

Beyond the physical: Integrating qualitative elements in elderly care homes design guidelines

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ARTICLE INFO	ABSTRACT
<i>Article history:</i> Received December 29, 2025 Received in revised form Feb. 05, 2026 Accepted April 22, 2026 Available online June 01, 2026 <i>Keywords:</i> Elderly architecture Elderly-care Elderly care design guidelines Qualitative design parameters	<i>Residential care facilities (RCFs) face a critical design paradox as the world's population ages: regulatory frameworks heavily prioritize physical safety while largely neglecting the psychosocial and experiential needs of elderly people. By emphasizing risk mitigation, current guidelines often produce environments that favor survival over dignity and meaning. Using a mixed-methods approach that combines qualitative coding and computational text mining (Voyant Tools), this study analyzes 22 international design guidelines and reveals a pronounced lexical bias, in which "safety" consistently outweighs concepts such as identity, social interaction, autonomy, and cognitive stimulation. To address this structural gap, this study introduces six evidence-based Qualitative Design Parameters (QDPs) an interdisciplinary framework integrating environmental psychology, gerontology, and architectural theory. These parameters reposition care settings as places that affirm personhood beyond risk containment: autonomy, sensory richness, narrative continuity, social vitality, environmental familiarity, and biophilic engagement. Findings highlight that despite strong evidence linking spatial design to mental health, existing standards rarely address loneliness, cognitive decline, or agency loss. The proposed framework therefore advances a paradigm shift by completing safety compliance with qualitative measures of emotional well-being, dignity and lived experience. This work offers a roadmap for transforming RCF guidelines into more holistic and human-centered standards.</i>
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Introduction

The dramatic demographic shift towards an aging population has elevated the field of gerontology to unprecedented significance. By 2030, Americans aged 65 and older are projected to outnumber children 18 and younger for the first time in US history, and globally, the population over 65 is forecast to reach an all-time high of 1.5 billion by 2050 ([United Nations Department of Economic and Social Affairs Population Division 2019](#)). As people continue to enjoy increased longevity, comprehending the multidimensional facets of aging and devising strategies to address

the unique needs and challenges of older individuals have become paramount. This necessitates a comprehensive understanding of the physical, cognitive, sensory, and emotional changes that occur with age. Within this context, the intersection of gerontology and architecture has emerged as a pivotal collaboration, underscoring the necessity of designing built environments that promote healthy aging and enhance the overall quality of life for seniors. This interdisciplinary nexus is not merely beneficial but a vital resource for achieving the World Health Organization's definition of health as "a state of complete physical, mental, and social

well-being and not merely the absence of disease or infirmity" for older adults.

The architecture of aging is entering a crisis of imagination. This "crisis of imagination" can be understood as an *"inability to imagine the world differently"*, which, in the architectural context, has stifled the development of creative, human-centered design solutions for older adults. Our collective design response is still primarily risk-averse, regulatory, and mechanistic. Residential care facilities (RCFs), which were once envisioned as sanctuaries of support and dignity, are now frequently reduced to infrastructure exercises in risk mitigation and functional compliance. This prevailing mechanistic mindset is evident in the lack of innovative, non-institutional approaches, despite the emergence of concepts such as "imitation towns" that leverage reminiscence therapy for Alzheimer's patients, "Alzheimer's Villages" that integrate nature and "healing architecture", and "vertical villages" designed to promote active aging and community bonding. The observed lack of innovation is further exacerbated by an "application gap between designers and researchers", where social science findings on behavioral impact are often overlooked by architects who may prioritize "art expression in design" over the actual needs of users.

The provision of institutional care for vulnerable populations has a long and complex history, with various empires throughout history taking different approaches to address the needs of their elderly and marginalized citizens (Mulley 2012). Early aged care facilities were typically large, impersonal buildings that resembled hospitals, prioritizing basic physical care and medical treatment while frequently overlooking the emotional and psychological well-being of residents, treating them as a uniform group rather than unique individuals. However, systematic approaches to aging environments wouldn't emerge until much later. The 19th century's industrial revolution sparked unprecedented social changes that transformed how societies addressed aging (Haber and Gratton 1993). This era necessitated more systematic approaches to addressing the needs of a growing aging population. Architectural responses evolved in parallel. Scandinavian countries led innovations with more homelike residential models. Danish architect Frede Jørgensen's Nursing Home Nørre Søpark (1953) rejected institutional norms, organizing small household units around shared

living spaces rather than hospital-like wards (Andersson, Burman, and Skär 2011). In the United States, the Philadelphia Geriatric Center under architect Joseph Douglas Weiss began exploring smaller, more homelike environments (Schwarz and Tofle 1999). The Nursing Home Act of 1965, a part of the Social Security Amendments of that year, introduced Medicare and Medicaid, along with federal regulations and funding for skilled nursing facilities, significantly impacting institutional care (Holstein and Cole 1996). Unfortunately, many facilities built during this boom prioritized efficiency and medical care over quality of life, resulting in institutional environments that researchers would later criticize (Shield 1988; Vladeck 1980).

