

# A Comparative Study on the Integration of Sustainable Housing Principles to Enhance Quality of Life and Wellbeing for Elderly Individuals in Lagos Island

Olutope Adeniyi Adewole., Solomom Emmanuel Etuk

Department of Architecture, College of Post Graduate Studies, Caleb University, Imota, Ikorodu, Lagos, Nigeria

DOI: <https://doi.org/10.51244/IJRSI.2026.1307000179>

Received: 12 July 2026; Accepted: 17 July 2026; Published: 05 August 2026

## ABSTRACT

Nigeria's older population is expanding while incomes, health cover and housing lag behind, and Lagos, the country's largest and most housing-stressed city, concentrates that strain. Lagos Island, the historic urban core, pairs an old and deteriorating building stock with a low-lying, flood-prone, increasingly hot environment. This integrative review asks how the typology and condition of older Lagosians' housing, read through the lens of sustainable housing principles, relate to their quality of life and well-being, and what the Lagos and wider Nigerian evidence implies for Lagos Island. Following the Whitemore and Knafl integrative framework, with search and selection reported against PRISMA 2020 and appraisal by the Mixed Methods Appraisal Tool, structured searches of PubMed, Scopus-indexed sources, African Journals Online, and Google Scholar (to 2026) yielded 30 peer-reviewed studies, nine of them set in Lagos State and one of those on Lagos Island. Findings were organised by thematic synthesis into six themes. Older adults ageing in their own homes and communities reported better quality of life and social participation than peers in institutions, though that advantage narrowed where the dwelling was crowded, hot, or unsafe. Across Lagos, housing condition, building type, and neighbourhood quality tracked well-being, while economic status was repeatedly the single strongest determinant of older Nigerians' quality of life. Thermal discomfort, falls, and the erosion of shared social space each linked housing to well-being. The review joins two Lagos literatures that rarely meet, one on older-adult well-being and one on housing quality, and recasts sustainable housing for older Lagosians as an affordable convergence of thermal, safety, social, and economic functions rather than a green upgrade, setting out a Lagos Island research agenda.

**Keywords:** Sustainable Housing, Older Adults, Quality of Life, Ageing in Place, Lagos Island

## INTRODUCTION

Growing old in Nigeria is, for most people, something that happens at home. There are very few care institutions, the state pension reaches only a small minority, and the long-standing expectation has been that family and familiar surroundings will carry a person through later life (Folorunsho, 2025). That expectation is now under strain because Nigeria's older population is expanding quickly, and it is doing so against a background of widespread poverty and a heavy load of chronic illness, while the formal pension scheme covers only about 11 million salaried workers out of an estimated 30 million adults aged 50 and above (Folorunsho, 2025). Government has begun to respond, approving a National Policy on Ageing in 2021 and establishing the National Senior Citizens Centre, but these frameworks are young and thinly implemented (Federal Ministry of Information and National Orientation, 2021). The practical consequence is easy to state. For the great majority of older Nigerians, the house they live in is not just shelter. It is where their health is kept or lost, where independence is held onto or surrendered, and where the costs of ageing are quietly absorbed by the household.

That burden sits heaviest in Lagos as the city carries a housing shortage of three to four million units, concentrated overwhelmingly among low- and very-low-income households, alongside chronic overcrowding and the recurrent, damaging floods that come with a low-lying coastal site (World Bank, 2023). Within this larger crisis, Lagos Island is the original settlement of Eko, the historic heart of the city, holding roughly 209,000

residents at the last census on a small and tightly packed footprint, which gives it one of the highest residential densities in the country (National Population Commission, 2010). Much of its housing is old, built long before anyone wrote accessibility or energy rules into a building code, and a recent study of the Island's traditional quarters argues that its very layout, the closeness of compounds and shared outdoor space, is itself a resource for residents' well-being that newer development tends to erase (Johnson, 2025). An older person ageing on Lagos Island therefore meets three problems at once: a dwelling that is deteriorating, an upgrade market they cannot afford, and a climate that is turning against them.

This is where the idea of sustainable housing becomes useful, provided it is understood plainly. The term is often heard as a story about solar panels and certificates, but at its core it describes a building that stays comfortable, costs little to run, and supports the people inside it. International certification such as the EDGE standard, now active in Nigeria, defines this in measurable terms as real savings in the energy, water, and materials a home consumes (International Finance Corporation, 2025). For an older resident, those same features translate into things that matter day to day: a home that does not overheat, a bathroom that can be reached without fear of falling, a layout that keeps a person connected to neighbours rather than shut away, and a utility bill that does not eat into a fixed income. Seen this way, sustainable housing and the World Health Organization's idea of an age-friendly city, in which housing is one of eight domains that shape healthy ageing, are describing the same building from two directions (World Health Organization, 2007). Recent design research makes the overlap explicit, ranking the age-friendliness of a dwelling, and the availability of modifications for older users, above purely technical criteria when sustainable housing for seniors is assessed (Ptak-Wojciechowska et al., 2024).

Two features of a home decide how well it serves a person in later life: namely, its type and its condition. Type is the broad arrangement, whether someone ages in their own community dwelling, moves in with adult children, or enters an institution such as an old people's home (Pynoos et al., 2008). Condition is the state of the actual building, how well it sheds heat, how safe its floors and stairs are, how sound its services (Allen, 2005). Both vary enormously across Lagos, and both are widely believed to shape older residents' quality of life, yet they are seldom examined together for the same group of people. The most consequential contrast, and the one this review takes as its comparative spine, is between ageing in place in community and family housing and ageing inside institutional or specialised settings. It is a live question in Lagos, where attitudes to old people's homes are shifting and where the family-based model the city has always relied on is itself under pressure.

It would be wrong to claim that Lagos has no evidence on any of this. There is a substantial body of work on older Lagosians, covering their support systems, their retirement and pensions, their access to health services, and their changing attitudes to institutional care, and a separate, equally substantial body of work on Lagos housing, covering public-housing satisfaction, housing quality, and more recently the determinants of satisfaction with sustainable housing. The difficulty is that these two literatures rarely meet. Studies of older people tend to treat housing as a backdrop, and studies of housing tend to treat residents as a single undifferentiated group rather than asking how a seventy-year-old experiences the same building differently from a thirty-year-old. As a result, almost no Lagos study reads older residents' quality of life as a direct function of their housing type and condition through a sustainability lens, and for Lagos Island specifically the one available well-being study is concerned with the spatial form of the historic district rather than with older adults and their homes (Johnson, 2025). That disconnection, rather than any absence of data, is the gap this review addresses.

Accordingly, this paper asks how the integration of sustainable housing principles can enhance the quality of life and well-being of older adults, taking as its comparative frame the differing housing typologies and conditions that older residents experience, and applying the synthesis to Lagos Island. It pursues three questions. First, how does quality of life differ across housing types and conditions for older adults, particularly between community or family living and institutional care? Second, through what mechanisms do sustainable housing attributes, thermal comfort, accessibility and safety, social connection, and affordability, act on well-being? Third, what does the combined evidence imply for older residents of Lagos Island, and where should local research go next? Since the relevant evidence is methodologically mixed, spanning surveys, comparative studies, building-science work, and qualitative accounts, an integrative review is the appropriate design (Whittemore & Knafl, 2005). Its search and selection are reported against the PRISMA 2020 standard, and its studies appraised with the Mixed Methods Appraisal Tool, as set out next.

## METHODS

### Design and Rationale

The review follows the integrative design of Whittemore & Knafl (2005), whose five stages, problem identification, literature search, data evaluation, data analysis, and presentation, are built for questions whose evidence is mixed in method. The question here is exactly of that kind. It draws on community surveys of quality of life, comparative studies of living arrangements, building-science work on heat and comfort, meta-analyses of social isolation, and qualitative accounts of place and care. A conventional systematic review, tuned to a single comparable effect, would have to discard most of this material. An integrative review can hold it together, which is why it was chosen. Search and selection are still reported against the PRISMA 2020 standard so that the process is transparent, and each included study was appraised with the Mixed Methods Appraisal Tool (MMAT, 2018), which scores quantitative, qualitative, and mixed designs on a common footing.

### Review Question and Framework

The question was framed with the Population, Concept, Context structure rather than the intervention-focused PICO, because the inquiry concerns relationships and extent rather than the effect of a single treatment. The Population is older adults aged 60 and above. The Concept is housing typology and condition, read through sustainable housing principles, in relation to quality of life and well-being. The Context is urban Nigeria, prioritising Lagos and Lagos Island, with African and tropical settings drawn in where local evidence runs thin. The review was not registered; PROSPERO does not accept integrative reviews of this scope, and this is noted plainly as a limitation.

### Search Strategy

Searches ran across PubMed and PubMed Central, Scopus-indexed sources, African Journals Online, and Google Scholar, with deliberate hand-searching of the reference lists of included Nigerian studies, which surfaced several Lagos papers that database indexing had missed. Three concept blocks were combined with AND, and synonyms within each block with OR: an ageing block (older adult\* OR elderly OR aged OR “older person\*”), a housing block (housing OR dwelling OR “living arrangement\*” OR “aging in place” OR “old people's home\*” OR “thermal comfort” OR “sustainable hous\*” OR “built environment”), and an outcome block (“quality of life” OR well-being OR wellbeing OR satisfaction OR health). A parallel Lagos and Nigeria run (Lagos OR “Lagos Island” OR Nigeria OR “Sub-Saharan Africa”) was applied throughout to draw the local evidence to the surface. Full strings appear in Appendix A.

