The Gerontologist, 2025, **65**, gnaf119
https://doi.org/10.1093/geront/gnaf119
Advance access publication: 23 March 2025
Research Article

A Qualitative Analysis of Safety Culture in Minnesota's Assisted Living Facilities

Lacey Loomer, PhD, MSPH*, and Kim Nichols Dauner, PhD, MPH

Department of Economics and Health Care Management, Labovitz School of Business and Economics, University of Minnesota, Duluth, Minnesota, USA.

*Address correspondence to: Lacey Loomer, PhD, MSPH. E-mail: loome011@d.umn.edu

Decision Editor: Andrea Gilmore-Bykovskyi, PhD, RN

Abstract

Background and Objectives: The number of assisted living facilities and people living in them is growing; however, there is considerable variation in state regulations for assisted living. Therefore, it is important for states with new or changed regulations to provide lessons learned for regulation and patient safety purposes.

Research Design and Methods: Using qualitative thematic analysis, we applied the Agency for Healthcare Research and Quality's safety culture domains to regulators' health inspection reports from the first round of surveys post-implementation of Minnesota's 2019 Elder Abuse and Prevention Act. In accordance with the Iceberg Model, we focused our analysis on inspectors' stories of violations with severity of level three (defined as harming a resident's health or safety) because they represent the visible part of the problem.

Results: Three, at times overlapping, safety culture themes emerged as underlying level three violations: staffing, compliance, and communication. Having enough staff, adequacy of staff training, development of internal policies that align with regulations, awareness of those policies, and the communication of caregiving activities contribute to the presence of patient-harming violations in Minnesota.

Discussion and Implications: This is the first study to qualitatively examine the context behind citations that result from licensing surveys of assisted living facilities considering established indicators of quality. These findings provide baseline data on health inspections at a time when several states are considering changes to their assisted living regulations. Additionally, the results are suggestive of ways in which training and assistance, quality measurement, and staffing can be improved.

Keywords: Assisted living facilities, patient safety, qualitative research

Background and Objectives

There are approximately 800,000 residents living in 30,000 assisted living facilities across the country (FastStats, 2024). At more than twice the number of nursing homes, they are fast becoming a substitute for nursing home care for the growing population of older Americans. Centers for Medicare and Medicaid Services has the authority to regulate healthcare providers that accept Medicare and Medicaid. Some states have Medicaid waivers to extend payment for assisted living facilities; however, Medicaid only pays for personal care services, not room and board, thus assisted living facilities remain largely regulated at the state level. The regulation of assisted living facilities varies state to state, notably with wide variations in training and staffing minimums (ASPE, 2015; Carder, 2017; Weil & Rich, 2023). As a result, the staffing and quality of assisted living facilities nationally are unknown.

In the peer-reviewed literature, there is a dearth of information on quality and staffing in assisted living. Researchers from Oregon and Florida have used their state's survey data to characterize the assisted living population and the policy process (Hernandez, 2007; June et al., 2020; Sharma, 2022; Street et al., 2009; Tunalilar et al., 2022). Tunalilar and colleagues used Oregon inspection data and examined the structural and environmental characteristics with being cited for a deficiency. In rural Minnesota, Loomer found worse quality at for-profit facilities (Loomer, 2023). In addition to health inspection data, there are some states that have conducted surveys of these long-term care settings. Temkin-Greener et al. interviewed direct care workers and administrators regarding patient safety finding discordant views on patient safety between the two groups of workers (Temkin-Greener et al., 2022). They concluded that specificity in regulations for staffing and training may be needed to increase patient safety culture. The Scripps Gerontology Center at Miami University developed and conducted a biennial survey of Ohio's nursing homes and assisted living facilities (Bowblis et al., 2024). Their researchers compared staffing levels between nursing homes and assisted living facilities in 2021 finding different patterns due to differences in resident needs such as memory care. More recently, staffing levels in Oregon assisted living facilities over time were examined through primary data collection (Dys & Tunalilar, 2025). Researchers found on average staffing increased from 2017 to 2023 but there was a wide range of staffing levels that could be attributed to assisted living differences in the population they served.

States are responding to concerns over quality in these settings and are increasing regulation around assisted

Received: September 8 2024; Editorial Decision Date: March 18 2025.
© The Author(s) 2025. Published by Oxford University Press on behalf of the Gerontological Society of America. All rights reserved. For commercial re-use, please contact reprints@oup.com for reprints and translation rights for reprints. All other permissions can be obtained through our RightsLink service via the Permissions link on the article page on our site—for further information please contact journals.permissions@oup.com.

Downloaded from academic.oup.com/gerontologist/article/65/6/gnaf119/8090525 by Acquisition Services user on 09 November 2026

living facilities. From July 2022 to July 2023, 31% of states reported regulatory or legislative changes affecting assisted living facilities (National Center for Assisted Living, 2023). Minnesota underwent a sweeping change in its regulation of assisted living facilities in response to concerns of elder abuse and safety (Serres, 2019). In 2019, the state's Elder Abuse and Prevention Act put in place licensure requirements for assisted living facilities and new protections for patients and families with implementation in 2021 (*Assisted Living Law, Chapter 144G*, 2019). More recently, in July 2024, following a report regarding the death of a memory care resident who eloped from an assisted living facility, the Oregon state government prompted an external review of the oversight of all long-term services and supports including assisted living facilities (Bonvisutto, 2024). Even in states without regulatory processes in place, the growth in the demand for assisted living warrants a closer inspection of resident quality and safety.

The new regulation of assisted living facilities in Minnesota give us an opportunity to explore the current quality and safety issues that exist in this sector. To our knowledge, there has not been research describing the process and nature of the violations in the assisted living sector, so this study provides baseline exploratory information. Looking at the violation description beyond the regulatory tag is instructive because the reports contain information on what led up to the violation, and this is important from a quality improvement standpoint. In this paper, we focus on safety culture themes that occurred across violation tags. Our goal was to better understand *what contributes to* violations that cause patient harm and to offer quality improvement lessons that transcend any one tag type.

