

STAFFING RATIOS IN ASSISTED LIVING

JOINT COMMISSION ON HEALTH CARE
SEPTEMBER 19, 2017 MEETING

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With contributions from Martinson O. Owusu

Study Mandate SJR 266 - Senator Dance

- Identify and analyze current staff-to-resident ratio requirements for assisted living facilities (ALF) and special care units
- Make recommendations for changes to such ratio requirements that would lead to better care and quality of life for residents, including recommendations regarding the total number and type of staff that:
 - *Are required to meet the routine and special needs of all residents*
 - *Must be awake and on duty during night shifts*
 - *Should accompany residents on trips away from the assisted living facility or special care unit*



A larger facility may be able to offer more services and amenities

Virginia Assisted Living



A small, residential facility can offer an intimate, personalized experience

- A congregate home-like setting housing four or more adults who are aged, infirm or disabled
- Provide 24/7 supervision and oversight of the physical and mental well-being of an individual, housekeeping, meals, medication management, transportation, and other services

- ALFs may be:

- *For-profit and not-for-profit*
- *Affiliated with a faith-based organization*
- *Small, stand alone or part of a large, national chain*
- *Serve mixed populations in the same unit (with additional staffing and training; security monitoring system; secured outdoor area or close staff supervision)*

- Continuing care retirement communities (CCRC), (sometimes referred to as *life plan communities*) that can serve individuals in various levels of care as their needs change (independent living, residential care, assisted living, skilled nursing)
- May serve residents who are private pay, Auxiliary Grant paid, or a mix (the majority serve predominantly or solely private pay)

Assisted Living Facilities May Not Admit Individuals Whose Level of Need is Beyond their Capability to Serve

No individual may be admitted or retained:

- Who requires a level of care/service, or type of service, the facility does not provide
- If the facility does not have appropriate type and numbers of staff

Individuals who may not be admitted include those:

- Who are ventilator dependent
- Have some stage III and stage IV dermal ulcers
- Pose an imminent physical threat to self or others
- Need continuous licensed nursing care
- Have physical/mental health needs that cannot be met as determined by the facility

The Uniform Assessment Instrument (UAI) is Used to Determine Levels of Service

Residential living:

- Minimal assistance with ADLs/medication administration
- And/or dependent in one ADL or one or more instrumental activities of daily living (IADL) and are able to maintain themselves independently

Assisted Living:

- Moderate assistance - dependent in two or more activities of daily living (ADL)
- And/or dependent in behavior patterns (abusive, aggressive, disruptive)

Nursing Facility:

- Dependent in two to four ADLs
- Or semi-dependent or dependent in behavior pattern and orientation
- And semi-dependent in joint motion
- Or dependent in medication administration

ADLs:

- Bathing
- Dressing
- Toileting
- Transferring
- Eating
- Ambulating



IADLs:

- Managing finances
- Handling transportation (driving/public transit)
- Shopping
- Preparing meals
- Using the phone and other communication devices
- Managing medications
- Housework and basic home maintenance

ALs can house residents with various levels of need within one building or section, and the levels of need can frequently change, based on changes in residents' condition and/or turnover

Activities of Daily Living



Common Conditions ALs Help Residents Manage



SPECIALIZED DEMENTIA CARE SERVICES
Memory care is an increasing component of assisted living.

- 12% have a unit, wing or floor designated
- 10% only serving adults with dementia

Activities and Services

TYPICAL SERVICES

- 24-hour supervision and assistance
- Exercise, health, and wellness programs
- Housekeeping and maintenance
- Meals and dining services
- Medication management or assistance
- Personal care services such as ADLs
- Transportation

COORDINATED SERVICES
Assisted living does not directly provide certain health care services, but consistently works with other providers to offer these services.

- dental
- depression screening
- hospice
- mental health or counseling
- pharmacy/pharmacist
- podiatry
- skilled nursing
- therapy (physical, occupational or speech)

- The Department of Social Services licenses and inspects ALFs at least annually
- Licenses may be for one to three years based on inspection results, and there is a provisional, six-month license for those with significant issues which need to be addressed immediately
- Each resident must have an individualized service plan that is based on their needs which must be updated at least every 12 months
- Current Virginia law does not mandate a staff to resident ratio in most instances
- It does specify the minimum number of staff that must be on duty over night and for units that serve residents with special needs, such as memory care
- Facilities must have a written staffing plan that specifies the number and staff required to meet the direct care needs of their residents

- They must have written back up plans for when regular staffing plans cannot be met
- They must report safety incidents to DSS within a day of occurrence
- Virginia specifies the training required of individuals who provide direct care
- Virginia regulations require that each room have a call signal system for residents to use when they need immediate attention
- Residents may also wear remote signaling devices to use when needed when they are not in their rooms
- In ALFs without call buttons, staff must check on each resident at least once per hour overnight and keep a log documenting when checks were made

¹ See Appendix IV for details

Virginia Auxiliary Grant Program (AG) Administered by the Department of Aging and Rehabilitation Services

- The AG program is an outgrowth of the federally-mandated State SSI Supplementation Program when SSI replaced Old Age Assistance
- States were required to supplement the SSI payments of those who would have been negatively impacted by the change or the states would lose Federal Medicaid funding

AG covered services include:

- Room and board (furnished room, meals, housekeeping and linen service)
- Maintenance and care, including:
 - Minimal assistance with personal hygiene
 - Medication administration
 - Provision of personal toiletries

- AG covered services include **minimal assistance** with:
 - Care of personal possessions
 - Care of funds
 - Use of the telephone
 - Arranging transportation
 - Obtaining necessary personal items and clothing
 - Making/keeping appointments, assisting with correspondence
 - Securing health care and transportation for treatment
 - Providing appropriate social and recreational activities
 - General supervision for safety

Auxiliary Grants (AG) Eligibility Criteria and Payment

AG eligibility criteria require that individuals:

- Receive Supplemental Security Income (SSI) and/or are aged, blind or disabled and meet income limits
- Must be a US citizen or a non-citizen who meets specified criteria*
- Have countable income less than the combined AG rate plus the personal needs allowance (PNA) of \$81 per month
- Have non-exempt resources of less than \$2,000 for one person or \$3,000 for a couple

The current AG AL rate is set at \$1,221 per month outside of NVA and \$1,402 per month in NVA

- *AG rates are set by the General Assembly and adjusted based on Social Security cost of living adjustments*
- *The maximum monthly SSI payment is \$735 and depends on how much the person earned while working*
- *The AG pays the difference between residents' SSI payment (minus the PNA) and the AG AL rate*

Example: Current AG Rate = \$1,221 per month

Resident payment: (\$735 SSI - \$81 PNA) = \$656

Auxiliary Grant payment: (\$1,221 - \$656) = \$565

State General Funds Allocated for Auxiliary Grants

SFY 2011 = \$23,152,956; SFY 2012 = \$20,739,804

SFY 2016 = \$21,898,969; SFY 2017 = \$21,398,969

Monthly Auxiliary Grant Rate

SFY 2012 = \$1,112 SFY 2017 = \$1,221

Average Monthly Enrollment

SFY 2013 = 4,669² SFY 2016 = 4,138¹

Genworth Financial Median Monthly Assisted Living Costs³

2016 = \$3,950 2019 Projected = \$4,316

The current AG monthly rate equals about **28%** of the Genworth projected **2019** median monthly cost

- ALFs must carefully manage their mix of AG to private pay residents and levels of needs
- Several ALFs serving AG recipients **have closed** due to inadequate funding - small ALFS are particularly vulnerable
- DSS has had difficulty placing individuals receiving the AG resulting in individuals being **placed further away from their families**