### Two Evidence Streams

Two streams were kept deliberately separate. The first, peer-reviewed empirical studies and reviews, is the only material allowed into the synthesised findings in Section 3. The second, grey and contextual literature such as census tables, policy documents, international standards, and one recent local preprint, was used to frame the problem in the introduction and, with explicit caution, to interpret findings in the discussion. It never enters the thematic tables. This rule keeps the evidentiary core defensible while letting the review speak to the Lagos reality that grey sources often document first.

### Selection and Data Extraction

Records were screened on title and abstract, then at full text against the criteria in *Table 1*. From each included study a standard set of fields was drawn: author and year, design, setting, sample, the housing typology or attribute examined, the outcome and instrument, and the principal finding. Extraction was tabulated to support a constant-comparison synthesis rather than a numerical pooling, in keeping with the integrative method. The complete extraction sits in Appendix B.

Table 1: Inclusion and Exclusion Criteria

| Parameter            | Included                                                                                                                                                                                                                           | Excluded                                                                                                                                           |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Population           | Adults aged 60 and above, or a clearly identifiable older-adult subgroup. A small number of population-level Lagos housing and well-being studies were admitted where they directly characterise conditions older residents share. | Studies of younger adults, or general-population studies from which older adults could not be separated and no shared-condition rationale applied. |
| Concept              | Housing typology or condition, or a sustainable housing attribute (thermal comfort, accessibility, social space, resource efficiency, affordability), examined in relation to well-being.                                          | Studies of buildings reporting only technical outputs such as energy demand, with no link to a resident outcome.                                   |
| Outcome              | Quality of life, well-being, life satisfaction, health-related quality of life, or a direct determinant such as falls or social participation.                                                                                     | Outcomes unrelated to quality of life or well-being.                                                                                               |
| Evidence type        | Peer-reviewed empirical studies and reviews for the synthesised findings. Grey and contextual sources were used only to frame the introduction and, cautiously, the discussion.                                                    | Non-peer-reviewed material (preprints, theses, reports, news) within the synthesised findings.                                                     |
| Setting and language | Any country, with deliberate prioritisation of Lagos, Nigeria, and tropical or African settings. English language. No date limit.                                                                                                  | Non-English records that could not be reliably appraised.                                                                                          |

## Quality Appraisal

Each study was appraised with the MMAT (2018), using the items appropriate to its design. Appraisal was treated as informative rather than as a gate: no study was dropped on quality grounds alone, but quality was allowed to weight the confidence placed on each finding, so that a meta-analysis of randomised trials carries more force in the synthesis than a single small survey. A summary appears in Appendix D. Most studies met four or five of the five MMAT criteria for their design; the recurrent weaknesses were reliance on cross-sectional data, which cannot establish temporal order, and the modest or purposive samples common in the Nigerian work.

## Synthesis and Selection

Findings were synthesised thematically by constant comparison, grouping studies until six analytical themes stabilised, reported in Section 3 and drawn together in a conceptual framework. Searching identified about 620 records; after roughly 140 duplicates were removed, some 480 were screened, 62 full texts were assessed, and 30 met all criteria, nine of them set in Lagos State and one on Lagos Island. These counts are marked approximate because the search was conducted by a single reviewer without dual independent screening or a formally maintained record-level log, a limitation discussed in Section 4.4. The journey is shown in *Figure 1*.

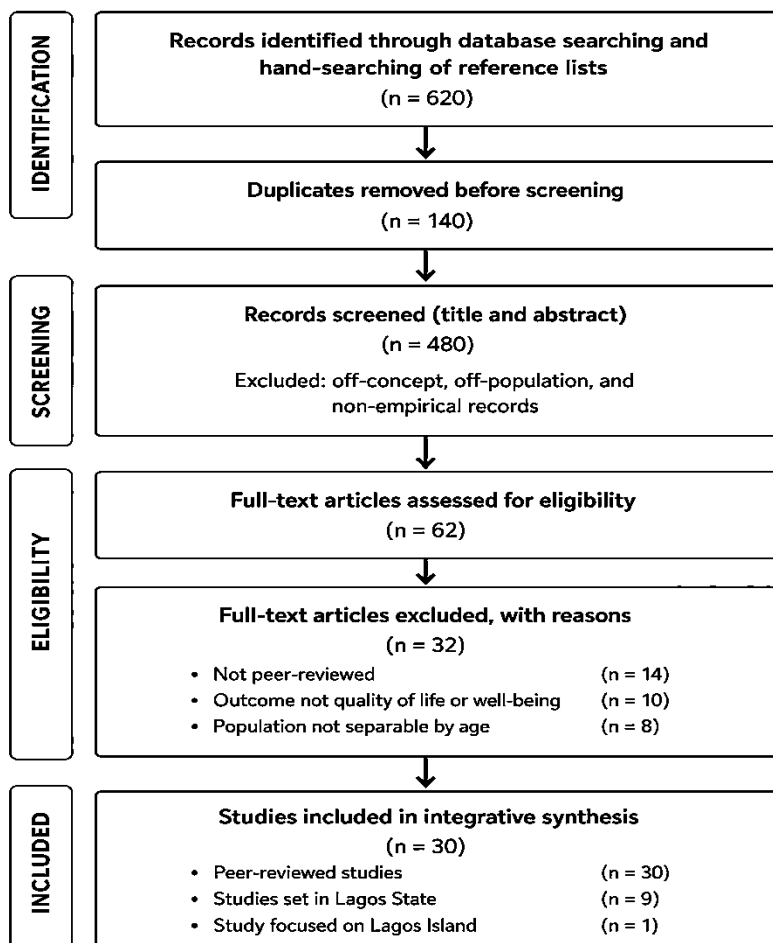


Figure 1: PRISMA 2020 Flow Chart

## RESULTS

### Characteristics of the Evidence

Thirty peer-reviewed studies met the criteria, and the set is more local than work on this topic usually manages: nineteen are Nigerian and nine of those sit in Lagos State, with one further study on Lagos Island itself. The evidence is also recent, with much of it published in the last decade, and methodologically broad. Comparative and community cross-sectional surveys dominate, but they are joined by three multinational syntheses, two of them meta-analyses; a systematic review of randomised trials; longitudinal and monitored studies; a mixed-methods multi-criteria analysis; a tropical building-science review; and one qualitative study of place. Quality of life was captured with a spread of validated instruments, most often the WHOQOL-BREF in the Nigerian work, with the SF-36, RAND-36, and OPQOL-brief appearing in the comparative studies. That spread is a strength of coverage but a barrier to direct pooling, which is one reason an integrative rather than meta-analytic synthesis was chosen (Attafuah et al., 2021).

The geographic picture, set out in *Table 2*, tells the review's central story in numbers. Lagos is well represented, but its studies divide cleanly into two camps that do not talk to each other. On one side sit studies of older Lagosians, their support systems, their retirement, their attitudes to old people's homes, and their experience of care. On the other sit studies of Lagos housing, its quality, satisfaction, and condition, almost always treating residents as a single group. Where the two meet at all, it is in the small old people's home literature. No study measured the quality of life of older Lagos Island residents as a function of their housing type or condition, and the one Lagos Island study available reads the district's spatial form rather than its older residents' homes (Johnson, 2025).



Table 2: Distribution of the 30 Included Studies by Setting and Design

| Setting of Evidence                                        | Studies (n) | Design Mix                                                                                                                                                            |
|------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lagos State, Nigeria                                       | 9           | 1 qualitative spatial study; public-housing and housing-condition surveys; old people's home studies; construction-professional and health-facility readiness surveys |
| Other Nigeria                                              | 10          | Community quality-of-life surveys; comparative institutional vs community studies; a national well-being survey; qualitative work                                     |
| Other Sub-Saharan Africa                                   | 2           | 1 comparative cross-sectional (South Africa); 1 scoping review of instruments                                                                                         |
| Tropical Sub-Saharan Africa (review)                       | 1           | 1 building-science review of thermal comfort                                                                                                                          |
| Europe and United Kingdom                                  | 3           | 2 longitudinal or monitored studies; 1 mixed-methods multi-criteria study                                                                                             |
| Turkey                                                     | 1           | 1 comparative cross-sectional                                                                                                                                         |
| North America                                              | 1           | 1 conceptual review of universal design                                                                                                                               |
| Multinational syntheses                                    | 3           | 2 meta-analyses; 1 systematic review with meta-analysis                                                                                                               |
| Of which set in Lagos State                                | 9           | Nine of thirty studies, the strongest local base assembled on this question to date                                                                                   |
| Of which on older Lagos Island residents and their housing | 0           | The single Lagos Island study addresses community-level urban well-being, not older-adult housing (Johnson, 2025)                                                     |

*Note: The two shaded rows are highlighted subsets, not additional studies; together they locate the gap that defines the review's contribution.*

### Theme 1: Living Arrangement and Housing Typology

The clearest pattern in the evidence concerns the kind of setting an older person lives in. Across studies on three continents, those ageing in their own community or family homes reported better quality of life than peers in institutions. In Soweto the gap was direct and measurable, with community-dwellers scoring 77.7 against 68.5 for old-age-home residents and reporting far more physical activity (Ramocha et al., 2017). A Nigerian comparison reached the same destination by a different route, finding institutional residents significantly older and more functionally compromised than the non-institutional group, which is the demographic signature of homes that people enter only when independent living has already failed (Ogunyemi et al., 2018). The Nigerian assisted-living evidence agreed, with community-dwellers showing greater life accomplishment and less participation restriction (Akosile et al., 2023).