Research Design and Methods

Data

The data come from a document review of the licensure surveys available from the Minnesota Department of Health website, extracted from July 2023 through October 2023. We also use the Assisted Living provider directory as of November 2023 which includes information on location, ownership, and capacity.

As a result of the 2019 Elder Abuse and Prevention Act, Minnesota plans to conduct licensure surveys every 2 years through unannounced visits to facilities, like the process for inspecting nursing homes. Briefly, the process begins with an entrance conference between the surveyors and the manager or nurse on duty who provides a roster of current residents. During the health inspection, the surveyors look for compliance in the following areas: requirements in Assisted Living statute and rule, physical plant and life safety code requirements, state Food Code requirements, the Centers for Medicaid and Medicare Services' Appendix Z requirements, healthcare standards of practice, the provider's own policies and procedures, and treating residents with dignity and respect (MN Department of Health, 2023). Surveyors observe residents and staff, conduct interviews with them, and review existing documentation. The survey typically takes place over 2 days but may take longer depending on the size of the facility and the number of surveyors. Preliminary findings are discussed with the manager at the exit conference and subsequently, there may be fines or correction orders, which the facility has 90 days to correct (if level three or four4). Violations are categorized by severity at four levels (one to four) with respect to whether there was harm or potential for harm and scope (isolated to widespread) (Sec. 144G.31 MN Statutes, 2019).

We focused on violations with a severity of level three, which are violations that harm a resident's health or safety, not including serious injury, impairment, or death, or a violation that has the potential to lead to serious injury, impairment, or death. Level three violations result in a fine of $3,000, which represents a step above Level two violations with a fine of $500. We consider the severity of level three violations to be important to change safety culture as they have been shown to harm patients. Due to their rarity ($n = 3$), we chose not to focus on level four violations that show harm to residents including serious impairment or death.

The process to survey all facilities initially has been time consuming and 3 years after health inspections began not all facilities have been surveyed for compliance with licensing requirements. Completed licensure surveys were downloaded from the publicly available portal as pdf documents that were then imported to N-vivo 14 for analysis (Lumivero, 2023). Of the 2,230 licensed assisted living facilities in the state, surveys for 1,051 were available (47.1%), representing the facilities that have had visits as of October 2023. To arrive at our sample, we searched for the term "Level three violation" within the available surveys. This term occurred 604 times across 340 facilities.

Analysis

To guide our work, we used the Iceberg Model of System Thinking (Maani & Cavana, 2007). In the Iceberg Model, the events represent the visible part of the problem. This is what was observed and documented through the state's survey process. Through qualitative analysis of these stories, we have sought to uncover the lower layers of the iceberg—first by identifying the patterns and trends across multiple facilities and multiple different tags of level three violations, and then working our way lower on the iceberg, to explore the relevant systems issues (or structures) of the assisted living sector. As our analysis framework, we used Agency for Healthcare Research and Quality's (AHRQ) dimensions of patient safety culture in nursing homes: teamwork, staffing, compliance with procedures, training and skills, nonpunitive response to mistakes, handoffs, feedback and communication about incidents, communication openness, supervisor expectations and actions promoting resident safety, overall perceptions of resident safety, management support for resident safety, and organizational learning (AHRQ, 2012).

Our thematic analysis was informed by the READ Approach, which has been used in health policy research (Dalglish et al., 2020). Data were coded in N-vivo 14. Our first set of codes was based on the tag of violation (e.g., 1290—background studies, 1750—medication administration). We then read the inspector's narrative associated with the violation and developed a set of codes descriptive of the stories told by facility inspectors and grounded in AHRQ's dimensions of patient safety culture (e.g., miscommunication across the care team). We then looked for where a certain theme occurred across violation tags. Each author coded half of the violations and then both authors met to distill and define codes and come to a consensus on the major themes and subthemes that occurred across multiple types of violations.

Downloaded from academic.oup.com/gerontologist/article/65/6/gnaf119/8090525 by Acquisition Services user on 09 November 2026

We used chi-squared and *t*-tests to compare the descriptive statistics of the sample with level three violations to the population of facilities. Although we present bed size categorically in Table 1, we have the variable as a continuous variable and thus conducted a *t*-test comparing the average bed size in our sample compared to the population. We consider a *p*-value less than .05 to be statistically significant. We also described the types of tags of level three violations using frequencies.

Results

Sample Characteristics of Assisted Living Facilities Surveyed

From a sample of 937 facilities with surveys, there were 290 facilities with at least one level three severity violation at the time of the initial survey. Our qualitative sample includes 340 facilities in total because we include follow-up surveys that had level three violations.

Table 1 shows the distribution of facility characteristics for six groups: (1) facilities with no citations, (2) facilities with only level one violations, (3) facilities with at least level two violation, (4) facilities with level three violations, (5) facilities that did not complete surveys at the time of data collection, (6) facilities in the provider directory as of November 2023. There were 10 facilities that were unable to be linked to the provider directory, it is likely these facilities were not granted licenses and thereby were no longer in the provider directory when it was extracted.

Overall, for-profit facilities comprise 72% of facilities with level three violations, which is no different compared to the population average of 70% (*t*-test *p*-value = .56). The average bed size for the sample with level three violations is 46.4 compared to the population average of 28.1 ($p < .0001$). Geographically, there were less facilities with level three violations located in a metropolitan area (63.4%) compared to 81.4% of the population in metropolitan areas.

Table 2 describes the acronyms used to represent key personnel that are mentioned within the facility surveys and thus appear in illustrative quotes. These acronyms are to keep anonymity and to denote their responsibility according to the regulations. Within a facility, there are likely several persons with the same position and are denoted using a separate letter for each. For example, if there are two unlicensed personnel at a facility they would be referred to as ULP-A and ULP-B in the surveys.

