

## Growth of Home Health Services and Disparities in California, 2001-2010

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### Background

This policy brief describes the recent expansion in the supply of home health (HH) services in California, and examines some critical questions: Has the expansion reduced race/ethnic disparities in access to HH services? And is access associated with socioeconomic status? It is certain that demand for services will continue to increase. The American population is graying rapidly. There are currently more than 43 million adults age 65 or older; by 2060, this number is expected to grow to nearly 92 million.<sup>1</sup> The number of the “oldest old” (those age 85 and older) is projected to increase even more dramatically. The U.S. Census Bureau projects that the population of those age 85 and older could grow from 6 million today to nearly 18 million in 2060.<sup>ibid</sup> At some point many older Americans will require assistance with activities of daily living, generating a need for long-term care (LTC) services.

Over the last decade, the long-term care industry has seen a contraction of skilled nursing facilities (SNF) and an expansion of HH care and assistive living facilities. This trend is due to older adults’ preference for living at home or in a home-like environment in the community<sup>2</sup> and to the increasing cost of institutional care and insurance coverage. The recent growth in the home health sector was likely encouraged as well by the change in Medicare reimbursement method. Before 2000, the HH reimbursements were paid by fee-for-services (FFS), which compensated by service volume since the inception of the program. As a result, the cost and utilization of HH services grew rapidly in the past. Faced with intense fiscal pressure, the U.S. Congress replaced the FFS system with a new prospective payment system (PPS) in 2000,<sup>3</sup> which pays a lump-sum payment for all HH services rendered to an older adult within a 60-day episode window. While the new PPS was meant to improve efficiency by eliminating

incentives to provide unnecessary services, the average payment per episode in the PPS was actually set higher than that of the old FFS system.<sup>4</sup> As a result, the number of HH agencies has grown substantially and expanded geographically since the adoption of the new HH prospective payment system.<sup>5</sup>

The recent increase in Medicare (average) payment could potentially expand the availability of HH services to a wider population and reduce the existing race/ethnic gaps in access to HH services that have been documented in the past.<sup>6</sup> However, it is unclear whether these gaps will actually be reduced in practice because the HH provider market is mostly unregulated. This policy brief examines whether inequities in access to HH services were ameliorated by the expansion of services. Because the change in HH services may be related to a change in SNF services, I compare the availability of the two services in the same neighborhood side by side, which is rarely examined in the literature. The data is drawn from the Office of Statewide Housing and Planning Department from the census of every HH agency (HHA) and SNF in California between 2001 and 2010. The provider data was mapped to demographic and economic information from the U.S. Census Bureau by the zip codes and counties where HHAs/SNFs are located.

### Key Findings

- California saw substantial increases in the number of home health service providers and service utilizations between 2001 and 2010. In particular, the total number of home health agencies increased by 70%, the total number of patients receiving HH services increased by 14%, and the total number of HH visits increased by 44%.
- The growth of home health supply is more concentrated in areas with higher household

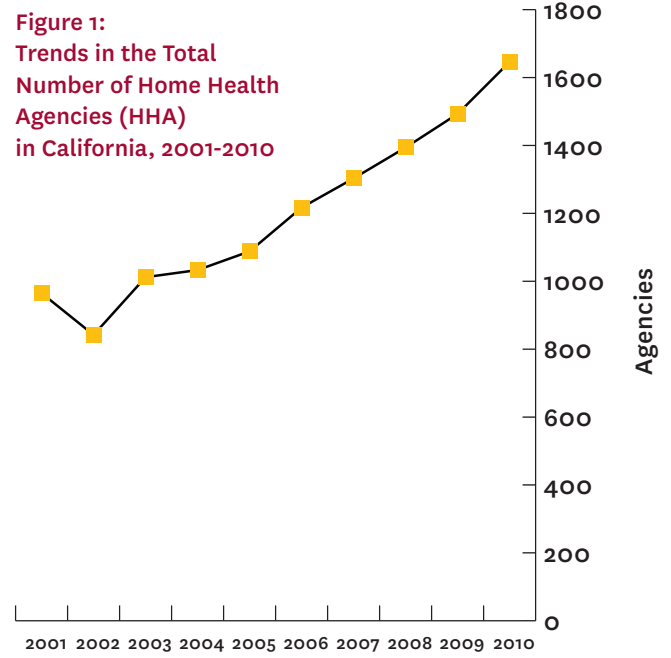
income. In the highest income areas, total visits declined by 192,268 due to closure but increased 643,083 due to entry—a net increase of 234% in HH visits. By contrast, the lowest income areas lost 436,922 visits due to HH agency closures, but gained 689,965 visits due to entry—a net increase of 58%.