Two things keep this from being a simple verdict in favour of home. The first is that the advantage is conditional, not automatic. A Turkish comparison found that while aging-in-place residents ate better, several fitness and nutrition measures favoured the nursing home, a reminder that institutions can deliver some things a struggling household cannot (Çiftçi & Erdem, 2025). The Lagos old people's home evidence sharpens the point: just over half of residents were at malnutrition risk and a third were already malnourished, with nutrition tracking the level of care and the frequency of family contact rather than the institution as such (Okoye et al., 2019). The second qualification is that typology does not only shift the level of well-being but changes the machinery that

produces it. A Polish longitudinal study found that the boost older people get from giving and receiving support held for community-dwellers but vanished inside institutions, so moving a person changes not just how well they feel but what makes them feel well (Kroemeke & Gruszczynska, 2016).

For Lagos the live question is which way the family-based model is heading. Older Lagosians have long preferred home and community-based care, valuing the autonomy and respect it carries (Amaike, 2014), yet attitudes are visibly softening: a majority of Lagos respondents near or above retirement age were not only aware of old people's homes but willing to enter one (Badmus et al., 2016). Read together, these Lagos findings describe a city in transition, where the informal arrangement that has always protected older residents is weakening just as the formal alternative remains poorly resourced. Even within the community group, place matters, since rural and urban community-dwellers in Oyo differed in attitudes to ageing and perceived health (Cadmus et al., 2021a).

Table 3: Studies Contributing to Theme 1 (Living Arrangement and Housing Typology)

| Study                          | Design and Setting                                              | Contribution to Theme                                                                                                                                                        |
|--------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ramocha et al. (2017)          | Comparative cross-sectional; Soweto, South Africa; n = 80       | Community-dwellers scored higher quality of life (77.7 vs 68.5; p = .025) and far higher physical activity than old-age-home residents.                                      |
| Ogunyemi et al. (2018)         | Comparative cross-sectional (SF-36); Southwest Nigeria; n = 360 | Institutional residents were older (mean 78.7 vs 70.1 years) and more functionally compromised than the non-institutional group.                                             |
| Çiftçi & Erdem (2025)          | Comparative cross-sectional; Izmir, Turkey; n = 400             | Aging-in-place residents had better diet quality, but some fitness and nutrition indicators favoured the nursing home, so the community advantage is conditional.            |
| Kroemeke & Gruszczynska (2016) | Longitudinal; Poland; n = 277                                   | Social support raised positive affect for community-dwellers but not for institutional residents, showing typology changes how well-being is produced.                       |
| Akosile et al. (2023)          | Comparative cross-sectional; Nigeria; n = 120                   | Community-dwellers had better life accomplishment and less participation restriction than assisted-living residents, with comparable perceived support.                      |
| Badmus et al. (2016)           | Cross-sectional survey; Lagos; n = 385                          | Most respondents aged 50 and above were aware of old people's homes and a majority were willing to retire into one, marking a real shift in attitudes to institutional care. |
| Okoye et al. (2019)            | Cross-sectional; Lagos old people's homes; n = 56               | Just over half of residents were at risk of malnutrition and a third were malnourished, with nutritional status tied to family contact and level of care.                    |
| Amaike (2014)                  | Survey and interviews; Lagos State; 1,321 retirees              | Older Lagosians preferred home and community-based care to institutions, valuing autonomy, independence, and respect.                                                        |
| Cadmus et al. (2021a)          | Comparative cross-sectional; Oyo State, Nigeria                 | Attitudes to ageing and perceived health differed between rural and urban community-dwellers, showing housing context shapes well-being within the community group.          |

## Theme 2: Housing Condition, Quality, and Neighbourhood in Lagos

If typology sets the frame, the state of the actual dwelling fills it in, and here the Lagos housing literature does real work. The strongest local signal is that the home's benefit to its occupant runs less through ownership than through the building and its surroundings. In a study of 760 Lagos public-housing households, the psycho-social rewards of home, the sense of it as a refuge and a base for autonomy, depended more on neighbourhood context and physical characteristics than on whether the occupant owned or rented, and bungalow residents drew more of those rewards than people in blocks of flats (Ilesanmi, 2011). That detail matters for older adults specifically, because the bungalow removes the stairs and shared circulation that make flats hostile to anyone with limited mobility. A parallel Lagos study tied the socio-economic aftermath of mass housing to residents' wellness and illness, placing housing condition squarely inside the public-health story rather than beside it (Kasim, 2018).

The findings show that the condition weigh so heavily for older people because they arrive at the dwelling already carrying more health load and less margin to absorb a bad one. Over half of older adults in an Osun survey had at least one chronic illness, and chronic illness significantly depressed their health-related quality of life (Faronbi et al., 2020); in a southwest clinic sample only a quarter had good quality of life at all (Fakoya et al., 2018). A home that is hot, crowded, or unsafe does not act on a blank slate but on a body already managing hypertension, diabetes, or arthritis, which is how a housing problem becomes a health problem. The most telling result is a quiet one. In a large Oyo comparison, quality of life differed between rural and urban older adults on almost every domain except the environmental, the domain that most directly reflects housing and neighbourhood (Cadmus et al., 2021b). A null result is easy to pass over, but this one is informative: when the physical environment is similarly constraining for everyone, it stops separating groups and instead presses down on all of them together, which is precisely the situation a dense, deteriorating district such as Lagos Island presents.

Table 4: Studies Contributing to Theme 2 (Housing Condition, Quality, and Neighbourhood)

| Study                  | Design and Setting                                              | Contribution to Theme                                                                                                                                                         |
|------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ilesanmi (2011)        | Survey; Lagos public housing; 760 household heads               | Psycho-social benefits of the home turned more on neighbourhood context and physical characteristics than on tenure; bungalow residents drew more benefit than flat-dwellers. |
| Kasim (2018)           | Observational study; Lagos mass housing                         | Tied the socio-economic aftermath of mass housing to residents' wellness and illness, framing housing condition as a public-health matter.                                    |
| Faronbi et al. (2020)  | Cross-sectional (WHOQOL-BREF); Osun State; n = 377              | 51.5% had at least one chronic illness; chronic illness significantly lowered health-related quality of life, raising the stakes of a supportive dwelling.                    |
| Fakoya et al. (2018)   | Cross-sectional; Southwest Nigeria; n = 216                     | Only 25% had good quality of life; family support and socio-economic class were significant predictors.                                                                       |
| Cadmus et al. (2021b)  | Comparative cross-sectional (WHOQOL-BREF); Oyo State; n = 1,180 | Quality of life differed across most domains but not the environmental domain, pointing to a shared, constraining housing environment.                                        |
| Attafuah et al. (2021) | Scoping review; Sub-Saharan Africa                              | Catalogued the instruments used to measure older-adult quality of life in Africa, cautioning that comparison depends on validated, culturally appropriate tools.              |



### Theme 3: Thermal Comfort and the Climate-Ready Dwelling

Of all the sustainable housing principles, thermal performance has the most direct line to an older person's health, and it is the one most exposed on a hot, humid, coastal site such as Lagos Island. Older bodies regulate heat less well and tolerate it less safely, and homes built without thermal thought leave them exposed. A longitudinal British study not only recorded overheating in older people's homes but projected heat-related deaths to rise by 257% by mid-century, with the elderly carrying that burden (Hughes & Natarajan, 2019). What is striking is that this is a temperate-climate warning; the same physics operates more harshly where the baseline is already tropical. A review of low-income tropical African buildings found them routinely under-designed for heat, while showing that passive measures, cross-ventilation, shading, thermal mass, and appropriate materials, can widen the comfortable temperature band and cut the cooling energy a household would otherwise have to buy (Kajjoba et al., 2025). For a Lagos pensioner on a fixed income, that is the difference between a home that is bearable for free and one that is bearable only with electricity they cannot afford.

The design literature confirms that these features are not luxuries bolted onto a building but the core of what makes housing work in later life. Universal and sustainable design supports daily function and lowers the stigma of visible adaptation (Carr et al., 2013), and when sustainable housing for seniors is formally assessed, age-friendliness outranks purely technical criteria (Ptak-Wojciechowska et al., 2024). The obstacle is not knowledge but delivery. The single Lagos study of sustainable construction found the field held back by poor government support, absent regulation, weak demand, low awareness, and fear of cost (Osuizugbo et al., 2020). The thermal solutions exist and are cheap; the system that would install them does not yet function.

