

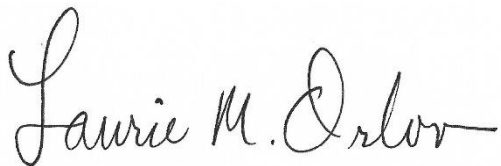
FORWARD

What's new in this version of the report? Most everything. Every line in this Market Overview has been reviewed and updated to reflect current trends, new demographic data about older adults, policy changes, new products, as well as inclusion of available data about what tech they own and/or prefer. To make space, some previous offerings were removed to enable inclusion of 30 recent entrants (some of them winners of innovation competitions).

AgeTech is officially the category...The oldest baby boomer turns 77 this month. Recognizing the business opportunity for the ballooning aging population, including a critical shortage of care workers, AARP set the tone with [CEO Jo Ann Jenkins](#) about its [AgeTech Collaborative](#) strategy at CES. And [multiple funders](#) are rising to the challenge – spearheading new and interesting offerings. CES 2023 offered many intriguing [innovations](#) (startups and existing companies) under categories of AI, VR, AR, autonomous, robotic, touchless, wearable, immersive, etc.

But ease of use improvements still await. Whether it is configuring a smart home, a new device, or a phone out of the box, the one-button start-up of most tech is still a future. This holiday season, consumers [shared their distaste of setting up new tech](#). And in the latest AARP report, older consumers (still) [don't think technology was designed with them in mind](#). Meanwhile, continuous patch releases, upgrades and bug fixes transform each of today's devices into an annoying experience tomorrow. Standardization of interconnection is just beginning, but some firms still limit device interoperability. In 2023, that will begin to change. Don't believe it? Ask your [AI chatbot](#).

Moving onward, here's to the year of 2023 – with innovation and growth for all!



Laurie M. Orlov

January 2023

WHO SHOULD READ THIS REPORT?

This report was revised in January of 2023, updating products, services, websites, and apps – and adding many new entrants. It serves as a market overview with a single purpose: it is intended to describe the need for, and the current market of, offerings to help aging adults live full lives in their homes of choice. As such, it is relevant to:

- Vendors and entrepreneurs marketing to baby boomers and seniors
- Government agencies and policy makers
- Venture capital and angel investors interested in the boomer/senior market
- Retailers with a focus on older adults
- Startup incubators
- Advocacy and tech training groups
- Retirement Communities that serve independent adults
- Senior living communities, and long-term care providers
- Home care and home health agencies
- Physician practices serving older adults
- Hospitals and integrated service delivery networks
- Geriatric care managers (Aging Life Care)
- Naturally Occurring Retirement Communities (NORCs)
- Caregivers, seniors, and family members

MARKET CONTEXT REFLECTS HOME OWNERSHIP AND CARE ECONOMY

During 2022, [aging in place](#) continued to shape the attitude of older adults about their future. [According to one survey](#), 78% of adults age 50+ currently live in their own home. Meanwhile, by the end of 2022, [senior living occupancy](#) had only recovered halfway to pre-pandemic level (reaching 82.8%). Consider that the [fastest growing demographic are individuals aged 85+](#). The [majority of older adults are homeowners](#), three-quarters of those aged 55-74.

The cost of care keeps rising. But as calculators [of net worth by age indicate](#), unless a home is sold, the oldest will not be able to pay \$400K of [health-related costs](#). Ironically, private home care can now be equal to or more expensive than assisted living – driven largely by those Covid-related family preferences as well as a [shortage of home care workers](#). Reimbursement changes, worker shortages plus desire for care at home have driven the [closure of rural hospitals nationwide](#). Ranging from a high of \$6978 per month in DC to a low of \$3748 in Louisiana, [inflation](#) continues to drive up the cost of care (see **Figure 1**).

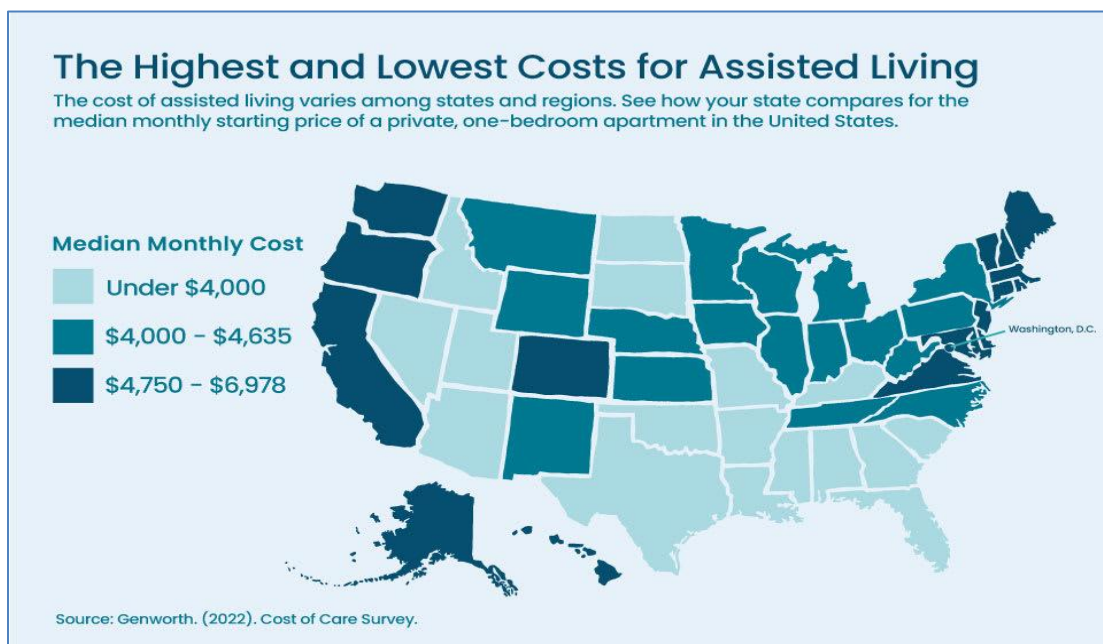


Figure 1 [Genworth \(2022\) Cost of Assisted Living Survey](#)

The wave of aging adults impacts both housing and the workforce. As typically defined, aging in place reflects the desire or ability to remain in one’s own home. Other options will likely be [out of reach for most middle class homeowners](#). Note that [solo agers](#), those that have no spouse, partner or children, make up as much as 16% of the 55+ population. They will likely make up a key portion of the aging population by 2030, when all baby boomers will be 65+. Recent inflation may make retirement out of reach for [many baby boomers](#).

Home is still the hub for life and care in the near term. In addition to wanting to remain in their own home through 2022 and beyond, older adults are receiving a growing percentage of their health care at home. During the pandemic HHS declared a ‘public health emergency,’

enabling reimbursement of telehealth services in the home. That declaration has enabled telehealth service reimbursement to be [extended to the end of 2024](#) and likely to be extended further through other legislation. Reimbursable services include in-home emergency care like [Dispatch Health](#) as well as telehealth-based mental health services.

Professional caregiving is a conundrum of high costs, low pay and demand for workers.

[The most recent data indicates](#) that 22% of adults aged 85+ need help with personal care. As families and seniors compare the costs of aging at home to aging in a senior living community, the cost projections begin to look similar – with the median monthly cost of full-time home care now at \$4480, versus \$4300 per month for senior living, according to [Genworth Financial](#). And there has been [an 88% increase in the number of open Certified Nursing Assistant \(CNA\) jobs](#). One recent development – adding paths to [promotion to RN for CNAs](#).

Paid home care picks up where families and senior housing leave off. Demand for aging at home with home care [grew sharply as a result of the ongoing pandemic](#). While wages are rising due to scarcity of workers, both senior living and home care still rely largely on the same pool of relatively low-paid workers, and [care in many areas is quite difficult to find](#). On average, home care fills a care gap of 20-27 hours per week at a presumed lower cost (\$22.50/hour paid to agency, [\\$13-15/hour to the worker](#)), than a move to assisted living, though annualized costs are approximately the same.