- The higher growth in home health service supply in higher income areas was only partially associated with population growth in these areas. After normalizing the supply of HH services by the population in the area, the highest income areas (top quartile) had a higher proportion of people receiving HH services, and the rate of growth between 2001 and 2010 was also higher.
- One would expect that areas with greater increases in HH services would have less growth in SNF services because HH would be replacing the need for some skilled nursing care. This assumption proved to be false. Higher income areas had greater increases in the proportion of HH visits made by older adults per thousand elderly, as well as greater increases in the rate of SNF beds/days per thousand population. This suggests a growing gap in the access to long-term care options as a whole between high and low income areas.
- The disparity in HH care appears to be more related to access to care and less related to differences in care received conditional upon having access.

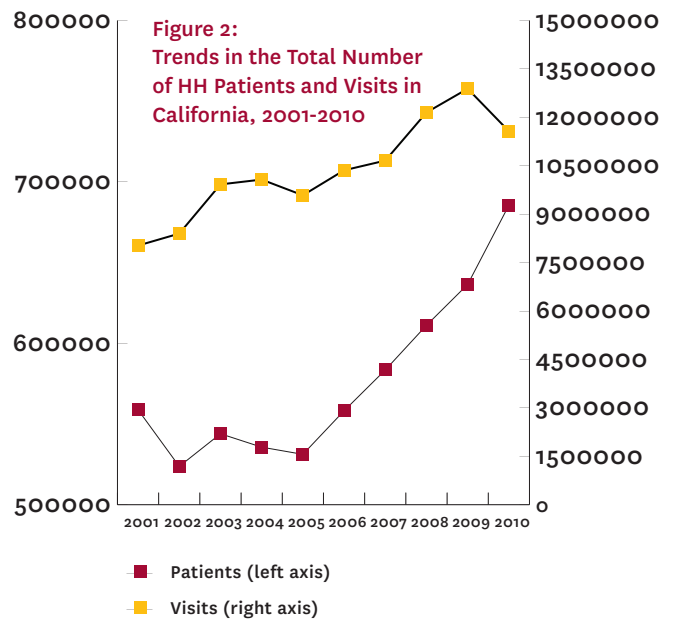
### Substantial Increases in Home Health Providers and Service Utilization in California

Between 2001 and 2010, the supply of home health services has increased dramatically (see Figure 1). The total number of home health agencies almost doubled between 2001 and 2010, growing from 965 to 1,646 home health agencies.

The increase in the number of HH agencies could potentially expand services to more people. The increase could also provide more units of services per person, given the recent trend of patients being discharged earlier from inpatient hospital care and shifted from skilled nursing facilities to a home-based setting. I found that the recent increase of HH supply is associated with an increasing intensity of service use more than an expansion in the number of



people receiving services. Figure 2 shows that the total number of patients receiving HHA services in California increased from 558,826 to 685,524, or by 14%, between 2001 and 2010. However, the total number of HH visits increased at a much higher rate of 44%, from about 8 million to about 11.5 million visits in the same period. Taking the two trends together, it appears that over the last decade, while more Californians were getting in-home services, much of the growth in HHA services is related to a greater number of units of service (i.e., intensity) provided to each patient.



### Entry and Exit of Home Health Service Providers in California

A total of 222 HH agencies closed and 757 entered the California LTC market between 2001 and 2010. To better understand where the entry and exit of HH agencies took place, I examined the median income of the areas where a HHA was located. A high income area was defined as an area where the median household income was in the top quartile of zip codes in California in 2000. A low income area was defined as an area where the median household income was in the bottom quartile of zip codes in California in 2000. Among the HH agencies that closed between 2001 and 2010, 30% were located in the low income zip codes, compared to 11% in the highest. In terms of entry, about 20% of HH agencies that entered California in the study period were located in the low income areas, and about 18% that entered were in the high income areas. Overall, the lowest income areas lost 436,922 visits due to HH agency closures, but gained 689,965 visits due to entry, which was a net increase in visits of 58%. By contrast, in the highest income areas, total visits declined by 192,268 due to closures but increased 643,083 due to entry, resulting in a net increase of 234% in HH visits.