Table 5: Studies Contributing to Theme 3 (Thermal Comfort and the Climate-Ready Dwelling)

| Study                            | Design and Setting                                    | Contribution to the Theme                                                                                                                          |
|----------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Hughes & Natarajan (2019)        | Longitudinal monitoring; Southwest UK; older adults   | Documented overheating in older people's homes and projected heat-related mortality to rise 257% by 2050, the burden falling on the old.           |
| Kajjoba et al. (2025)            | Literature review; tropical Sub-Saharan Africa        | Tropical low-income buildings are under-designed for heat; passive design and adaptive comfort widen the comfortable range and cut cooling energy. |
| Carr et al. (2013)               | Conceptual review; Canada                             | Universal and sustainable design features support ageing in place, ease daily activities, and reduce the stigma of medicalised adaptation.         |
| Ptak-Wojciechowska et al. (2024) | Mixed-methods multi-criteria (AHP); Europe            | When sustainable housing for seniors is assessed, age-friendliness ranks above purely technical criteria.                                          |
| Osuizugbo et al. (2020)          | Cross-sectional (RII); Lagos State; 105 professionals | Ranked the barriers to sustainable construction in Lagos as poor government support, absent regulation, weak demand, low awareness, and cost fear. |

### Theme 4: Accessibility, Safety, and the Prevention of Decline

Where the thermal theme is about comfort, this one is about preventing the falls and the loss of independence that end an older person's ability to stay in their own home. The strongest causal evidence in the entire review sits here: a meta-analysis of randomised trials found that modifying hazards in the home reduced falls (risk ratio 0.93, 95% CI 0.87 to 1.00), and notably these are among the cheapest interventions available, grab bars, ramps, better lighting, and level thresholds rather than structural rebuilding (Lektip et al., 2023). The design research points the same way, naming the availability of housing modifications for seniors as the single most important sub-criterion in age-friendly housing (Ptak-Wojciechowska et al., 2024), and the case for universal design rests on exactly this logic of preserved function (Carr et al., 2013).

The Lagos and Nigerian evidence shows how far the built environment falls short of this standard. In Lagos old people's homes, residents themselves judged every accessibility and circulation provision important and asked that universal-design principles guide how such homes are built, which tells you they are not currently built that way (Adewale & Fasae, 2019). The shortfall extends to the places older people must visit: a survey of Lagos primary-care facilities found ramps at only 60% of entrances and wheelchair-accessible toilets at 43%, so the journey to care is itself an obstacle course (Ogunyemi et al., 2023). When daily activities become difficult, the gap is filled, or not, by the household: unmet needs for help with daily living were widespread in a southwest Nigerian sample and fell markedly in larger and wealthier households, rising for those living with non-family members (Mobolaji, 2024). Accessibility, in other words, is partly designed into the building and partly supplied by the people around it, and in Lagos both are under strain.

Table 6: Studies Contributing to Theme 4 (Accessibility, Safety, and the Prevention Of Decline)

| Study                            | Design and setting                                         | Contribution to the theme                                                                                                                                                                     |
|----------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lektip et al. (2023)             | Systematic review and meta-analysis of RCTs; n = 1,960     | Home hazard modification reduced falls (risk ratio 0.93, 95% CI 0.87–1.00), the strongest causal evidence in the review.                                                                      |
| Carr et al. (2013)               | Conceptual review; Canada                                  | Argued for universal design as a route to safer, more independent ageing.                                                                                                                     |
| Adewale & Fasae (2019)           | Survey; Lagos old people's homes; n = 90                   | Residents judged all accessibility and circulation provisions important and urged that universal-design parameters guide the design of such homes.                                            |
| Ptak-Wojciechowska et al. (2024) | Mixed-methods multi-criteria; Europe                       | Identified the availability of housing modifications for seniors as the single most important design sub-criterion.                                                                           |
| Mobolaji (2024)                  | Cross-sectional (hurdle model); Southwest Nigeria; n = 827 | Most older persons with difficulty had unmet daily-living needs; unmet need fell with larger family size and richer households and rose for those living with non-family members.             |
| Ogunyemi et al. (2023)           | Facility survey; Lagos primary care; 15 facilities         | Few facilities were ready for age-friendly service: ramps at 60% of entrances and wheelchair-accessible toilets at 43%, showing how rarely the built environment is designed for older users. |

## Theme 5: Social Space, Connection, and Place

Housing is not only a physical shelter but a social one, and the evidence that connection keeps older people alive is among the firmest in the field. Two large meta-analyses converge on it: isolation, loneliness, and living alone each raise the risk of early death (Holt-Lunstad et al., 2015), with the more recent synthesis putting numbers on the danger, a 14% higher mortality with loneliness, 21% with living alone, and 35% with social isolation (Nakou et al., 2025). Crucially for a review about housing, these are spatial outcomes as much as emotional ones, because whether an older person stays connected depends heavily on whether their dwelling and its surroundings make contact easy or hard. The Polish evidence shows this is not only about quantity of contact but about setting, since the well-being return on social support held in the community but not in the institution (Kroemeke & Gruszczynska, 2016).

This is where Lagos Island enters most directly. The one study of the district's well-being argues that the historic urban form of Eko, its tight compounds, shared courtyards, and porous outdoor space, functions as a social resource, a built-in scaffolding for the daily contact that protects older residents, and that contemporary redevelopment tends to strip it away (Johnson, 2025). Read alongside the mortality evidence, this turns an

architectural observation into a health one: to demolish the shared spaces of the old district is, for its older residents, to remove a protective factor. The national survey evidence reinforces the link from the other side, finding that resilience and the community's attitudes to ageing, both socially produced, were leading predictors of older Nigerians' subjective well-being (Togonu-Bickersteth et al., 2023). Sustainable housing that protects and creates shared social space is therefore not a soft amenity; it is doing the same protective work as a clinical intervention.

Table 7: Studies Contributing to Theme 5 (Social Space, Connection, and Place)

| Study                            | Design and Setting                      | Contribution to the Theme                                                                                                                                                    |
|----------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Johnson (2025)                   | Qualitative spatial study; Lagos Island | Read the historic layout of Eko, its compounds and shared outdoor space, as a well-being resource for vulnerable traditional communities, one that newer development erodes. |
| Holt-Lunstad et al. (2015)       | Meta-analysis; 70 studies               | Social isolation, loneliness, and living alone each independently raised the risk of premature death.                                                                        |
| Nakou et al. (2025)              | Meta-analysis; 86 studies               | Quantified the same danger: loneliness raised mortality 14%, living alone 21%, and social isolation 35%.                                                                     |
| Kroemeke & Gruszczynska (2016)   | Longitudinal; Poland; n = 277           | Showed the social benefit of support depends on setting, holding for community-dwellers but not institutional residents.                                                     |
| Togonu-Bickersteth et al. (2023) | National survey; Nigeria; n = 3,696     | Found resilience and community attitudes to ageing, alongside financial security, to be the main predictors of community-dwelling older Nigerians' subjective well-being.    |

## Theme 6: Economic Status, Affordability, and Feasibility

Running beneath every other theme is the question of who can afford any of it. The Nigerian evidence is unusually consistent here, and it points to one answer. In the largest national study of older Nigerians, economic status was the most consistent predictor of quality of life across domains, outweighing most other factors (Gureje et al., 2008), and socio-economic class predicted quality of life again in the southwest clinic sample (Fakoya et al., 2018). Affordability is not one factor among many; it is the gate through which the others must pass. A thermally comfortable, accessible, socially connected home is only a benefit to those who can reach it.

The Lagos evidence shows the gate swinging shut from both sides. For households, ownership, which the qualitative evidence links to more stable well-being in later life, is blocked by failed mortgage finance and pension-scheme problems, leaving most older people as renters with little control over the condition of their homes (Ebekozen, 2020). On the supply side, the same Lagos sustainable-construction study found the market held back by cost fear and weak demand (Osuzugbo et al., 2020), which is the mirror image of household poverty: builders will not supply what residents cannot buy. And when money is short, the consequences land on daily life directly, with unmet needs for help concentrated in the poorer households (Mobolaji, 2024). The practical implication, developed in the discussion, is that the interventions worth prioritising for older Lagosians are the low-cost, high-return ones, because they are the only ones the evidence suggests people can actually obtain.

Table 8: Studies Contributing to Theme 6 (Economic Status, Affordability, and Feasibility)

| Study                | Design and Setting                                           | Contribution to Theme                                                                                 |
|----------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Gureje et al. (2008) | Cross-sectional; Nigeria (Ibadan Study of Ageing); n = 2,152 | Economic status was the most consistent predictor of older Nigerians' quality of life across domains. |

|                         |                                                 |                                                                                                                                                          |
|-------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ebekozien (2020)        | Qualitative; Nigeria; 30 participants           | Senior citizens who owned their homes reported more stable well-being; failed mortgage finance and pension problems were the main barriers to ownership. |
| Fakoya et al. (2018)    | Cross-sectional; Southwest Nigeria; n = 216     | Socio-economic class significantly predicted quality of life, marking affordability as a precondition for the other benefits.                            |
| Osuizugbo et al. (2020) | Cross-sectional; Lagos State; 105 professionals | Showed sustainable construction is held back by cost fear and weak demand, the supply-side mirror of household unaffordability.                          |
| Mobolaji (2024)         | Cross-sectional; Southwest Nigeria; n = 827     | Found unmet daily-living needs concentrated in poorer households, tying economic resources directly to functional well-being.                            |

## An Integrated Conceptual Framework

The six themes are not a list but a connected system, and expressing that system is the review's contribution. Read from top to bottom in *Figure 2*, four sustainable housing principles, thermal performance, accessibility and universal design, the social affordances of space, and resource efficiency, act through four mechanisms, reduced heat exposure, reduced fall risk and preserved function, sustained social connection, and reduced recurrent cost, to influence the recognised domains of older-adult quality of life. The framework's distinctive claim, drawn from the synthesis rather than from any single study, is that in a low-income tropical coastal setting these pathways reinforce one another: the passive design that cools a dwelling also lowers its energy bill, the accessible layout that prevents a fall also enables the social participation that buffers isolation, and the affordability that makes any of it reachable is the gatekeeper for all of it. Two moderators govern whether the system functions, household economic status and the policy and regulatory environment, and the Nigerian evidence identifies both as the binding constraints.

