



A cycle of invisibility: how older people are overlooked in data and research

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Our ageing population

England's population is ageing. There are around 11 million people aged 65 and over and 22 million aged 50 and over; that's 19% and 38% of the population, respectively. And this shift will continue – by 2065, almost half of the population will be 50 and over, while the number of people aged 80 and over will have more than doubled¹.

And yet we continue to function as a society with a much younger age profile. Most new homes are built with first-time buyers in mind and just 13% of homes in England have all four basic accessibility criteria². People aged 50 and over account for more than half of total household consumer spending³ yet older people almost never feature in advertisements for mainstream products such as mobile phones or washing powder.

Older people are often excluded from clinical trials, meaning that treatment protocols are typically based on data from younger, healthier populations. Home products, including appliances and fixtures for kitchens and bathrooms, are designed without consideration of the needs of people as they age⁴.

The same pattern is evident in digital services. Despite representing a substantial share of the population and of its wealth and spending power, older consumers are rarely the default user in the design of banking apps, e-commerce platforms or digital services. As a result, products are often optimised for younger users while the needs of older customers are addressed retrospectively, if at all.

“ You never see older women in ads. It's always slim, young and glamorous people. I do seriously think they believe that life ends when your pension starts. We are not represented other than in death or cremation ads.”

Female, 75+, ABC1

One of the reasons for these glaring omissions is that older people – and specific subgroups of older people – are often underrepresented or entirely missing in research and in data sets. As a result, our older population is rendered invisible and the rich detail of their lives obscured.

Ultimately, important decisions about policy, services and funding are based on assumptions and generalisations, rather than hard evidence. And businesses risk overlooking the needs of a large and growing part of the population⁵.

In contrast, good data – that is representative, complete, accurate and sufficiently granular – paints a detailed picture of the population and subgroups within it.

Good data allows us to:

- ✓ understand people's lives
- ✓ discern meaningful differences between population groups
- ✓ identify who needs support
- ✓ assess whether policies are working
- ✓ plan services and investment
- ✓ design products that meet people's needs
- ✓ anticipate future needs

Only with good-quality, representative data can we move beyond assumptions and make informed decisions about policy, services, investment and product design that genuinely meet the needs of our whole population.

“ In the soap or washing powder ads, they are always showing young women with their babies or young children. They never show older people using these products or doing the washing or anything like that.”

Female, 65–74, ABC1

Data gaps: a manifestation of structural ageism

How has it come to pass that we do not have the data we need on our older population?

Historically, policy-makers and researchers have treated old age as a single, homogeneous stage beginning at State Pension age, consistent with the life-course model comprising periods of education, work and retirement^{6,7}.

At the same time, the tendency to judge success primarily through economic indicators such as GDP, productivity and labour market participation has resulted in retirement being framed as a period of dependency, with the significant non-market contributions of older people entirely overlooked^{8,9}.

Fundamentally then, ours is a society in which older people are systematically undervalued. This gives rise to 'structural' or 'systemic' ageism – where stereotypes and prejudices are embedded in the way policies, laws and institutions work¹⁰.

Stereotypes and prejudices about older age also show up in how we do research, shaping:

- *what* we research
- *who* we include and exclude in research
- *how* we collect and report data

Take sports science, exercise and physical activity research where older people, especially the over 75s, are significantly underrepresented. Though there is research into aspects of ageing and health, studies focusing on high-level performance, training adaptations, and even general sports participation in later life, are limited. When older adults are included in research, they are often viewed through a deficit-based lens that emphasises frailty, dependency and age-related decline, rather than capability and continued athletic potential^{11,12}.

Older people are widely excluded from clinical trials¹³ despite being the population most likely

to use many medications, medical devices and health care interventions. In one study of non-small cell lung cancer trials, people aged 75 and over made up just 7% of trial participants but 43% of the population living with the disease¹⁴.