In the latter half of the 20th century, there was a growing recognition of the importance of enabling the elderly to live in their communities for as long as possible (Phillipson 1998). This shift towards community-based care was influenced by a desire to promote independence and dignity among the elderly (Carstensen 1998). This change was driven by evolving societal attitudes, new research emphasizing the importance of mental and emotional well-being, and regulatory reforms that championed dignity and individual rights for the elderly. Programs such as home care services, assisted living, and day centers started to gain prominence, allowing the elderly to remain in familiar surroundings while receiving necessary care and support (Berg-Weger and Tebb 2004). Architecturally, this shift meant facility designs moved away from uniform institutional layouts to incorporate smaller, more personalized spaces, with care services expanding beyond basic medical assistance to include social engagement and recreational activities.

Psychologist Thomas Kitwood's influential work on person-centered dementia care in the 1980s-90s emphasized preserving personhood and dignity (Kitwood 1997). This approach directly influenced architectural responses, encouraging designs that supported autonomy, identity, and well-being rather than merely managing behaviors (John Zeisel 2006). Cohen and Weisman's groundbreaking work "Holding on to Home" (1991) established design principles for dementia care that would influence a generation of architects.

The establishment of the Pioneer Network in 1997 played a crucial role in shifting the care focus from a medical model to a resident-centered approach, enhancing the quality of institutional

eldercare. The Eden Alternative, founded by Dr. William Thomas in 1991, reimagined nursing homes by incorporating natural elements, pets, and intergenerational programs (Thomas 1996). This philosophy directly influenced architectural approaches, promoting homelike environments over institutional ones.

In the contemporary era, a notable junction between gerontology and architecture was the creation of the World Health Organization's Age-Friendly Cities Initiative (2007), which emphasized the importance of age-friendly architectural and urban planning principles, placing gerontology at the forefront of designing environments conducive to the needs of older individuals. This initiative recognized that as the demographic shift towards an aging society continues, the collaborative nexus between gerontology and architecture would play an increasingly pivotal role in shaping environments that facilitate healthy aging and inclusivity (Plouffe, Kalache, and Voelcker 2016). This historical evolution reflects a fundamental transformation in societal understanding of aging, moving from a deficit-based, medicalized view to a strengths-based, person-centered approach that values individual agency, dignity, and unique needs.

In fact, there is a strong structural bias in the design guidelines of today, which are created by governments, non-governmental organizations, and medical facilities. They are designed to prevent harm rather than to promote life. This bias is evident in the prioritization of "safety-related design attributes such as handrails, safety bars, visual connection between staff and patients, and disinfecting procedures", aimed primarily at "preventing falls and infection". With terms like "fall," "safe," and "accessible" overused and psychosocial, emotional, and experiential aspects like cognitive stimulation, social interaction, and environmental identity noticeably lacking, this utilitarian ethos is evident. While occupational safety and risk reduction are "attended well to," there is "limited evidence of physical features to support psychosocial needs or promote positive user experiences".

This imbalance has consequences. Spatial environments profoundly shape not only the physical capabilities of elderly residents but also their mental health, sense of agency, and emotional continuity. Lawton's Environmental Press Model (M. Powell Lawton and Nahemov 1973) explains how "environmental press" the

mismatch between an individual's competence and environmental demands profoundly impacts adaptation and well-being. Overly restrictive, risk-averse environments can create a negative press that hinders autonomy and cognitive-emotional comfort. As numerous studies from environmental psychology and gerontology demonstrate, thoughtfully designed environments can delay cognitive decline, reduce depression, and reinforce the feeling of being "at home" (Fleming and Purandare 2010; Marquardt, Bueter, and Motzek 2014). The "Ecology of Aging" framework further emphasizes the "interrelations between aging individuals and their physical environments" and how these relationships shape "developmental outcomes such as well-being, autonomy, and health". Yet, these findings remain marginal within the documents that shape the built realities of care.

The effective design of elderly care environments requires more than compliance with regulatory checklists; it demands a deep understanding of both measurable spatial standards and the experiential needs of aging individuals. Designing institutional environments for older adults transcends mere technical compliance; it represents a multifaceted architectural challenge requiring the synthesis of objective criteria and subjective experience. This necessitates a holistic health perspective in guidelines, moving beyond mere physical safety to encompass psychological and social well-being.

This study intervenes at precisely this juncture. While existing design guidelines for Residential Care Facilities (RCFs) are plentiful, they predominantly reflect a utilitarian ethos focused on safety and functional compliance, largely overlooking the profound psychosocial, emotional, and experiential needs of older adults. Using a mixed-methods approach computational text mining via Voyant Tools and inductive qualitative analysis we analyze 22 international RCF design guidelines to expose systemic lexical and thematic gaps. We demonstrate the extent to which quantitative emphasis on safety eclipses qualitative attributes of well-being. More importantly, we propose a framework of six Qualitative Design Parameters (QDPs) drawn from architectural theory, environmental psychology, and gerontology that offer an evidence-based pathway to recalibrate these standards.

