# Growth and Geographical Variation of Nursing Home Self-Pay Prices

*Sean Shenghsiu Huang, Richard A. Hirth, Jane Banaszak-Holl, and Stephanie Yuan* [*]

Currently, there are more than 1.4 million people living in nursing homes (NH) and it is estimated that a typical American at age 65 has a 35% chance of requiring NH care sometime their lifetime. Institutionalized, long-stay NH care is expensive. For example, annual median prices in 2010 range between $45,250 and $110,025 in Texas and New York (authors' calculations), respectively. Since most Americans do not purchase long-term care insurance to cover these expenses, out-of-pocket NH expenditure is one of the primary drivers of precautionary savings and wealth accumulation. Out-of-pocket payments are estimated to account for 33% of formal, long-term care spending among the elderly, while only 4% of the expenditure is paid through private insurance. The non-Medicaid eligible elderly pay for these services out of savings and assets accumulated over their lifetimes. Once depleted, these same individuals are forced to enroll in Medicaid to pay for their care. A better understanding of NH private-pay prices and price growth is directly relevant to the wealth and retirement income of the elderly, as well as the sustainability of social insurance programs.

Regulation of NH markets is decentralized and varies by state. In addition to Certificate-of-Need (CON) and Medicaid reimbursement rates, historical and cultural differences also contribute to the heterogeneity of NH market structures. These variations can lead to significant price dispersions between markets. Further, both for-profit and nonprofit, as well as chain and nonchain NHs, coexist in the same markets. Because NH private-pay prices are not publicly available to consumers, the difficulty of searching and comparing prices can further exacerbate the price variations.

The understanding of nursing home private-pay prices is rather sparse due to data limitations. We collect a unique price dataset, including eight states (California, Florida, Georgia, New York, Ohio, Oregon, Texas, and Vermont) and spanning from 2005 through 2010. Health agencies in these states collect Medicaid cost reports that include detailed and reliable information about NH revenues and use among different types of payers. The richness of information allows us to calculate daily average private-pay prices. Our analytic sample includes more than 3,700 unique NHs per year, equivalent to 25% of U.S. freestanding facilities. Using these

* **Sean Shenghsiu Huang** is an assistant professor at the Department of Health Systems Administration, Georgetown University. **Richard Hirth** is a professor of Health Management and Policy at the University of Michigan. **Jane Banaszak-Holl** is a professor of Public Health and Preventive Medicine, Monash University, Australia. **Stephanie Yuan** is a research assitant at Georgetown University. This research brief is based based on WP 2019-397, MRRC project number R-UM17-14.

data, we evaluate the growth, determinants, and variations of NH private-pay prices. In particular, we are interested in whether for-profit ownership, chain affiliation, market concentration, capacity constraint, and for-profit market shares have significant associations with the price and price growth of NHs.

We adjust the nominal prices using the consumer price index and pegged to 2010 dollar. The average price and annual price growth are $198.3 and 3.69 percentage points. NHs in New York have the highest prices. The median prices are $285.83 in 2005 and $304.39 in 2010. Yet, we also see slower price growth in New York. Its prices only grew 6.49% cumulatively from 2005 to 2010, an annualized growth rate of 1.27%. In terms of annualized price growth, California and Oregon have the highest rates at 3.03% and 4.56%, respectively.

NHs in markets with higher occupancy rates have higher prices ($210.86 versus $185.75) and faster price growth. The cumulative and annualized price growth are 18.12% (versus 10.13%) and 3.39% (versus 1.95%). This suggests that under capacity constraints, both the level and growth of prices are higher and faster.

In the regression analysis, for-profit NHs have statistically significant lower prices, about 2.3 to 3.4 percent lower than the prices of nonprofit NHs. The price difference is mostly driven by nonprofit chains. We also find NH-level occupancy rates and their sizes are associated with higher prices but not necessarily with faster price growth. When NHs have higher Medicare-pay shares, they have higher private-pay prices and faster price growth. A 1-percentage point increase in Medicare-pay share is associated with 0.18 to 0.2 percent increase in private-pay prices.

Overall, we find that NH prices have consistently outpaced the inflation of the consumer price index, and the pace of price growth varies between organizational types, market structures, and states. Our results suggest that nonprofit NHs, particularly nonprofit chains, charge statistically significant higher prices over for-profit NHs. This is likely associated with superior quality provided at nonprofit NHs, although it raises an important question related to the tax-exempt status that nonprofit NHs receive. The provision of superior quality at nonprofit NHs is often used to justify their tax-exempt status. Because nonprofit NHs attract disproportionately more private-pay residents and, at the same time, charge higher prices, it is unclear whether NFP nursing homes provide superior quality to fulfill their chartable missions and the tax-exempt requirement or as a business strategy that positions themselves at the high-end market segment.

Although FP chains, in general, have lower quality, the value of care (from the perspective of private-pay residents) may or may not be inferior to that delivered by the NFPs because of lower prices to consumers. We also find higher prices, faster price growth, and larger price variations when markets have higher occupancy rates and face capacity constraints. Although the CON law is considered less binding in recent years, other forms of capacity regulations can still lead to excess demand for NH beds in selected markets. Increasing the supply of NH beds in markets that have high occupancy rates may help to contain price growth. ❖