Non-small cell lung cancer



And over the past five years, only 15% of research participants in health research in the UK were over the age of 75 at recruitment¹⁵. At the same time, more than 60% of the prescriptions made in the community are for people aged over 60 and more than one in ten people aged over 65 take at least eight different prescribed medications each week¹⁶.



National and commercial data

- **National data sets** are large-scale collections of data gathered across the country by organisations such as the Office for National Statistics or the Department for Work and Pensions that are used to understand the population and inform policy and services.
- **Commercial data** refers to that gathered by businesses, such as Kantar, Unilever, Tesco or Coca-Cola, to understand consumers and guide commercial decision-making.

Sometimes, it is not that the data does not exist but rather that it isn't reported. It is not uncommon to see national survey data (see National and commercial data) reported for people 'aged 65 and over' – that is all 11 million of them in one huge, undifferentiated group.

Averages that obscure differences

7.8 The average wellbeing score of those aged 65 and over in the English Housing Survey 2024-25¹⁷

17% The proportion of pensioners in relative poverty in the UK

Businesses often fall into the same data trap. Industry guidance for commercial research states that survey samples should reflect the population¹⁸ but '65 and over' is widely used as a single age category with no further breakdown¹⁹. A 2025 YouGov poll about 16- and 17-year-olds voting in UK elections that uses the age groupings of 18-24, 25-49, 50-64 and 65 and over is typical in this regard²⁰.

Yet it is obvious that the circumstances of a 65-year-old homeowner who is still working differ profoundly from those of an 85-year-old with complex health needs living alone in rented accommodation. In fact, because advantage and disadvantage accumulate across the life course, the variation *between* people in later life is greater than between younger people²¹. And we see these differences in health status, wealth and the homes and communities we live in²². It has even been suggested that as people get older, they become increasingly dissimilar in lifestyle, needs and consumption habits²³.

As our population ages, we can no longer afford to overlook older people. But nor can we treat them as a single, homogeneous group. Older people have diverse experiences, circumstances, preferences and needs, and these differences matter. A one-size-fits-all approach risks designing policies, services and products for a mythical 'average' older person who, in reality, does not exist.



The costs of invisibility

The consequences of data gaps and of simplistic age categories and insufficient age disaggregation are considerable and varied.

For example, a study of older Canadians' travel behaviour found that 90% of people aged 65 and over hold a valid driver's licence²⁴.

However, when this population is disaggregated into smaller age groups, the proportion of people who have a licence is seen to range from 67% among those aged 85 and over to 95% among those aged 65–74.

Similarly, the Financial Conduct Authority's Financial Lives 2024 survey found that 18% of day-to-day account holders aged 65–74 used a bank branch regularly, compared with 30% of those aged 75 and over. Mobile-app use showed the reverse pattern: this was used by 74% of 55–64-year-olds, 54% of 65–74-year-olds and 41% of people aged 75 and over. In both these examples, a single aggregate statistic would obscure huge variation between older age groups and lead to erroneous conclusions such as underestimating the continuing importance of physical branches and non-app channels for the oldest banking customers²⁵.

Use a bank branch regularly



Use a mobile app



The exclusion of older people from clinical trials leaves clinicians making treatment decisions with limited evidence about the efficacy and safety of interventions in the populations most likely to receive them²⁶. Treatment decisions are frequently extrapolated from younger and healthier populations with potentially serious ramifications. Antihypertensive treatment in frail older adults, for example, may contribute to sudden drops in blood pressure, increasing the risk of falls, fracture, hospitalisation and loss of independence²⁷.

Though older people are more likely to get cancer, they are less likely to receive treatment and have worse cancer survival rates. Cancer Research UK²⁸ notes that differences in survival rates may be because frailty and comorbidities preclude intensive treatment, or because older people decide not to put themselves through treatment, but they also note that “some variation in treatment by age may be unwarranted” and call for “more comprehensive data collection, audit and research” so that treatment disparities can be better understood and addressed.

Poor data and simplistic age categories can also lead to inappropriate policies when chronological age is used as a proxy for capability or risk.