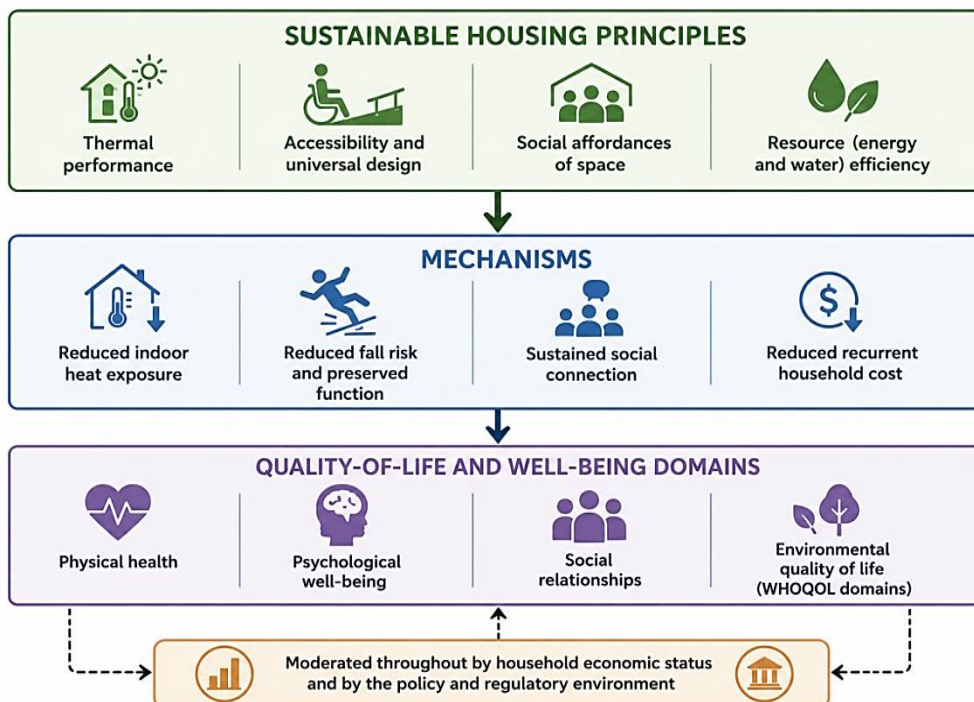


Figure 2: Conceptual Framework: Sustainable Housing Principles, Mechanisms, and Quality-of-Life Domains for Older Adults in a Low-Income Tropical Coastal Setting

Note: The framework is proposed as a testable model for future empirical work on Lagos Island.



## DISCUSSION

### Synthesis of Findings

Pulled together, the thirty studies tell a coherent story, and it is not the story the review expected to tell. The expectation, common in work on African ageing, was that local evidence would be scarce. However, Lagos has a genuine body of research on older residents and a genuine body of research on housing. The problem is that studies of older Lagosians treat the dwelling as scenery; studies of Lagos housing treat the resident as generic. The contribution of this review is to lay the two side by side and show that, read together, they already describe most of what a sustainable, age-supportive housing agenda would need, without anyone having assembled it.

The substantive pattern is equally clear. Across very different countries and instruments, older adults ageing in their own homes and communities tend to report better quality of life than those in institutions, but the advantage is real only when the home itself works, when it is cool enough, safe enough, connected enough, and affordable enough to run. Where those conditions fail, the supposed benefit of ageing in place hollows out, which is why the cheapest and most institutional settings can occasionally outperform a poor home on a single measure such as nutrition. The newest local evidence, while not yet peer-reviewed and so used here only with caution, fits this picture: a 2025 Lagos preprint comparing rural and urban older residents found two-thirds of the rural group at risk of malnutrition, with quality of life itself predicting nutritional status, a reminder that for the poorest older Lagosians the basic functions of a decent home are not guaranteed (Akodu et al., 2025). The convergence of community and global evidence on the same conclusion is what gives this synthesis its confidence.

### Explanatory Analysis of Observed Patterns

It is worth pausing on why community living tends to help and institutions tend to hurt, because the mechanism, not the correlation, is what design can act on. The answer that best fits the evidence is that well-being in later life is produced socially and is anchored in place. The home and its surroundings are the stage on which an older person keeps their roles, their relationships, and their sense of control; an institution, however well run, replaces that stage with a managed one, and the Polish longitudinal finding that social support stops paying off once a person is institutionalised is the clearest sign that it is the setting, not merely the person's frailty, that does the damage (Kroemeke & Gruszczynska, 2016). This is also why the Lagos Island observation about shared courtyards and porous outdoor space is more than nostalgia (Johnson, 2025). If connection protects health, as the mortality meta-analyses insist, then the physical fabric that makes daily connection effortless is performing a health function, and stripping it out in the name of modernisation removes a protective factor as surely as closing a clinic would.

The same logic explains the null result in the Oyo data, where rural and urban older adults differed on every quality-of-life domain except the environmental one (Cadmus et al., 2021b). A difference between groups can only show up when the groups actually differ; when the housing environment presses on everyone similarly, it stops sorting people and instead lowers the common baseline. This is the single most important transfer to Lagos Island, because it predicts what a survey there would find. In a district where almost everyone contends with the same ageing stock, the same heat, and the same flood exposure, housing condition will not separate the comfortable from the struggling, it will weigh on all older residents together, and it will do so invisibly, because there is no better-off local group to reveal it by contrast. The evidence, in short, does not just report that sustainable housing matters; it explains why its effect in a place like Lagos Island would be both large and easy to overlook.

### Implications for Lagos Island and for Policy

Three practical conclusions follow. First, the interventions that deserve priority are the low-cost, high-return ones, because they are the only ones the affordability evidence suggests older Lagosians can actually obtain. The strongest causal finding in the review concerns home modification, which is also among the most affordable things one can do to a house (Lektip et al., 2023), and the thermal gains available from passive design cost little once they are designed in (Kajjoba et al., 2025).



Cross-ventilation and shading rather than air-conditioning, grab bars and ramps rather than rebuilding, and above all the protection of existing shared social space rather than its costly reconstruction: this is a programme calibrated to a renting, fixed-income population in a city where the formal housing-finance system does not reach the poor (Ebekozi, 2020; World Bank, 2023). Second, the work should be read as a single mandate rather than as competing agendas. Nigeria's National Policy on Ageing and the sustainable-building standards now operating in the country, including EDGE, currently sit in different ministries and serve different constituencies, yet the evidence here shows they describe one building (Federal Ministry of Information and National Orientation, 2021; International Finance Corporation, 2025). An age-friendly home and a sustainable home are the same home, and policy that recognised this could let one budget do two jobs.

Third, delivery is the binding constraint, not knowledge. The Lagos sustainable-construction evidence is blunt that the obstacles are institutional, weak regulation, weak demand, low awareness, and fear of cost, rather than technical (Osuizugbo et al., 2020), and the facility evidence shows how rarely even public buildings meet a basic accessibility threshold (Ogunyemi et al., 2023). For Lagos Island specifically, this points away from demolition-led renewal, which the evidence suggests would destroy the social fabric that currently protects older residents, and toward incremental, in-place upgrading: thermal and safety retrofits to existing compounds, protection of shared outdoor space in any redevelopment, and the simple expedient of building accessibility into the homes and clinics older residents already use. None of this requires waiting for a major research programme, rather, it requires treating the evidence the city already holds as a basis for action.

## Limitations

It is important to note that several limitations bound these conclusions. The review was conducted by a single reviewer without dual independent screening, and although the process is reported against PRISMA 2020, the record counts are approximate and no formal record-level exclusion log was kept, both disclosed in the methods and Appendix C. The synthesis is integrative rather than meta-analytic, so it describes the direction and coherence of evidence rather than a pooled effect size, a necessary trade given the spread of instruments. A number of the included Lagos studies are not specific to older adults but characterise housing conditions the whole population shares, including older residents; this allowance is defensible but means some inferences about elders are drawn from population-level data and should be tested directly. Several Nigerian studies rest on cross-sectional or purposive samples that cannot establish temporal order, and a few sit in smaller or regional journals. Finally, the restriction of the synthesised findings to peer-reviewed sources, while protecting their integrity, means that recent and locally vital grey evidence, such as the 2025 Lagos malnutrition preprint amongst others, informs only the framing and not the core, which is the right trade for rigour but does leave the very newest local signal at the margin.