Shortage of workers will worsen in 2023. Also during 2021 and 2022, non-medical home care work (or personal care aide) became one of the [fastest growing job \(as well as lowest-paid\) categories in the US](#) (see **Figure 2**). And for much of the industry, [median caregiver turnover rate averaged 35% in 2022](#). But staffing challenges are [top of mind for home care agencies](#), which are seeing [fewer billable hours at higher rates](#). As the projected shortage of home care workers worsens – especially in urban areas in which workers cannot afford to live – predictions are dire, amounting to [717,000 job openings over the decade 2021-2031](#).

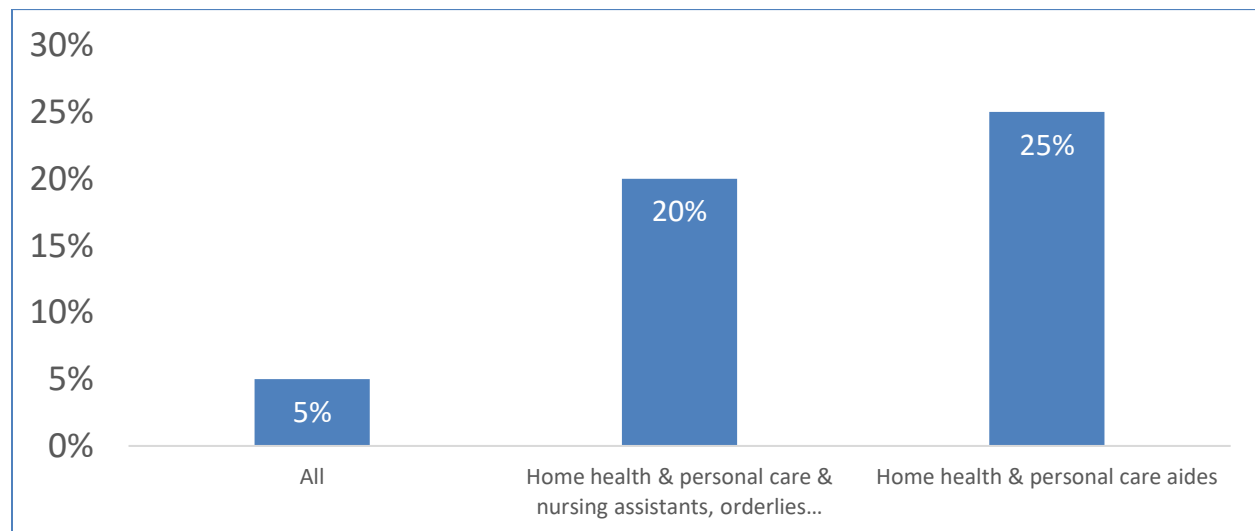


Figure 2 Growth 2021-2031 Personal Care and Home Health Jobs Sources: BLS/PHI

Stark consumer economic realities challenge senior living occupancy... Median net worth of the 75+ [inclusive of home equity is \\$264,800](#). The low level of savings slows moves to assisted living, where move-in age is closer to mid-80's (see **Figure 3**). With more than [half of assisted living residents aged 85+](#), this has become a frailer demographic, many with dementia, who need help with multiple ADLs. But boomers are right behind them – and will be even less able to move in. They have simply not saved enough – holding an average retirement savings portfolio in their 70's of [\\$186,800](#). That's not enough to live on after retirement and later afford more than a few years at a [private assisted living](#).

...And life expectancy at age 65 is still substantial, keeping the oldest working. For example, the most recently updated (CDC) life expectancy used in [pension fund calculations](#) projects that women aged 65, on average, can expect to live until they are 86.6; men can expect to live on average to be 84.7. But the combination of [limited savings](#) and [longer life expectancy](#) has raised fear of outliving assets. Worried about outliving their savings, the labor force participation rate of the oldest is [expected to rise substantially over the next decade](#). Among adults aged 75+, that labor force is [expected by 2030 to grow by 96%](#).

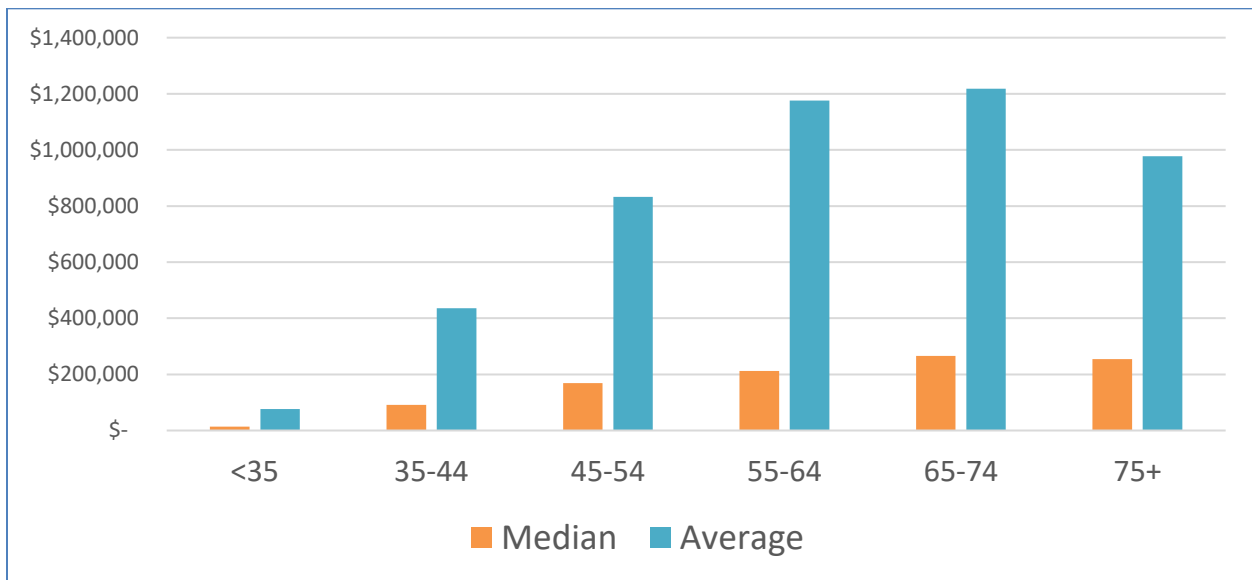


Figure 3 Family Net Worth by Age

Source: Federal Reserve

POLICY MAKERS CARE (AND FUND) MORE ABOUT CAREGIVING AND AGING

Caregiving and other demands of an aging population are gaining attention. In a University of Michigan national poll in November, 2022, [more than half of adults aged 50-80](#) say they have helped an adult aged 65+ with health, personal and other types of care needs. Another study noted that the [average family caregiver is a baby boomer woman](#). Notable at the end of 2022, the Administration for Community Living published the [National Strategy to Support Family Caregivers](#) (see **Figure 4a**). In addition to the government-supported discount on broadband access, the report recommended “future-focused tools and assistive technology, such as smart homes, wearable blood pressure and heart monitoring devices, automated pill dispensers, e-learning modules, task management apps, speech amplification and adaptation systems, and geo-tracking.” Some of these are included among examples in this 2023 Market Overview.

1. Achieving greater awareness of and outreach to family caregivers
2. Advancing partnerships and engagement with family caregivers
3. Strengthening services and supports for family caregivers
4. Improving financial and workplace security for family caregivers
5. More data, research and evidence-based practices to support family caregivers

Figure 4a [HHS: 2022 National Strategy to Support Family Caregivers](#)

Also in 2022, [USAging](#) published policy priorities to recommend to Congress that included a section on access to technology, with particular focus on and concerns about the [Aging Network](#) workforce and its use of tools with their older adult clients. They noted the following realities:

1. Important government and other essential systems should not rely completely on online interactions, including hands-on assistance that may be necessary.
2. Factor in the need for accompanying age-friendly and ongoing training on technology.
3. Common aspects of aging should be factored into design of any essential technology – such as vision loss or differences, hand-eye coordination/function, cognitive decline.
4. Rural area reduced choices of services or providers – and without broadband, technological solutions (like telehealth, online support) may fail to fill the gap.
5. Technology applications should not be used to replace person-centered approaches deployed by the Aging Network.