Our goal is not to reject safety but to supplement it with dignity. In advancing this framework, we argue for a paradigm shift: from spaces that merely protect aging bodies to those that also nurture aging minds, memories, and identities. A "paradigm shift," as defined by Kuhn, represents a transformative change in scientific thought, where underlying frameworks fundamentally change, involving a shift in the "shared constellation of ideas and values" within a scientific community. This study's goal is to achieve a fundamental "recalibration" of design standards, moving beyond merely "preventing harm" to actively "promoting life". This transformative potential of the proposed framework aims to foster environments that truly "nurture aging minds, memories, and identities", ultimately recognizing older individuals as "active members of the community rather than passive care recipients" and ensuring their "complete physical, mental, and social well-being".

Methods

This study adopts a mixed-methods strategy not as a convenience, but as a necessity: the architectural silence around emotional, cognitive, and experiential life in residential care facilities (RCFs) is not one-dimensional it is both discursive and structural. Accordingly, we combine computational text mining with qualitative thematic analysis to interrogate 22 internationally sourced RCF design guidelines (table 1). These documents, produced within the last decade, span diverse regulatory, cultural, and institutional origins including government mandates, NGO frameworks, and architectural white papers reflecting the global heterogeneity of design philosophies toward aging.

Table 1. Analyzed guidelines and standards

Title of guideline	Year	Country	Institution
Older People's Housing Design Guidance (PRP Architects 2015)	2015	UK	Royal Borough of Kensington and Chelsea
CMHC Nursing Home and Hostels Design Guide (Cluff and Cluff 1977)	1977	Canada	Canada Mortgage and Housing Corporation (CMHC)
National Minimum Standards for Care Homes (Department of Health 2003)	2003	UK	Department of Health
Long-Term Care Home Design Manual (Ministry of Long-Term Care 2015)	2015	Canada	Ministry of Long-Term Care, Ontario
National Minimum Standards for Older Adults (Wales) (Minister for Health & Social Services 2004)	2004	Wales	Welsh Assembly Government
Senior Housing Design Standards (City of Westminster 2013)	2013	USA	City of Westminster, Colorado
National Minimum Standards: Care Homes for Older People (Minister for Health & Social Services 2004)	2004	Malta	Parliamentary Secretariat for Rights of Persons with Disability and Active Ageing
Design Guide for Long-Term Residential Care (HIQA) (Health Information and Quality Authority 2020)	2020	Ireland	Health Information and Quality Authority (HIQA)
Care Homes for Older People - National Minimum Standards (Department of Health UK 2013)	2013	England	Department of Health
Long-Term Care Standards (Healthier Scotland Scottish Government 2021)	2021	Scotland	Scottish Government
Guidelines for the Design and Construction of Residential Health Facilities (Facility Guidelines Institute 2018)	2018	USA	Facility Guidelines Institute (FGI)
Design Standards for Dementia Care Homes (Dementia Training Australia 2015)	2015	Australia	Dementia Training Australia
Elderly Care Facilities Design Guidelines (Building and Construction Authority (BCA) 2017)	2017	Singapore	Building and Construction Authority (BCA)
Guidelines for Design and Construction of Nursing Homes (Facility Guideline Institute 2014)	2014	USA	Facility Guidelines Institute (FGI)

Title of guideline	Year	Country	Institution
Design Guidelines for Long-Term Care Homes (British Columbia Ministry of Health 2018)	2018	Canada	British Columbia Ministry of Health
Elderly-Friendly Design Guidelines (Architectural Services Department 2019)	2019	Hong Kong	Architectural Services Department
Design Guide for Long-Term Care Homes (British Columbia Ministry of Health 2018)	2018	Canada	MMP Architects
National Standards for Residential Care Settings (Health Information and Quality Authority (HIQA) 2016)	2016	Ireland	Health Information and Quality Authority (HIQA)
Nursing Home Design Standards (Department of Social Development 2015)	2015	Canada	DSD Design Standards
Maldon District Design Guide for Older Persons' Housing (Maldon District Council 2017)	2017	UK	Maldon District Council
Housing for Older People (Royal Town Planning Institute 2022)	2022	UK	Royal Town Planning Institute
European Reference Framework for Age-Friendly Housing (Peine and Arentshorst 2016)	2016	EU	European Commission

Our inquiry unfolds in two distinct yet interwoven phases. First, a computational lexical analysis was conducted using Voyant Tools, a platform chosen for its capacity to visualize frequency, collocation, and semantic dispersion of terms across large textual corpora. Voyant Tools lexical analysis revealed dense collocational clusters, meaning recurring patterns of words that frequently appear together and signal dominant thematic priorities within the guidelines. Importantly, we approached these documents not only as technical manuals but also as ideological artifacts that shape what is prioritized, excluded, or imagined in care design. This epistemic framing, or interpretive lens for understanding how knowledge and values are embedded in standards, enabled us to move beyond content summary toward a deeper discursive critique.

All documents were normalized into plain text; non-English materials were professionally translated to preserve semantic integrity.

Parameters such as stopword exclusion, stemming, and window size for co-occurrence analysis were adjusted iteratively to reveal embedded biases in terminology. This phase quantified the field's rhetorical landscape revealing, for instance, the dominant presence of words like fall (476 occurrences) and safe (916), in stark contrast to dignity (19), engagement (5), and cognitive (3).