The UK government is currently consulting on proposals to introduce mandatory eyesight testing for drivers from age 70 as part of the licence renewal process²⁹. While visual impairment becomes more common with age, there is little evidence that age 70 represents a distinct physiological threshold at which driving ability changes. The selection of age 70 appears largely to reflect the existing licence renewal framework rather than any specific evidence about risk. In fact, the number of fatalities and serious injuries involving drivers aged 70 and over is lower than for several younger age groups³⁰.

Using age alone as a marker of driving capability risks treating a highly diverse population as a homogeneous group and may reinforce assumptions about age-related decline that are not supported by individual circumstances. It also highlights a broader problem: poor data can distort our understanding of ageing in both directions. It can obscure genuine needs and challenges, but it can also encourage assumptions that older people are less capable than they actually are.

These problems are not confined to public policy and research. Data gaps and assumptions about ageing also shape commercial decision-making, influencing the products, services and marketing that older consumers encounter every day.

In commercial research, older consumers – and the diversity of their preferences and needs – are often overlooked when commercial organisations plan their products, services and marketing. Some businesses overlook older consumers altogether, while many underestimate their capability and ignore (or are ignorant of) aspiration and lifestyle.

Older consumers, in general, are offered products that are highly medicalised in design or marketed for a specialist market even though, like people of any age, they want products that are functional *and* well-designed³¹. Inclusive home products could play a key role in enabling older people to remain independent in their homes, yet less than half of a sample of people aged 50 and over agreed that retailers of home products (that is, fixtures, fittings, appliances, furniture and smaller objects) understood the needs of people their age or care about people their age.

And it is not just a matter of attractive home design; stigma attached to products associated with frailty and decline puts people off using them or from making necessary changes to their homes³². This puts them at risk of accidents, falls and a loss of independence.

“ The extent to which there are gaps in the data on older people is nothing short of astonishing. There is a significant commercial jeopardy: how can businesses effectively cater for, and plan around, older population cohorts when such a paucity of data exists? We ignore or deny this population at our peril – socially, morally and commercially.”

Dr Mark Thorpe – Chair of the Market Research Society Voices for All Council and Senior Director at Truth Consulting

A failure to understand their older customer base is evident in financial services and technology too. Digital-first banking and app-based services are frequently designed without sufficient consideration of the needs and preferences of older users. As bank branches have closed and services have moved online, many older people report discomfort with online banking, concerns about fraud, lack of trust and difficulties with digital skills. This can contribute to financial exclusion and make it more difficult for some older adults to manage their money independently³³.

Table 1 documents examples of everyday scenarios that ignore the needs of older people with potentially serious consequences. Of note, biometric identification takes a one-size-fits-all approach even though it has been known that there are age-related differences in fingerprint recognition performance since as early as 2007³⁴. Similarly, research showing that “older pedestrians are unable to cross the road in time” was published in 2012³⁵ but most signal-controlled pedestrian crossings in England are still not timed to account for this.