Figure 4b [USAging: 2022 Policy Priorities for Congress](#)

Data breaches and scams have worsened, including Covid-19 and stimulus fraud. Seniors and their families should be cautious, however, as 2021 also turned out to be another memorable year [for healthcare data breaches at around 1 per day](#) – increasingly due to hacking. Ransomware attacks are up 80% year-over-year in 2022. In 2022, the FTC presented its annual report to Congress, [Protecting Older Consumers](#), indicating that older adults are among those affected in every consumer protection case filed this past year. showing the sharp difference in fraud loss for the oldest population In 2021, \$47 million of the \$151 million reported lost to [fraud by people 80](#) and over was lost to prize, sweepstakes, and lottery scams (see **Figure 5**).

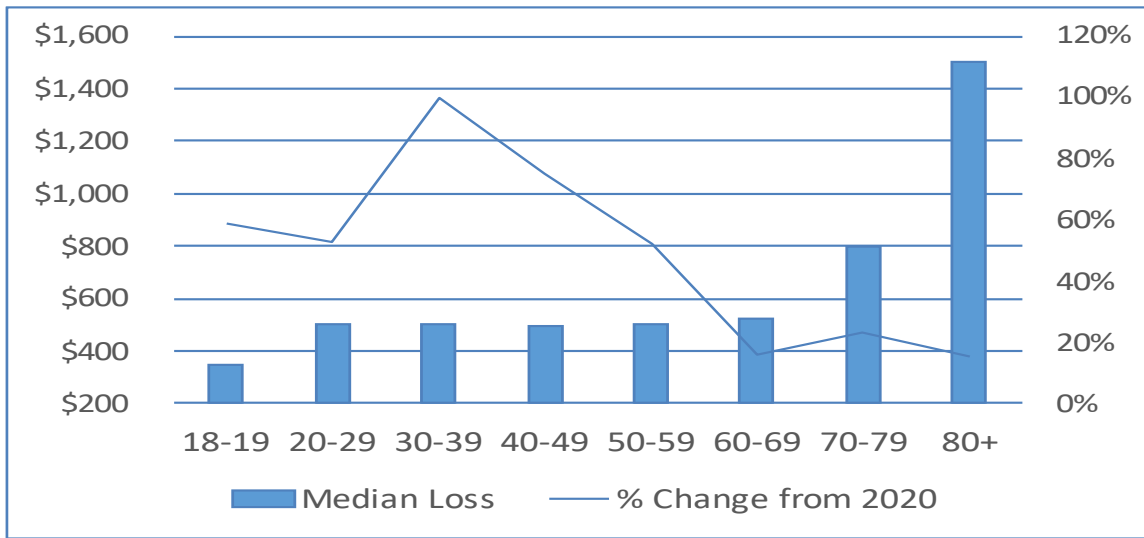


Figure 5 Rising median loss via scams – worse for 80+ Source: FTC



DID YOU KNOW 48.7 million people had data exposed in healthcare breaches reported to the federal government in 2022

THE PANDEMIC SHARPENED FOCUS ON TECH ADOPTION OF THE OLDEST

Tech adoption for older adults is growing... The surveyed ubiquity of technology has led to a belief that it is everywhere it needs to be, with media assumptions about the benefit of smartphones and online tools, ownership of devices, or access to broadband speeds. The majority of older adults now own [smartphones and smart TVs](#). Why? To connect with families. As smartphone adoption [reaches 85% of the US population](#), AARP now describes [smart phone plan options](#) for older adults (though [AT&T’s plan is for Florida residents only](#)). But it is past time to make smartphone user interfaces usable (accessible even) and make sure if it’s the only phone an older adult owns, that it supports sharing tools like FaceTime, text chatting, or YouTube.

...Usability, for the older adults? The more things change... [Link-Age Connect](#) surveyed tech adoption of the oldest in 2011. [AARP surveyed](#) individuals aged 50+, published in 2023. (See **Figure 6a**). And interoperability is still a future (see **Figure 6b**).

2011 Link-Age Survey Comments	2023 AARP Survey Comments
Got along all my life without this technology, so I'll continue without it	Too many ways to learn about what makes the programs work
Can do if given careful instructions and I write down in a book.	It can be hard to find simple instructions on how to use new technology.
I am very much interested. My grandchildren make me feel like a dinosaur.	Perhaps tech platforms can have tutorials specifically for the older generation.
I read the newspaper and like to get my mail from the mailman.	Too much is being offered and I feel overwhelmed...
I am 90 and can make limited use of the computer. I would like one-on-one help.	You need to know how to get into the system before you can learn how to operate it.
Cost of services offered is unreasonable.	In general, I find it too complicated and too expensive.
I like cell phones to call and text.	Everything seems to be made more complicated.

Figure 6a Source: [Link-age 2011](#)

Source: [AARP Tech Trends 2023](#)

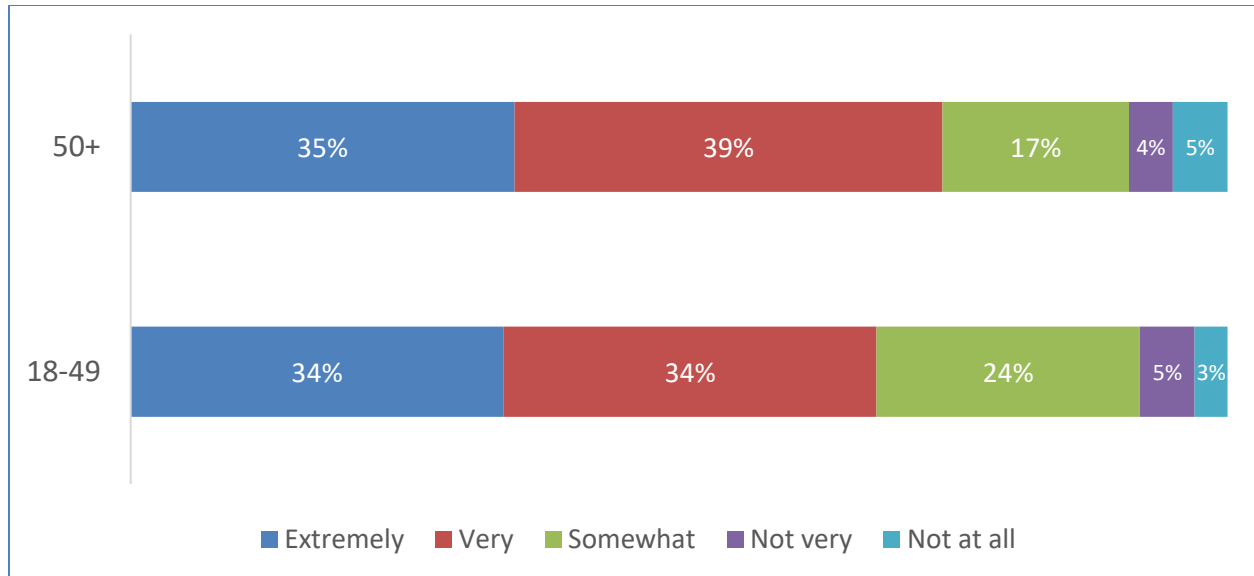


Figure 6b Interoperability matters more to the 50+ Source: [AARP 2023](#)

Medicare Advantage features tech-enabled services in the home. By 2022, 48% of Medicare beneficiaries (28.4 million people) were [enrolled in Medicare Advantage plans](#). Given the growth rate, expect further growth in 2023 – [TV marketing expenditure has been staggering](#) and the ads, many viewed as [misleading](#), will be more restricted in 2023. Besides further solidifying support for telehealth, most Medicare Advantage plans provide at least some hearing, dental, fitness, and vision health benefits. Some plans in 2023 will also offer other services such as pest control, food and delivery of fresh produce, [companionship to mitigate loneliness](#), and non-medical transportation. And senior housing companies starting in 2019 began [offering Medicare Advantage plans to residents](#).

The senior housing industry sees technology as a growing priority. The pandemic placed a spotlight on major gaps in senior housing adoption of technology. With [occupancy still down as a result of the pandemic](#), during 2023, the industry [will likely make more technology investments](#). Broadband access, video, telehealth capabilities, and digital marketing [will have growing importance, despite the challenge of overall rising costs](#). And as more residents bring in their own devices, some communities are considering [the role of tech concierge](#) to assist.