The second phase applied inductive qualitative coding to the same corpus. Two researchers with backgrounds in environmental psychology and architectural design conducted open coding sessions, cross-validating emergent categories to ensure reliability. Codes were organized not by frequency but by conceptual salience particularly how (or whether) terms like autonomy, belonging, and sensory experience were spatialized in the text. This allowed us to trace thematic absences as rigorously as presences ([figure 1](#)).

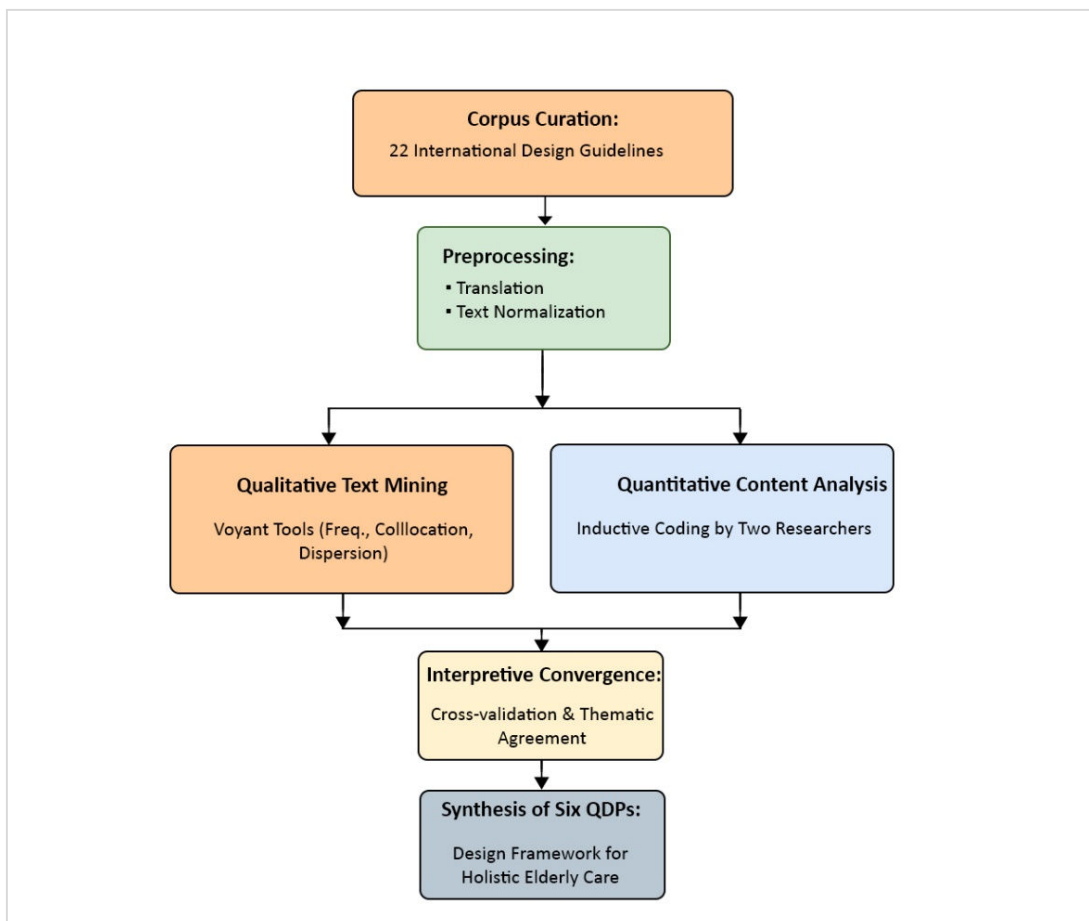


Figure 1. Flowchart of the applied methodology

Importantly, we viewed the documents as ideological artifacts as well as technical manuals, texts that exercise architectural authority by influencing what is prioritized, excluded, or imagined in the practice of design. By elevating the analysis from a content summary to a discursive critique, this epistemic framing makes it possible to synthesize new design principles based on human experience.

The results of the two phases were thematically triangulated to produce six emergent Qualitative Design Parameters (QDPs). The parameters, which have been found to predict well-being in architectural theory, environmental psychology, and gerontology, were not inferred at random; rather, they were selected because of their cross-disciplinary convergence. Thus, the methodology serves as both a diagnostic lens and a generative mechanism capable of producing actionable frameworks for future design standards.

Results and discussion

The analysis of 22 international design guidelines revealed a systemic and quantifiable imbalance: safety and risk mitigation dominate architectural discourse in elderly care, while psychosocial, sensory, and dignity-related dimensions are sparsely represented. These findings emerged through dual analytic lenses quantitative text mining and qualitative thematic coding each reinforcing the structural biases embedded in the current design paradigm.

Dominance of safety and functional terminology

Voyant Tools lexical analysis revealed a disproportionately high frequency of terms related to safety: "safe*" occurred 916 times, "fall*" 476 times, and "accessib*" 395 times (figure 2). These terms frequently appeared with architectural interventions like "door width," "corridor spacing," and "bathroom design,"

forming dense collocational clusters (figure 3). The operational logic at work environments are made to reduce liability rather than to improve life is highlighted by such patterns. This focus on safety is certainly necessary, but it has a price. It

appears that the main design question has shifted from "How do we foster meaning, connection, or joy?" to "How do we prevent harm?" due to the overemphasis on fall prevention, mobility assistance, and emergency egress protocols.