¹ Department for Aging and Rehabilitation Services Annual Report 2016

² Department for Aging and Rehabilitation Services Annual Report 2013

³ <https://www.genworth.com/about-us/industry-expertise/cost-of-care.html>

- *Virginia Medicaid pays \$49.50 per day for Medicaid recipients enrolled in the Alzheimer's Assisted Living Waiver (AAL) living in ALFs*
 - This is in addition to the AG payment and does not pay for room and board
 - There are also individuals who in Medicaid that are not in the AAL waiver who receive assisted living
 - *ALFs do not receive the per diem Medicaid payment for individuals who receive Medicaid but are not enrolled in the AAL Waiver*
- The AAL Waiver will expire this year; DMAS' current plans are to not renew the waiver; although, DMAS staff has indicated that plans may not yet be final
- Other Payer sources: savings, long term care insurance and employee sponsored benefits
 - *About 8% of the U.S. population has private long term care insurance*
 - *Individuals using their own funds may "spend down" to meet Auxiliary Grant financial eligibility*

Primarily Private and Auxiliary Grant Paid Assisted Living – Observations from Site Visits

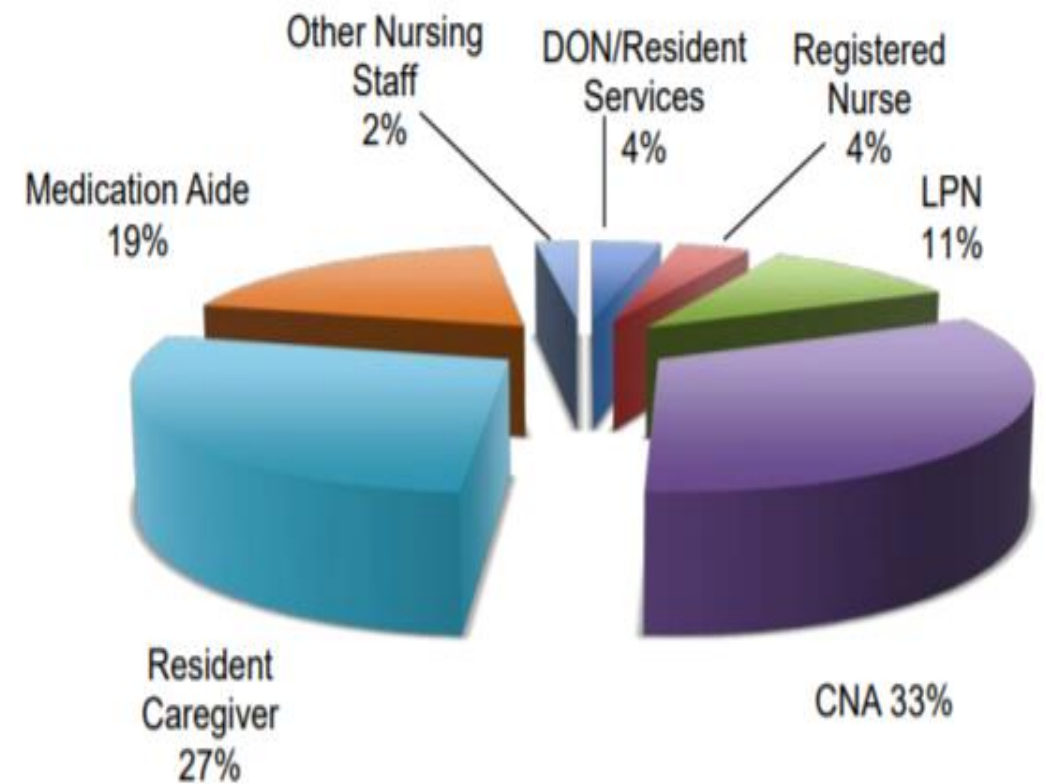
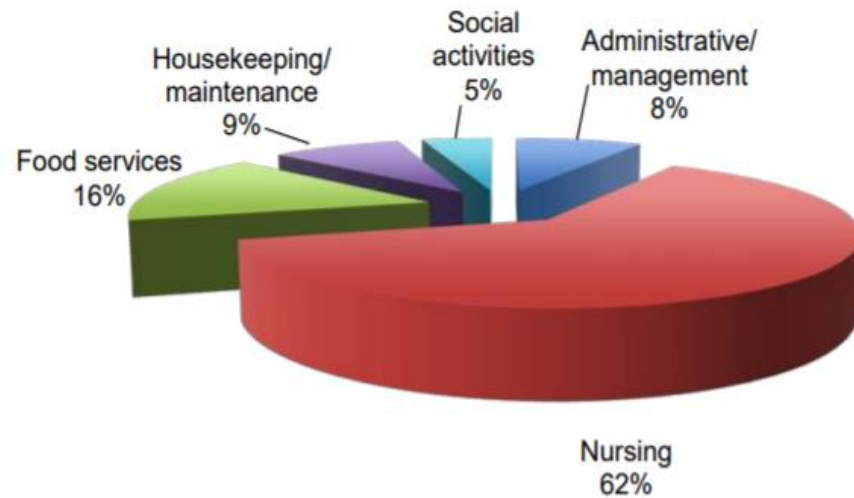
- Staff members at all sites were **very dedicated** to their residents, and residents expressed **high levels of satisfaction**
- Administrators at ALFs with all or mostly **privately paid** residents reported **slim but positive operating margins**
- An administrator at an ALF with a **majority of AG paid** residents reported **operating losses of about \$500K per year**; the gap is filled by an affiliated religious organization
- Majority AG-funded AL characteristics included:
 - AG funded residents lived in **double-occupancy rooms** with a **shared water closet** (private pay residents had private rooms and bathrooms)
 - **Showers are in halls** and shared by multiple residents
 - Most food is **donated from local grocers** – food is near its ‘*use by*’ date and must be culled prior to use; \$1.71 per resident per day is spent on non-donated foodstuffs
 - Fewer observed organized activities
 - Does not accept residents with high needs due to staffing limitations

Findings from the National Center of Assisted Living 2013 Survey

Respondents

Nursing had the highest percentage of staff at over half of all staff (Figure 2). Of the nursing staff, certified nursing assistants (CNAs) and resident caregivers were the most common positions (Figure 3).

Figure 2. Percentage breakdown of staff by job category.



In 2013, the median turnover rate among nursing staff was 24.2%

206 facilities reported they had a total of 1,021 vacant positions

Median Turnover Rates	Turnover
Overall	24.2%
Nursing	25.0%
CNAs	13.6%
Resident Caregivers	36.4%

Vacant Positions	Number	Percent of Total
Total	1,021	100%
Nursing	615	60%
CNAs	213	21%
Resident Caregivers	193	19%

