JULY 2024

The State of AgeTech:
Insights in Brief

**AgeTech
Collaborative**
™
FROM **AARP**®

Contents

About the report:

This report is sourced from AARP research, qualitative insights, and secondary research from a variety of resources in conjunction with AARP Research and the **AgeTech Collaborative™ from AARP team.**

In 2024, the U.S. is expected to see the largest surge of Americans turn 65 in its history, and AgeTech, a category of technology solutions designed to meet the needs of the world's aging population, has been growing rapidly in anticipation of this surge—and the category has tremendous growth potential as people around the world continue to live longer.

The AgeTech Collaborative from AARP is an unparalleled innovation ecosystem that brings together cutting-edge thinkers in the longevity tech space—from visionary startups and investors to leading enterprises hoping to stake their claim in the AgeTech arena—to champion meaningful advances so that everyone can choose how they live as they age.

This report highlights learnings and insights from segments in the AgeTech space. The report also shines a spotlight on some of the innovative solutions in AgeTech Collaborative's startup portfolio who have capitalized on these ever-increasing opportunities in the Caregiving, FinTech, Smart Home, and Artificial Intelligence spaces. Special acknowledgement goes to the AARP Library team for helping to source related information.

Introduction

Eleven thousand people are turning 65 in the United States every day, according to AARP. And in the U.S., people over age 50 generate $8.3 trillion annually in economic activity. That number will continue to grow as the population ages. In fact, by 2050, it is projected that people 50-plus will spend 61 cents of every dollar, making their economic contribution even more significant than it is now.[1]

With the global population of individuals aged 65 and over projected to reach unprecedented numbers by 2050, **the demand for sustainable, efficient, and compassionate care solutions continues to escalate.**

AgeTech, a category of technology solutions designed to meet the needs of the world's aging population, addresses this demographic shift by transcending traditional care paradigms and instead offering technologies that champion patient autonomy, facilitate aging in place, and weave caregivers and family members into a cohesive care network.

These solutions include products, services, and experiences across industries that aim to make the process of aging easier, including:

- HealthTech
- FinTech
- Mobility
- Artificial Intelligence
- Virtual Reality
- Digital Health
- Gaming
- Education
- Communication
- Smart Home/Internet of Things (IoT)
- Robotics

The AgeTech revolution stands as a testament to innovation's transformative power on the aging experience. This burgeoning sector represents a bold reimagining of senior living and all that it entails.

The AgeTech Collaborative from AARP connects leaders and innovators across the globe to harness the power of the AgeTech revolution with the goal of making aging easier for the millions of people over 50 and their families. Over the course of this report we will provide insight into several categories in which AgeTech Collaborative participants have actively targeted the specific needs of the aging population. These categories include: Caregiving (simplifying tasks related to caring for a loved one); FinTech (solutions for managing money as you age); Smart Home (making it easier to age in place); Artificial Intelligence (personalizing technology for the evolving needs of aging individuals); and Inclusive Design (designing for an older audience).

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[1] Longevity Economy® *Outlook Reports,* AARP
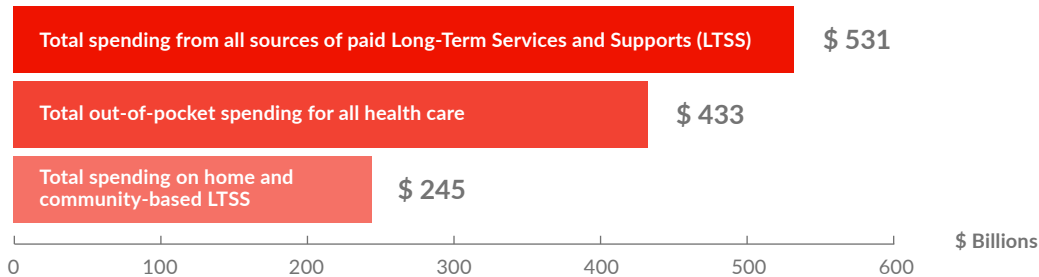
① Caregiving: Providing Care for a Loved One

In 2023, an estimated **38 million people** across the U.S., about **11.5%** of the population, are taking care of loved ones.

Source: *AARP Public Policy Institute*

Family caregivers (those providing unpaid care for their loved ones) fill an essential role in our fractured long-term services and support (LTSS) system, which encompasses the broad range of day-to-day help needed by people with long-term conditions, disabilities, or frailty. This care can either be delivered in the home or in other supportive and integrative settings. In 2023, the care that family caregivers provided totalled nearly 36 billion hours with a monetary value of nearly $600 billion *(see Figure 1)*. In addition, three quarters of caregivers report regularly spending their own money on caregiving expenses. The average annual amount caregivers spend on caregiving is $7,242. [2]

Figure 1: Estimated value of caregiving relative to other spending

Total spending from all sources of paid Long-Term Services and Supports (LTSS)	$ 531
Total out-of-pocket spending for all health care	$ 433
Total spending on home and community-based LTSS	$ 245

0   100   200   300   400   500   600 $ Billions

Source: *AARP Public Policy Institute*

By the year 2034, adults aged 65 and older will outnumber children under the age of 18, and the share of potential caregivers is projected to continue shrinking relative to the number of older adults potentially at risk for needing long-term care.