Table 1. A one-size fits all approach: the consequences

Issue	Consequence
 Digital literacy There are large differences by age in digital literacy: for example, in 2023 just 20% of people aged 65 and over were aware of two-factor authentication compared with 55% of those aged 45 to 55³⁶.	• Greater susceptibility to fraud: people 80 and over experience fraud losses at a rate nearly three times higher than people aged 18 to 29.
 Pedestrian crossing times Most signal-controlled pedestrian crossings in England are timed to accommodate an average walking speed of 1.2 m/s. However, 76% of men over 65 and 85% of women over 65 walk more slowly than this³⁷; one study found that the mean walking speed of men and women aged 65 and over is 0.9 m/s and 0.8 m/s, respectively³⁸.	• People feel “hurried”, “rushed” and “unsafe” when crossing³⁹ → Therefore some groups of older people may be put off from going out with implications for their independence, mobility, levels of physical activity and access to services.
 Biometric identification Since April 2026, travellers holding UK passports have been required to provide fingerprint and facial biometric data instead of traditional passport stamping procedures when entering the Schengen Area under the EU’s Entry/Exit System. But skin loses elasticity over time so fingerprint ridges may become less distinct, making automated capture and verification more difficult⁴⁰.	• There have been reports of older British travellers experiencing difficulties with biometric kiosks, leading to airport delays.
 Packaging (household and food items) Older people, visually impaired people and other Disabled people may struggle to open a variety of common packaging options, leading to them having to devise various workarounds⁴¹.	• Avoidance of buying certain items unless there is someone who can help open it or choosing to buy products that are easier to open • Use of inappropriate or even slightly dangerous tools, such as scissors or knives to open packages with attendant risk of harm⁴² • Risk of malnutrition among hospital patients who cannot open items of food supplied⁴³.
 Packaging of medications Blister pack design, including opening force and opening mechanism, can have a significant impact on the usability of blister packs by older adults; most problems occurred with peel-off blisters, followed by push-through blisters and bottles⁴⁴.	• Use of inappropriate or even slightly dangerous tools, such as scissors or knives to open packages, with attendant risk of harm. • Asking carers to open medicines in advance • Removing pills from original packaging • Storing them in alternative containers → Having an impact on medication adherence which is a crucial part of the management of chronic diseases.

Whether through a lack of research, a failure to test products with older users, assumptions about capability or ignoring available evidence, the result is often the same: systems that fail to reflect the realities of later life.

Better age disaggregation leads to a better brand strategy

A market research company adapted their panels to include people aged 65 to 74 and 75 and over, instead of just 65 and over in a project aimed at providing focus for brand-building activity for a charity⁴⁵.

This found that the older group were more likely to trust charities to spend money well, while the younger group were more likely to give money to charity via activities such as buying ethical goods.

This was a crucial finding for the charity in planning brand-building that would not have been apparent had they simply used a 65 and over grouping.



How Data Gaps Fuel Ageism

Incomplete data that results in an incomplete picture of our older population has other unexpected and far-reaching knock-on effects.

Whole population averages lead to sweeping generalisations about older people: a pervasive one is that all baby boomers are wealthy, an inaccurate narrative that stokes antagonism and ageism. In this way, the structural ageism that underpins the gaps in our national data collection actually begets further ageism in the assumptions we make about one another.

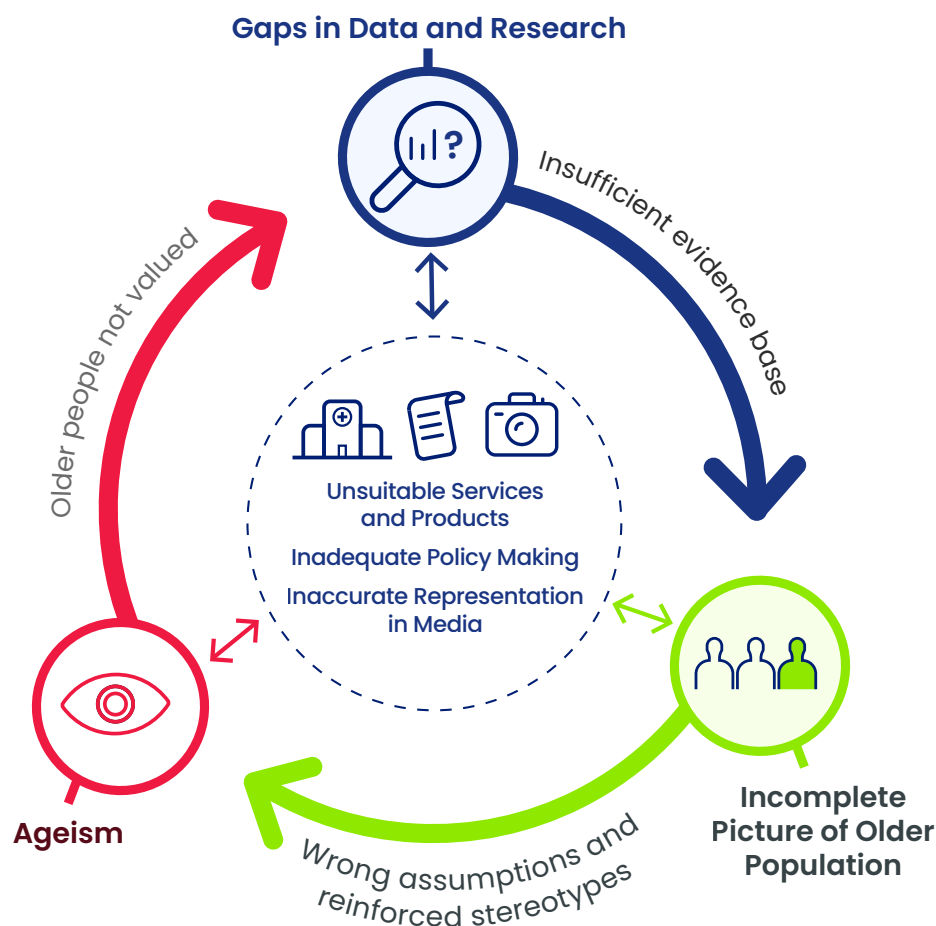
Thus, the invisibility of inequalities in data, whether by age, ethnicity, place or other characteristics, not only leads to inaccurate portrayals of the older population in the present but – by failing to shed light on the inequalities that exist between people – actually serves to perpetuate and exacerbate those inequalities over time.