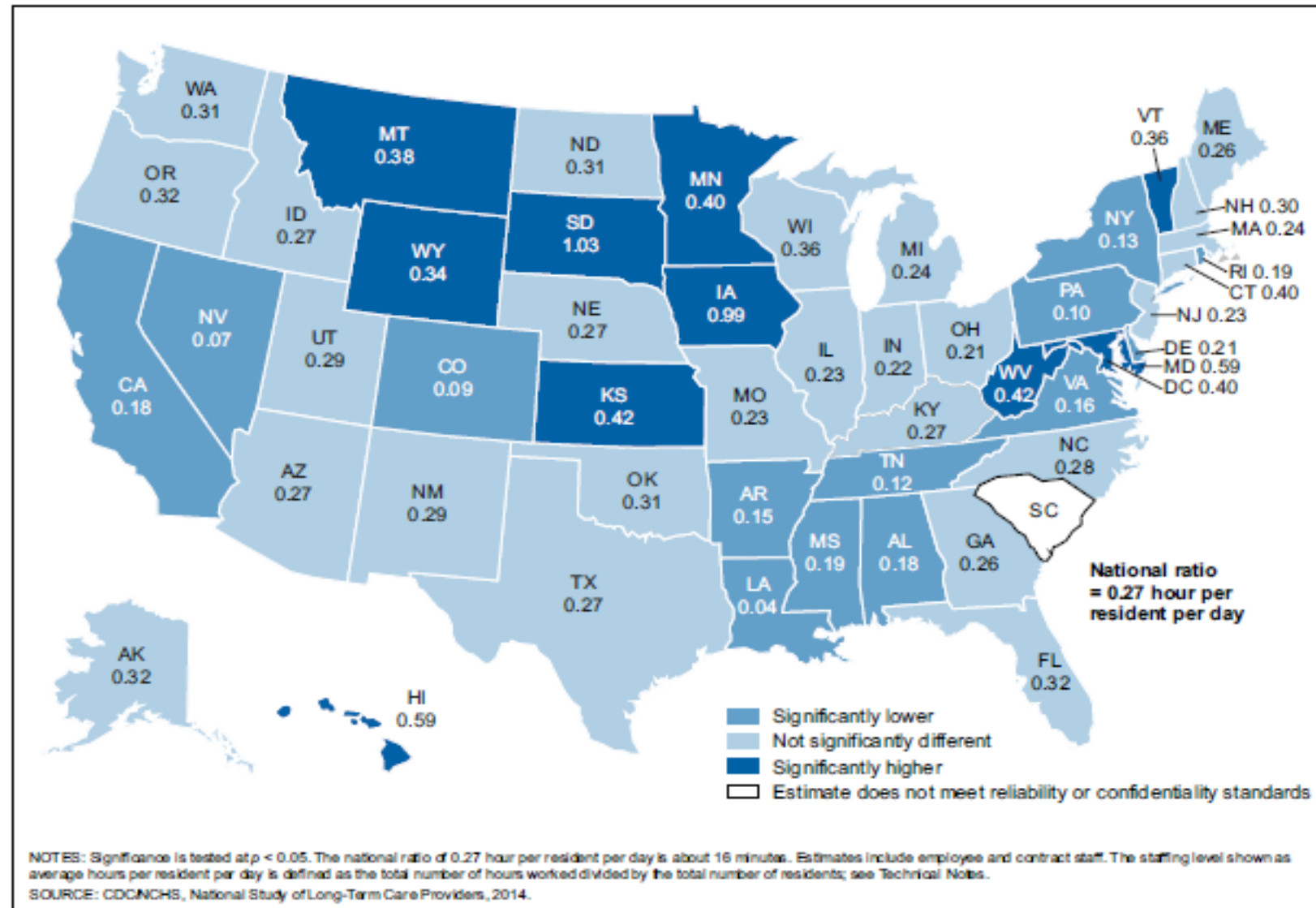
2016 National Center for Assisted Living Regulatory Review of Assisted Living Requirements

- Ten states mandate specific staffing ratios
 - In states that do not, staff levels must be sufficient to **meet resident needs and ensure safety**
 - And/or the ALF must have a **written staffing plan** and demonstrate how their staffing system works
 - States that **do** mandate ratios include: Georgia, Idaho, Indiana, Maine, Mississippi, Missouri, Michigan, New Mexico, North Carolina, and South Carolina¹
- One Virginia ALF reported that their direct care staff compensation equals \$14.54 (wages and benefits) per hour with total staffing costs of \$465,745 per year
 - **Adding 3 more staff would raise costs by \$2,490 per resident per year**
 - They opined that increased ratios may put smaller companies and those serving a high proportion of residents receiving AG funding out of business

¹ See Appendix I for details

Residential Care Communities Staffing Levels National Health Statistics Report 2016 (2014 Data)

Registered Nurses (RN)



- RN staffing levels ranged from 2 minutes (0.04 of 1 hour per resident per day) in Louisiana to 1.03 hours in South Dakota
- RN staffing levels were significantly higher than the national ratio (16 minutes or 0.27 of 1 hour) in 10 states (Hawaii, Iowa, Kansas, Maryland, Minnesota, Montana, **South Dakota**, Vermont, West Virginia, and Wyoming)
- RN staffing levels were significantly lower than the national ratio (16 minutes or 0.27 of 1 hour) in 13 states (Alabama, **Arkansas**, California, Colorado, Delaware, Louisiana, Mississippi, Nevada, New York, Pennsylvania, Rhode Island, Tennessee, and **Virginia**)

Figure 3. Registered nurse staffing levels for residential care communities, by state: United States, 2014

Residential Care Communities Staffing Levels National Health Statistics Report 2016 (2014 Data)

Aides

- Aide staffing levels ranged from 1.18 hours per resident per day (1 hour 11 minutes) in Indiana to 3.94 hours (3 hours 56 minutes) in Wisconsin
- Aide staffing levels were significantly higher than the national ratio (2.37 hours or 2 hours 22 minutes) in 7 states (Alaska, Kansas, Minnesota, New Mexico, South Dakota, West Virginia, and Wisconsin)
- The Virginia ratio of 1.94 was lower than the national average of 2.37 hours per day