Table 3 shows the common tags that were represented in the sample. It is organized by the three categories of tags that the State currently uses to report information to consumers: resident health (Minnesota Department of Human Services, 2024a), safety (Minnesota Department of Human Services, 2024b), staffing (Minnesota Department of Human Services, 2024c). There were two tags common in our data that the state does not currently include publicly on the report card: awake staff requirement (tag 2070; $n = 26$) and advance notice of changes (tag 340; $n = 9$). The most common tag ($n = 150$), 2310, pertaining to appropriate care up to the current standards and in general represented issues regarding bed rails categorized under resident health. The second most common tag ($n = 47$), 1290, pertaining to background studies is categorized under safety.

Themes

Three major theme clusters related to AHRQ's patient safety dimensions emerged in the analysis. The first cluster centered on *staffing* and the *training and skill* level across various positions, and the implications of a lack of staffing and training for patient safety and compliance. The second cluster of themes centered on the AHRQ domain *compliance*. However, because we already had selected a lack of compliance by our focus on level three violations, this theme centers on the difficulties of policy operationalization and implementation, as related to compliance. The third thematic cluster centered on communication of all types, including *handoffs and communication about incidents*. Here we discuss staff awareness of policies as a component of communication. Moreover, the three major theme clusters are not discrete, but rather they

Table 1. Sample Characteristics of Facilities at Initial Survey

	Facilities with no citations ($n = 101$)	Facilities with only level one severity violation ($n = 99$)	Facilities with only level two severity violation ($n = 447$)	Facilities with at least one level three severity violation ($n = 290$)	Facilities who did not have a survey completed ($n = 1293$)	Licensed assisted living facilities ($n = 2{,}230$)
For-profit	59 (58.4%)	62 (62.6%)	344 (76.9%)	208 (71.7%)	892 (68.9%)	1,565 (70.2%)
Size (bed capacity)						
1–5	11 (10.9%)	5 (5.1%)	135 (30.2%)	44 (15.2%)	892 (68.9%)	1,087 (48.8%)
6–19	14 (13.9%)	29 (29.3%)	85 (19.0%)	58 (20.0%)	165 (12.7%)	351 (15.8%)
20–49	27 (26.7%)	27 (27.3%)	95 (21.3%)	86 (29.7%)	114 (8.8%)	349 (15.6%)
50–99	30 (29.7%)	26 (26.3%)	74 (16.5%)	59 (20.3%)	77 (5.9%)	267 (11.9%)
100+	19 (18.8%)	12 (12.1%)	58 (12.9%)	40 (13.7%)	45 (3.4%)	174 (7.81%)
Geographic area						
Metropolitan (RUCA 1–3)	64 (63.4%)	62 (62.6%)	334 (74.7%)	184 (63.4%)	1170 (90.5%)	1,814 (81.4%)
Micropolitan (RUCA 4–6)	20 (19.8%)	12 (12.1%)	1 (11.4%)	41 (14.1%)	43 (3.3%)	167 (7.5%)
Small town (RUCA 7–9)	9 (8.9%)	13 (13.1%)	29 (6.5%)	34 (11.7%)	39 (3.0%)	124 (5.6%)
Rural (RUCA 10)	8 (7.9%)	12 (12.1%)	33 (7.4%)	31 (10.7%)	41 (3.3%)	125 (5.6%)

Notes: Numbers in this table reflect the initial survey; however, several facilities had follow-up surveys that may have been present in the qualitative examination of level three violations. *N* = sample size. RUCA = Rural Urban Commuting Area.

Downloaded from academic.oup.com/gerontologist/article/65/6/gnaf119/8090525 by Acquisition Services user on 09 November 2026

interact and affect each other, which we have attempted to parse throughout. The stories told within these documents illustrate how gaps in staffing, compliance, and communication can lead to various level three violations. Also, they point to key system challenges related to safety in assisted living facilities and provide insight into how quality can be improved. Table 4 details the major themes and subthemes and provides an exemplar quote.

Theme 1: Staffing and training and skill

Staffing issues contributed to level three violations in several ways. Being short staffed was mentioned across several violations and several job categories. In other instances, staff were unavailable. One common scenario had to do with the regulation to have a registered nurse (RN) available for certain tasks (Sec. 144G.62 MN Statutes, 2019), and not having that nurse available due to the fact that the facility's RN worked part or full time at another facility (generally a hospital) and was unreachable by phone (either as described to the surveyor or if the surveyor called). A typical response was:

> *RN-A verified she was the only employed nurse working at the facility. RN-A indicated she worked at the assisted living facility every Monday for 3 hours, and remained on call at all other times. RN-A stated she had another position as an RN in a hospital where she worked a 0.5 schedule.*

Frequent staff changes appeared to lead to inadequate training for licensed practical nurses (LPNs) and unlicensed personnel (ULP) who are administering medication and are supposed to be trained by an RN (Sec. 144G.71 MN Statutes, 2019). However, there were some organizations that delegated the training task to an LPN. This was related to compliance because sometimes this resulted in a violation related to a lack of documentation of competency for an individual to administer medication, or a lack of both training and competency assessment for the individual. For example, one report stated "licensee failed to ensure two of four unlicensed personnel administered medications per the licensee's policy and procedure, and failed to administer medications as prescribed for three of twenty-six residents observed during medication administration."

In some instances, the lack of documentation was directly attributed to being short staffed, as described in this report.

> *During that time, although ULP-C verbalized she was doing her three checks while setting up the medications, the surveyor did not observe ULP-C complete the three checks to confirm labels to the [Medication Administration Record] for any of the four residents. ULP-C stated many times that she was behind on medication administration because they only had two staff working.*

To fill gaps, LPNs and ULPs trained in other ULPs "ULP-H stated she received training from house manager-J (an unlicensed personnel) on medication administration."