In addition, we know that the external messages we receive about age and capability lead to

self-directed ageism whereby we modify our own thinking and behaviour. Self-directed ageism has been shown to have myriad negative consequences, including on exercise levels, use of preventive health services, eating habits and alcohol consumption⁴⁶.

So, when older people are excluded from research, the resulting evidence base is incomplete and often misleading, and leads to narratives about, and depictions of, older people that reinforce stereotypes of decline, dependency and disengagement among the population in general and older people themselves. Research from the Advertising Standards Authority has highlighted how narrow portrayals of ageing and older people perpetuate negative feelings and fears about getting older⁴⁷.

Ageism in all its forms – institutional, interpersonal and self-directed – ultimately affects our mental and physical health as well as employment outcomes and financial security.



Is better age disaggregation enough?

Much of the debate focuses on the need for more granular age categories, and this is undoubtedly an important improvement over broad groupings such as “65 and over”.

However, the enormous heterogeneity of our older population means that simple chronological age has limitations as a way of understanding later life. The diversity within older age groups is so great that even narrow age bands can mask substantial differences in health, disability, function and capability. A healthy and active 80-year-old may have more in common with a healthy 65-year-old than with another 80-year-old living with frailty and multiple long-term conditions. We know, for example, that rates of poor health among people from Pakistani and Bangladeshi backgrounds are equivalent to those of White people at least 20 years older⁴⁸.

So it is not just that the 65-year-old is dissimilar to an 85-year-old; it is also that there may be enormous differences between two people of the same chronological age. Two 75-year-olds may have completely different circumstances, capabilities and needs with age the only thing they have in common.

Thus, to understand later life experiences properly, data collection and reporting should also include measures of functional ability, disability, health status, financial security, social connections and other factors that shape people's lives. Without these measures, important inequalities remain hidden even when age categories become more detailed. Sport England, for example, has recognised the need to segment a population by capability, rather than chronological age⁴⁹.



Conclusions

It is clear from both a policy and commercial point of view that gaps in our understanding of our older population come with severe ramifications. Older people can be rendered invisible in different ways: by being excluded from research, grouped into overly broad age categories, treated as if chronological age alone defines capability or omitted from design processes altogether. Each of these forms of invisibility produces distorted evidence and poor decisions.

Aggregation into broad age categories such as 65 and over obscures the diversity of later life experiences, but age categories alone cannot capture the full heterogeneity of the older population. Differences in health, disability, function, wealth and social circumstances are often as important as chronological age in shaping people's needs and experiences. While more precise age segmentations are needed, chronological age alongside other dimensions of ageing including physical and cognitive health and self-perception of age will add further layers of understanding.