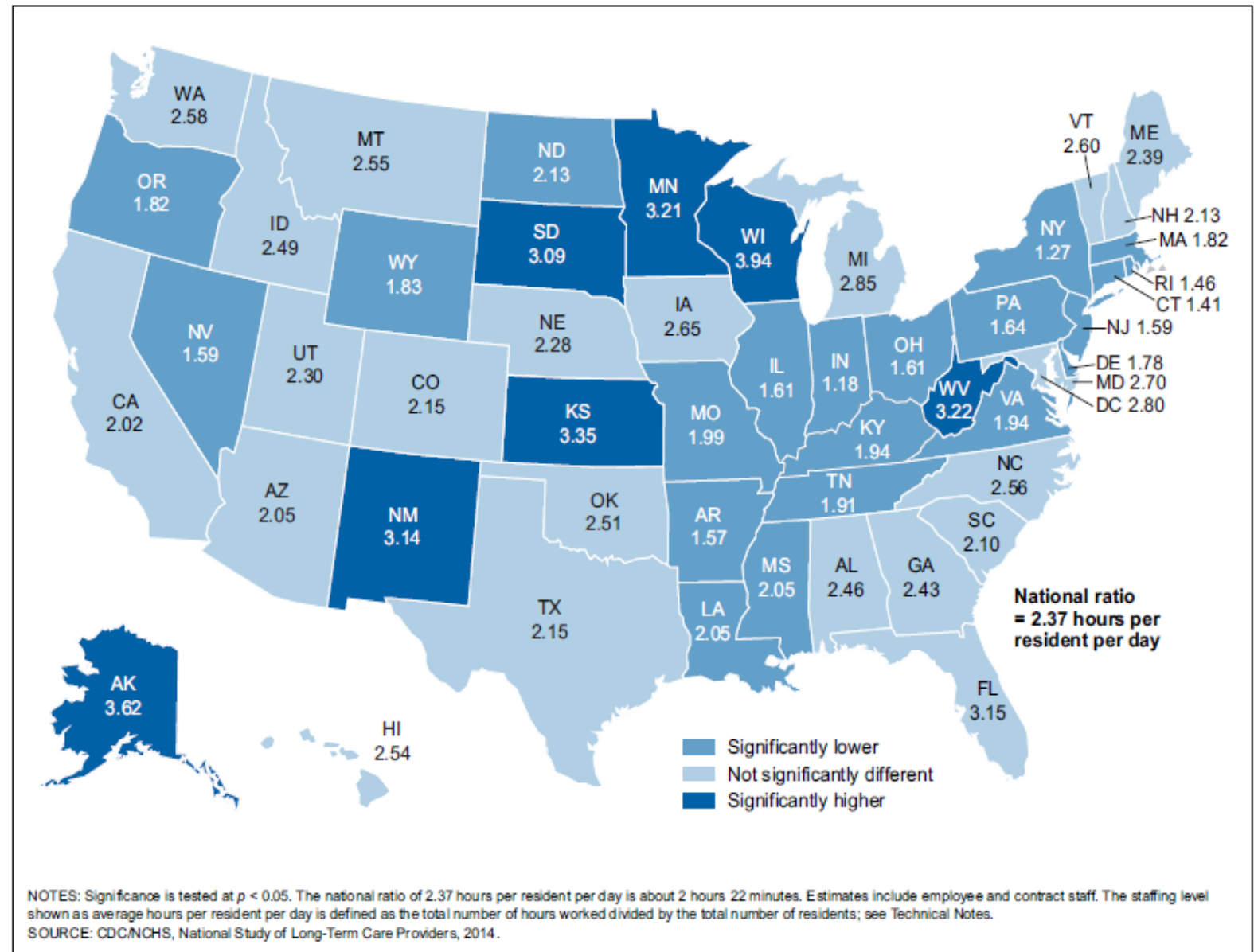
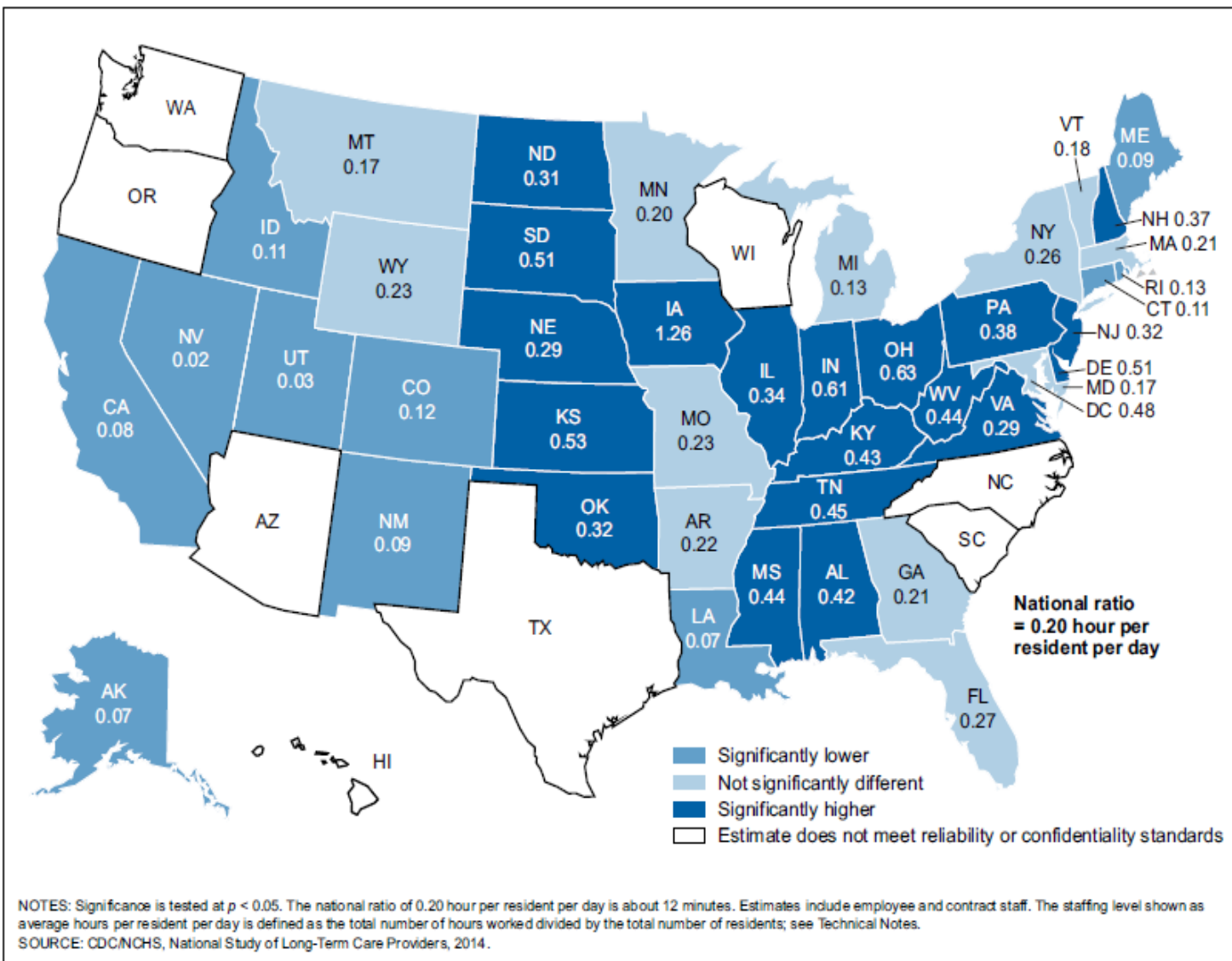


Figure 5. Aide staffing levels for residential care communities, by state: United States, 2014

Residential Care Communities Staffing Levels National Health Statistics Report 2016 (2014 Data)

Licensed Practical (LPN) or Vocational Nurses (VN)

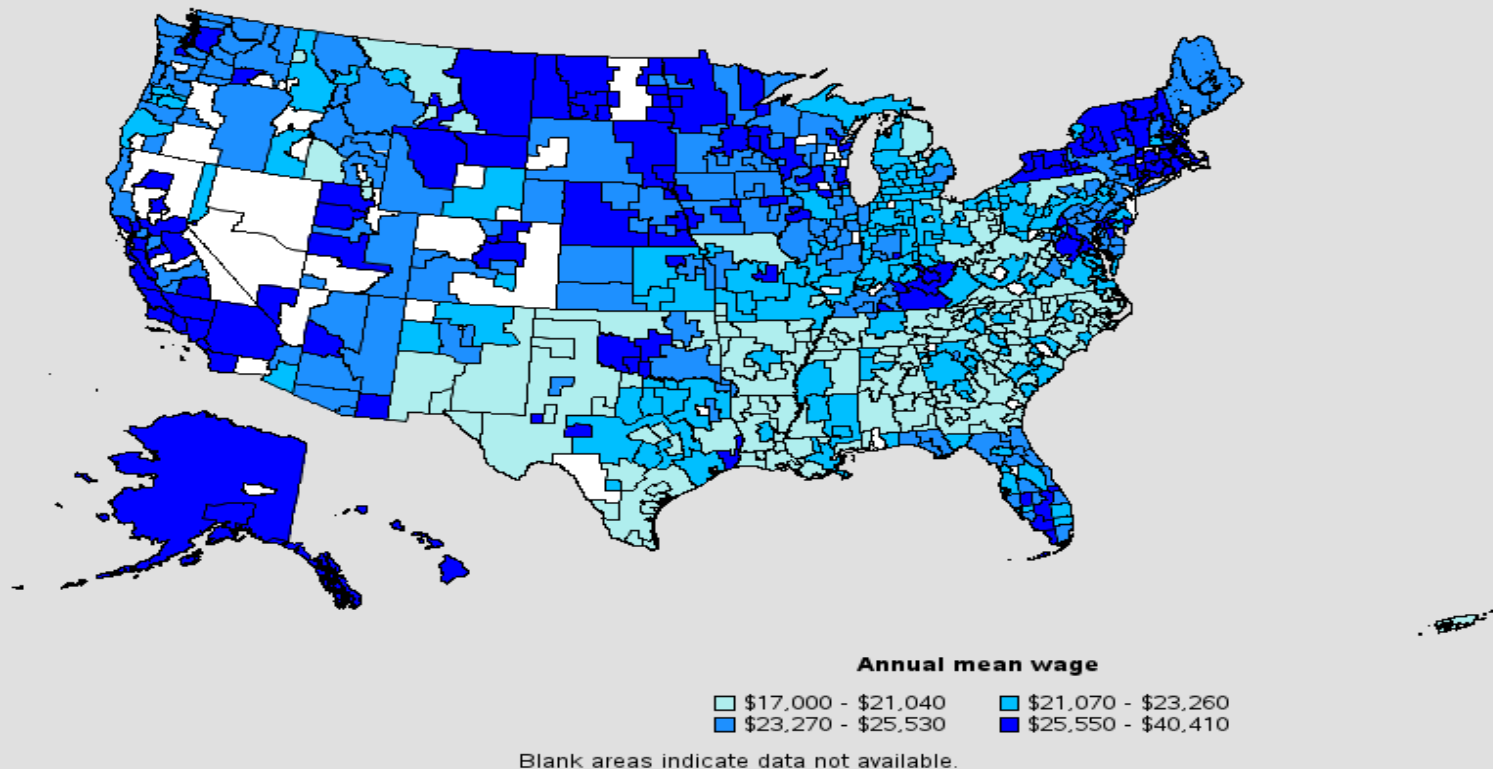


- LPN/VN staffing levels ranged from 1 minute (0.02 of 1 hour per resident per day) in Nevada to 1.26 hours in Iowa
- LPN/VN staffing levels were significantly higher than the national ratio (12 minutes or 0.20 of 1 hour) in 20 states (Alabama, Delaware, D.C., Illinois, Indiana, Iowa, Kansas, Kentucky, Mississippi, Nebraska, New Hampshire, New Jersey, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Virginia, and West Virginia)
- LPN/VN staffing levels were significantly lower than the national ratio (12 minutes or 0.20 of 1 hour) in 11 states (Alaska, California, Colorado, Connecticut, Idaho, Louisiana, Maine, New Mexico, Nevada, Rhode Island, and Utah)