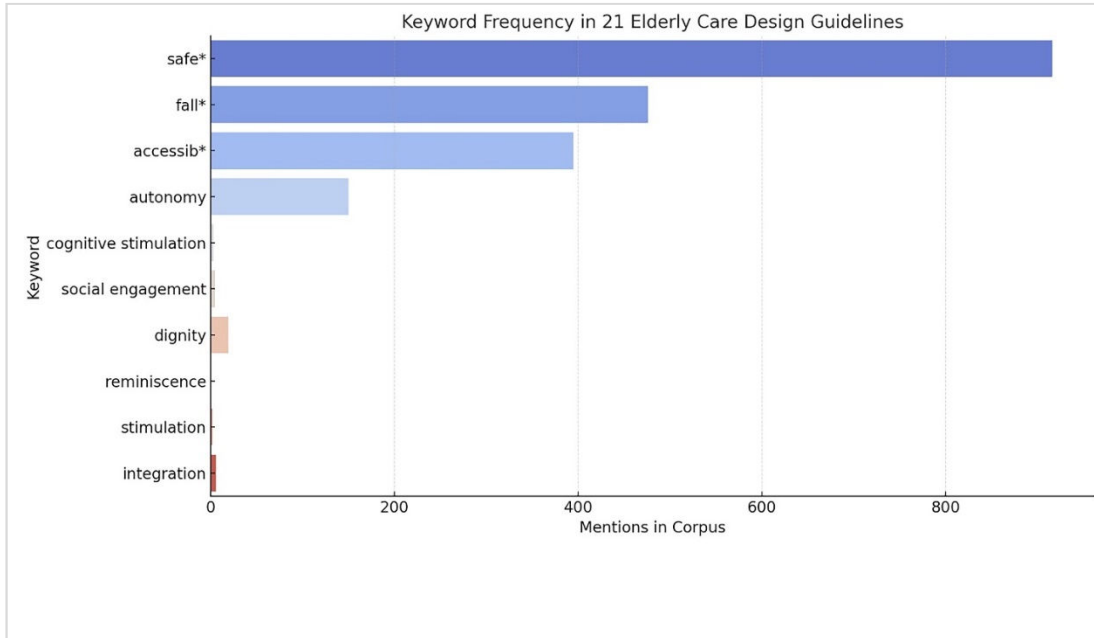


Figure 2. Keyword frequency in the analyzed guidelines, indicating the predominance of safety-oriented terminology over qualitative experiential concepts

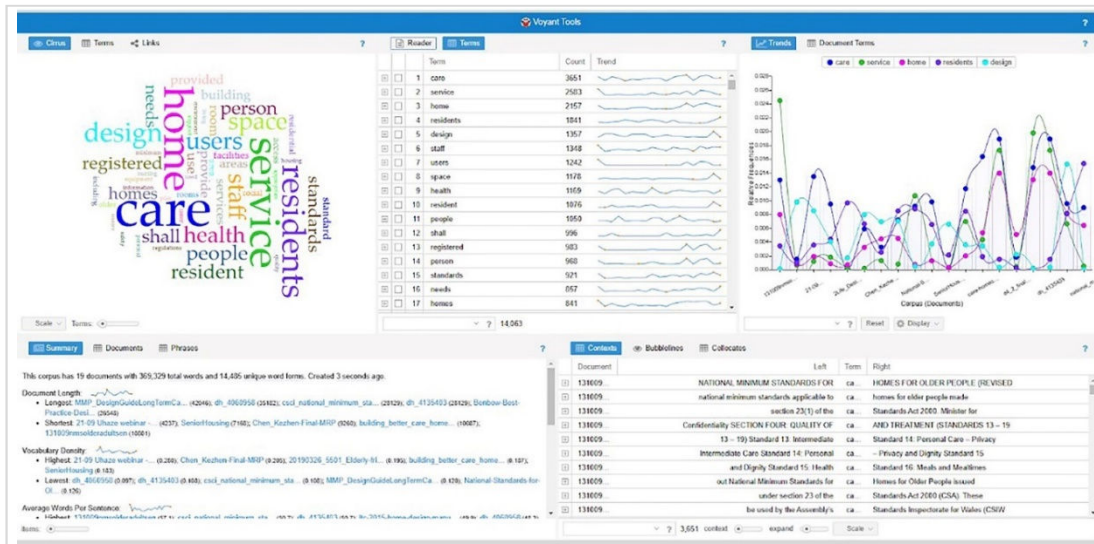


Figure 3. Voyant Tools textual visualization of the guideline corpus, revealing limited representation of psychosocial and resident's dignity-related themes

Underrepresentation of psychosocial and experiential terms

On the other hand, terms related to social integration and psychological well-being were noticeably underrepresented. Though more common (150 times), terms like "cognitive stimulation" only occurred three times, "social engagement" five times, and even the term "autonomy" was mostly used in legalistic or

policy-oriented contexts rather than design-oriented conversations.