Fall detection moves off the body into the room, using sensors enhanced with AI.

Mitigating fall risk is increasingly important for the wellbeing of older adults. New offerings have emerged recently seeking to detect falls without a wearable, using radar, cameras, and AI. These include remote monitoring offerings from Kami Vision, Origin Wireless, and Care Daily (see [The Future of Sensors and Older Adults 2022](#)).



***DID YOU KNOW** that 36 million adults aged 65+ fall each year? According to the CDC, the estimated cost of falls across the U.S. healthcare system is [\\$50 billion annually](#).*

Voice first technology moved from a revolutionary to evolutionary phase. The downsizing of the Alexa teams at Amazon was only a late indicator that what was [remarkable in 2018](#) is now just one element of a multi-modal technology infrastructure which understands and reacts to spoken language. But as one of the user interface options, its linguistic understanding still needs work, and hopefully there are still plenty of engineering teams still assigned to making it better.

Investors ramp up interest in the older adult market. Population demographics matter – and 2020 saw the [growing investing interest](#) in the older adult market. Primetime Partners, Ziegler Linkage, and Nationwide are all [investing in startups](#). With the aging population growing globally, numerous startups in multiple categories are updated annually on a market map viable on [Gerontechnologist.com](#).

TECHNOLOGY AUGMENTS CARE, DOES NOT REPLACE SERVICE OR FAMILY ROLES

The categories of technology offerings help older adults age successfully and include independent market segments – each useful – but together, they complete a puzzle for a fulfilling and interactive life for older adults, enabled with the support of families and caregivers and include the sub-categories as follows (see **Figure 7**). Examples are offered on page 22.

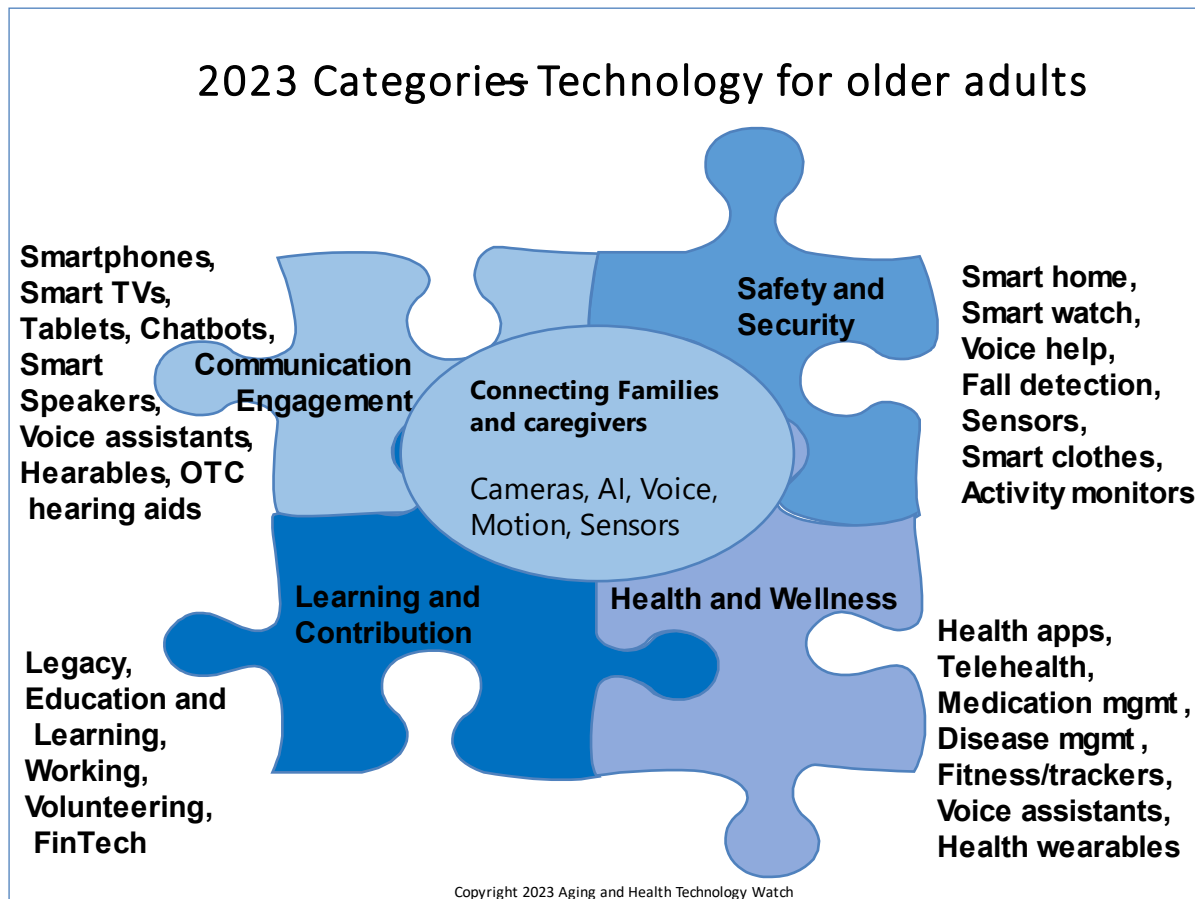


Figure 7 The Interdependency of Technology Categories for Older Adults

Communication and engagement. For all ages, isolation is increasingly untenable without the technology to connect to others. As 2023 began, tech vendors used the Consumer Electronics Show in Las Vegas to launch a gaggle of gadgets to mitigate life barriers from hearing loss to limited mobility. The 2023 versions of [voice-first interfaces](#) on smart speakers are no longer ground-breaking – [35% of Americans now own one](#). Future [growth may slow due to market saturation](#) or possible innovation cutbacks from vendors like [Amazon](#) and [Google](#).

Voice assistants and hearing aids. Sixty-two percent of US adults as of January 2023 are using [voice assistants](#) on any device (including in-car, in-ear, at-drive-thru). And the hearing technology market, first disrupted by [hearables](#), saw its biggest disruption in 2022 – FDA approval of OTC hearing aids, driving the average price downward [by as much as \\$3000](#), driving sales online and into [retail stores like Walmart](#). In addition to lower cost, hearing aids will

increasingly be covered by popular [Medicare Advantage plans](#). As smart phone adoption among the oldest continues, their ability to adjust their own hearing aids will also improve.

Safety and security. Aging in place requires a home free from obstacles and dangers, especially for the [44% of women aged 75+ who live alone](#). The traditional PERS pendant industry's growth is slowing and vendors are stepping into the reimbursed [Remote Patient Monitoring \(RPM\) market](#). But the pivotal entrance of Apple's fall detection legitimized the market for [caregiving smart watch wearables](#) with fall detection. Other vendors are now offering voice-enabled PERS services.

Health and wellness. The abrupt shutdown of health visits during the pandemic triggered [frenetic adoption of telehealth](#) – now firmly entrenched as [a care option](#) on a smart phone, tablet or [even on a TV](#). In 2022, most Medicare Advantage plans offered telehealth as a visit option, along with hearing, vision, and dental options. Remote patient monitoring (RPM) is also on a [growth trajectory](#), and will likely grow as a service offered by [home care agencies](#).

Learning and contribution. Experts have noted that once the basic needs of communication, safety, and health are addressed people have both the need and capacity for more. This includes learning new job-related skills, staying aware, connected, and active in society and contributing through online [volunteering](#). Older adults also are leaving a [legacy of photos](#) and [stories](#) for their loved ones. Organizations like [AARP](#) and [OATS Senior Planet Digital](#) strive to help an older person learn a broad range of new skills.

2022 Technology Trends that Will Drive Adoption in 2023

Across consumer devices today, older adults will find assistive features (for vision and hearing limitations) that are built in. AI will be used to identify behavioral trends and patterns across multiple categories. But older adults would benefit greatly if vendors and stores selling devices (or providing training) spent more time introducing them to those features – considering their documented [lack of confidence in technology](#) use (see **Figure 8**).