These numbers suggest that the socioeconomic disparity in the access to HH services may have increased because there was much greater growth in the number of HH agencies as well as HH visits in higher income areas than lower income areas. However, the change in HH supply needs to account for the change in the demand. For example, the smaller growth of HH care in lower income areas may be related to smaller population growth in these areas. Alternatively, the smaller growth may be related to better availability of alternative LTC providers such as SNFs. To understand these issues, I narrowed the focus to Los Angeles County to analyze the relative change in demand and supply conditions by geographic area. I approximate a market area for LTC at the 4-digit zip code level,<sup>7</sup> assuming that people will travel a modest distance for LTC services. I similarly define high income areas as the top quartile of 4-digit zip codes in LA County and low income areas as the bottom quartile of 4-digit zip codes.

### Greater Growth in Higher Income Areas was Only Partially Associated with Population Growth

I examined rates of individuals served by HHS and the intensity of service use by comparing older adults residing in high and low income areas (see Table 1). The sample was restricted to HH patients and HHA visits made by older adults only and was contrasted by changes in the elderly population in the same area (not shown).<sup>8</sup> Higher income areas had a greater proportionate increase of older adults receiving HH services in 2001 that outpaced changes that occurred between 2001 and 2010 in lower income areas. In 2001, 184 older adults received HH services per 1000 elderly in the highest income areas, compared to 113 older adults who received HH care per 1000 elderly in the lowest income areas in LA County. Between 2001 and 2010, the rate of older adults receiving HH services per 1000 elderly increased by 61% in high income areas, compared to 48% in low income areas. Similarly, the number of HHA visits made by older adults per 1000 elderly was higher and grew faster by 48% in high income areas, versus 38% in the low income areas.

<b>Table 1: Growth in Patient Population and Rates of Services Use in Los Angeles County</b>		<b>HHA Patients Age 60 or Older per 1000 Elderly</b>	<b>HHA Visits by Patients Age 60 or Older per Elderly</b>
<b>Highest Income Quartile</b>	<b>2001</b>	184	4.40
	<b>2010</b>	296	6.49
	<b>Change</b>	61%	48%
<b>Lowest Income Quartile</b>	<b>2001</b>	113	2.75
	<b>2010</b>	168	3.78
	<b>Change</b>	48%	38%

**Greater Growth of Home Health Services was Associated with Higher Growth of Skilled Nursing Services in the Same Area**

It is possible that a lower availability and growth of HH services in lower income areas may be related to the greater availability of SNF in these areas. I calculated statistics for the supply of HH services and skilled nursing services in the same area (see Table 2). I found a consistent difference in the availability of home health as well as the institution-based skilled nursing services: The availability of HH services grew by 61% combined with a 7%-10% growth in the SNF services in the high income area, while in the low income areas the availability of HH services grew by a smaller 48% along with a decline of -9% in SNF beds per thousand and -4% in terms of SNF days per thousand. It seems that the socioeconomic disparities in access to long-term care services have worsened.

<b>Table 2: Expansion Rates of HH Services by Income in Los Angeles County</b>		<b>HHA Patients Per 1000</b>	<b>SNF Beds Per 1000</b>	<b>SNF Days Per 1000</b>
<b>Highest Income Quartile</b>	2001	184	3.4	1064
	2010	296	3.6	1173
	<b>Change</b>	<b>61%</b>	<b>7%</b>	<b>10%</b>
<b>Lowest Income Quartile</b>	2001	113	4.7	1415
	2010	168	4.3	1359
	<b>Change</b>	<b>48%</b>	<b>-9%</b>	<b>-4%</b>

**Quality and Composition of Home Health Care was Similar Across Areas**

I also examined how quality of care was affected by the recent expansion of HH services. It is difficult to assess actual clinical quality of care without detailed patient-level data. However, I have information on the type of care provided by the HH agencies, which is likely correlated with patient disease severity and the underlying quality of care. Home health services

are comprised of visits by doctors, nurses, therapists (physical, occupational, and speech), nutritionists, and home health aides. Following the literature that categorizes HH services into professional (physical, occupational, and speech therapy, visits by doctors, nurses, social workers and nutritionists) and supportive (visits by home health aides and spiritual support personnel) care,<sup>9</sup> I calculated the percentage of HH visits into the two categories in each area and looked at changes in the last decade by level of area income.