When looking at the most prevalent collocates of "integration," this disparity becomes more noticeable [table 2](#). Terms like "care," "design," "community," and "devices" were most frequently paired, indicating a focus on medical technologies, physical integration in built environments, and integrated care delivery.

Table 2. Top Collocations of word "Integration" and their Interpretations

Theme	Top collocations (Frequency)	Interpretation
Care Practices	Care (31), Services (7), Health (6)	Focus on integrated care models and service delivery.
Design & Architecture	Design (19), Building (11), Environment (10)	Strong link to physical integration in built environments.
Community & Social	Community (11), Social (10), Life (6)	Emphasis on social integration and community ties.
Energy & Sustainability	Solar (7), Energy (5), Water (4)	Emerging focus on sustainable systems integration.
Technology	Devices (4), Systems (3), Digital (2)	Integration of assistive/medical technologies.

Architectural marginalization of dignity

The term "dignity" emerged in just 19 documents, with most references embedded in discussions of patient rights, privacy, or palliative care protocols. When dignity was invoked, it was

linguistically tethered to caregiving e.g., being "treated with dignity" rather than architecturally grounded [table 3](#). Only 3 occurrences connected dignity to spatial elements such as "room," "space," or "design."

Table 3. Top collocations of word "Dignity" and their interpretations

Theme	Top collocations (Frequency)	Interpretation
Privacy and autonomy	Privacy (47), Independence (8), Autonomy (5)	Dignity is strongly tied to personal space and self-determination.
Care practices	Care (27), Service (30), Handled (8), Treated (6)	Emphasizes dignified treatment in daily care.
Respect and rights	Respect (11), Rights (8), Needs (11)	Legal and ethical dimensions of dignity.
End-of-Life	Dying (13), Death (13), Palliative (5)	Critical for terminal care contexts.
Environment	Design (3), Space (3), Room (4)	Architectural/physical factors supporting dignity.

Thematic evidence of a utilitarian paradigm

Qualitative coding revealed a broader epistemological pattern. Design was framed as a technical solution to aging, not as a humanistic opportunity. Guidelines foregrounded metrics, compliance, and spatial efficiency; terms like "reminiscence," "belonging," or "identity" were wholly absent from 17 of 22 documents. This reveals a flattened ontology of aging, where the resident is imagined primarily as a body at risk rather than a person with a past, relationships, and a cognitive life.

Evidence of lexical silence

Silence is itself a form of data. Terms central to environmental psychology integration,

stimulation, comfort, memory, familiarity were either entirely missing or appeared in non-design contexts. [Figure 3](#) visualizes this silence by mapping high-frequency safety terms against a near-absence of cognitive, emotional, or community-oriented language. The effect is not merely semantic it is philosophical. These documents do not simply overlook qualitative dimensions; they operate within a framework that is structurally incapable of generating them.

Discussion: reclaiming the architecture of aging

According to the analysis above, there is a glaring contradiction at the core of the design of contemporary elderly care facilities: the

emotional, cognitive, and social realities of aging are either ignored or treated as incidental, while safety, accessibility, and operational compliance are carefully outlined. This is a philosophical error rather than a technical one. Aging is still framed as a decline to be controlled rather than as a life to be enhanced by the institutional imagination that underpins the majority of design guidelines. We offer a set of human-centered Qualitative Design Parameters (QDPs) as a response to this reductionism, which gives the architectural experience of aging complexity, significance, and dignity.

The significance of qualitative parameters is found in their structural influence on emotional well-being, identity preservation, and health outcomes rather than in their softness. An increasing amount of research in gerontology and environmental psychology shows that environments with qualitative features, like social affordances, personalization, and sensory variety, can prolong independent living, improve cognitive function, and lessen depression. These effects are tangible, quantifiable, and morally required; they are neither ornamental nor abstract.

We present six QDPs that have been carefully selected by triangulating three knowledge domains: recurrent concepts in the literature of gerontology and environmental psychology, empirical gaps found in our document analysis, and spatial strategies verified by post-occupancy studies in care settings. Our goal is to be strategically selective rather than exhaustive. These six parameters are interdependent enough to create a cohesive, workable whole while still being separate enough to provide conceptual clarity. They offer an evidence-based framework for rethinking elderly care environments as adaptable, respectable, and emotionally

meaningful spaces rather than as static infrastructures for designers, legislators, and caregivers.

To address the recurring gap between theoretical frameworks and architectural implementation, we first clarify how each QDP may be translated into operational design reasoning. Before discussing each parameter in detail, we therefore present an alignment table that links qualitative intent to spatial translation mechanisms. While the Qualitative Design Parameters (QDPs) are theoretically grounded in architectural theory, environmental psychology, and gerontology, their contribution is not limited to conceptual critique. To enhance transferability to architectural practice and guideline development, each QDP may be interpreted through a set of spatial translation mechanisms that connect qualitative intent with concrete design reasoning. These mechanisms are not intended as prescriptive solutions or exhaustive design recipes; rather, they function as operative lenses through which designers, policymakers, and evaluators may interpret, adapt, and assess elderly care environments.