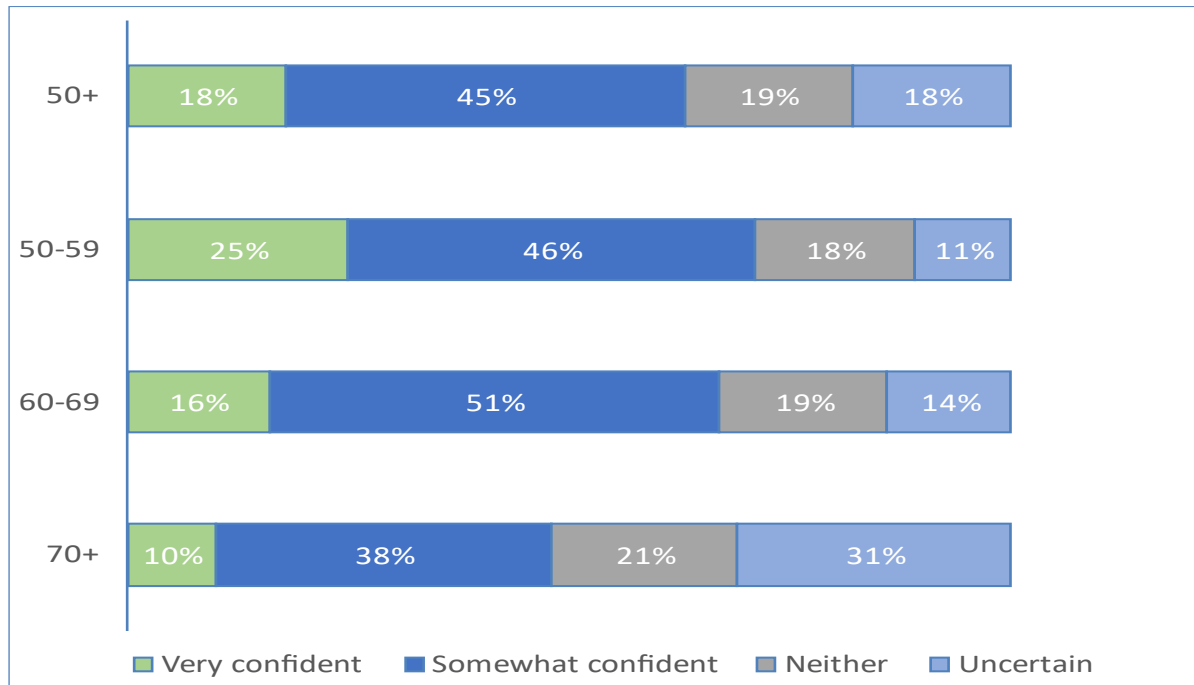


Figure 8 Confidence in use of technology

Source: AARP [Digital Literacy](#)

Wearables became more visible – enabling PERS on the wrist. Wearables have become a growth market (see **Figure 9**). Use by older adults is still limited, though Apple Watch validated use of fall detection in a wrist worn device, and multiple chronic disease wearables will likely be adopted soon enough. At least 30% of PERS usage is mobile, validating the emergence of wearables other than pendants to wear out and about. Caregiver watches provide a less visible safety alternative when living alone, walking the dog, or fearful of falling. And [BellPal](#), [Freedom Guardian](#), [Bay Alarm Medical](#), [UnaliWear](#) – all connect to a required response center.

AI in front and behind the scenes – caregiving and smart home. The introduction of [ChatGPT](#) in late 2022 may [disrupt the ad model of Google search](#). The availability of a growing trove of data about our behavior will enable more useful advice and insights. Accumulation of this data underpins the [growing use of AI](#) – enabling analytics that will augment simple monitoring and alerts, supporting smarter use of care staff in this time of high turnover. With multiple new entrants, expect within the next few years that the smart home space will offer [the home as a participating caregiver](#), with pattern analysis, detection of change, and prediction of risk in the home (see **Figure 10**).

Amid market disruption, hearables market continues to resonate. The hearing technology market is seeing disruption from multiple angles. [Smart hearables will again be news at CES 2023](#), including a range of earbuds, AI-enabled hearing aids with fall detection, smartphone adjustable sound – especially appealing for older adults in noisy restaurants. Add integration with voice capabilities like Siri, Google Assistant, and Alexa plus the [ability to stream audio content directly to in-ear devices](#). With the introduction of Over-the-Counter Hearing aid sales ([and recommended guidelines](#)), coupled with the beginnings of insurance reimbursement, those with mild-to-moderate hearing loss are likely to benefit from many of these changes.

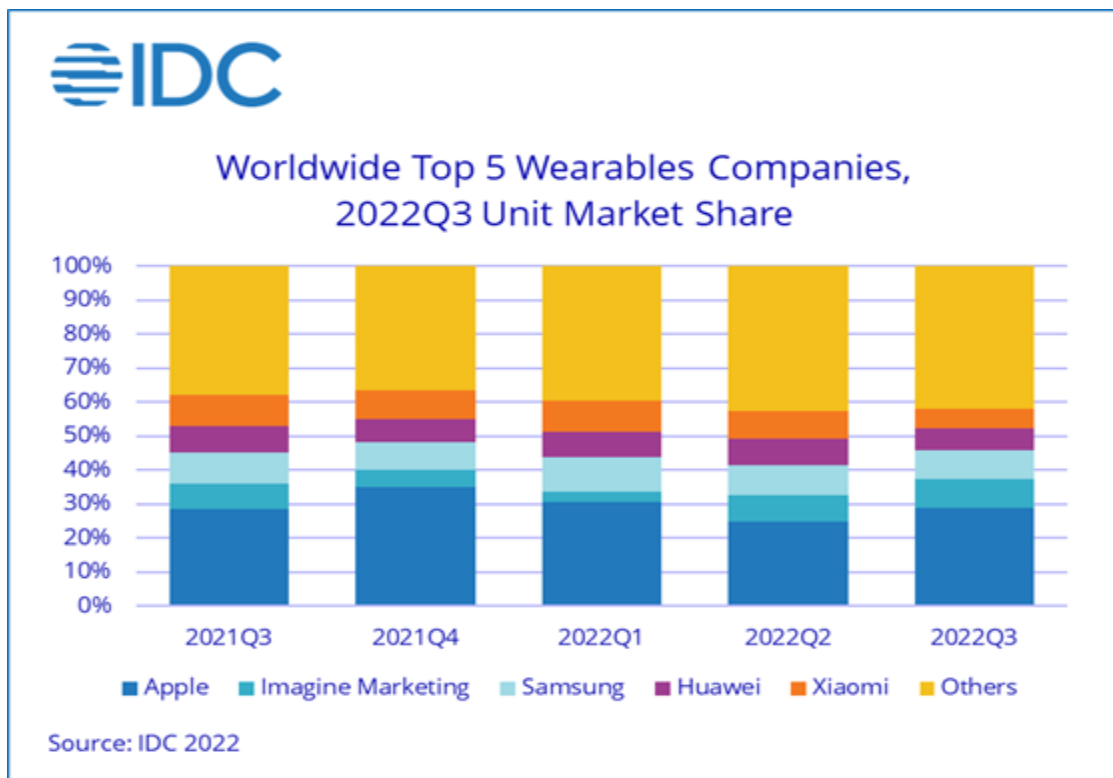


Figure 9 IDC 2022 shipment forecast of wearable market share Source: [IDC](#)

