

**Population Studied:** Older adults (65+) dually enrolled in Medicaid and Medicare. We also examine heterogeneity of the effects by race/ethnicity and the presence of dementia.

**Principal Findings:** HCBS users have 13 percentage-point higher annual rates of hospitalization than their nursing home counterparts when selection bias is addressed, with an even larger difference among those with dementia. These differences exist within as well as across counties, ruling out differences in state policy or county-level health infrastructure as primary explanations. Differences are smaller for those receiving more intensive HCBS. Furthermore, we find significant disparities by race, with blacks using HCBS at higher rates than whites but experiencing higher rates of hospitalization.

**Conclusions:** Shifting long-term care for older adults from nursing homes to HCBS, while well motivated, results in the unintended consequence of substantially higher hospitalization rates and potentially exacerbates disparities by race. The intensity of services may be inadequate for some HCBS recipients.

**Implications for Policy or Practice:** Hospitalizations are costly to Medicare but also to the HCBS recipient in terms of stress and risks. Although consumer preferences to remain at home may outweigh poor outcomes of HCBS, the full costs and benefits need to be considered. HCBS outcomes—not just expansion—need more attention.

**Primary Funding Source:** National Institutes of Health.

## State Variations in Regulatory Stringency for Assisted Living Communities: Potential Implications for Service Supply, Cost, and Quality

H. Temkin-Greener<sup>1</sup>; Y. Mao<sup>1</sup>; S. Ladwig<sup>1</sup>; B. McGarry<sup>1</sup>; Y. Li<sup>2</sup>

<sup>1</sup>University of Rochester School of Medicine and Dentistry, Rochester, NY, United States; <sup>2</sup>University of Rochester Medical Center, Rochester, NY, United States

**Research Objective:** Over 30 000 Assisted Living (AL) communities in the US now serve 1 million older Americans. AL growth has occurred largely without federal oversight and with variable state regulatory efforts. Research on AL regulations has been scant, largely descriptive, and mostly focused on dementia-care. This study aimed to (a) assess/compare states' approaches to regulating AL communities across multiple policy domains and (b) identify state-level factors associated with regulation stringency.

**Study Design:** Primary data source was each state's AL regulations published on state websites. Additional data, for example, the 2019 National Center for Assisted Living (NCAL) Regulatory Review, were used to augmented/check the accuracy of our coding of policies. Several secondary sources were employed to derive state covariates. We focused on 4 policy domains, which regulate residents' admission and retention (9 items), medication management (4 items), staffing/training (8 items), and dementia care (9 items). We used codes developed in prior research and developed new codes inductively. Each domain was coded independently by two researchers, and differences

were reconciled. For each domain, we summed all items and created a standardized state-level stringency measure as:  $(X\text{-mean})/SD$ . For each state, the standardized values were added to create an overall stringency score. Psychometric properties of the individual and overall stringency measures were tested using factor analysis and Cronbach  $\alpha$ . Descriptive statistics, mapping, and OLS regression analyses were employed to examine 5 measures of stringency (overall and 4 domains). Based on literature reviews, we identified 5 state-level independent variables: AL average monthly cost; number of AL beds/1000 people age 75+; % aged Medicaid beneficiaries using AL; Medicaid spending on AL services; and % nursing homes (NH) with 4-5 star quality on deficiencies.

**Population Studied:** Descriptive analyses included data on 50 states and DC, while 47 states were included in OLS regressions.

**Principal Findings:** Overall, 10 states had high ( $>1SD$ ) and 5 states had low ( $<1SD$ ) stringency. While only 1/3 of states with high overall stringency exhibited similar levels of stringency across all domains, 2/3 of states with low stringency remained consistently low. State variations were highest in regulations for medication management (18 states scored high and 13 low), and lowest for staffing/training (8 high and 7 low). Regression results showed statistically significant ( $P < 0.05$ ) negative associations between AL cost and AL beds/1000 for all domains except staffing/training. NH quality on deficiencies and Medicaid AL spending were positively associated with staffing/training regulation stringency.

**Conclusions:** While many states have implemented some AL regulatory measures, substantial variations across states exist. For example, in states with higher Medicaid AL spending, regulation on AL staffing/training is stronger. AL investors may react to overall state regulatory environment as lower AL bed supplies are found in states with stronger regulations. High stringency may influence AL providers to maintain lower case-mix acuity among residents, which may be more congruent with the ALs' ability to provide services, and in turn results in lower monthly costs.

**Implications for Policy or Practice:** State variations in AL regulations may influence service supply and cost as well as resident case-mix and care quality. A more in-depth understanding of these relationships is needed.

**Primary Funding Source:** Agency for Healthcare Research and Quality.

## Does Medicaid HCBS Generosity Influence Nursing Home Placement for Dually Eligible ADRD Patients?

S. Wang; D. Yan; H. Temkin-Greener; S. Cai

University of Rochester School of Medicine and Dentistry, Rochester, NY, United States

**Research Objective:** Older adults with Alzheimer's disease and related dementias (ARD) often receive informal care to support

their community living. As the disease progresses, the physical and emotional toll it exacts on caregivers may become unsustainable, and nursing home (NH) placement may become necessary. Medicaid Home and Community-Based Services (HCBS) programs provide various types of services to support community living for Medicaid enrollees, which may reduce or delay NH placement for ADRD patients. This study aimed to examine the relationship between Medicaid HCBS generosity and the likelihood of NH placement for duals with ADRD, and their level of functional impairment at NH admission.