## Future Research

The priority now is a primary, mixed-methods study of older Lagos Island residents that measures quality of life with a validated, culturally appropriate instrument, the WHOQOL-BREF or WHOQOL-AGE chosen on the guidance of the African instrument review (Attafuah et al., 2021), and that compares housing typologies and conditions, old compounds against retrofitted or newer stock, thermally adapted against thermally hostile homes, directly against those scores. Such a study should monitor indoor temperature alongside self-reported comfort, following the logic of the overheating work (Hughes & Natarajan, 2019), and should test the framework's central expectation that the environmental domain of quality of life, currently flat across Nigerian community samples, will respond to housing improvement. Longitudinal designs are also needed to settle the direction of the typology-to-well-being link, and cost-effectiveness analyses of the cheap modifications, ventilation, shading, grab bars, would turn this synthesis into locally costed guidance. The bridge this review identifies between two separate Lagos literatures is, in the end, an invitation to the studies that would join them in fact.

## CONCLUSION

Older adults in Lagos are growing more numerous in a city whose housing is short, ageing, and increasingly hostile to heat and flood, and for most of them the home is the main determinant of how well later life goes. This review set out to ask how sustainable housing principles could improve their quality of life, and found that the

answer is already half-written in the city's own research, waiting to be read as one argument rather than two. Across community and global evidence the message is consistent: ageing in one's own home and community supports well-being, but only when the dwelling is thermally tolerable, physically safe, socially connected, and affordable to run, and these are precisely the things sustainable design delivers. For Lagos Island, where the historic fabric both threatens older residents through its decay and protects them through its sociable form, the implication is to upgrade in place rather than clear away, to favour the affordable and high-return interventions the evidence supports, and to treat age-friendly and sustainable housing as the single goal they are.

## REFERENCES

1. Adewale, B. A., & Fasae, O. (2019). Users' perception of the need for universal design accessibility and circulation provisions in selected old people's homes in Lagos State, Nigeria. *IOP Conference Series: Materials Science and Engineering*, 640, 012033. <https://doi.org/10.1088/1757-899X/640/1/012033>
2. Akodu, B. A., Badmus, M. O., Olorunfemi, G., Kanma-Okafor, O. J., Olokodana-Adesalu, O. A., Ojikutu, M. S., & Agunbiade, T. H. (2025). Rural and urban disparities in malnutrition and quality of life among older persons in Lagos, Nigeria: A comparative analytical cross-sectional study [Preprint]. *medRxiv*. <https://doi.org/10.1101/2025.08.01.25332605>
3. Akosile, C. O., Onyekwuluje, C., Mgbeojedo, U. G., Okoye, E. C., Fabunmi, A., Mong, E., & Okafor, A. C. (2023). Social support, social participation, and life accomplishment of older adult residents of assisted living facilities and their adjoining communities. *Gerontology and Geriatric Medicine*, 9. <https://doi.org/10.1177/23337214231218797>
4. Allen, E. (2005). *How buildings work: the natural order of architecture*. Oxford University Press. <http://ndl.ethernet.edu.et/bitstream/123456789/38541/1/21..pdf>
5. Amaike, B. (2014). Interrogating the relevance of home and community-based services in addressing old age challenges in Lagos State, Nigeria. *The Nigerian Journal of Sociology and Anthropology*, 12(1), 163–181. [https://doi.org/10.36108/NJSA/4102/12\(0111\)](https://doi.org/10.36108/NJSA/4102/12(0111))
6. Attafuah, P. Y. A., Everink, I. H. J., Halfens, R. J. G., Lohrmann, C., Abuosi, A. A., & Schols, J. M. G. A. (2021). Instruments used to assess quality of life of older adults in African countries: A scoping review. *BMC Geriatrics*, 21(1), 344. <https://doi.org/10.1186/s12877-021-02262-2>
7. Badmus, O. O., Esan, O. T., Badmus, H. D., & Arije, O. O. (2016). Between desire and distaste: Perception of persons near and above retirement age in South Western Nigeria towards old people's homes. *Journal of Community Medicine and Primary Health Care*, 28(2). <https://doi.org/10.4314/jcmphc.v28i2>
8. Cadmus, E. O., Adebuseye, L. A., & Owoaje, E. T. (2021a). Attitude towards ageing and perceived health status of community-dwelling older persons in a low resource setting: A rural-urban comparison. *BMC Geriatrics*, 21(1), 454. <https://doi.org/10.1186/s12877-021-02394-5>
9. Cadmus, E. O., Adebuseye, L. A., & Owoaje, E. T. (2021b). Rural–urban differences in quality of life and associated factors among community-dwelling older persons in Oyo State, South-Western Nigeria. *Quality & Quantity*. <https://doi.org/10.1007/s11135-021-01178-8>
10. Carr, K., Weir, P. L., Azar, D., & Azar, N. R. (2013). Universal design: A step toward successful aging. *Journal of Aging Research*, 2013, 324624. <https://doi.org/10.1155/2013/324624>
11. Çiftçi, S., & Erdem, M. (2025). Comparing nutritional status, quality of life and physical fitness: Aging in place versus nursing home residents. *BMC Geriatrics*, 25(1), 102. <https://doi.org/10.1186/s12877-025-05751-w>
12. Ebekozi, A. (2020). An appraisal of home ownership for senior citizens in Nigeria. *Property Management*, 38(5), 665–683. <https://doi.org/10.1108/PM-03-2020-0021>
13. Fakoya, O. O., Abioye-Kuteyi, E. A., Bello, I. S., Oyegbade, O. O., Olowookere, S. A., & Ezeoma, I. T. (2018). Determinants of quality of life of elderly patients attending a general practice clinic in Southwest Nigeria. *International Quarterly of Community Health Education*. <https://doi.org/10.1177/0272684X18781781>
14. Faronbi, J. O., Ajadi, A. O., & Gobbens, R. J. (2020). Associations of chronic illnesses and socio-demographic factors with health-related quality of life of older adults in Nigeria: A cross-sectional study. *Ghana Medical Journal*, 54(3), 164–172. <https://doi.org/10.4314/gmj.v54i3.7>

15. Federal Ministry of Information and National Orientation. (2021). FG approves National Policy on Ageing for Older Persons in Nigeria. <https://fmino.gov.ng/fg-approves-national-policy-on-ageing-for-older-persons-in-nigeria/>
16. Folorunsho, S. (2025). Aging, poverty, and healthcare access and affordability in Nigeria: Implications for policy. *Public Health Challenges*, 4(3), e70125. <https://doi.org/10.1002/puh2.70125>
17. Gureje, O., Kola, L., Afolabi, E., & Olley, B. O. (2008). Determinants of quality of life of elderly Nigerians: Results from the Ibadan Study of Ageing. *African Journal of Medicine and Medical Sciences*, 37(3), 239–247. <https://pmc.ncbi.nlm.nih.gov/articles/PMC2820711/>
18. Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, 10(2), 227–237. <https://doi.org/10.1177/1745691614568352>
19. Hughes, C., & Natarajan, S. (2019). Summer thermal comfort and overheating in the elderly. *Building Services Engineering Research and Technology*, 40(4), 426–445. <https://doi.org/10.1177/0143624419844518>
20. Ilesanmi, A. O. (2011). Home and psycho-social benefits: The case of public housing in Lagos, Nigeria. *IFE Psychologia*, 19(2). <https://doi.org/10.4314/ife.v19i2.69514>
21. International Finance Corporation. (2025). EDGE: Excellence in design for greater efficiencies. <https://edgebuildings.com/>
22. Johnson, M. (2025). Urban wellbeing: Rethinking physical and social spaces to foster healthy urbanism in Lagos Island, Nigeria. *Cities & Health*. <https://doi.org/10.1080/23748834.2024.2428010>
23. Kajjoba, D., Wesonga, R., Lwanyaga, J. D., Kasedde, H., Olupot, P. W., & Kirabira, J. B. (2025). Assessment of thermal comfort and its potential for energy efficiency in low-income tropical buildings: A review. *Sustainable Energy Research*, 12(1), 25. <https://doi.org/10.1186/s40807-025-00169-9>
24. Kasim, O. F. (2018). Wellness and illness: The aftermath of urban mass housing in Lagos, Nigeria. *Development in Practice*. <https://doi.org/10.1080/09614524.2018.1487385>
25. Kroemeke, A., & Gruszczynska, E. (2016). Well-being and institutional care in older adults: Cross-sectional and time effects of provided and received support. *PLOS ONE*, 11(8), e0161328. <https://doi.org/10.1371/journal.pone.0161328>
26. Lektip, C., Chaovalit, S., Wattanapisit, A., Lapmanee, S., Nawarat, J., & Yaemrattanakul, W. (2023). Home hazard modification programs for reducing falls in older adults: A systematic review and meta-analysis. *PeerJ*, 11, e15699. <https://doi.org/10.7717/peerj.15699>
27. Mobolaji, J. W. (2024). Unmet needs for support in activities of daily living among older persons: The effects of family and household structures in a low- and middle-income context. *Geriatrics*, 9(1), 5. <https://doi.org/10.3390/geriatrics9010005>
28. Nakou, A., Dragioti, E., Bastas, N.-S., Zagorianakou, N., Kakaidi, V., Tsartsalis, D., Mantzoukas, S., Tatsis, F., Veronese, N., Solmi, M., & Gouva, M. (2025). Loneliness, social isolation, and living alone: A comprehensive systematic review, meta-analysis, and meta-regression of mortality risks in older adults. *Aging Clinical and Experimental Research*, 37(1), 29. <https://doi.org/10.1007/s40520-024-02925-1>
29. National Population Commission. (2010). 2006 population and housing census of the Federal Republic of Nigeria: Priority tables (Vol. 1). National Population Commission. <https://nationalpopulation.gov.ng/>
30. Ogunyemi, A. O., Balogun, M. R., Ojo, A. E., Welch, S. B., Onasanya, O., Yesufu, V., Omotayo, A. O., & Hirschhorn, L. R. (2023). Provider and facility readiness for age-friendly health services for older adults in primary health care centres in Southwest Nigeria. *PLOS Global Public Health*, 3(8), e0001411. <https://doi.org/10.1371/journal.pgph.0001411>
31. Ogunyemi, A. O., Odeyemi, K. A., Kanma-Okafor, O. J., & Ladi-Akinyemi, T. W. (2018). Health-related quality of life of the elderly in institutional care and non-institutional care in Southwestern Nigeria: A comparative study. *West African Journal of Medicine*, 35(1), 9–16. <https://pubmed.ncbi.nlm.nih.gov/29607474/>
32. Okoye, C., Ogunyemi, A. O., & Abosede, A. O. (2019). Care practices and nutritional status of the elderly in old people's homes in Lagos State, Nigeria. *Nigerian Journal of Nutritional Sciences*, 40(1). <https://doi.org/10.4314/njns.v40i1>
33. Osuizugbo, I. C., Oyeyipo, O., Lahanmi, A., Morakinyo, A., & Olaniyi, O. (2020). Barriers to the adoption of sustainable construction. *European Journal of Sustainable Development*, 9(2), 150–162. <https://doi.org/10.14207/ejsd.2020.v9n2p150>