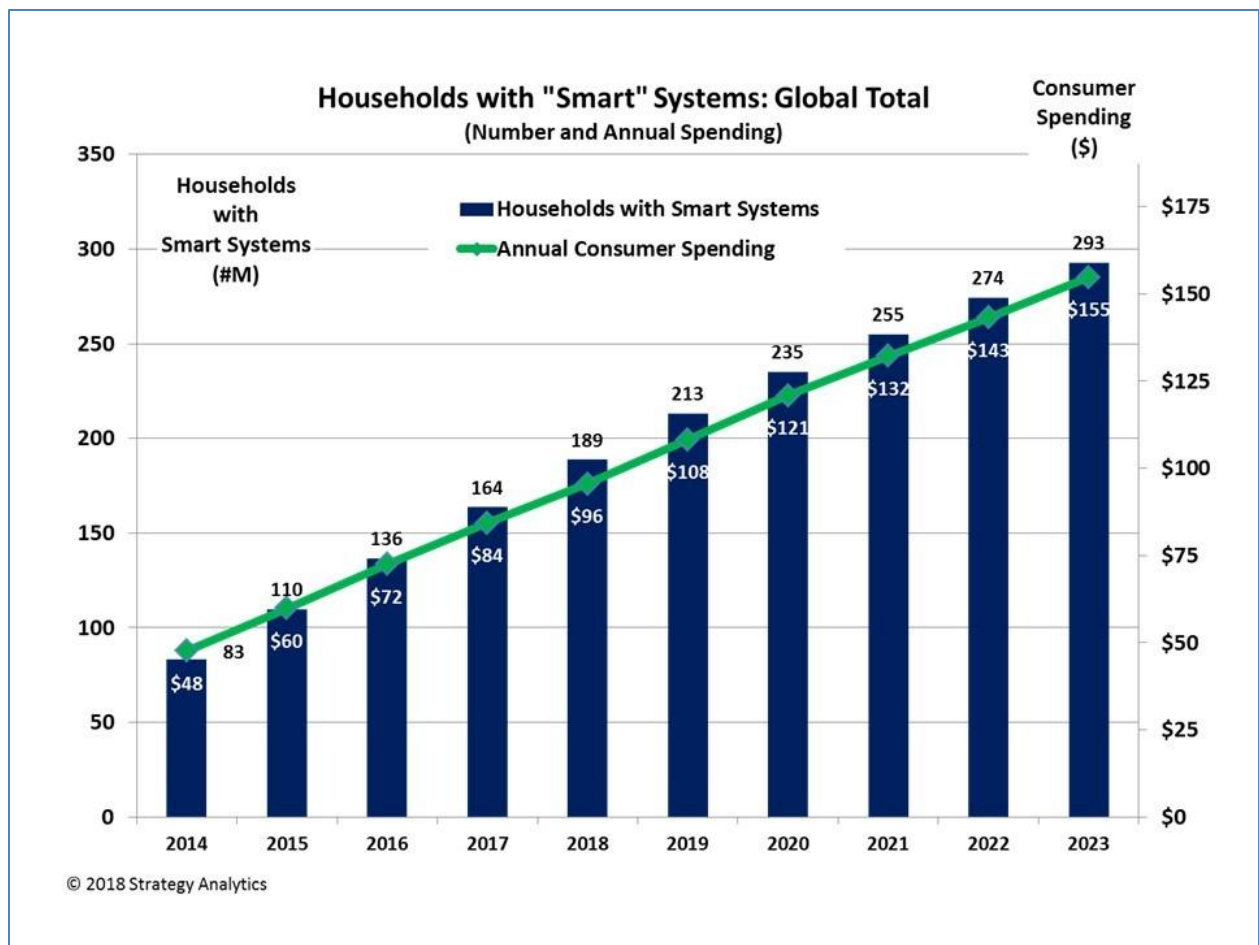


Figure 10 IDC shipment forecast of smart home devices to 2023 Source: [Strategy Analytics](#)

ADVICE TO VENDORS: IT'S TECH-ENABLED SERVICES, NOT PRODUCTS

Probably the biggest issue that keeps technology out of the homes of older seniors is the difficulty of marketing to them (“We are not old!”) and to their afraid-to-interfere adult children. Therefore, it’s important to sell through channels that reach them at whatever stage of aging they’re at, pricing right for resale and possible white labeling. Vendors will find that:

One go-to-market channel is not enough. Depending on the product or service, it may need a mix of resellers/distributors, face-to-face, and online sales. The [2022 FCC broadband progress map](#) revealed the geographic areas of the US that lack high speed Internet access, and even if it were available, many do not go online, whether due to perceived lack of benefit, high cost, or low awareness. If that population needs a technology or service, such as access to benefits, their caregivers must search online on their behalf. Today if looking for assistive tech for older adults, today there are multiple options, including [Amazon](#) or [Best Buy](#). But new market entrants should find local partners to test product effectiveness before going national.

Privacy and security features will be built into design of software and websites. It hasn’t happened yet. But scams [targeting the elderly](#) have ballooned to a cost [\\$3 billion annually](#), and that includes only those that are self-reported. For safety-oriented apps and sites that include the role of the senior, it’s critical to verify identity among provider and user roles. Two-factor authentication will likely be required as part of all online apps, including financial and health-related services.

Technologies must be well-supported and intuitive. Most people have a laundry list of [frustrations with technology](#), regardless of age. The failure of previous [direct-to-consumer approaches](#) underscored the fallacy of inventor-centric thinking that ‘if we create it, they will buy it from us’ or at least find it on Amazon. However, 76% of responders aged 70+ [in the most recent AARP survey](#) do not think technology was designed with them in mind. This complaint persists despite growth in adoption among that age group. So remote configuration and support partners must be a major part of the offering – or doom the user and family to frustration and eventual tech abandonment.

Device and app vendors must be capable of integration and extension. Despite standards initiatives like [Matter in 2022](#), or [ONC Interoperability](#) efforts, many of today’s gadgets still don’t communicate – especially with each other’s proprietary systems or data sets (like Electronic Health Records (EHRs)). So mobile health devices, apps or medication reminders may be useful, but touch a tiny aspect of the whole person’s life or health. Even today, patients [struggle to get their own records in a transferrable form upon discharge](#).

Upgrades must be invisible or painless. Consumers already gravitate towards cloud software applications that work with ones they already use, including Gmail, Facebook, FaceTime, Teams, Zoom, Siri, and Google Assistant – with most of these working across multiple devices. Personalized interfaces (like Amazon and Netflix) updated in the cloud, are expected. Continuous phone and watch patches should not be expected and indicate inadequate testing.

Standards enable users and integrators to cross tech boundaries. Times are changing – as in this [smart home interoperability initiative](#) – a recognition that, despite intense competition, consumers likely own a variety of devices and software that should be able to work better together. Amazon launched a [similar initiative for voice offerings](#) like smart speakers and voice assistants. Ensure that the new offering works across multiple platforms and comes in multiple form factors – voice, smartphone, web, watch, and chat for example.

Access to ongoing training and refreshers – much work needed. To be sure, despite growth in adoption, the oldest are likely to approach smartphones as a [flip phone](#) – until they learn of their utility in a store, online, from family, or in community training centers. But automatic updates and software changes force users back for refreshers to avoid considerable frustration. [AARP/OATS 2021 partnership](#) was developed to help seniors with technology. [GetSetUp](#) offers training about technology. Senior centers and other non-profits like [NCOA Adviser](#) may help seniors keep up with tech change. But the rapid growth of threats, including hackers' ability to pinpoint location and steal personal data, remains a challenge.

The real user need – a service problem solved. Seniors and their adult children may not imagine on their own what to do with tiny sensor networks, voice assistants, or smart speakers. A home security company could help explain the benefits, for example, of care coordination, when selling tech to a home health agency. Vendors should fit solution descriptions, service provider stories, and senior support processes along the continuum of needed care and socialization. This necessitates a grasp of the decision points that spike need and interest, using these as part of websites and marketing.

HOW DOES THE TECHNOLOGY MARKET FOR OLDER ADULTS EVOLVE?

The marketplace of products and services today is still fragmented, with ever-shifting cottage industries comprised largely of startups, challenged by channel complexity and end user resistance. According to AARP's [Longevity Economy](#) projections, the 50+ population will control 51% of technology spending by 2030. That market will be dominated by the largest players, who will acquire a plethora of startups. Benefits of new tech will accrue to all, but will challenge users at every product introduction. Service providers, caregivers for older adults, and senior living organizations will need to keep up (see **Figure 11**).

What are the key trends to watch in 2023?

As 2023 begins, the oldest baby boomer turns 77. The population aged 65+ exceeds 54 million, trends emerge, accelerated by the pandemic. Because of the sheer size of the older adult market, vendors see them as constituents of the market of technology for multiple age and health segments, though in the consumer product category they are still often ignored.