**Study Design:** National Medicare data, Medicaid Analytic eXtract (MAX), and MDS 3.0 for CY2010-2013 were linked. Eligible Medicare-Medicaid dual beneficiaries with ADRD were identified and followed for up to a year. Based on MAX data, two measures of HCBS generosity were constructed at the county level for older duals with ADRD: (a) breadth (ie, proportion of duals who used HCBS services); and (b) intensity (ie, average HCBS spending per user). Outcomes included NH placement during the follow-up year (dichotomous) and the level of physical impairment (ie, activities of daily living [ADL, 0-28 point scale], categorized into low, moderate, and severe impairment) at the time of NH admission. A linear probability model with county random-effects and robust standard errors was estimated to examine the relationship between the likelihood of NH placement and HCBS generosity, accounting for individual (eg, sociodemographic characteristic, prior hospitalizations, and comorbidities) and county-level covariates (eg, median household income, female labor participation). A multinomial logistic model was estimated to examine the relationship between HCBS generosity and ADL impairment among those who were admitted to NHs.

**Population Studied:** Community-dwelling older dual beneficiaries with ADRD who were enrolled in fee-for-service Medicaid between October 1, 2010, and December 31, 2012 (N = 365 310).

**Principal Findings:** Considerable variation in county-level HCBS breadth and intensity was observed. 17.1% of duals with ADRD had NH placement within one year. After accounting for individual and county level covariates, we found that a 10 percentage-point increase in HCBS breadth among individuals with ADRD was associated with 1.1 percentage point reduction ( $P < 0.01$ ) in the likelihood of NH placement. Among individuals with NH placement, greater HCBS intensity was related to a higher level of impairment at NH admission (\$100 increase in HCBS intensity led to 1.03 and 1.04 times the likelihood of having moderate or severe physical impairment [ $P < 0.01$ ]). Greater HCBS breadth was associated with less physical impairment (10 percentage-point increase led to 0.93 and 0.91 times the likelihood of having moderate or severe physical impairment [ $P < 0.01$ ]).

**Conclusions:** Among community-dwelling duals with ADRD, Medicaid HCBS breadth was associated with a lower likelihood of NH placement, and HCBS intensity was associated with greater physical impairment at NH admission.

**Implications for Policy or Practice:** Investment in Medicaid HCBS may prevent or delay NH placement among community-dwelling

older adults with ADRD. More research is needed to identify how the utilization of different HCBS services may affect NH placement.

**Primary Funding Source:** National Institutes of Health.

## Is the Generosity of Medicaid Home and Community-Based Services Associated with Community Discharge from Skilled Nursing Facilities?

S. Wang<sup>1</sup>; H. Temkin-Greener<sup>1</sup>; A. Simning<sup>2</sup>; R. Tamara Konetzka<sup>3</sup>; Shubing Cai<sup>1</sup>

<sup>1</sup>University of Rochester School of Medicine and Dentistry, Rochester, NY, United States; <sup>2</sup>University of Rochester Medical Center, Rochester, NY, United States; <sup>3</sup>University of Chicago, Chicago, IL, United States

**Research Objective:** While most older adults receiving post-acute care in skilled nursing facilities (SNFs) prefer to return home, many remain as nursing home (NH) long-stayers due to lack of sufficient supports in the community. Discharge from SNF to the community may be particularly challenging for Medicare-Medicaid dually enrolled SNF users. Medicaid home and community-based services (HCBS) have been expanding in the last few decades and could be an important source of community support for duals. The objective of this study was to examine whether the generosity of Medicaid HCBS is related to community discharge for dual SNF users.

**Study Design:** National Medicare enrollment and claims data, Medicaid Analytic eXtract (MAX), Minimum Data Set, and facility/county-level public available data between 2010 and 2013 were linked. Eligible Medicare-Medicaid dual beneficiaries and their SNF post-acute admissions were identified. Generosity of Medicaid HCBS was measured at the county level based on MAX data and included metrics for breadth (ie, proportion of duals using HCBS services) and intensity (ie, average HCBS spending per user). Outcome was community discharge within 100 days of SNF admission (dichotomous). A linear probability model with SNF fixed-effects and robust standard errors was estimated to examine the relationship between the likelihood of community discharge and HCBS generosity, accounting for individual-level covariates (eg, sociodemographic characteristic, characteristics of index hospital stay, history of hospitalization, functioning status, and comorbidities). We further stratified the analysis by age, type of index hospitalization, and presence of Medicaid lesser-of policy, a cost-sharing policy that limits the reimbursement received by SNFs for taking care of duals.

**Population Studied:** Community-dwelling older duals with fee-for-service (FFS) Medicare and Medicaid benefits who were newly admitted to SNFs for post-acute care between October 1, 2010, and September 30, 2013 (N = 224 236).

**Principal Findings:** HCBS breadth and intensity varied substantially across counties and over time. Overall, 49.4% of the identified dual SNF residents were discharged to community within 100 days of SNF admission. After accounting for covariates and SNF fixed-effects, we