34. Ptak-Wojciechowska, A., Kort, H. S. M., Kasraian, D., & Gawlak, A. (2024). An assessment framework for smart and sustainable housing for older adults using analytic hierarchy process (AHP). *Frontiers in Built Environment*, 10, 1476249. <https://doi.org/10.3389/fbuil.2024.1476249>
35. Pynoos, J., Nishita, C., Cicero, C., & Caraviello, R. (2008). Aging in place, housing, and the law. *Elder Law Journal*, 16(1), 77-106. <http://publish.illinois.edu/elderlawjournal/files/2015/02/Pynoos.pdf>
36. Ramocha, L. M., Louw, Q. A., & Tshabalala, M. D. (2017). Quality of life and physical activity among older adults living in institutions compared to the community. *South African Journal of Physiotherapy*, 73(1), 342. <https://doi.org/10.4102/sajp.v73i1.342>
37. Togonu-Bickersteth, F., Akinyemi, A. I., Aransiola, J. O., Adegoke, A. A., & Popoola, B. (2023). Subjective wellbeing of community dwelling older adults in Nigeria. *Journal of Cross-Cultural Gerontology*, 38, 357–375. <https://doi.org/10.1007/s10823-023-09483-5>
38. Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, 52(5), 546–553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>
39. World Bank (2023). Lagos diagnostic study and pathway for transformation. World Bank. <https://documents1.worldbank.org/curated/en/099062123034023646>
40. World Health Organization (2007). Global age-friendly cities: A guide. World Health Organization. <https://www.who.int/publications/i/item/9789241547307>

## APPENDIX

### Appendix A: Search Strings

Three concept blocks were combined with AND, and synonyms within each block with OR: an ageing block, a housing-and-sustainable-attribute block, and an outcome block. A Lagos and Nigeria context block (Lagos OR “Lagos Island” OR Nigeria OR “Sub-Saharan Africa”) was applied in a parallel run to surface local evidence, and reference lists of included Nigerian studies were hand-searched. An initial scoping search refined the keywords before the final strings, shown below, were fixed.

Table A1: Final Search Strings By Database, With Dates And Approximate Yields

| Database                       | Final Combined Search String                                                                                                                                                                                                                                                                          | Date Run     | Records |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------|
| PubMed / PubMed Central        | ("older adult*" OR elderly OR aged OR "older person*") AND (housing OR dwelling OR "living arrangement*" OR "aging in place" OR "old people's home*" OR "thermal comfort" OR "sustainable hous*" OR "built environment") AND ("quality of life" OR well-being OR wellbeing OR satisfaction OR health) | May–Jun 2026 | 230     |
| Scopus-indexed sources         | TITLE-ABS-KEY((elderly OR "older adult*") AND ("sustainable housing" OR "green building" OR "thermal comfort" OR "aging in place" OR "living arrangement*" OR "old people's home*") AND ("quality of life" OR wellbeing OR satisfaction))                                                             | May–Jun 2026 | 160     |
| African Journals Online (AJOL) | (elderly OR "older adults" OR aged OR retire*) AND (housing OR "old people's home" OR "quality of life" OR wellbeing OR satisfaction) AND (Nigeria OR Lagos)                                                                                                                                          | May–Jun 2026 | 130     |
| Google Scholar (Lagos run)     | ("older adults" OR elderly OR retirees) (housing OR "old people's home" OR "public housing" OR "sustainable housing") ("quality of life" OR wellbeing OR satisfaction) (Lagos OR "Lagos Island" OR Nigeria)                                                                                           | May–Jun 2026 | 100     |

*Note: Record counts are approximate, reflecting a pragmatic single-reviewer search appropriate to an integrative review (see Section 4.4).*



## Appendix B: Characteristics of All Included Studies

The table records every included study against the extracted fields: author and year, design, setting, sample, and key findings. It is the evidentiary backbone of the synthesis in Section 3, and is ordered alphabetically to match the reference list.

Table B1: Characteristics of the 30 Included Studies

| Author (Year)          | Design                                    | Setting                       | Sample                                     | Key Findings                                                                                                                    |
|------------------------|-------------------------------------------|-------------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Adewale & Fasae (2019) | Survey                                    | Lagos old people's homes      | 90 residents                               | Residents rated all accessibility and circulation provisions important and urged universal-design guidance for such homes.      |
| Akosile et al. (2023)  | Comparative cross-sectional               | Nigeria                       | 120 (54 assisted living, 66 community)     | Community-dwellers had better life accomplishment and less participation restriction, with comparable perceived support.        |
| Amaike (2014)          | Survey and interviews                     | Lagos State                   | 1,321 retirees                             | Older Lagosians preferred home and community-based care to institutions, valuing autonomy and respect.                          |
| Attafuah et al. (2021) | Scoping review                            | Sub-Saharan Africa            | African studies (review)                   | Mapped instruments used to measure older-adult quality of life in Africa; comparability needs validated tools.                  |
| Badmus et al. (2016)   | Cross-sectional survey                    | Lagos (Ikeja, Lagos Mainland) | 385 aged 50+                               | Most were aware of old people's homes and a majority willing to enter one, signalling shifting attitudes to institutional care. |
| Cadmus et al. (2021a)  | Comparative cross-sectional (AAQ)         | Oyo State, Nigeria            | Rural and urban older adults               | Attitudes to ageing and perceived health differed between rural and urban community-dwellers.                                   |
| Cadmus et al. (2021b)  | Comparative cross-sectional (WHOQOL-BREF) | Oyo State, Nigeria            | 1,180 (588 urban, 592 rural)               | Quality of life differed on most domains but not the environmental domain.                                                      |
| Carr et al. (2013)     | Conceptual review                         | Canada / general              | Not applicable (review)                    | Universal design supports daily function and continued engagement and reduces the stigma of medicalised adaptation.             |
| Çiftçi & Erdem (2025)  | Comparative cross-sectional (OPQOL, MNA)  | İzmir, Turkey                 | 400 (200 nursing home, 200 aging in place) | Aging-in-place residents had better diet quality; some fitness and nutrition indicators favoured the nursing home.              |
| Ebekozien (2020)       | Qualitative (phenomenology)               | Nigeria                       | 30 participants                            | Home-owning seniors had more stable well-being; failed mortgage finance and pension issues blocked ownership.                   |