The new, new thing will arrive and be useful. At the very end of 2022, a new offering, ChatGPT, emerged from [OpenAI](#), funded in the billions by Microsoft and others, that puts online access to information in a smart new light – even [Google is nervous](#) about its possible future search obsolescence if it can eliminate the need for ad-fueled search, where it makes most of its money. ChatGPT has absorbed a [great deal of knowledge and text understanding](#). Its answers, not always correct, make it sound so expert that it has schools worried about students cheating.

Older adults will adapt to change and adopt new technology. When an 88-year-old neighbor is filming fireworks with his smartphone, it is easy to see that times have changed. If an affordable technology can be found that meets a personal need (or [answers a compelling question](#)), these days, people will find it and get it to work for them. Remember that once we had encyclopedias – and now cannot imagine any update process that would make them useful. Could training be more readily found? Will all devices default to 'Accessibility' and security options that you must undo, rather than the other way around?

In-home healthcare services will persist and expand. The dream of [reimbursement for remote care](#) became a reality during the pandemic. [Telehealth services will remain](#) to replace or supplement in person visits likely throughout 2024, and Dispatch Health's [in-home urgent care](#) is now available nationwide. Remote patient monitoring (RPM) also moves more care into the home – and is [expected to further evolve in 2023](#) – regulatory changes in the past year [have begun to turn the adoption tide](#). Older people, consumers of a [significant portion](#) of healthcare spending, will need and use many of the [so-called digital health technology categories](#).

Smart displays and interfaces will be ubiquitous. For older adults, [touchless technologies](#) and voice-enabled interactions are ideal, especially when accompanied by a display of large font text and engaging how-to-cook videos. Why? Because [it is easier for them](#) – turning frustration into a valued service world in which what you say should get you what you need. Voice interfaces will migrate to be expected infrastructure in smart displays and apps, added to every feasible appliance, device, and vehicle. They will have widespread use in independent and senior living, since many older adults will bring them along at move-in time.

Sensor technology shrinks – and changes form. Sensor technology failed to meet its promise a decade ago. But [the tech has changed](#) – now sensors offer Wi-Fi and [room-based fall detection](#) (even in a steam shower). There are wearables that can predict the [onset of stroke](#), [track home blood pressure](#), as well as fit into [Air Tags](#) or [Smart Tags](#) that can pinpoint the location of a purse, phone (or suitcase) left behind or a person who is lost.

Caregiver shortages boost in-home monitoring. Fifty-three million Americans are [providing care](#) to someone with health or functional needs – in short, they are family caregivers. The intersection of three simultaneous trends of [aging alone at home](#), the [worsening caregiver shortage and worker turnover](#), means that interest in monitoring technology in the home will grow, including easier-to-integrate home hubs that can manage web cameras, sensors, smart doorbells or enable voice-first emergency response.

The absence of widely available tech training and support. It’s not just seniors who need help. The proliferation of devices, especially [smartphones](#), and their [set-up complexity](#) gave birth to Best Buy’s Geek Squad’s [Total Tech Support](#) (any device) and [\\$10 million of funding](#) for tech learning platform [GetSetUp](#). Today [Papa](#) has expanded its role from rides to healthcare to helping older adults with technology. The constant stream of new technology [requires training](#) and support – and spells profit for companies that can deliver it cost effectively.

Many tech offerings are still too hard to set up and use. With the aging of baby boomers, newer offerings like [Support.com](#) (any connected device) will tailor messages to reach an older adult audience. [Cyber-Seniors](#) trains young people to be technology tutors for older adults. National efforts (like the [OATS-AARP collaboration](#)) will further attempt to make tech training available for older adults new to a technology in 2023. On the flip side, tech innovators should offer their own [Accessibility](#) options or [Easy Mode](#) – defaults or a quick set of options that can be expanded, or set up through remote configuration by family for in-home tech.

Changes 2023, beyond	From	TO
Telehealth, Remote Patient Monitoring	Covid-driven reimbursement	CMS permanently reimburses
Blood pressure tracking	Cuff-based	Multi-format, add wrist
Voice First technology	Smart speakers, Voice assistants	Part of multi-modal interactions
Hearing technology	High price hearing aids, sold through audiologists	Hearables, low-cost OTC hearing aids, self-service
Caregiver technology	Assisting care workers	In care, supplements in-home monitoring
Fall detection	On body pendant, private pay	Wrist, in-room and Wi-Fi-enabled, reimbursed
Senior In-home fitness	New post-Covid category	Tele-fitness
Location technology	GPS device, phone locate	Smart location sensors
Tech training for Seniors	Fragmented, senior center	Nationwide availability
Access to information	Driven by search vendors	Enabled by AI chatbots

Figure 11 Where is the market heading for technology and older adults

2023 Technology Categories and Vendors (Examples)

For inclusion as an example-only technology to facilitate aging, the vendor meets two of these criteria (those firms listed are only examples, not an exhaustive list). In addition, please note that the “**”*” entries can be new for this publication of the 2023 Market Overview, though they may have been in business previously but were not included in last year’s report. The criteria:

- a) Incorporate messaging to and about boomers and/or seniors – or their family or professional caregivers.
- b) Is expected to be broadly available, not just in a single region.
- c) Addresses one or more categories described in this document.

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	Sub-Category	Purpose	Platform	Contact
Category: Communication				
Amazon Echo Show 10	Cloud-based	Screen with voice-enabled AI access	Smart display rotates to face speaker	amazon.com/echo
Connect America**	AI-enabled	Home monitoring, PERS	Platform	Connectamerica.com
ElliQ**	Robotic	Mitigate Social isolation	Table top social robot	Intuitionrobotics.com
grandPad	Senior tablet	Simple interface	Android	grandpad.net
Jabra Enhance Plus**	Hearing Aid	Made for iPhone	Self-fitting, OTC	Amazon.com
HeardThat	Hearing	Hearing assistance	Smartphone	heardthat.ai
Kinoo Video App	Engagement	Family, grandchildren	Animals used as communication tool	Kinoo.com
Starkey Livio AI	Hearing aid	Activity tracking, personalized	Hearing aid with AI fall detection	starkey.com
MyndVR	Virtual reality	Assisted Living, Home	Experience Headset	myndvr.com
	Hearables	IQ Buds Boost, Max	Hearing aid, Google, Siri Integration	nuheara.com
Onscreen**	TV Video calls	Calls, messages on TV	Cellular or Wi-Fi	Onscreeninc.com
Rendever	Virtual Reality	Senior engagement	Experience Headset	rendever.com
SingFit	Music Therapy	Dementia care	Activities, sing-along	singfit.com
Senior Planet Digital	Community tool	Older adult engagement, train	New skills and community site	OATS.org
Telecalm	Dementia	Blocks unwanted	Safe phone service	Telecalmprotects.com
SaltboxTV**	Senior TV	Programming	Multiple categories	Saltboxtv.com
Widex Hearing Aid	Hearing Aid	Widex Moment	Machine Learning auto adjustments	Widexpro.com
Category: Home Safety, Security				
Apple AirTags	Finding lost items	Can tag anything that FindMy finds	Will alert to item left in the home	Apple.com
CareVoice	Wearable	Senior health monitoring	Predictive analytics	carepredict.com
Envoy at Home	Sensors plus iPhone app	Scans environment	Continuous checking of sensors for issues	Envoyathome.com
Best Buy Lively App	Mobile PERS	Paired with Lively Wearable 2	Call center	Bestbuy.com
Caspar.ai	Smart home	'Distributed AI'	Activity patterns, motion	Caspar.ai