By articulating how qualitative values may be spatially instantiated, the framework bridges the gap between abstract principles and architectural decision-making. Thus, it supports early-stage design exploration, guideline formulation, and post-occupancy evaluation, while preserving flexibility across cultural, regulatory, and institutional contexts. To clarify how qualitative intent may be translated into architectural reasoning, [table 4](#) presents the alignment between each QDP, its design intention, and corresponding spatial translation mechanisms, supporting application in design evaluation and guideline formulation.

Table 4. Operational alignment of qualitative design parameters with spatial translation mechanisms

Qualitative design parameter (QDP)	Core qualitative intent	Primary spatial translation mechanisms	Indicative architectural focus
Sense of Home and Belonging	Emotional continuity; identity preservation	Domestic-scale spatial clustering; personalization zones; non-institutional material palettes	Degree of personalization; scale and familiarity of shared spaces
Sensory and Cognitive Stimulation	Cognitive engagement; perceptual vitality	Multisensory courtyards; differentiated textures; circadian lighting modulation	Sensory diversity; temporal orientation; avoidance of sensory deprivation
Social Interaction and Community	Informal encounter; social vitality	Shared circulation nodes; open communal thresholds; multipurpose social spaces	Encounter density; spatial permeability; visibility of social life
Adaptability and Personalization	Agency; responsiveness to changing needs	Modular layouts; adjustable furniture systems; resident-	Flexibility over time; resident control; adaptability of use

Qualitative design parameter (QDP)	Core qualitative intent	Primary spatial translation mechanisms	Indicative architectural focus
		controlled environmental settings	
Nature and Outdoor Access	Psychological restoration; biophilic engagement	Continuous indoor–outdoor transitions; looped garden paths; sensory planting strategies	Frequency of outdoor access; biophilic integration; seasonal experience
Reminiscence and Dignity	Identity affirmation; respect; narrative continuity	Memory-integrated wayfinding; biographical spatial cues; graduated privacy thresholds	Support for memory recall; privacy gradients; narrative legibility

What follows is a detailed exploration of each QDP: Sense of Home and Belonging, Sensory and Cognitive Stimulation, Social Interaction and Community Spaces, Adaptability and Personalization, Nature and Outdoor Access, and Reminiscence and Dignity each one a spatial proposition for restoring humanity to the architecture of care.

QDP 1: Sense of home and belonging

The transition from a private home to an institution is not just practical in the majority of care facilities; it is existential. Residents are relocated from areas rich in personal significance to settings that value cleanliness and security over memory and identity. Emotional confusion and depression are frequently the results of this disruption. The idea of "home" is a psychological construct associated with autonomy, familiarity, and self-continuity rather than just a physical place. Elderly people, particularly those experiencing cognitive decline, react favorably to spatial cues that strengthen this sense of place, according to environmental gerontology (Molony et al. 2011).

Research by Day, Carreon, and Stump (2000) and Cutler and Kane (2009) confirms that environments mimicking domestic architecture rather than hospital typologies can reduce agitation and improve emotional well-being (Cutler and Kane 2009; Day, Carreon, and Stump 2000). In practical terms, this parameter calls for human-scale spaces, non-standardized room layouts, personal display zones, and architectural materials that evoke residential settings. To counteract the clinical sterility of most care facilities, sensory cues like wood, fabric textures, and warm lighting are introduced. Designing with a "sense of home" in mind is restorative as well as comforting.

QDP 2: Sensory and cognitive stimulation

Contemporary design guidelines often assume that comfort equals simplicity. As a result, environments for the elderly are stripped of sensory complexity: neutral color schemes, smooth floors, uniform lighting. But sensory neutrality can quickly become sensory deprivation. From a neurological standpoint, sensory input is foundational to cognitive function and emotional vitality. Fleming and Purandare (2010) show that varied sensory environments stimulate neural engagement and reduce passive withdrawal in elderly populations. This is especially important for residents with dementia, for whom sensory feedback can anchor attention and memory.

Multisensory gardens, distinct floor textures for tactile variation, ambient soundscapes that promote orientation without overstimulation, and the use of natural light rhythms to reinforce circadian cycles are examples of spatial applications. For people with restricted mobility, emerging technologies like interactive walls or virtual sensory immersion rooms (like VR nature experiences) can increase their range of stimulation options. Individual thresholds must be taken into consideration when designing these deliberate, modulated interventions. A design that appeals to the senses also appeals to the self, arousing memory, agency, and curiosity.

QDP 3: Social interaction and community spaces

Many RCFs still prioritize individual rooms, linear corridors, and strictly scheduled communal spaces, despite the overwhelming evidence that social connectedness enhances emotional resilience and cognitive health. These spatial logics result from institutional care models that view residents not as social beings to be interacted with but as units to be controlled. Yet isolation is one of the most corrosive elements of aging, and its architectural enablers dead-end hallways,

closed doors, over-zoned programming are often invisible to policymakers.

Design research using tools like Space Syntax has shown that spatial configuration directly affects encounter patterns (Hillier and Hanson 1984). Open circulation nodes, shared thresholds, and multipurpose social hubs are examples of layouts that promote incidental contact and raise the possibility of informal, low-pressure interaction. This is especially important for residents whose verbal abilities are deteriorating. Libraries, lounges, cafes, and hobby rooms can all be combined to create participatory spaces that break down isolation, according to the "third space" theory (Oldenburg 1999), which is frequently used in urban planning. This QDP reinterprets architecture as a facilitator of social life rather than as its background.