Figure 4. Licensed practical or vocational nurse staffing levels for residential care communities, by state: United States, 2014

Bureau of Labor Statistics - May 2016 State Employment and Wage Estimates for Nursing Assistants

Annual mean wage of home health aides, by area, May 2016



- CNAs are often trained by ALFs
- As people live longer in their homes, CNAs are migrating to home health after several months
- They can earn higher wages that are paid directly by consumers

Area	Number Employed	Mean Hourly Wage	Mean Annual Wage
US	1,443,150	\$13.29	\$27,650
Virginia	37,170	\$12.52	\$26,040
DC	2,970	\$16.05	\$33,380

Policy implications from Literature Review¹

- There is a heightened need for training, as the mix of physically frail and cognitively impaired elderly and residents with mental illness and developmental disabilities increase
- Minimum direct care staff requirements may lead to the substitution of indirect care staff (e.g., food workers, janitors) for direct care staff (nurses, nurse assistants and medication aides)
- All types of healthcare professionals are needed in the right proportion for better outcomes



¹ See Appendix II for details

The Department of Social Services is Leading the Effort to Create a New Staffing Tool


- Virginia requires a **method** to determine and document staffing needs
- Documentation based on the method is used when DSS performs inspections and responds to complaints
- A workgroup lead by DSS is developing a **new tool** to help better determine staffing needs
- The tool is modeled on one used in Oregon modified to reflect Virginia needs
- The tool will be **pilot tested** in Virginia facilities that range in size, acuity mix, affiliation status and regions
- Results will be compared to those determined by use of the current form

Use of this tool will be voluntary (regulations do not mandate the use of a specific tool)

- Once complete DSS will:
 - Make the tool available on its **website** for download
 - Update its presentation for training
 - Explore contracting for **webinar training** of the revised tool
 - Consider options for creating **online data entry capacity**



- Data compilation for monitoring currently requires that DSS staff **manually** combine data from several system components which is time-consuming and dependent on institutional knowledge
- DSS does not have staff to write programs to create standardized, automated reports on measures and trends
- DSS is receiving reports compiled by LeadingAge Virginia (a statewide organization representing not-for-profit ALFs) which include data on their members only

	Top 10 Assisted Living Violations - Statewide April 2017 – June 2017		
	Regulation	Number of Violations	Number of Inspections
#1: 22VAC40-72-440-C Individualized service plans	58	355	
#2: 22VAC40-72-670-C Administration of Medications and Related Provisions	46	355	
#3: 22VAC40-72-290-C Staff records and health requirements	40	355	
#4: 22VAC40-72-670-H Administration of medications and related Provisions	35	355	
#5: 22VAC40-72-850-A Maintenance of buildings and grounds.	34	355	
#6: 22VAC40-72-550-F Resident rights	26	355	
#7: 22VAC40-72-630-A Medication management plan and reference materials	26	355	
#8: 22VAC40-72-440-E Individualized service plans	20	355	
#9: 22VAC40-72-840-I General requirements	20	355	
#10: 22VAC40-72-850-F Maintenance of buildings and grounds	18	355	

Upgrading DSS Data Reporting and Monitoring Capabilities



A Request For Information (RFI) process could be used, at no expense, to collect information from vendors on possible solutions and costs for upgrading data reporting capabilities

- *DSS could then:*
 - Identify funds and/or seek a budget request
 - Publish a Request for Proposals (RFP) in order to contract with a vendor to create a solution

The Department of Social Services has Lead a Multiple-Year Effort to Update Virginia Assisted Living Regulations¹

Updating regulations involved a multiple-year effort that included stakeholders from all aspects of the senior living industry, including: assisted living providers, Alzheimer's Association representatives, the long-term care ombudsman, resident advocacy groups and various State Departments and Agencies

New regulations recently signed by the Governor include requirements for:

- Increased training of direct care staff on cognitive impairment
- Increased supervision of medication aides
- Increased administrator staffing
- Fall risk ratings for all residents
- Increased incentives for employment of full-time licensed health care professionals
- Requirements for signaling devices and awake overnight staff

¹See Appendix V

Policy Options

Option 1	Take no action
Option 2	By letter of the JCHC chair, request that the Department of Social Services determine explicit minimum staffing ratio requirements for day, evening and overnight shifts
Option 3	Introduce a budget amendment to raise Auxiliary Grant rates (amount to be determined)
Option 4	By letter of the JCHC Chair, request that the Secretary of Health and Human Resources direct the Department of Social Services to field a Request for Information (RFI) for enhancing data reporting capabilities

Written public comments on the proposed options may be submitted to JCHC by close of business on Thursday October 12, 2017.

Comments may be submitted via:

- ❖ E-mail: jchcpubliccomments@jchc.virginia.gov

- ❖ Fax: 804-786-5538

- ❖ Mail: Joint Commission on Health Care

P.O. Box 1322

Richmond, Virginia 23218

Full comments will be provided to Commission members and summarized during the JCHC's November 21st decision matrix meeting.

(All public comments are subject to FOIA release of records)

States that Specify Staffing Levels in AL NCAL 2016 Assisted Living State Regulatory Review

Georgia



- Staff ratios of 1:15 during the day and 1:25 during night
- At least one administrator, on-site manager, or responsible staff person, all of whom must be at least 21 years of age, and must be on the premises 24 hours a day
- There should be a minimum of one on-site staff person per 15 residents during awake hours and one staff person per 25 residents during sleeping hours
- Additionally, there must be sufficient staff to meet residents' needs
- The ALF must develop and maintain accurate staffing plans that take into account the specific needs of the residents

States That Specify Staffing Levels in AL
NCAL 2016 Assisted Living State Regulatory Review

Maine



- An on-site administrator must be employed by the facility
- There are no staffing ratios, except as described below for Level IV residential care facilities
- Level IV ratio requirements - 1 staff to 12 residents

Missouri



- ALFs must have an adequate number and type of personnel for the proper care of residents, the residents' social well being, protective oversight of residents, and upkeep of the facility
- At a minimum, the staffing pattern for fire safety and care of residents shall be:
 - One staff person for every 15 residents or major fraction of 15 during the day shift
 - One person for every 20 residents or major fraction of 20 during the evening shift
 - One person for every 25 residents or major fraction of 25 during the night shift

States That Specify Staffing Levels in AL NCAL 2016 Assisted Living State Regulatory Review

North Carolina



- At all times there must be one supervisor /administrator-in-charge who is directly responsible for ensuring that required duties are carried out and residents are never left alone
- The facility must have a designated activity director
- Regulations specify staffing requirements, qualifications for various positions, and detailed staffing ratios for the type of staff (aide, supervisor, and administrator or administrator in charge), first, second or third shift, and the number of residents
- Regulations specify different management requirements for facilities based on size from 7-30 residents, 31-80 residents, and 81 or more residents
- Staffing ratios in special care units = 1:8 during the day; 1:10 during the night; 0.8 for each resident over 10