In some cases, respondents were unclear about who was supposed to do what. This was especially evident when it came

Table 2. Key Personnel Acronyms

Acronym	Definition
RN	Registered Nurse
LALD	Licensed Assisted Living Director
ULP	Unlicensed Person
LPN	Licensed Practical Nurse
CNS	Certified Nurse Supervisor
R	Resident
DON	Director of Nursing
HM	House Manager
DM	Dietary Manager
ER	Emergency Room
ALDIR	Assisted Living Director in Residence
ED	Executive Director
"A," "B," "C"	Each individual is given a letter after their position in the order they are interviewed, i.e., RN-A refers to the first registered nurse they interview

Table 3. Description of Top Common Tags of Level Three Violations

Category	Tag	Tag description	Number of tags
Resident Health	2310	Residents have the right to care and assisted living services that are appropriate based on the resident's needs and according to an up-to-date service plan subject to accepted health care standards (e.g., bed rails)	150
	1750	Delegation of medication administration	26
	1620	Initial reviews, assessments, and monitoring	20
	1760	Documentation of administration of medications	7
	1950	Administration of treatments and therapy	9
Safety	1290	Background studies required	47
	820	Fire protection and physical environment	25
	510	Infection control program	7
Staffing	470	develop and implement a staffing plan	20
	495	provide staff access to an on-call registered nurse 24 hr/day, 7 days/week	10
Not included on state report card	2070	Awake staff	26
	340	Advanced notice of changes	9

Note: Resident health, Safety, Staffing correspond to the categories that the state uses for the Assisted Living Report Card.

Downloaded from academic.oup.com/gerontologist/article/65/6/gnaf119/8090525 by Acquisition Services user on 09 November 2026

Table 4. Major themes, subthemes, and examples

Themes	Subthemes	Example Quote
Staffing	Lack of staffing	"indicated R5 sustained a fall and was assisted from the floor by a 2-person assisted lift transfer during a time when only one ULP was present on each unit."
	Training of staff	"RN-A stated LPN-G completed all competency training and testing in medication administration to ensure ULPs were competent in completing the task. RN-A stated she used to do the training but had stopped and LPN-G assumed the responsibility of training and testing ULPs for competency. RN-A was not sure as to why this process was changed."
Compliance	Lacking operationalization of state regulations	"CNS-B stated she was not aware that measurements needed to be included on the bed rail assessment, and stated she recently received new information from the provider group the licensee belonged to, with forms and policies that directed the requirements with bed rail usage; however, had not implemented this process"
	Lack of documentation	"lacked any documentation of communication with R1's family related to the bed rail or missing strap."
	Division of responsibility	"DON-A stated they were aware R3's bed rail pulled completely out without R3 in the bed, no action had been taken as they were waiting to hear back from R3's family with manufacturer information."
Communication	Handoffs and incident communications	"On December 21, 2022, at 1:18 p.m., the surveyor inquired if the licensee completed the wound care treatment for R3's right foot at the facility. RN-A stated she was unclear about who was responsible for wound care to R3 however, hospice notes indicated hospice had been managing treatment to the right lower extremity. RN-A stated, "I think we are supposed to be doing that, yes."
	Awareness	"That is not part of our system." RN-B stated, "If [a resident] go[es] to ER that is a change in condition" an assessment would be completed then. RN-B stated. "I did not know I was supposed to do" a comprehensive assessment for fall with injuries."

to training ULPs. These staffing issues resulted in improper training and skills of personnel, and compliance issues such as having a backlog of assessments after change of condition, and which might lead to poor patient outcomes. The following quotes describe these connections.

> *Licensed Assisted Living Director (LALD)-A further stated RN-B was "supposed to educate" staff on medication administration, but was not sure if it was completed or where it would be documented.*
> *RN-C informed she started working for the licensee on August 2, 2022. RN-C stated she had no prior assisted living experience. RN-C stated, "I am learning it."*
> *ULP-F stated she had not received training on repositioning residents with pressure injuries and verified a lack of understanding regarding off loading and/or pressure redistribution.*

How a lack of staffing in general and the impact on memory care, especially at night, was also described in the reports. An assisted living facility providing services in a secured dementia care unit must have an awake person who is physically present in the secured dementia care unit 24 hr/day, 7 days/week (Sec. 144G.81 MN Statutes, 2019). However, stories described how that staff person often had to leave to help someone else (e.g., a patient requiring transfer assistance or responding to a safety event such as a fall), resulting in the memory care unit being unattended. A general lack of staffing also rippled into a facility having trouble meeting this requirement.

> *There are times when there is only one staff person in the building, and they have had to leave the building unattended to assist the staff in the building across the street get a resident up off the floor after they have fallen.*
> *LALD-C stated ULP-E had been a long-term employee but had to resign because she would no longer be able to sleep when she worked for licensee. LALD-C stated they only utilized ULP-E when there was no other option to have another staff member work the overnight shift. LALD-C stated he was aware that ULP-E slept when she was working. LALD-C stated he felt there was no other option as there needed to be a staff member present on the overnight shift.*
> *RN-C stated the facility used to have staff complete a medication class with training by an RN until the previous director of health services left her position two years ago. Since that time, they have not had a medication class, and there was no training for medication administration by the RN prior to new employees completing those tasks.*

Lack of staffing sometimes prompted the facility to use community-based services for patient transfers and assistance. This could be problematic because it shifts the burden of staffing to the broader community. "In addition, ALDIR-C stated if she was working the night shift and needed help, she would call 911 or hospice for assistance" and "In an emergency, ULP-D stated she would probably call a coworker to help or the police."

Management support for resident safety, while mentioned in a few instances when it was felt to be lacking, was not described extensively. Very few direct tensions with management were mentioned, though there were instances noted where an LALD was unavailable, and instances where a respondent noted a complete lack of management support for safety.