Demographic trends of population aging and the increasing racial and ethnic diversity of the U.S. population all help explain the key prominent issues for family caregivers. These issues pertain to:

- Caring for parents and children simultaneously (sandwich generation caregivers)
- Working full-time/part-time while caring for a loved one *(see Figure 2)*
- The shortage of paid caregivers
- The increasing diversity of caregivers and care recipients
- Intergenerational caregiving

[2] *"Caregiving Out of Pocket Study,"* AARP, 2021 | [3] *"Don't Underestimate the Market Power of the 50+ Crowd,"* Harvard Business Review, January 2020

Figure 2: Juggling Work and Care

60% of caregivers juggle work and care.

60% of caregivers work a full-time or part-time job.

Neary half (**47%**) of caregivers have experienced at least one financial setback as a result of their caregiving.

40% of caregivers cite the emotional stress of juggling caregiving with paid work as the biggest challenge.
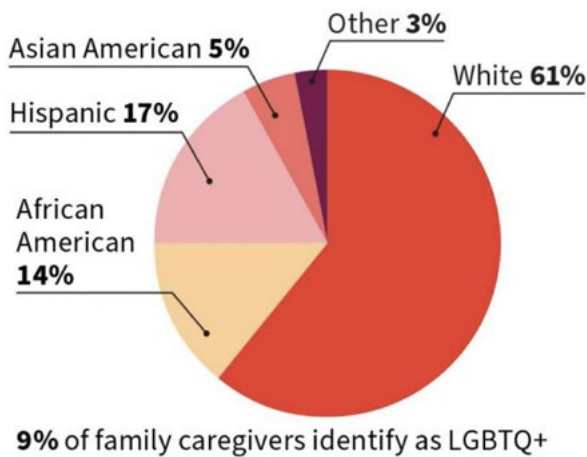
Career disruptions and breaks due to caregiving can lead to substantial economic risk and even long-term financial struggles for caregivers.

Sources: *AARP Public Policy Institute,* **"Caregiving Out of Pocket Study,"** *AARP, 2021*

Today's family caregivers are diverse and so are their experiences.
Solutions to address unpaid caregivers' needs for support and guidance must reflect the diversity of the caregivers themselves *(see Figure 3).*

Figure 3: Today's family caregivers are diverse.

Asian American **5%**
Other **3%**
Hispanic **17%**
White **61%**
African American **14%**

9% of family caregivers identify as LGBTQ+

Source: *AARP Public Policy Institute*

As the **AARP Public Policy Institute** has reported, family caregivers are often called upon to provide intense and complex care, which may include performing medical/nursing tasks or managing multiple health conditions that are often accompanied by pain.

In the current healthcare environment, every home is a potential hospital and every service that a person needs can be provided by an unpaid family member, with occasional visits to a doctor, nurse, or therapist.

The accompanying stress of these tasks and the myriad of challenges, not to mention the feelings of social isolation that family caregivers often face, present a vast array of opportunities for AgeTech solutions to address.

Such solutions need to be tailored to serve large, diverse audiences, many of whom are providing care out of love, honor, and respect.

Spotlight: Solutions in the Caregiving Space

Given the pressing need for solutions that solve for everything from emotional stress to the economic risk that many unpaid caregivers take on, AgeTech Collaborative portfolio startups have risen to the challenge by generating effective solutions that address a number of issues caregivers face.

44 startups in the portfolio are delivering caregiving solutions, which range from helping caregivers secure compensation in exchange for their compassion to simplifying the process of creating an end-of-life plan to share with loved ones. Here are a few of their innovative solutions.

Givers

Fifty-three million Americans work as unpaid or informal caregivers, spending over a quarter of their income on providing care. Givers, an app and website where unpaid caregivers can find out if they are eligible for a caregiver pay program in their state, helps unpaid caregivers secure compensation for their work. This, in turn, helps mitigate the stress of family caregivers with tools to plan, track, and save on care expenses. The founders want to help family caregivers more easily access the many state and federal programs available to assist with these costs. This happens in three easy steps: Caregivers complete a short application to gauge eligibility. Those who qualify get set up in a caregiver pay program. And, lastly, they can access their pay and additional discounts on caregiving items.
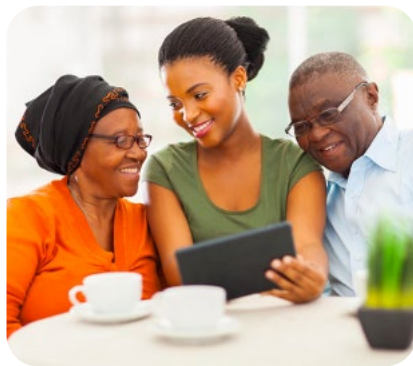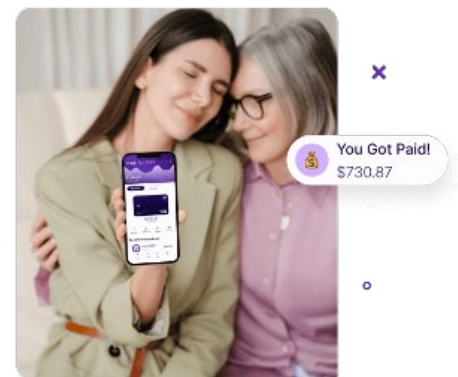
Carefluent