QDP 4: Adaptability and personalization

Aging is not a static condition it is dynamic, iterative, and unpredictable. Yet most design guidelines operate on a model of fixed-use space: one room, one function, one configuration. This is not only inflexible but often antithetical to the changing needs of residents. According to Lawton's Environmental Press Theory, well-being declines when a space's demands exceed a person's ability to adapt (M. P. Lawton 1975). On the other hand, dignity and self-efficacy rise when surroundings change to accommodate residents.

Modular partitions, adjustable furniture, and digital controls that change the lighting, temperature, or sound are some examples of adaptability. More significantly, this QDP places a strong emphasis on personalization the capacity of residents to leave their mark on their surroundings. According to research by Gilleard, Hyde, and Higgs (2007), even small personalizations like family photos, a wall color preference, or music control can have a significant impact on a person's sense of place and autonomy. Design becomes a means of self-reclamation for a populace that frequently feels powerless.

QDP 5: Nature and outdoor access

Nature is a physiological and psychological necessity, not just a beautiful thing. Environmental psychology research has shown for decades that having access to green spaces improves emotional regulation, supports cognitive function, and lowers stress (Kaplan and Kaplan 1989; Ulrich 1984). However, a lot of RCFs treat outdoor access as optional or even

dangerous, pointing to staffing shortages or fall risks. This exclusion denies one of the most ubiquitous sources of well-being, which goes beyond a simple logistical error.

This QDP calls for the intentional integration of nature into everyday life: gardens adjacent to dining areas, shaded walking loops, sensory courtyards with seasonal flora, and indoor-outdoor thresholds that eliminate transition anxiety. Raised garden beds, aviaries, and therapeutic horticulture spaces support engagement at multiple ability levels. Design must not "contain" residents indoors it must offer safe, continual invitation to the outside world. Architecture should function as a bridge to nature, not a barrier.

QDP 6: Reminiscence and dignity

Memory is embedded in space. Environments that evoke cultural or personal familiarity can act as cognitive anchors for residents who are suffering from memory loss. However, rather than being a design opportunity, the majority of guidelines treat reminiscence as a therapeutic activity. This is a serious mistake. The work of (Chochinov 2002) on dignity therapy and Woods et al. (2018) on reminiscence interventions show that personal storytelling, nostalgic stimuli, and narrative affirmation improve mental health outcomes especially in end-of-life care (Chochinov 2002; Woods et al. 2018).

Architects and designers can support this through thematic corridors (e.g., decades rooms), interactive memory walls, photo-integrated wayfinding, and objects that trigger autobiographical memory. Technological complements like digital memory albums or voice-recorded family archives can extend these spatial cues. Dignity is not achieved solely through care policy or staff training. It is built into the geometry of spaces, the textures of the past, and the way environments remember us even when we begin to forget ourselves.

Conclusions

As societies get older, the layout of long-term care facilities reflects societal values rather than just being a practical consideration (Fleming and Purandare 2010; J. Zeisel et al. 2003). However, the prevailing frameworks that govern these settings continue to prioritize physical safety,

viewing design as a means of containing risk. According to this paradigm, space is designed for survival rather than purpose. This bias in language and structure was found in our analysis of 22 international guidelines, revealing the structural lack of architectural strategies that promote social vitality, emotional expression, and psychological resilience in older age (Evans and McCoy 1998; Joseph, Choi, and Quan 2016).

To better understand the role of qualitative design elements in elderly care facilities, it is essential to examine the theoretical and empirical studies on the built environment's impact on physical, psychological, and social well-being. Studies in environmental psychology have shown that built environments significantly influence human behavior and mental states (Evans and McCoy 1998). For elderly individuals, especially those with limited mobility or cognitive impairments, the design of their surroundings plays a critical role in shaping their daily experiences and overall quality of life (J. Zeisel et al. 2003).

Ultimately, this study argues for a more compassionate and operational understanding of space in elder care one that recognizes residential care facilities not merely as infrastructures of risk containment, but as environments of identity, connection, and existential well-being. The proposed Qualitative Design Parameters (QDPs) offer an actionable framework for translating psychosocial needs into architectural standards rather than leaving them as abstract aspirations. To support implementation, design guideline developers and policymakers can take several immediate steps. First, regulatory documents should expand compliance criteria to include qualitative indicators such as autonomy, social vitality, sensory engagement, and dignity, alongside traditional safety metrics. Second, interdisciplinary review panels involving architects, gerontologists, environmental psychologists, and care practitioners should be integrated into the guideline-writing process to ensure psychosocial dimensions are not structurally overlooked. Third, evaluation mechanisms such as post-occupancy studies, resident-centered well-being audits, and participatory co-design methods should become standard tools for validating design performance beyond physical safety alone.

By embedding these qualitative measures into future standards, elder care guidelines can move toward a more holistic model one that protects

aging bodies while also nurturing aging minds, memories, and meaning. In doing so, residential care environments may be transformed from spaces of institutional survival into places of healing, dignity, and human flourishing.

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Ali Güven contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.

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