Theme 2: Compliance

Surveyors and staff described ways in which respondents acknowledged that policy existed but was not operationalized or followed, beyond the documentation of staff training which is described earlier. The most prevalent example described was not complying with the bed rail regulations of which 150 facilities had level three violations. Due to risk of entrapment, the state requires measurement of bed rails, knowledge of device safety/recall information according to

Downloaded from academic.oup.com/gerontologist/article/65/6/gnaf119/8090525 by Acquisition Services user on 09 November 2026

the Federal Drug Administration and/or manufacturer, and discussion of risk and benefits with the resident and/or family. Many times, the discussion may have happened, but not documented, or there was unclear responsibility for the bed rail (overlapping with Theme 3). As stated in one report:

> *CNS-B stated the 90-day assessments included questions to ensure the resident continued to be safe when using the bed rails; however, the nurses did not "put their hands on them," did not observe the bed rail, and did not assess the resident when using the bed rail, during the 90-day assessments.*

This theme was also prominent when it came to the completion of staff background checks, with 47 facilities having level three violations. Numerous specific ways in which compliance with background checks was challenging were mentioned including a person who had it with another facility and didn't get it done again, a person who forgot, the facility-specific person responsible forgot to follow up, a workforce that is in flux, the state's tracking system was problematic, it was done but not documented, and wasn't sure that position needed one. The following quote is illustrative of some of the issues and how they often coexist.

> *LALD-C stated ULP-K was hired in February, but left employment briefly and they discharged her file March 4, 2023. LALD-C stated their office manager was responsible for letting them know if the [background study] was cleared or not, but was fairly new to the role. LALD-C further stated they initiated employee audits and found one employee (unnamed), at that time, that did not have a cleared [background study]. LALD-D stated they did not find any issue with ULP-K's [background study] until the surveyor requested the documentation, and further stated they were not aware [the state's tracking system] indicated ULP-K required supervision while working.*

Relatedly to both compliance and training, there was a lack of documentation of training and competency evaluations in one's personnel file described for a variety of tasks, including but not limited to medication administration, bed rail assessment, wound care, and glucose monitoring. At times it was clear that the training had not taken place (as described in the quote above), and, other times, as described here, the training had seemingly taken place and it was a documentation failure, "Although, RN-B stated she 'verbally educated' unlicensed personnel on document medication in [a particular application] in the electronic medical record, RN-B stated the training was not documented and competency of medication administration was not observed."

Another dimension of compliance was that some facilities seemed to lack a clear division about responsibilities for complying with a particular policy. This was indicated by comments stating it was "someone else's responsibility" as an explanation of why they hadn't complied with a particular policy. This is related to the communication theme, but more at the organizational level because it implied a failure to differentiate responsibilities.

> *Housing manager (HM)-B confirmed ULP-H did not have an employee record or the above required orientation, training, and competencies. Clinical nurse supervisor (CNS)-A stated she believed the temporary staffing agency providing the staff also provided the required training and competency evaluations.*

More than in any other area this "passing of the buck" was seen with bed/side rail assessment—nursing, maintenance, the family, and hospice were all mentioned as having at least partial oversight depending on the type of assistive device. The complex nature of the assessment process, measurement, and documentation coupled with the variety of manufacturers and the need for regular checks, safety communication, and need to stay current on recalls proved challenging. The following quote illustrates an example of this. "CNS-B said none of the staff at the facility assured proper installation of any consumer type grab bars or side rails and it was the responsibility of the families."

The compliance narratives are symptomatic of system issues related to safety culture such as having clear lines of responsibility and oversight. It's management's job to ensure that safety regulations get translated into practice. Afterward, those practices need to be properly communicated, which is difficult due to staffing issues.

Theme 3: Communication

A third cluster centered on communication, specifically when it came to handoffs, as well as feedback and communication about incidents. One aspect of this theme focused on comments directly related to unclear communication channels between caregivers within the assisted living facility. The following quote provides an example where a caregiving task that should have been performed was not being performed and there was no record of what had happened, "DON-A was unaware that ULP-F was not changing the leg bag to an overnight bag during the evening shift when assisting R8 to bed. DON-A was not notified by any ULP of the issue mentioned above."

Another aspect of this theme was seen when an incident occurred, and a patient was seen by another provider (e.g., the emergency room), returned to the facility, and then was not reassessed considering the new visit. More than a documentation failure, comments indicated that the patient's new needs were not considered. For example, one report noted "LALD/RN-A stated there were orders for the urinary catheterization and gentamicin bladder irrigation procedures for R3. LALD/RN-A further stated the orders 'probably came from the hospital', and indicated she had a lot of orders to look through. The orders were not provided."

Complexities related to the dynamic nature of patients, their illness, and families sometimes made communication difficult, which sometimes resulted in challenges with compliance, as the following examples illustrate, "ICD-B stated a care conference with family had been held and R3's family is looking into moving R3 to a memory care facility. ICD-B confirmed a plan had not been developed to keep R3 safe until the move." and "RN-A stated the licensee was unaware that R14's family signed R14 with hospice services until it occurred, as the licensee and family had discussed rehab prior."

Lack of awareness was another dimension of communication gaps. This is related to compliance; in addition to internal processes existing, to be followed, they need to be communicated across staff. This was described regarding the implementation of new regulations and their communication across caregivers. As described in one report, "ED-A indicated

Downloaded from academic.oup.com/gerontologist/article/65/6/gnaf119/8090525 by Acquisition Services user on 09 November 2026

she was not aware of the 24/7 staffing requirement of a locked dementia care unit and stated 'why wouldn't corporate tell us this?'" And in another, "RN-B asked what that plan was and was not aware of the fire watch plan." Sometimes staffing challenges exacerbated communication challenges. For example, RNs with very few hours at a facility did not appear to always receive communication on changes in patient status or recent admissions to inpatient care.