Insufficient or missing data produces a cycle of invisibility: it limits understanding and results in poor decisions that reinforce exclusion and further entrench the very biases that created the data gaps in the first place. These gaps must be addressed if we are to enact policy suitable for our ageing population and build a society and economy that reflects older people's needs and desires. Addressing data gaps is not just about improving data quality – it requires a fundamental shift in how we value older people. Without confronting the ageist assumptions embedded in research, policy and markets, we will continue to design systems that fail a growing share of the population.

Ultimately, the underrepresentation of older people in research is not simply a scientific problem; it is a form of structural ageism that risks widening inequalities and undermining the wellbeing, autonomy and social participation of older adults.

Recognising the problem is only the first step. A forthcoming report will explore the drivers of these persistent gaps in greater detail and outline a practical agenda for change, identifying the actions needed across research, policy and industry to make older people visible in the data, evidence and decisions that shape society.



References

- 1 Centre for Ageing Better (2025), Our Ageing Population: State of Ageing 2025. Available at: <https://ageing-better.org.uk/homes-state-ageing-2025>
- 2 Centre for Ageing Better (2025), Homes: State of Ageing 2025. Available at: <https://ageing-better.org.uk/homes-state-ageing-2025>
- 3 International Longevity Centre UK (2019), Maximising the longevity dividend. Available at: <https://ilcuk.org.uk/maximising-the-longevity-dividend/>
- 4 Centre for Ageing Better (2021), The missing market: How home retailers can better meet the needs of over 50s consumers. Available at: <https://ageing-better.org.uk/missing-market-how-home-retailers-can-better-meet-needs-over-50s-consumers-online-version>
- 5 Yannopoulou N et al (2023), What we do know and don't know about marketing communications on mature consumers. *European Journal of Marketing* 57: 1969–1995. Available at: <https://doi.org/10.1108/EJM-12-2020-0906>
- 6 Kohli M (1986), The world we forgot: A historical review of the life course. In V. W. Marshall (Ed.), *Later Life: The Social Psychology of Aging* (pp. 271–303). Beverly Hills, CA: Sage.
- 7 Kohli M (2007), The institutionalization of the life course: Looking back to look ahead. *Research in Human Development* 4(3–4): 253–271. Available at: <https://doi.org/10.1080/15427600701663122>
- 8 Estes CL et al (2003), *Social Theory, Social Policy and Ageing: A Critical Introduction*. Open University Press.
- 9 Walker A (2002), A strategy for active ageing. *International Social Security Review* 55(1): 121–139. Available at: <https://doi.org/10.1111/1468-246X.00118>
- 10 World Health Organization (2021), *Global Report on Ageism*. Available at: <https://www.who.int/teams/social-determinants-of-health/demographicchange-and-healthy-ageing/combating-ageism/globalreport-on-ageism>
- 11 Phoenix C and Smith B (2011), Telling a (Good?) Counterstory of Aging: Natural Bodybuilding Meets the Narrative of Decline. *Journals of Gerontology Series B* 66(5): 628–639. Available at: <https://doi.org/10.1093/geronb/gbr077>
- 12 Baker J et al (2010), *The Masters Athlete: Understanding the Role of Sport and Exercise in Optimizing Aging*. Routledge Handbook of Sport and Aging.
- 13 Bowie K (2025), Why older people are still excluded from health research—and what can be done. *BMJ* 391. Available at: <https://doi.org/10.1136/bmj.r2048>
- 14 Lau SWJ et al (2022), Participation of Older Adults in Clinical Trials for New Drug Applications and Biologics License Applications From 2010 Through 2019. *JAMA Network Open* 5(10). Available at: <https://doi.org/10.1001/jamanetworkopen.2022.36149>
- 15 Research Professional News (2025), Studies excluding older people 'unethical and bad for science'. Available at: <https://www.researchprofessionalnews.com/rr-news-uk-research-councils-2025-8-studies-excluding-older-people-unethical-and-bad-for-science/>
- 16 Age UK (2019), More harm than good: Why more isn't always better with older people's medicines. Available at: <https://www.ageuk.org.uk/notts/about-us/news/articles/2019/more-harm-than-good/>
- 17 Ministry of Housing, Communities and Local Government (2026), *English Housing Survey 2023 to 2025: age cohorts*. Available at: <https://www.gov.uk/government/statistics/english-housing-survey-2024-to-2025-age-cohorts/english-housing-survey-2024-to-2025-age-cohorts#housing-circumstances-of-those-aged-65-or-over>
- 18 Market Research Society (2024), *Diversity and Inclusion best practice guides: sampling methods*. Available at: https://www.mrs.org.uk/pdf/MRS_Diversity&InclusionGuidance_Sampling_0824.pdf