South Dakota



- Each facility must have a designated administrator responsible for the daily overall management of the facility
- There must be a sufficient number of qualified personnel to provide effective care, with a minimum of 0.8 hours of direct resident care for each resident for each 24-hour period
- At least one staff person must be on duty at all times, and those staff on duty must be awake at all times
- South Dakota legislation has additional staffing ratio requirements for health care facilities, from which assisted living centers may request an exception by completing a state form

Assisted Living Staffing Requirements in Select States

Arkansas: On-site staff/resident ratios

No. Residents	Day	Evening	Night
1 - 16	1	1	1
17 - 32	2	2	1
33 - 49	2	2	2
50 - 66	3	2	2
67 - 83	4	2	2
84 Plus	5	3	2



Florida: Minimum staff hours per week

No. Residents	Hours/Week
0 - 5	168
6 - 15	212
16 - 25	253
26 - 35	294
36 - 45	335
46 - 55	375
56 - 65	416
66 - 75	457
76 - 85	498
86 - 95	539
For each additional 20	Add 42

Appendix II: Literature Review Details

- Literature search from 1990 to 2017 using PubMed, ProQuest, Ovid Medline, and CINAHL
- Searched citations of final articles
- Search strategy – “building block”, MeSH associated with keywords that reflected Assisted Living Staffing Ratios and Quality of Care
- Keywords included – “nursing staffing ratios” AND “quality”; “nursing homes” AND “staffing”; “assisted living staffing ratios” AND “staffing” and “quality”
- Inclusion criteria – English language, peer reviewed articles, quantitative and qualitative articles, date range 1990-2017
- Exclusion criteria – case studies, non-English language, conceptual papers, editorials and reviews

Appendix II: Literature Review Details

Literature Review – ALF Staffing Ratios and Quality of Care

Year of Publication and Country	Author	Title	Journal	Objective	Data source & Methodology	Sample Size	Results	Policy Implications
1995, USA	Phillips, C., et al	Report on the Effects of Regulation on Quality of Care : Analysis of the Effect of Regulation on the Quality of Care in Board and Care Homes	U.S. DHHS Assistant Secretary for Planning and Evaluation Office of Disability, Aging and Long-Term Care Policy	To document the characteristics of board and care homes and residents, to assess the quality of care received by board and care residents and examine the effects of State regulation on the quality of that care.	Data source: Survey Methodology: 10 States were sampled and within them a stratified, three-stage, cluster design implemented to select residents and staff in homes based on whether they operated under extensive or limited regulatory system, by licensure status, and by size. The relationship between regulation, licensure, and quality care was studied using multivariate modeling techniques. OLS and logistic regressions were used to fit regression models.	512 board and care facilities in 10 states. Interviews in 386 licensed homes and 126 unlicensed homes with 512 operators, 1,138 facility staff, and 3,257 facility residents.	Positive effects of regulation on quality of care and life in board and care homes. States with extensive regulatory systems had a significantly smaller proportion of unlicensed facilities. Extensive regulatory systems were associated with better quality of care and coped better with frail and disabled residents. Licensed homes made wider array of key supportive services available to residents. Neither extensive regulation nor licensure had a positive effect on staff training and medication management.	Residents were considerable older and more frail and disabled than in the previous decade. The mix of physically frail elderly, cognitively impaired elderly, and residents with mental illness and developmental disabilities created caregiving challenges. A wide range of services, staffing patterns, staff training and knowledge were needed to meet residents' needs. The need for training requirements to be clearly specified. Highlighted the need for board and home care industry to work closely with the state government to improve quality of care.

Literature Review – ALF Staffing Ratios and Quality of Care

Year of Publication and Country	Author	Title	Journal	Objective	Data source & Methodology	Sample Size	Results	Policy Implications
2011, USA	Bowblis, J.R.	Staffing Ratios and Quality: An Analysis of Minimum Direct Care Staffing Requirements for Nursing Homes	Health Services Research	To identify the impact of minimum direct care staffing requirements on nurse staff levels, nurse skill mix, and quality.	<p>Data source: Online Survey Certification and Reporting System (OSCAR) System</p> <p>Methodology: Facility-level outcomes of nurse staffing levels, nurse skill mix, and quality measures were regressed on the level of nurse staffing required by Minimum Direct Care (MDC) requirements in the prior year and other controls using fixed effect panel regression. Quality measures were care practices, residents outcomes, and regulatory deficiencies.</p>	17,552 nursing facilities	<p>First analysis - relationship between MDCS requirements and staffing level (overall reliance - reliance on Medicaid not considered): Higher MDCS increased the total number of staff. Second analysis (assume reliance on Medicaid): Total staffing increased for all nursing homes but nursing homes with more reliance on nursing homes had larger increases. MDCS have mixed effects on care practices but are generally associated with improved resident outcomes and meeting regulatory standards.</p>	<p>Higher MDCS requirements increase the total number of staff employed in nursing homes. The effect is larger the higher the level of staffing mandated by the MDCS requirement and for nursing homes that are more reliant on Medicaid. High Medicaid reliant nursing homes did not change licensed staff composition but hired more RNs instead of LPNs to keep skill mix similar to levels before the increase in MDCS requirements. Non-Medicaid reliant nursing homes hired CNAs to keep the proportion of RN staff constant. Higher staffing is associated with higher quality, but skill mix of staffing matters (Bowblis, J.R., p. 1514). Nursing homes choose labor and material intensive care practices in response to MDCS requirements and the substitution effect resulting from MDCS requirements leads to mix results for increases in quality measures (Bowblis, J.R., 2011,p.1514).</p>

Literature Review – ALF Staffing Ratios and Quality of Care

Year of Publication and Country	Author	Title	Journal	Objective	Data source & Methodology	Sample Size	Results	Policy Implications
2010, USA	Thomas, K.S., Hyer, K., Andel, R., & Weech-Maldonado, R.,	The Unintended Consequences of Staffing Mandates in Florida Nursing Homes : Impacts on Indirect-Care Staff	Medical Care Research and Review	To explore whether staffing mandates aimed at improving nursing home quality of care had unintended consequences.	Data source: OSCAR Methodology: Piecewise regression growth curve models were investigated to test whether the percentage of Medicaid residents was associated with changes in indirect-care staffing levels in Florida. A comparative analysis was made with Tennessee which had no mandate to ensure that the changes were not due to other possibilities.	3,905 observations (annual surveys) from 714 Florida nursing homes and 1,690 observations from 316 Tennessee nursing homes.	Nursing homes were compliant with the mandated increases required by SB1202 and 91% met the 2.6 Certified Nursing Assistant hours per resident day in 2003. Indirect-care staff levels declined, particularly with nursing homes required to increase their direct-care staff levels to be compliant with the policy. Nursing homes with lower proportion of Medicaid residents saw the highest decline in indirect-care staff. No measurable changes in indirect-care staffing levels were found in Tennessee in the time period the study was conducted.	Decline in indirect-care staff affected the quality of life of residents. Indirect-care staff (housekeeping & activities) maintain cleanliness to reduce the spread of infections. Decline in residents' quality of life affects their quality of care. Unintended consequences of staffing mandate may occur since mandate impose costs which must be managed by nursing homes. Study failed to measure the substitution effect of CNA for indirect-care staff, changes in job description of CNAs and total time spent with residents. Study did not address the possibility of passing the increased costs to private pay residents.