Overlap of Themes

As noted in each of the individual themes, there is substantial and sometimes complicated overlap between these themes: staffing, compliance, and communication, which extends beyond the description of the regulatory tag itself. This overlap makes it difficult to tease out the contributions of each. Staffing affects a facility's ability to translate regulation into practice and its ability to stay on top of any communications. Compliance is not ideal when there are no internal policies in place and no consistent people to implement them. Communication falters in such an environment. The following quote illustrates well how they might interact in a facility:

> *RN-A indicated she had not received orientation to assisted living laws and regulations or any other required training. RN-A stated she provided training on medication administration to unlicensed staff, but did not document the training, because she thought management. would document. RN-A further stated the pain assessment would be documented for R1 in an activity log (the log was requested but not provided). RN-A acknowledged staff are not appropriately documenting medication administration. RN-A stated her expectation would be that pain would be assessed and documented when R1 requested pain medication. RN-A further acknowledged staff needed retraining on medication and documentation.*

Discussion and Implications

Overall, this is the first study to qualitatively examine the context behind licensing survey citations of assisted living facilities. The results indicate staffing, the adequacy of staff training, the development of internal policies that align with regulations, awareness of those policies, and the communication of caregiving activities contribute to the presence of violations harming patient's health or safety. These results are important because more people are using assisted living, and more states are regulating them.

The findings suggest system issues that could be improved and include hands-on training and assistance, measurement, transparency, and staffing. The reports we used offered descriptions of how violations occurred and underscored the challenges and tradeoffs in delivering care within a growing part of the healthcare system. With the use of bed rails, for example, there are tradeoffs between entrapment and the risk of a fall (*Bed Rails for Seniors in 2024*, 2023). Moreover, Centers for Medicare and Medicaid Services requires that facilities attempt appropriate alternatives before installing bed rails; in other words, they are a last line of care (Centers for Medicare and Medicaid Services, 2024). Because assisted living facilities became more regulated in Minnesota, there have been reports of deaths due to entrapment in bed rails, which is likely why there was a focus on them during the surveys that was revealed in the results (Olson, 2023), and which the state has already issued guidance on to improve patient safety (Minnesota Department of Health, 2023). Minnesota should be commended for these efforts to make more real-time quality improvements based on the inspections. More generally, lessons learned for other states include developing clear responsibilities for documentation and systematic communication channels between the industry and the state. Assisted living facilities could also better integrate family into communication especially when the bed rails are provided by families.

When it comes to measurement, while there is some agreement on what constitutes quality in assisted living, there is no agreed-upon set of measures (Shippee et al., 2019). Moreover, not everything that is important is easily incorporated into a measure, such as the content and delivery quality of staff training. There also are differences in perceptions of quality between different types of workers (Temkin-Greener et al., 2022). Absent definitive measures, there is a clear need for document review and the use of qualitative research to inform measures. Our findings also suggest additional measures for the Minnesota assisted living report card (*Minnesota assisted living report card*, n.d.), like communication. Beyond Minnesota, the findings can inform other states' efforts to publicly report information, like Ohio, which has a searchable database of long-term care facilities and includes information on staffing qualifications and resident and family quality scores (Facility Search, n.d.).

Minnesota's system for site visits mirrors federal reporting for nursing homes and other healthcare facilities on Care Compare. However, because states have more flexibility in regulating assisted living facilities, the next iteration could take more of a continuous quality improvement approach. In the reports, there was evidence of surveyors providing technical assistance on the spot to correct issues. This is important in creating a system for organizational learning, which is key to continuous quality improvement. For example, Minnesota could integrate assisted living facilities into the Quality Assurance and Performance Improvement program that exists for nursing homes. These data represent the first inspections after the industry has been regulated and thus there appeared to be a lack of awareness that was perhaps due to it being new. The tradeoffs between investing time in inspections and fostering a culture of continuous quality improvement also can provide lessons learned to other states as they think about developing state-level inspection processes.

States could also consider facilitating LPNs becoming RNs through bridge programs. It was clear that for some facilities retaining a full-time RN was difficult, and at the same time, the services could only be delegated to unlicensed staff after training by the RN, which was also a challenge (Sec. 144G.62 MN Statutes, 2019). This challenge is likely to be magnified in places that are already understaffed, such as in rural areas. However, from this analysis, those kinds of conclusions are impossible to determine.

More research also needs to be done on how staffing contributes to violations. The long-term care industry is in a staffing crisis that was exacerbated by the coronavirus disease 2019 (COVID-19) pandemic (Denny-Brown et al., 2020). Recent data from both Oregon and Ohio provide some information specific to the assisted living industry. In Oregon, using data from the state's Community-Based Care study Dys and Tunalilar (2025) found that while total care staff levels that were higher in 2023

Downloaded from academic.oup.com/gerontologist/article/65/6/gnaf119/8090525 by Acquisition Services user on 09 November 2026

compared to 2017, there was high variability among staffing across Oregon's assisted living facilities. In Ohio, Bowblis and colleagues (2024) found especially low levels of staffing during overnight hours, which aligns with our findings. Unfortunately, there is no source of staffing data that is routinely collected for assisted living facilities like the payroll-based journal for nursing homes. A workforce in flux means that management is often in an endless cycle of training new hires. That can make it hard to focus on other areas of the organization that need attention, like policy development, operationalization, and communication of policy. A recent study of memory care training in Ohio Assisted Living facilities found that only 76% requires training within the first 14 days (Elliot et al., 2025). Raising wages, whether done through state legislation or industry efforts, would be helpful. Minnesota has created a certified nursing assistant pipeline; however, the current pipeline is not poised to meet demand (Minnesota Office of Higher Education, 2023). In addition, assisted living facilities compete with nursing homes for staff, who have a new staffing mandate from the federal government which is likely to change the hiring landscape (Centers for Medicare and Medicaid Services, 2024).