- 19 Open Inclusion (2026), The Age of Insight, The power of older age specific perspectives – too often unasked for, unseen and unknown. Available at: <https://openinclusion.com/blog/the-age-of-insight/>
- 20 YouGov (2025), 16- and 17-year-olds and voting in UK elections. Available at: <https://yougov.com/en-gb/daily-results/20250717-32a3f-2>.
- 21 Crystal S et al (2017), Cumulative Advantage, Cumulative Disadvantage, and Evolving Patterns of Late-Life Inequality. The Gerontologist 57(5): 910–920. Available at: <https://doi.org/10.1093/geront/gnw056>
- 22 Centre for Ageing Better (2025), State of Ageing 2025. Available at: <https://ageing-better.org.uk/homes-state-ageing-2025>.
- 23 Sudbury L and Simcock P (2009), A multivariate segmentation model of senior consumers. Journal of Consumer Marketing 26(4): 251–262. Available at: <https://doi.org/10.1108/07363760910965855>
- 24 Hosford K et al (2025), Characterizing Older Adults' Travel Behaviour and Unmet Needs: Findings from the Canadian Longitudinal Study on Aging (CLSA). Canadian Journal on Aging / La Revue canadienne du vieillissement 44(1): 26–40. Available at: <https://doi.org/10.1017/S0714980824000254>
- 25 Financial Lives 2024 survey (2025), Financial Lives 2024 survey – Retail banking: Selected findings. Available at: <https://www.fca.org.uk/financial-lives/financial-lives-2024>
- 26 Schwartz JB (2023), Representative enrolment of older adults in clinical trials: the time is now. The Lancet Healthy Longevity 4(7): e301–e303. Available at: <https://pubmed.ncbi.nlm.nih.gov/37263282>
- 27 Mol A et al (2019), Orthostatic Hypotension and Falls in Older Adults: A Systematic Review and Meta-analysis. Journal of the American Medical Directors Association 20(5): 589–597. e5. Available at: <https://doi.org/10.1016/j.jamda.2018.11.003>
- 28 Cancer Research UK (2026), Cancer in the UK: Age. Available at: <https://www.cancerresearchuk.org/health-professional/our-reports-and-publications/cancer-in-the-uk-age>
- 29 Department for Transport (2026), Introducing mandatory eyesight testing for older drivers. Available at: <https://www.gov.uk/government/consultations/introducing-mandatory-eyesight-testing-for-older-drivers>.
- 30 Age UK (2026), Consultation response: Introducing mandatory eyesight testing for older drivers. Available at: <https://www.ageuk.org.uk/siteassets/documents/reports-and-publications/consultation-responses-and-submissions/active-communities/age-uk-response---mandatory-eyesight-testing-may-2026.pdf>.
- 31 Centre for Ageing Better (2021), The missing market. Available at: <https://ageing-better.org.uk/missing-market-how-home-retailers-can-better-meet-needs-over-50s-consumers-online-version>
- 32 Ibid.
- 33 Age UK (2025), Parliamentary Briefing: Online Banking and Older People. Available at: <https://www.ageuk.org.uk/our-impact/politics-and-government/briefings/>
- 34 Modi SK et al (2007), Impact of Age Groups on Fingerprint Recognition Performance. Automatic Identification Advanced Technologies, 2007 IEEE Workshop: 19–23. Available at: <https://doi.org/10.1109/AUTOID.2007.380586>.
- 35 Asher L et al (2012), Most older pedestrians are unable to cross the road in time: a cross-sectional study. Age and Ageing 41(5): 690–694. Available at: <https://doi.org/10.1093/ageing/afs076>.
- 36 Chindaemerem D et al (2025), Online Banking Adoption Vs. Security Behaviors: An Analysis of Financial Cybersecurity Practices Among U.S. Adults 65+. International Journal of Research and Innovation in Social Science. Available at: <https://dx.doi.org/10.47772/IJRISS.2025.909000041>
- 37 Active Travel England (2025), Critical safety issues for walking, wheeling and cycling. Critical safety issues for walking, wheeling and cycling – GOV.UK. Available at: <https://www.gov.uk/government/publications/critical-safety-issues-for-walking-wheeling-and-cycling/critical-safety-issues-for-walking-wheeling-and-cycling>