| Author (Year)                  | Design                                      | Setting                     | Sample                  | Key Findings                                                                                                                |
|--------------------------------|---------------------------------------------|-----------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Fakoya et al. (2018)           | Cross-sectional survey                      | Southwest Nigeria (clinic)  | 216 older patients      | Only 25% had good quality of life; family support and socio-economic class were significant predictors.                     |
| Faronbi et al. (2020)          | Cross-sectional (WHOQOL-BREF)               | Osun State, Nigeria         | 377 older adults        | 51.5% had $\geq 1$ chronic illness; chronic illness significantly lowered health-related quality of life.                   |
| Gureje et al. (2008)           | Cross-sectional (Ibadan Study of Ageing)    | Nigeria (national)          | 2,152 older adults      | Economic status was the most consistent predictor of quality of life across domains.                                        |
| Holt-Lunstad et al. (2015)     | Meta-analysis                               | Multinational               | 70 studies              | Social isolation, loneliness, and living alone each independently raised mortality risk.                                    |
| Hughes & Natarajan (2019)      | Longitudinal monitoring and survey          | Southwest United Kingdom    | Older adults $\geq 65$  | Overheating in elderly homes; heat-related mortality projected to rise 257% by 2050.                                        |
| Ilesanmi (2011)                | Survey                                      | Lagos public housing        | 760 household heads     | Psycho-social benefits turned on neighbourhood and physical characteristics more than tenure; bungalows outperformed flats. |
| Johnson (2025)                 | Qualitative spatial study                   | Lagos Island                | Historic district (Eko) | Read the district's compounds and shared outdoor space as a well-being resource eroded by redevelopment.                    |
| Kajjoba et al. (2025)          | Literature review                           | Tropical Sub-Saharan Africa | Reviewed studies        | Tropical buildings are under-designed for heat; passive design cuts cooling energy in low-income housing.                   |
| Kasim (2018)                   | Observational study                         | Lagos mass housing          | Mass-housing data       | Tied the socio-economic aftermath of mass housing to residents' wellness and illness.                                       |
| Kroemeke & Gruszczynska (2016) | Longitudinal (SEM)                          | Poland                      | 277 (65% institutional) | Support improved positive affect for community-dwellers but not institutional residents.                                    |
| Lektip et al. (2023)           | Systematic review and meta-analysis of RCTs | Multinational               | 10 RCTs (n = 1,960)     | Home modification reduced falls (risk ratio 0.93, 95% CI 0.87–1.00).                                                        |
| Mobolaji (2024)                | Cross-sectional (hurdle model)              | Southwest Nigeria           | 827 aged $\geq 65$      | Unmet daily-living needs were widespread, lower in larger and wealthier households, higher living with non-family.          |
| Nakou et al. (2025)            | Systematic review and meta-analysis         | Multinational               | 86 studies              | Loneliness raised mortality 14%, living alone 21%, social isolation 35%.                                                    |

| Author (Year)                    | Design                                      | Setting                  | Sample                                         | Key Findings                                                                                                             |
|----------------------------------|---------------------------------------------|--------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Ogunyemi et al. (2018)           | Comparative cross-sectional (SF-36)         | Southwest Nigeria        | 360 (120 institutional, 240 non-institutional) | Institutional residents were older (78.7 vs 70.1 years) and more functionally compromised.                               |
| Ogunyemi et al. (2023)           | Facility readiness survey                   | Lagos primary care       | 15 facilities                                  | Few facilities were age-friendly; ramps at 60% of entrances and wheelchair-accessible toilets at 43%.                    |
| Okoye et al. (2019)              | Cross-sectional                             | Lagos old people's homes | 56 residents                                   | Over half were at malnutrition risk and a third malnourished; status tracked family contact and level of care.           |
| Osuizugbo et al. (2020)          | Cross-sectional (RII)                       | Lagos State              | 105 professionals                              | Barriers to sustainable construction: poor government support, absent regulation, weak demand, low awareness, cost fear. |
| Ptak-Wojciechowska et al. (2024) | Mixed-methods multi-criteria (AHP)          | Netherlands and Poland   | Expert panel, survey, interviews               | Age-friendliness was the top criterion; housing modifications the top sub-criterion.                                     |
| Ramocha et al. (2017)            | Comparative cross-sectional (RAND-36, PASE) | Soweto, South Africa     | 80                                             | Community-dwellers had higher quality of life (77.7 vs 68.5; $p = .025$ ) and far higher physical activity.              |
| Togonu-Bickersteth et al. (2023) | National survey (Flourishing Scale)         | Nigeria                  | 3,696                                          | Resilience and community attitudes, with financial security, were the main predictors of subjective well-being.          |

### Appendix C: Full-Text Records Excluded, with Reasons

Table C1: Reasons for Exclusion at the Eligibility Stage

| Exclusion Reason                          | n  | Representative Examples and Rationale                                                                                                                                                                                                                        |
|-------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Not peer-reviewed                         | 14 | Preprints (for example, a 2025 medRxiv study of rural-urban older-adult quality of life in Lagos), institutional-repository papers, theses, conference postings, and news reports. Excluded from the synthesis; some inform the introduction and discussion. |
| Outcome not quality of life or well-being | 10 | Housing-satisfaction or building-physics studies reporting only technical outputs (energy demand, occupant satisfaction with no well-being measure) and elderly-care studies with no housing dimension.                                                      |
| Population not separable by age           | 8  | General-population housing or quality-of-life studies in which older adults could not be isolated and no shared-condition rationale applied.                                                                                                                 |

### Appendix D: Quality Appraisal (MMAT 2018)

Table D1: MMAT Appraisal Summary for the Included Studies

| Study                          | MMAT Category                            | Criteria Met | Principal Limitation                                      |
|--------------------------------|------------------------------------------|--------------|-----------------------------------------------------------|
| Adewale & Fasae (2019)         | Quantitative descriptive                 | 3 / 5        | Small purposive sample (n = 90); perception-based.        |
| Akosile et al. (2023)          | Quantitative descriptive                 | 4 / 5        | Cross-sectional; modest sample.                           |
| Amaike (2014)                  | Mixed methods                            | 4 / 5        | Large but limited to formal-sector retirees.              |
| Attafuah et al. (2021)         | Scoping review                           | 4 / 5        | Maps instruments rather than effects.                     |
| Badmus et al. (2016)           | Quantitative descriptive                 | 4 / 5        | Cross-sectional; attitudinal measures.                    |
| Cadmus et al. (2021a)          | Quantitative descriptive                 | 4 / 5        | Cross-sectional.                                          |
| Cadmus et al. (2021b)          | Quantitative descriptive                 | 5 / 5        | Large probability sample; validated instrument.           |
| Carr et al. (2013)             | Conceptual / non-empirical               | n/a          | Conceptual review; appraised for coherence.               |
| Çiftçi & Erdem (2025)          | Quantitative descriptive                 | 4 / 5        | Cross-sectional; convenience aging-in-place group.        |
| Ebekozien (2020)               | Qualitative                              | 4 / 5        | Small purposive sample (n = 30).                          |
| Fakoya et al. (2018)           | Quantitative descriptive                 | 4 / 5        | Clinic-based sample limits generalisability.              |
| Faronbi et al. (2020)          | Quantitative descriptive                 | 5 / 5        | Population-based sample; validated WHOQOL-BREF.           |
| Gureje et al. (2008)           | Quantitative descriptive                 | 5 / 5        | Large national probability sample.                        |
| Holt-Lunstad et al. (2015)     | Quantitative (meta-analysis)             | 5 / 5        | Comprehensive search; heterogeneity addressed.            |
| Hughes & Natarajan (2019)      | Quantitative descriptive / longitudinal  | 4 / 5        | Small monitored sample; rich repeated measures.           |
| Ilesanmi (2011)                | Quantitative descriptive                 | 4 / 5        | Cross-sectional; not age-specific.                        |
| Johnson (2025)                 | Qualitative                              | 4 / 5        | Single-site interpretive study; not age-specific.         |
| Kajjoba et al. (2025)          | Non-randomised / review                  | 4 / 5        | Narrative review; selection not fully systematic.         |
| Kasim (2018)                   | Quantitative descriptive / observational | 3 / 5        | Observational; limited reported detail; not age-specific. |
| Kroemeke & Gruszczynska (2016) | Quantitative descriptive / longitudinal  | 5 / 5        | Two-wave design supports temporal inference.              |

| Study                            | MMAT Category                                      | Criteria Met | Principal Limitation                                     |
|----------------------------------|----------------------------------------------------|--------------|----------------------------------------------------------|
| Lektip et al. (2023)             | Quantitative (systematic review and meta-analysis) | 5 / 5        | RCT-only pooling; risk of bias assessed.                 |
| Mobolaji (2024)                  | Quantitative descriptive                           | 5 / 5        | Large survey-based sample; robust modelling.             |
| Nakou et al. (2025)              | Quantitative (meta-analysis)                       | 5 / 5        | Prospective studies only; meta-regression.               |
| Ogunyemi et al. (2018)           | Quantitative descriptive                           | 4 / 5        | Cross-sectional; groups differ in baseline age.          |
| Ogunyemi et al. (2023)           | Quantitative descriptive                           | 4 / 5        | Facility survey; small facility sample.                  |
| Okoye et al. (2019)              | Quantitative descriptive                           | 3 / 5        | Small sample (n = 56); few care homes.                   |
| Osuizugbo et al. (2020)          | Quantitative descriptive                           | 3 / 5        | Purposive professional sample; perception-based ranking. |
| Ptak-Wojciechowska et al. (2024) | Mixed methods                                      | 4 / 5        | Expert-driven; modest empirical sample.                  |
| Ramocha et al. (2017)            | Quantitative descriptive                           | 4 / 5        | Small sample (n = 80); validated instruments.            |
| Togonu-Bickersteth et al. (2023) | Quantitative descriptive                           | 5 / 5        | Large national probability sample.                       |