Our research has some limitations that are important to consider. Facility inspections were carried out by different evaluators and different reporting styles were evident. Some survey reports included more detail than others. As mentioned before, some issues were documented to be corrected on the spot, but there may have been instances in which a corrected-on-the-spot violation was not reported or reported at a lesser level. Similarly, research from the nursing home literature indicates facilities "staff up" during the surveys which might obscure what is seen during the inspection (Geng et al., 2019). We analyzed only the inspections that had occurred through October 2023, the first wave of a comprehensive assessment of facilities, amounting to roughly half of all assisted living facilities in the state. We are unaware of how the state selected facilities to visit in this first wave of inspections. Bias could have been introduced through this process. It appears large facilities were overrepresented in the health inspections compared to the population, so our findings likely represent these types of facilities compared to smaller facilities. However, we reached a point of data saturation in the analysis from the over 1,000 visits that have occurred, and several common tags as can be seen in Table 3. According to the iceberg theory, these limitations would likely indicate an underestimation of level three violations. Another limitation is the fact that this is community-based, real-time research, and so causality is impossible to determine. Despite this, qualitative analysis of inspection reports can serve as a baseline assessment for tracking improvements over time or provide useful comparative information for other states seeking to regulate assisted living facilities. Finally, we focused on level three violations only which are violations that harmed residents' health or safety. That introduces a bias in itself; we selected the problems. There are lower-level violations that are less severe, which more research could focus on. We chose level three violations with purpose, to take the tip of the iceberg approach. The sample of inspected facilities with level three violations is significantly different than the overall population; more quantitative research is needed to see if level three violations are more likely to occur in certain types of assisted living facilities. The point of this analysis, however, was to describe the safety culture underlying the violations and thus that information may be instructive to any assisted living facility.

In summary, the safety of residents within assisted living facilities should be continually monitored and resources should be provided to improve the culture of safety, particularly regarding staffing, training, policy development, and communication. Because of the multifaceted nature of patient safety issues, a holistic approach to improvement is needed. It's not useful to just increase staffing, for example, without ensuring that staff can be compliant and communicate patient care. As such, inspection survey reports have the potential to be useful in informing the regulatory response, state assistance, and publicly facing quality measures for all states.

Funding

L. Loomer has received grant funding for work contracted with the Minnesota Department of Human Services for work regarding measuring quality in assisted living facilities outside of this manuscript.

Conflict of Interest

None.

Data Availability

Data are publicly available for download from the Minnesota Department of Health website.

Author Contributions

Lacey Loomer (Conceptualization [Equal], Data curation [Lead], Formal analysis [Equal], Investigation [Equal], Methodology [Equal], Resources [Equal], Writing—original draft [Equal], Writing—review & editing [Equal]; Kim Dauner (Conceptualization [Equal], Data curation [Supporting], Formal analysis [Equal], Investigation [Equal], Methodology [Equal], Resources [Equal], Writing—original draft [Equal], Writing—review & editing [Equal]

References

Agency for Healthcare Research and Quality. (2012, March). *Nursing home survey on patient safety culture*. https://www.ahrq.gov/sops/surveys/nursing-home/index.html

ASPE. (2015). *Compendium of residential care and assisted living regulations and policy: 2015 edition*. https://aspe.hhs.gov/reports/compendium-residential-care-assisted-living-regulations-policy-2015-edition-0

Assisted living law, Chapter 144G. (2019). MN Department of Health. https://www.revisor.mn.gov/statutes/cite/144G

Bed rails for seniors in 2024: Alternatives to consider. (2023). NCOA Adviser. https://www.ncoa.org/adviser/sleep/bed-rails/

Bonvisutto, K. (2024). Oregon seeks 'systemic changes' at agency that oversees senior living communities. *McKnight's Senior Living*. https://www.mcknightsseniorliving.com/news/oregon-seeks-systemic-changes-at-agency-that-oversees-senior-living-communities/

Bowblis, J. R., Menne, H. L., Nelson, M., & Elliot, A. (2024). Staffing patterns in nursing homes, assisted living communities, and memory care units: Variation across shifts. *Journal of the American Medical Directors Association*, 25(11), 105254. https://doi.org/10.1016/j.jamda.2024.105254

Carder, P. C. (2017). State Regulatory Approaches for Dementia Care in Residential Care and Assisted Living. *The Gerontologist*, 57(4), 776–786. https://doi.org/10.1093/geront/gnw197

Centers for Medicare and Medicaid Services. (2024, April 22). *Medicare and Medicaid programs: Minimum staffing standards for*

Downloaded from academic.oup.com/gerontologist/article/65/6/gnaf119/8090525 by Acquisition Services user on 09 November 2026

long-term care facilities and Medicaid institutional payment transparency reporting final rule (CMS 3442-F). https://www.cms.gov/newsroom/fact-sheets/medicare-and-medicaid-programs-minimum-staffing-standards-long-term-care-facilities-and-medicaid-0

Centers for Medicare and Medicaid Services. (2024). *Appendix-PP-state-operations-manual*. https://www.cms.gov/medicare/provider-enrollment-and-certification/guidanceforlawsandregulations/downloads/appendix-pp-state-operations-manual.pdf

Dalglish, S. L., Khalid, H., & McMahon, S. A. (2020). Document analysis in health policy research: The READ approach. *Health Policy and Planning*, 35(10), 1424–1431. https://doi.org/10.1093/heapol/czaa064

Denny-Brown, N., Stone, D., Hays, B., & Gallaghe, D. (2020). *COVID-19 intensifies nursing home workforce challenges*. ASPE. https://aspe.hhs.gov/basic-report/covid-19-intensifies-nursing-home-workforce-challenges

Dys, S., & Tunalilar, O. (2025). Assisted living, residential care, and memory care staffing level dynamics: Oregon, 2017–2023. *Journal of the American Medical Directors Association*, 26(1), 105352. https://doi.org/10.1016/j.jamda.2024.105352

Elliot, A. E., Bowblis, J. R., Nelson, I., & Menne, H. (2025). What happens behind closed doors? Investigating care practices in nursing home and assisted living memory care units. *Health Affairs Scholar*, 3, qxaf026. https://doi.org/10.1093/haschl/qxaf026