Literature Review – ALF Staffing Ratios and Quality of Care

Year of Publication and Country	Author	Title	Journal	Objective	Data source & Methodology	Sample Size	Results	Policy Implications
2007,USA	Stearns, S.C., et al	Determinants and Effect of Nurse Staffing Intensity and Skill Mix in Residential Care/Assisted Living Settings	The Gerontologist	To provide an analysis of the intensity and skill mix of nursing staff using data from a four-state study and their relationship to outcomes.	Data source: Longitudinal data from the Collaborative Studies of Long-Term Care (CS-LTC) Methodology: Descriptive statistics used to assess the levels of direct care staff (RNs, LPNs, and personal care aides) and regression analyses to evaluate the relationship between intensity, measured as care hours per resident, and skill mix, measured as the percentage of total care hours by licensed nurses, facility characteristics, and four health outcomes.	1,894 residents of 170 residential care/assisted living facilities	For very small facilities, care hours per resident decreased with facility size and increased with dementia prevalence (case-mixed effect). Licensed staff accounted for a greater proportion of total hours in nonprofit settings. Health outcomes did not vary by total care hours per resident, but hospitalization rates were significantly lower in facilities with higher proportions of skilled staff hours. The effect was stronger as dementia case mix increased. The health outcomes measured included mortality, nursing home transfer, hospitalization, and incident morbidity.	RC/AL facilities have lower staffing needs compared to nursing homes due to the residents high level of functional ability. However, the need for ageing in place may increase demand to nursing home levels. Analyses showed no evidence of benefits from increased hours of care per resident. Study found RNs and LPNs to be close substitutes in RC/AL settings. Greater proportion of direct care hours was protective against hospitalization, though effect varied with facility case mix as measured by percentage of residents with dementia. Relationship between low hospitalization and high skill mix not explained. Nonprofit facilities had greater levels of skill mix than for-profit facilities.

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Year of Publication and Country	Author	Title	Journal	Objective	Data source & Methodology	Sample Size	Results	Policy Implications
2008, USA	Alexander, G. L.	An Analysis of Nursing Home Quality Measures and Staffing	Quality Management in Health Care	The objective was to determine whether differences in quality measure (QM) scores occurred with changing staffing-level mix.	Data source: Nursing Home Compare (February, 2004) Methodology: The study used analyses of variance to examine differences in the dependent QM scores and the independent range of staffing levels for 3 disciplines, CNA, LPN, and RN on the basis of their number of hours per resident per day worked in nursing home. It further used residents as a covariate to determine effects on significant analyses of variance.	Missouri nursing homes (N=510)	Statistical measures in nearly half of the nursing QM evaluated revealed significant differences between the mean percentages of residents with a quality concern in facilities with contrasting staffing levels. QMs most sensitive to staffing levels included long stay, low-risk residents who had become incontinent (with constant RN levels, as CNA levels increased, the percentage of residents who became incontinent increased about 5%), residents who needed help with ADLs increased, short-stay residents with moderate to severe pain (those with severe pain increased dramatically within facilities that had constantly lower levels of RN staffing), short-stay residents with pressure ulcers (45 minutes or less RN time per resident led to failure to detect pressure ulcers).	All types of health care professionals are needed in the right staff-resident ratio to meet the needs of frail elders in nursing homes. Strategies for quality improvement must go beyond the basic regulatory approach.

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Year of Publication and Country	Author	Title	Journal	Objective	Data source & Methodology	Sample Size	Results	Policy Implications
2009, USA	Kim, H., et al	A Panel Data Analysis of the Relationships of Nursing Home Staffing Levels and Standards to Regulatory Deficiencies	Journal of Gerontology: Social Sciences	To examine the extent to which nursing staffing levels and compliance with a state's minimum staffing standard are associated with total deficiencies, QoC deficiencies, and severe deficiencies	Data source: Annual cost report data submitted to the California Office of Statewide Health Planning and Development (COSHPD), OSCAR, Automated Certification and Licensing Administrative Information and Management System, US Bureau of Economic Analysis. Methodology: Panel data analysis of random-effect models. Dependent variable: nursing home deficiencies categorized into total deficiencies, QoC deficiencies, and severe deficiencies. Explanatory variables: three sets of nursing staffing levels-total nursing hours per resident day (HPRD), meeting the state minimum nursing home staffing standard, and nursing HPRD by type of personnel(RN, LPN, CNA). Control variables such as number of beds measured by categorical groups, profit status, three payer mix, and occupancy rate.	4,933 yearly observations of 1,099 Medicare and/or Medicaid-certified, freestanding, skilled nursing homes in California between 1999 and 2003.	Higher total nursing staffing level were negatively related to deficiencies. Higher RN staffing levels were negatively related to deficiencies. RN staffing was negatively related to total and QoC deficiencies and also marginally related to serious deficiencies. LPN staffing was positively related to total and QoC deficiencies but not related to serious deficiencies. Meeting California's nursing staffing standard was negatively related to deficiencies partially. Meeting staffing standard was associated with a lower number of total deficiencies and QoC deficiencies but not with the probability of receiving serious deficiencies.	Even though California nursing home staffing standard of 3.2 total nursing HPRD is more than several other states' requirements, it is below CMS recommendation of 4.1 total nursing HPRD that can decrease serious harm or jeopardy to residents. Nursing homes with higher RN staffing levels received significantly fewer total and QoC deficiencies. Higher RN LPN levels had no relationship with or a positive relationship with the deficiencies. The effect of LPN staffing on quality were inconclusive. Substitution of LPN for RN staffing may decrease quality rather than increase quality. RN and NA staffing levels were negatively associated with all the three types of deficiencies.

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Year of Publication and Country	Author	Title	Journal	Objective	Data source & Methodology	Sample Size	Results	Policy Implications
2014, USA	Beeber, A.S., et al	Licensed Nurse Staffing and Health Service Availability in Residential Care and Assisted Living	Journal of the American Geriatrics Society	To create a data-driven typologies of licensed nurse staffing and health services in residential care and assisted living facilities	Data source: Convenient sampling of administrators and supervisors from 89 RC/AL communities in 22 states. Methodology: Cluster analysis was used to describe the patterns of licensed nurse staffing and 47 services and the extent to which these clusters were related. The 47 services were grouped into 5 cluster-basic service, technically complex services, assessments, wound care, and therapies, gastrostomy and intravenous medication, and testing and specialty services. To examine the relationship between service availability and nurse staffing, the five service cluster scores were examined for their association with the four staffing clusters.	89 RC/AL communities	The analysis showed staff clusters of (i) no or minimal hours worked by licensed nurses (ii) low hours, primarily LPNs or RNs (iii) high hours (iv) and mix of RN and LPN. Basic services were performed by 89% of own staff, 7% of contract staff, and not available in 4%. Technically complex services were performed by 64% of own staff, 18% of contract staff, and not available in 18%. Assessment, wound care, and therapies were performed by 43% of own staff, 37% of contract staff, and not available in 19%. Gastrostomy and intravenous medications were performed by 18% of own staff, 27% of contract staff, and were not available in 55%. Testing and specialty services were performed by 12% of own staff, 73% of contract staff, and not available in 15%. The no or minimal hours staffing cluster had a significantly lower service availability score. Testing and specialty services were high in the mix of RNs and LPNs. Basic services; Technically complex Services; Assessment, Wound Care, and Therapies availability were related to the presence or absence of licensed nurses rather than the type or number of nurses on staff.	Majority had licensed nurses in some capacity with implications for care outcomes. 24% of communities had no or minimal hours worked by licensed nurses. Stearns SC, et al (2007) found a negative association between RN staffing and hospitalization rates and explained that RNs could better identify and manage acute medical problems and decreased hospitalization rates. Communities with high hours and a mix of RN and LPN provided testing and specialty services, implying that larger communities may attempt to manage residents with complex healthcare needs by employing more nurses and providing more overall services to support aging in place (Stone & Reinhard, 2007). The study did not directly relate nursing presence to outcomes and did not cover CNAs who constitute the bulk of the RC/AL workforce.