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Care Daily**	AI assistants	People, places, things	Branded virtual assistants	Caredaily.ai
Connect America**	Virtual health assistants	PERS, RPM, home monitoring	Platform	Connectamerica.com
FallCall Detect	Fall detection	Apple Watch	Call center	Fallcall.com
Grandcare Systems**	Remote monitoring	HIPAA-compliant telehealth	Social engagement, video calls	Grandcare.com
iGuard Stove	Stove shutoff	Activity monitor	Shuts when room is unattended	Iguardfire.com
KamiCare**	Fall management	Edge-based camera	Memory care, assisted	Kamivision.com
Labrador Systems**	Robotic table	Personal control	For caregiving, disabled	Labrador Systems.com
Lifestation SideKick ** Smart	Medical Alert	Mobile Medical Alert watch	Call center	Lifestation.com
Quil Assure**	Home safety	Caregiving	Platform	Quilassure.com
Samsung Smart Tags	Finding lost items	Can tag anything, tap ring button	Tagged item issues ring tone	Samsung.com
SeniorLink	Caregivers	Support service	Family, prof caregiver	SeniorLink.com
SensorsCall	Home monitoring	Smart night lights	Monitor patterns, alert, no call center	Sensorscall.com
TrelaWear	MobilePERS	PERS Jewelry	Paired with Mobile Help response center	mobilehelp.com
UnaliWear	Mobile PERS watch	Voice-enabled mobile PERS	Bluetooth low energy	unaliwear.com
Vayyar Home	Wall-mount Radar-based	Fall management solution	Identify deteriorating health patterns	Vayyarhome.com
VirtuSense**	AI Fall prevention	Sensor-based monitoring	Health monitoring	Virtusense.ai
Zemplee**	AI Remote monitoring	Placed sensors throughout home	Track patterns of older adults	Zemplee.com
Category: Health Wellness				
Apple Watch**	Smartwatch	Fall detection, health tools	Fitness, health monitoring	apple.com
AppliedVR	Virtual Reality	Pain education & management	Distraction and coping tools for pain	appliedvr.io
Bio Intellisense**	Remote care, BioButton	Medical grade remote care tech	Multiparameter monitoring at home	biointellisense.com/
Braze Mobility**	Sensors	Blind spots for wheelchairs	Audio, visual, vibration alerts	Brazemobility.com
Canary Speech**	Digital biomarkers	Detecting health issues by voice	AI speech technology	Canaryspeech.com
CogniFit	Brain training	Personalized games	Includes cognitive tests	Cognifit.com
Essence VitalOn**	Two-way voice	RPM, uses PERS hub	Voice-enabled	Essence-grp.com

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HandsFree Health	Voice assistant	Voice-enabled, health assistant	HIPAA compliant reminders	handsfreehealth.com
Kalagon Orbiter**	Smart cushion	Seating pressure relief	Smartphone app for wheelchair cushion	Kalagon.com
Independa HealthHub	Senior-focused hub	Smart TV partnered with LG	Health offerings accessible via TV	Independa.com
Medminder	Cellular	7-day, 4-dose per day reminder trays	Prefilled trays from pharmacy	medminder.com
MedSign	Set top box	Telehealth	Qortex – TV platform	medsign.com
MediSafe	Medication compliance app	Notifies 'Medifriend' if doses are missed	Deployed in partnership with pharma, research	medisafe.com
MedWand**	Telehealth	Vital signs, any location	Virtual care device, software	Medwand.com
Microsoft SeeingAI**	Smartphone app	Hold phone up to scene to identify	For blind, low vision	Microsoft.com
OrCam Pro Read	MyEye	Help low-vision	Read text aloud	Orcam.com
Ōmcare	Medication compliance	Home health	Verification of dose taken	Ōmcare.com
Posit Science	Brain Train	Games, Software	Improve memory	Brainhq.com
Ready SetCare	Caregiver tool	Personalized care plan	Benefits finder, care plan	Readyssetcare.com
Reemo Health	Health Smartwatch, analytics	Remote mobile health platform	Senior living, senior care, healthcare	reemohealth.com
Teledentists	Dental health	Online dental consultations	Virtual visits, prescriptions	theteledentists.com
Samsung Galaxy Watch**	Health, fitness smart watch	Detects falls, tracks health status	Works with Galaxy phones	Samsung.com
Sensoria Smart Clothing**	Plantar pressure readings	Detecting falls, diabetic foot issues	Textile sensor technology	Sensoriahealth.com
Valencell	PPG sensors	Continuous heart rate, O2 sensing	Integrated in hearables, wearables	Valencell.com
VitalTech	Connected Care	Remote patient monitoring	Patient health, wellness	vitaltech.com
Vivo	Online	Strength training for seniors	In-home with trainer	teamvivo.com
Withings Body Scale	Smart scale	Body composition Wi-Fi scale	With smartphone app	Withings.com
Xander Kardian**	Radar monitoring	Remote monitoring, patient recovery	Chronic conditions	Xkcorp.com

Finance/Transportation				
Golden Financial	Financial	Account organization, bill paying	Includes financial care specialists	Joingolden.com
Papa	Family on demand	Transportation, chores, socializing	Health plan reimbursed service	papa.com
EverSafe	Fraud protection	Seniors and families	Detection and alert system	eversafe.com
Intuit Mint	Financial	Manage banking accts, finances	Budget for aging parents	mint.intuit.com
SilverBills**	Financial	Older adult service	Concierge billpaying	Silverbills.com
TrueLink Financial	Financial	Protect assets and track payment activity	Payment cards, investment management	truelinkfinancial.com

Category: Caregiving (Platform, Apps)				
Alexa Together	Voice-home monitoring	Activity feed, alerts	Voice-enabled remote monitoring	Alexa Together
Aloe Care	Digital care assistant	Voice-activated	Care coordination	get.aloecare.com
BrioCare	Care coordination	Voice-activated	Alexa and smartphone app	briocare.us
CareLinx	Non-agency home care	Families find workers, rides	Marketplace of registered workers	carelinx.com
Care Predict	Care management	GPS tracking, reporting	Care professionals	carepredict.com
Caring.com	Elder care website	Articles and search tool – all care types	Reviews from users	caring.com
Care.coach**	Caregiving	Mitigate isolation	Conversational AI	Care.coach
DME Connected	Voice-accessible	Products, Services for Healthcare use	Marketplace for Durable Medical Equip	dmeconnected.com
Honor Expert**	Caregiving experts	Founded by Honor	Questions about aging	honorexpert.com/
K4Connect	For resident, operators	Engagement, Wellness	Senior living, smart home, voice interface	k4connect.com
PointClick Care	Care management	Cloud platform	Senior living, SNF, home care	pointclickcare.com
Tcare**	Family caregiving	Medicaid approved	Caregiving support platform	Tcare.ai

Category: Learning/Contribution				
Candoo Tech	Tech training	Online, installation help	Tech training older adults	Candootech.com
Cyber-Seniors	Tech training	Trained youth helping seniors	Tech mentoring for seniors	Cyberseniors.org
GetSetUp	Peer training	Online Classes	On demand learning	getsetup.io
LifeBio	Life Story	Captures stories	Older adults	Lifebio.org

Memory Well	Storytelling	Digital life stories	Professionally written	memorywell.com
My Heritage	Family history	Stories and family tree	online tool	myheritage.com
OATS	Training	Tech, job skills	Regional workshops	seniorplanet.org
NCOA Adviser**	Helping older adults	Testing, advice about new offers	Hearing aids, medical alert devices, more	ncoa.org/adviser
Lowe's AARP Training Support.com	Helping older adults	Partnered with AARP	Advice, how-to planning for future	Lowe's Livable Home support.com

About the Author:

Laurie M. Orlov, a tech industry veteran, writer, speaker and elder care advocate, is the founder of **Aging and Health Technology Watch** -- market research, trends, blogs and reports that provide thought leadership, analysis and guidance about health and aging-related technologies and services that enable boomers and seniors to sustain and improve their quality of life. In her previous career, Laurie spent many years in the technology industry, including 9 years at analyst firm Forrester Research. She has spoken regularly and delivered keynote speeches at forums, industry consortia, conferences, and symposia, most recently on the business of technology for boomers and seniors. She has a graduate certification in Geriatric Care Management from the University of Florida and a BA in Music from the University of Rochester. Laurie has provided testimony about technology at a Senate Aging Committee hearing and consulted to AARP. Advisory clients have included AARP, Argentum, Bose, Calix, CDW, Microsoft, Novartis, Philips, Genentech, and many others. Her latest reports include: [The Future of Sensors and Older Adults 2022](#), [Beyond DIY: The Future of Smart Homes and Older Adults 2021](#), [The Future of Wearables and Older Adults 2021](#), [The Market Overview of Technology for Aging](#), [The Future of Remote Care Technology 2020](#), and [The Future of Voice First Technology and Older Adults](#).