Facility Search. (n.d.). Ohio Long-Term Care Consumer Guide. Retrieved December 16, 2024, from https://prod.ltc.age.ohio.gov/FacilitySearch

FastStats. (2024, April 16). https://www.cdc.gov/nchs/fastats/residential-care-communities.htm

Geng, F., Stevenson, D. G., & Grabowski, D. C. (2019). Daily nursing home staffing levels highly variable, often below CMS expectations. *Health Affairs (Project Hope)*, 38(7), 1095–1100. https://doi.org/10.1377/hlthaff.2018.05322

Hernandez, M. (2007). Assisted living and residential care in Oregon: Two decades of state policy, supply, and Medicaid participation trends. *Gerontologist*, 47(Spec No 3), 118–124. https://doi.org/10.1093/geront/47.supplement_1.118

June, J. W., Meng, H., Dobbs, D., & Hyer, K. (2020). Using deficiency data to measure quality in assisted living communities: A Florida statewide study. *Journal of Aging & Social Policy*, 32(2), 125–140. https://doi.org/10.1080/08959420.2018.1563471

Loomer, L. (2023). Worse quality at for-profit assisted living facilities in non-urban Minnesotay. *Journal of American Geriatrics Society*, 43(8), 1094–1099. https://agsjournals.onlinelibrary.wiley.com/doi/10.1111/jgs.18657

Lumivero. (2023). *Nvivo (Version 14) [Computer software]*.

Maani, K., & Cavana, R. Y. (2007). *Systems thinking, system dynamics: Managing change and complexity* WorldCat.org. https://search.worldcat.org/title/174088785

Minnesota assisted living report card. (n.d.). Retrieved August 9, 2024, from https://alreportcard.dhs.mn.gov/

Minnesota Department of Health. (2023). *Bedrail and assistive device safety and regulation*. https://www.health.state.mn.us/about/org/hrd/docs/20230217bedrail.pdf

Minnesota Department of Human Services. (2024a). *Resident health tags*. https://mn.gov/dhs/assets/resident-health-tags_tcm1053-625739.pdf

Minnesota Department of Human Services. (2024b). *Safety tags*. https://mn.gov/dhs/assets/safety-tags_tcm1053-625740.pdf

Minnesota Department of Human Services. (2024c). *Staffing tags*. https://mn.gov/dhs/assets/staffing-tags_tcm1053-625741.pdf

Minnesota Office of Higher Education. (2023). *Nursing assistant initiative*. https://www.ohe.state.mn.us/Documents/NextGen%20CNA%20Monitoring%20Report%202023_ADA.pdf

MN Department of Health. (2023). *Guide to the survey process*. https://www.health.state.mn.us/facilities/regulation/assistedliving/docs/surveyforms/p5019.pdf

National Center for Assisted Living. (2023). *Assisted living state regulatory review*. https://www.ahcancal.org/Assisted-Living/Policy/Documents/2023_reg_review.pdf#xd_co_f=YTVkZDgxZjMtZWI0OC00MGVhLThlMWEtYzVmZGEwZTk3NTEy~

Olson, J. (2023). Cluster of Minnesota bed-rail deaths reveals elder-care threat. *Star Tribune*. https://www.startribune.com/cluster-of-bed-rail-deaths-in-minnesota-reveal-elder-care-threat/600313829

Sec. 144G.31 MN Statutes. (2019). https://www.revisor.mn.gov/statutes/cite/144G.31

Sec. 144G.62 MN Statutes. (2019). https://www.revisor.mn.gov/statutes/cite/144G.62

Sec. 144G.71 MN Statutes. (2019). https://www.revisor.mn.gov/statutes/cite/144G.71

Sec. 144G.81 MN Statutes. (2019). https://www.revisor.mn.gov/statutes/cite/144G.81

Serres, C. (2019). State official calls for senior care reforms: Health commissioner says assisted-living industry is too lightly regulated in Minnesota, leaving seniors at risk. *Star Tribune*. https://www.startribune.com/minnesota-health-commissioner-unveils-plan-for-tougher-state-oversight-of-assisted-living-facilities/504782002

Sharma, H. (2022). Prevalence and persistency of deficiency citations in Florida assisted living facilities. *Journal of the American Geriatrics Society*, 70(1), 150–157. https://doi.org/10.1111/jgs.17466

Shippee, T. P., Akosionu, O., Brasure, M., & Beebe, T. (2019). *Literature review and environmental scan: Identifying quality measures in assisted living* (Identifying Quality Measures for a Minnesota Assisted Living Report Card 1). https://mn.gov/dhs/assets/UMN-assisted-living-quality-report_tcm1053-393870.pdf

Street, D., Burge, S., & Quadagno, J. (2009). The effect of licensure type on the policies, practices, and resident composition of Florida assisted living facilities. *Gerontologist*, 49(2), 211–223. https://doi.org/10.1093/geront/gnp022

Temkin-Greener, H., Mao, Y., McGarry, B., & Zimmerman, S. (2022). Patient safety culture in assisted living: Staff perceptions and association with state regulations. *Journal of the American Medical Directors Association*, 23(12), 1997–2002.e3.e3. https://doi.org/10.1016/j.jamda.2022.09.007

Tunalilar, O., Lin, S., & Carder, P. (2022). Survey deficiencies as quality indicators in Oregon assisted living communities. *Gerontologist*, 62(8), 1124–1134. https://doi.org/10.1093/geront/gnab176

Weil, J., & Rich, S. (2023, December 17). Assisted living regulations, state by state. *The Washington Post*. https://www.washingtonpost.com/business/2023/12/17/assisted-living-laws-rules-states/

Downloaded from academic.oup.com/gerontologist/article/65/6/gnaf119/8090525 by Acquisition Services user on 09 November 2026