- 38 Asher L et al (2012), Most older pedestrians are unable to cross the road in time: a cross-sectional study. *Age and Ageing* 41(5): 690–694. Available at: <https://doi.org/10.1093/ageing/afs076>.
- 39 Western M and Stathi A (2025), Cities aren't built for older people – our study shows many can't walk fast enough to beat a pedestrian crossing. Available at: <https://theconversation.com/cities-arent-built-for-older-people-our-study-shows-many-cant-walk-fast-enough-to-beat-a-pedestrian-crossing>.
- 40 Orme D (2019), Why age is not just a number when it comes to fingerprint biometrics. *IFSEC Insider*. Available at: <https://www.ifsecglobal.com/access-control/why-age-is-not-just-a-number-when-it-comes-to-biometrics/>.
- 41 Ford N et al (2016), Exploring the impact of packaging interactions on quality of life among older consumers. *Journal of Marketing Management* 32(3–4): 275–312. Available at: <https://doi.org/10.1080/0267257X.2015.1123758>.
- 42 Ma X and Dong H (2016), 'Difficult' packaging for older Chinese adult. In Lloyd P and Bohemia E (eds), *Future Focused Thinking – DRS International Conference 2016*, 27–30 June, Brighton, UK. Available at: <https://doi.org/10.21606/drs.2016.206>.
- 43 Bell AF et al (2013), Accessing packaged food and beverages in hospital: Exploring experiences of patients and staff. *Appetite* 60(1): 231–238. Available at: <https://doi.org/10.1016/j.appet.2012.10.013>.
- 44 Philbert D et al (2013), Problems experienced by older people when opening medicine packaging. *International Journal of Pharmacy Practice* 22: 200–204. Available at: <https://doi.org/10.1111/ijpp.12070>.
- 45 Yonder Data Solutions <https://yonderdatasolutions.com/yonder-data-solutions-launches-new-age-quotas/>.
- 46 Centre for Ageing Better (2023), Ageism: What's the harm? Available at: <https://ageing-better.org.uk/resources/ageism-whats-harm>.
- 47 Advertising Standards Authority (2025), *The Depiction of Older People in Ads*. London: ASA. Available at: <https://www.asa.org.uk/resource/the-depiction-of-older-people-in-ads.html> (Accessed: 22 July 2026).
- 48 Centre for Ageing Better, Ethnic health inequalities in later life: The persistence of disadvantage from 1993–2017. Available at: <https://ageing-better.org.uk/resources/ethnic-health-inequalities-in-later-life>.
- 49 Sport England (2022), *Active Ageing and Tackling Inactivity and Economic Disadvantage Programmes: Final Evaluation Report*. Available at: <https://www.sportengland.org/research-and-data/research/older-adults?section=getting-older-adults-active-section>.