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Year of Publication and Country	Author	Title	Journal	Objective	Data source & Methodology	Sample Size	Results	Policy Implications
2017, USA	Han, K., et al	Variations Across U.S. Assisted Living Facilities: Admissions, Resident Care Needs, and Staffing	Journal of Nursing Scholarship	To examine ALFs admission policies, resident care needs, and staffing characteristics.	Data source: 2010 National Survey of Residential Care Facilities Methodology: Used a cross-sectional secondary data analysis from 2010 National Survey of Residential Care Facilities to measure nine admission policy items, seven items on the proportion of residents with selected conditions or care needs, and six staffing characteristics. ALF were classified into small, medium, and large. The measurements were then projected to the national US estimates.	2,301	ALF admitted residents with considerable healthcare needs and served populations requiring nursing care. Staffing was mostly composed of patient care aides, with fewer than half of ALFs using licensed care providers (RNs and LPNs). Smaller facilities had more inclusive admission policies and residents with more complex care needs and less access to licensed nurses than larger facilities.	Potential overlap with nursing home populations. However, ALF's regulations lag far behind those in effect for nursing homes. Measurement criteria of care outcomes critically needed to ensure appropriate ALF care quality, for oversight and monitoring of care quality.

Appendix III: The Ten Top Safety Hazards in Assisted Living

- Lack of Safety Alert System
- Poor Lighting in Living Areas
- Improper Administration of Medications
- Obstructed Walkways
- Chairs Without Armrests
- Carpets/Floors in Poor Condition
- Resident Abuse
- Infections
- Poor Security

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- A study involving over US 2,000 ALFs found:
 - Residents in smaller ALFs had greater complex care needs, fewer licensed nursing staff and less in-service training for personal care aides compared to mid-sized or large facilities
 - Residents in these ALFs were more likely to be minority, male and younger than in large ALFs

Han, RN, PhD, Trinkoff, RN, ScD, FAAN, et. al. Variation Across U.S. Assisted Living Facilities: Admissions, Resident Care Needs, and Staffing. *Journal of Nursing Scholarship*. 2017; 49:1, 24-32

- The Virginia Department of Social Services (DSS) licenses AL
- Each license and renewal may be issued for up to three successive years
- The criteria for determining the periods of licensure are based on the activities, services, management, and compliance history of the facility and are the same for both for-and not-for-profit facilities
 - A three-year license may be issued when a facility routinely substantially exceeds the minimum standards
 - A two-year license may be issued when a facility maintains compliance with minimum standards and may exceed on a sustained basis in some areas
 - An annual license may be issued when a facility demonstrates an inconsistent level of compliance but substantial compliance is reached. Some reinforcement and guidance are needed in order for the facility to meet or maintain minimum requirements
 - Provisional license may be issued (for up to six months) when a regular license expires and the applicant is temporarily unable to comply with the requirements of the regulations
 - ALFs are inspected at least one time per twelve-month period

- The Individualized service plan must address the immediate needs of the resident
- The comprehensive plan shall include a description of identified needs based upon the,
 - *Uniform Assessment Instrument*
 - *Admission physical examination*
 - *Interview with resident*
 - *Assessment of psychological, behavioral and emotional functioning,*
 - *A written description of what services will be provided and by whom*
 - *When and where the services will be provided*
 - *The expected outcome and date of attaining the expected outcome*
- ISPs shall be reviewed and updated at least every 12 months and as needed as the condition of the resident changes

Virginia Regulations
22 VAC40-72-320 Part IV Staffing and Supervision §62.2.217
and §63.2-1756 of the Code of Virginia

- A. The AFL shall have staff adequate in knowledge, skills, and abilities and **sufficient in numbers** to provide services to attain and maintain the physical, mental and psychosocial well-being, as determined assessments and individualized service plans...
- B. The ALF shall maintain a **written plan that specifies the number and type of direct care staff** required to meet the day-to-day, routine direct care needs and any identified special needs for the residents in care...directly related to actual resident acuity levels and individualized care needs

- C. There shall be an **adequate number of staff** persons on the premises at all times to implement the approved fire and emergency evacuation plan
- D. There shall be **at least one direct care staff member** awake and on duty at all times in each building when at least one resident is present

EXCEPTION: In buildings that house **19 or fewer** residents, the staff member on duty **does not have to be awake during the night** if none of the residents require a staff member awake and on duty at night

- E. **Written work schedules** shall be maintained and shall indicate the names and job classifications of all staff working each shift

Virginia Regulations

22 VAC 40-72-460 - Health care services:

- The facility shall have a **written back-up plan** to ensure that a person who is qualified is available if the direct care staff member who usually provides the care is absent

22 VAC 40-72-100 - Incident reports:

- Each facility shall report to the regional licensing office by the next working day any **major incident** that has negatively affected or that threatens the life, health, safety or welfare of any resident

22 VAC 40-72-250 - Direct care staff qualifications:

- Graduation from a Virginia Board of Nursing-approved educational curriculum from a Virginia Board of Nursing accredited institution for nursing assistant, geriatric assistant or home health aide
- Graduation from a personal care aide training program approved by the Virginia Department of Medical Assistance Services
- Graduation from a educational curriculum for nursing assistant, geriatric assistant or home health aide approved by the Board of Nursing

Virginia Regulations 22 VAC 40-72-910 - provisions for signaling/call systems

- Signaling/call systems **permit staff to determine the origin of the signal** or is audible and visible in a manner that permits staff to determine the origin of the signal
 - In buildings licensed to care for **20 or more** residents under one roof, there shall be a signaling device that terminates at a central location that is **continuously staffed**
 - In buildings licensed to care for **19 or fewer** residents under one roof, if the signaling device does not permit staff to determine the origin of the signal as specified, direct care staff **shall make rounds at least once each hour**
 - *Rounds shall begin when the majority of the residents have gone to bed and shall terminate when the majority of the residents have arisen*
 - *A written log shall be maintained showing the date and time rounds were made - logs for the past two years shall be retained*

Appendix V: Select Updated Virginia Regulations

- [22VAC40-73-160](#) – Adds to administrator training requirements that administrators who supervise medication aides, but are not registered medication aides themselves, must have annual training in medication administration
- [22VAC40-73-170](#) - Adds that an unlicensed shared administrator for smaller residential living care facilities must be at each facility for six hours during the day shift of the 10 required hours a week
- [22VAC40-73-210](#) – Increases the annual training hours for direct care staff
- [22VAC40-73-220](#) – Adds requirements regarding private duty personnel
- [22VAC40-73-260](#) – Adds requirement that at least one person with first aid certification and at least one person with cardiopulmonary resuscitation (CPR) certification must be in each building, rather than on the premises
- [22VAC40-73-280](#) – Changes an exception (allowing staff to sleep at night under certain circumstances) to one of the staffing requirements to limit its application to facilities licensed for residential living care only
- [22VAC40-73-325](#) – Adds a requirement for a fall risk rating for residents who meet the criteria for assisted living care

Appendix V: Select Updated Virginia Regulations

- **22VAC40-73-490** – Reduces the number of times annually required for health care oversight when a facility employs a full-time licensed health care professional; adds a requirement that all residents be included annually in the health care oversight, adds to the oversight evaluating the ability of residents who self-administer medications to continue to safely do so, adds additional requirements for oversight of restrained residents
- **22VAC40-73-930** – Adds to the provision for signaling/call systems that for a resident with an inability to use the signaling device, this must be included on his individualized service plan with frequency of rounds indicated, with a minimum of rounds every two hours when the resident has gone to bed at night, with an exception permitted under specific circumstances
- **22VAC40-73-1010** – Removes the exception (for facilities licensed for 10 or fewer with no more than three with serious cognitive impairment) that applied to all requirements for mixed population
- **22VAC40-73-1030** – Increases the training required in cognitive impairment for direct care staff, and except for administrator, other staff
- **22VAC40-73-1130** – Adds requirement that when there are 20 or fewer residents present in a special care unit, there must be at least two direct care staff members awake and on duty in the unit, and for every additional 10 residents, or portion thereof, there must be at least one more direct care staff member awake and on duty in the unit, rather than two direct care staff in each unit
- **22VAC40-73-1140** - Increases the number of hours of training in cognitive impairment for the administrator and changes the time period in which the training must be received for both the administrator and for direct care staff who work in a special care unit, also increases training in cognitive impairment for others who have contact with residents in a special care unit