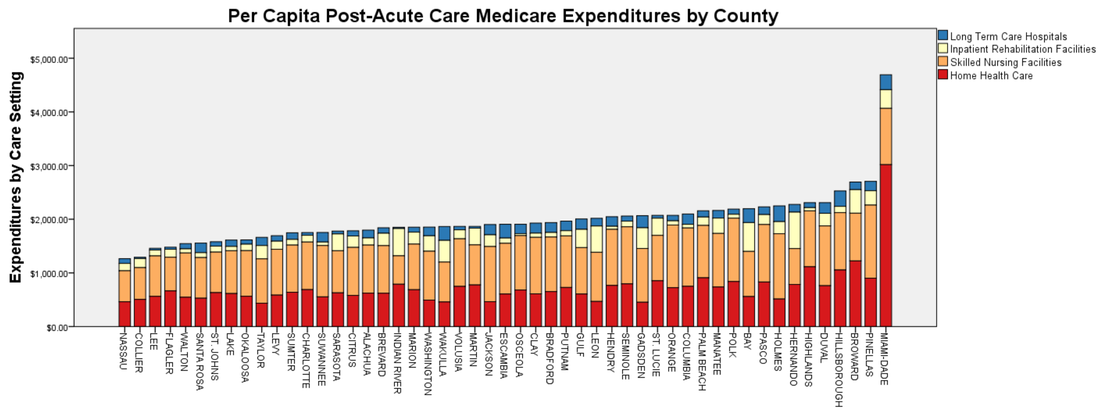
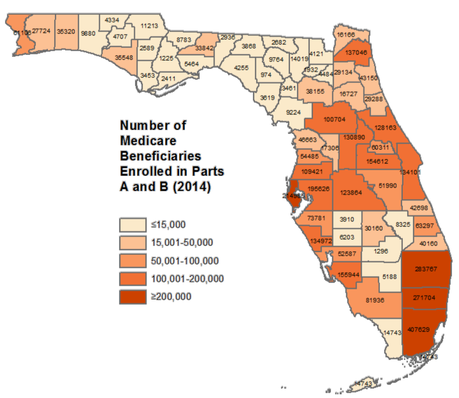
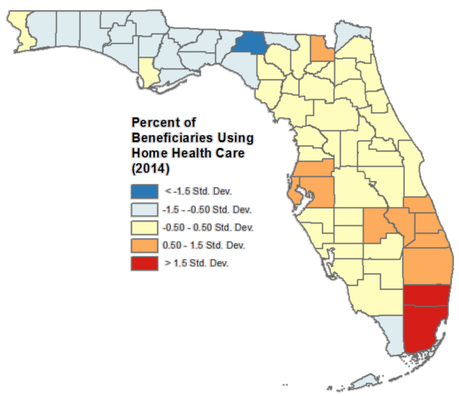
Methods

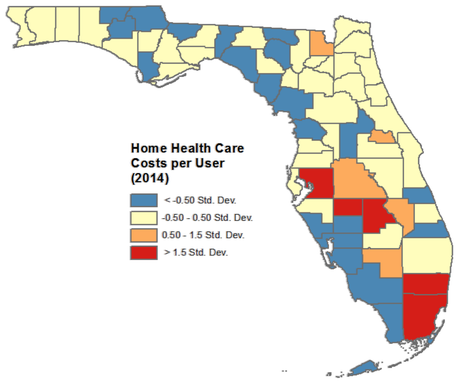
- State and county data from 2014 for all beneficiaries were obtained from the Centers for Medicare and Medicaid Services' Geographic Variation Public Use File. Only data from the 67 administrative counties in Florida were included in the analysis, as were select demographic measures and post-acute care utilization and spending data that had been standardized for geographic variation.
- The 2014 Cartographic Boundary Shapefile for Counties was obtained from the United States Census Bureau for use in ArcGIS analysis. Data from all counties outside of Florida were excluded. Geographic Coordinate System is GCS_North_American_1983.
- IBM SPSS Statistics 22 was used to perform descriptive analysis of demographic data and multiple regression analyses.
- Esri's ArcGIS Version 10.3 software was utilized to visualize geographic data and generate standard deviation maps.

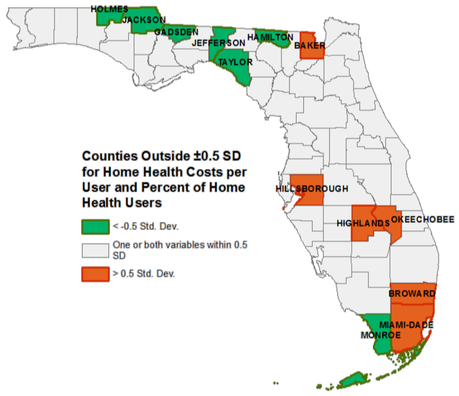
Results











Results (cont.)

- Multiple regression analysis revealed that number of home health stays per 1000 beneficiaries, number of days in home health care per 1000 beneficiaries, average age, and percent of the population identifying as Hispanic were significant, independent predictors of a county's per capita Medicare home health care spending. *See Table 1.*
- Miami-Dade, Broward, Okeechobee, Hillsborough, Highlands, and Baker Counties had significantly above average rates of home health use and per-user costs, indicating potential cost-saving areas.
- Holmes, Jackson, Gadsden, Jefferson, Taylor, Hamilton, and Monroe Counties had significantly below average rates of home health use and per-user costs, indicating areas with low home health spending.

TABLE 1. Multiple regression analysis of Medicare per capita home health expenditures, 2014

Outcome Variable	Predictor Variable	β	Std. Error	Sig.	R^2
Per Capita Home Health Spending					0.996
	Age	9.446	2.748	0.001	
	Percent Hispanic	2.631	0.897	0.005	
	Number of home health stays (per 1000 beneficiaries)	1.672	0.212	<0.001	
	Number of days in home health care (per 1000 beneficiaries)	0.074	0.007	<0.001	

Conclusions

- Home health care in Miami-Dade County is a financial burden on the Medicare system, though the issue seems isolated from other types of post-acute care settings, as well as other Florida counties. Northern central Florida tends to exhibit below average home health care use and lower expenditures per user.
- Per capita home health care spending can be predicted by looking at the number of stays and days in home health care, age, and percent Hispanic population. Further studies should explore whether the Hispanic population has a cultural preference for home health care, or whether this is a statistical representation of Miami-Dade as an outlier, where Hispanics make up 55.33% of the population.
- Limitations include the inability to accurately evaluate outcome data, as well as the inability to distinguish between legitimate home health costs and fraudulent Medicare claims. Further investigation into potentially fraudulent home health charges in Miami-Dade is warranted, as well as in Broward, Highlands, Okeechobee, Hillsborough, and Baker counties.

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