I found that the percentage of HH visits made by HH professionals, among the patients who received services was relatively similar for all income areas, and increased steadily during the 2001-2010 period (see Figure 3). In 2001, low income neighborhoods had 87% of their HH visits for professional services, compared to a slightly higher rate of 89% in the high income neighborhoods. The small gap was eliminated (or slightly reversed) over time: By 2010, about 94% of all HH visits consisted of professional visits in both the high and low income areas. Thus, while the actual quality of care may differ if assessed using detailed quality measures adjusted for patient conditions (because people with lower socioeconomic status tend to have more, or more severe, conditions), nonetheless I did not find a significant disparity in the quality of HH care by neighborhood income status with high intensity utilization as an indicator.

**Figure 3:  
Professional HH Services, as a Percent of Total Visits,  
in Los Angeles County, 2001-2010**



## Implications

This policy brief reports that the recent growth in supply of HH services between 2001 and 2010, likely related to higher Medicare reimbursement and demand for home-based living arrangements, was associated with a trend toward differential access to HH services by income status. Higher income areas had a higher level of HH services provided, grew at a faster rate, and had better access to SNF services. People in the lower income areas appeared to have more limited choices for formal long-term care services overall. As a result, these families by choice or default might have to rely on informal care provided by family and friends. Informal care can create substantial personal and financial burden for caregivers, have a negative impact on caregivers' long-term economic trajectory, and lower the effectiveness of care because caregivers are not professionally trained.

I found that the recent growth of HH supply has been more concentrated in the higher income areas in California. Such redistribution of HH supply by neighborhood socioeconomic status can have several important implications. First, the redistribution was associated with a growing gap in the availability of HH (or long-term care) services, which can lead to a widening of life expectancy differences by socioeconomic status. Second, even if people could travel greater distances to obtain care from HH agencies, this would ultimately require doctors, nurses, and therapists to travel greater distances or provide transportation for care to out-of-area patients no longer mobile and/or isolated and lacking transportation. This would result in some efficiency loss because of the mismatch between the supply and demand for HH services. Third, having more HH agencies located in the higher income areas could mean escalating costs for HH services. Agencies located in higher income areas could potentially charge higher prices due to higher wage costs in these areas, leading to a total cost of HH services that would be higher and would increase at a faster pace than otherwise.

It was interesting to find that Medicare's change from FFS, which encourages volume, to the more efficient PPS for HH services seemingly did not

generate savings. Instead, the unintended payment increase facilitated a significant entry of new HH agencies. While higher payment was associated with greater provision of HH care, it was also associated with less access to HH care for low income older adults. Fortunately, I also found that the disparity in HH care was more related to access to care than differences in care received. In other words, once people were able to obtain access to HH care, the content of services provided were similar between neighborhoods of higher and lower income status. Therefore, policies aimed at reducing long-term care disparities may need to go beyond considering provider payment policies in order to have a real impact on equitable access to care.

This policy brief points to several areas worthy of further investigation. One important issue is that some lower income older adults appear to have more problems accessing LTC services than others. It is therefore critical to understand the underlying financial and non-financial causes and to examine and the role of race/ethnicity and education in affecting access and choices in LTC services. Another critical area research could focus on is improved assessment of "quality" since the operational criterion of intensity used in this study has important limitations. More detailed information on the receipt of recommended care, occurrence of adverse events, and changes in patients' functional status would better measure the quality of care received. Lastly, it is also important to examine provider incentives, such as whether the current prospective payments adequately adjust for the differences in patient severity and cost of providing care across geographic areas, in order to determine policy instruments that can effectively encourage the entry and retention of quality LTC providers in lower income areas.

## References

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- <sup>3</sup> Home Health PPS. Center for Medicare and Medicaid Services. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HomeHealthPPS/index.html>.
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- <sup>5</sup> Medicare Payment Advisory Commission (MedPAC) Report to the Congress. Chapter 8: Home Health Care Services. Washington, DC: MedPAC. March 2012.
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- <sup>7</sup> According to Bowblis and North (2011), the 75th percentile of a SNF market in California is about 7.8 miles. Categorizing at the 4-digit level yields 60 SNF markets in LA County. Bowblis, JR & North, P. Geographic Market Definition: The Case of Medicare Reimbursed Skilled Nursing Facility Care. *Inquiry* 48(2): 138-54, 2011.
- <sup>8</sup> Older HHA patients are defined as age 60 or older, while the older adult population is defined as age 65 and older. I was constrained to these age groups as how they were defined in the two original data sources.
- <sup>9</sup> Goodridge, D, Hawranik, P, Duncan, V & Turner, H. Socioeconomic Disparity in Home Health Care Service Access and Utilization: A Scoping Review. *International Journal of Nursing Studies*. 49(10):1310-9, 2010.

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