Aging is not a monolithic experience. Carefluent aims to make personalized, culturally compatible caregiving the norm. They partner with employers to ease caregiving responsibilities for workers, and the founders are gradually expanding into the broader healthcare ecosystem by working with value-based care providers. Carefluent's cutting-edge technology delivers comprehensive, balanced Care Companion matches who provide high-quality care. Their highest priority is to match both the Careseeker and their skilled Care Companion's social, cultural, and linguistic preferences.

Prisidio

Ninety percent of people think it's important to discuss end-of-life plans with their loved ones—but less than 27% have actually done so. The digital vault you create on Prisidio can help make space to focus on the joy of living well. That's because those who use the app don't have to tackle the task of discussing and organizing end-of-life plans in one sitting—or even in person. With Prisidio, they can conveniently organize secure access to personal and sensitive information at their own pace and before it's needed, allowing users to put both their time and energy into relationships and activities that they enjoy.
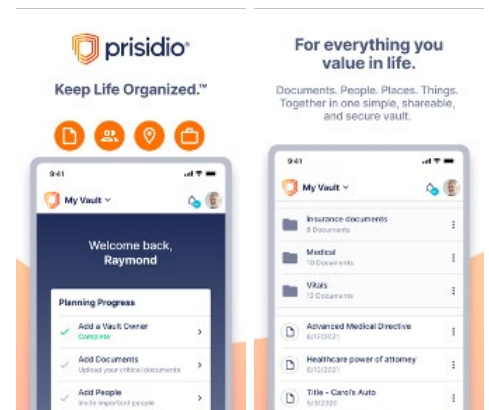
② FinTech: Managing Money as You Age

Whether developing or marketing FinTech solutions to an older audience, **recognizing key financial attitudes can increase the odds of success in the marketplace.**

Source: *AARP Research*

People over 50 are responsible for more than half of consumer spending in the U.S.[4] While these individuals dominate the financial market, they cannot be viewed as monolithic. The AgeTech Collaborative sought to understand financial attitudes, which prior research suggests are based far more on emotion (90%) than logic (10%). In our research, we derived segments based on selected indicators of financial attitudes, traits, and behaviors using data from the 2023 AARP Financial Trends survey. The survey measured the prevalence of different segments, or clusters *(see Figure 1)* across age groups to further produce actionable insights for founders, marketers, and product developers in the finance space looking to appeal to the 50-plus demographic.

Figure 1: Cluster Breakdown Based on Indicators of Financial Attitudes

MEASURED MAINTAINERS
n=780

FINANCIALLY FEARFUL
n=520

STRETCHED STRIVERS
n=588

MONEY MASTERS
n=825

30%

18%

20%

32%
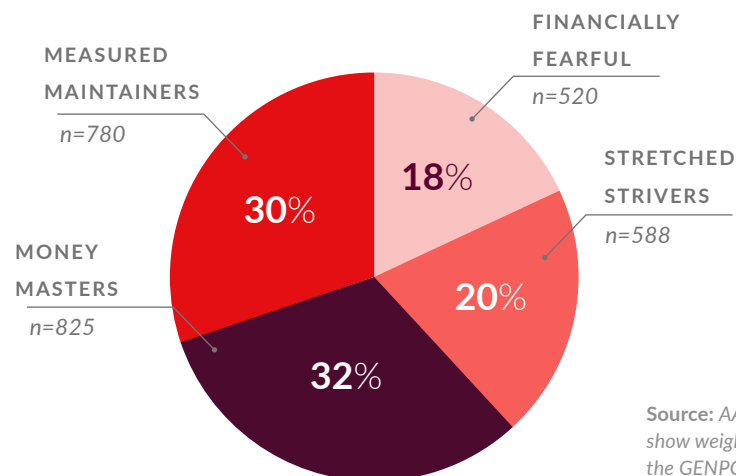
Source: *AARP Research. Percentages show weighted cluster membership using the GENPOPWT. Sample sizes reflect unweighted n.*

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4 *"Don't Underestimate the Market Power of the 50+ Crowd,"* Harvard Business Review, January 2020

The four clusters—Cluster 1 (Measured Maintainers); Cluster 2 (Money Masters); Cluster 3 (Stretched Strivers); and Cluster 4 (Financially Fearful)—are differentiated primarily by the degree of concern and behaviors they exhibit across a set of financial issues, their economic standing, and age *(see Figure 2)*.
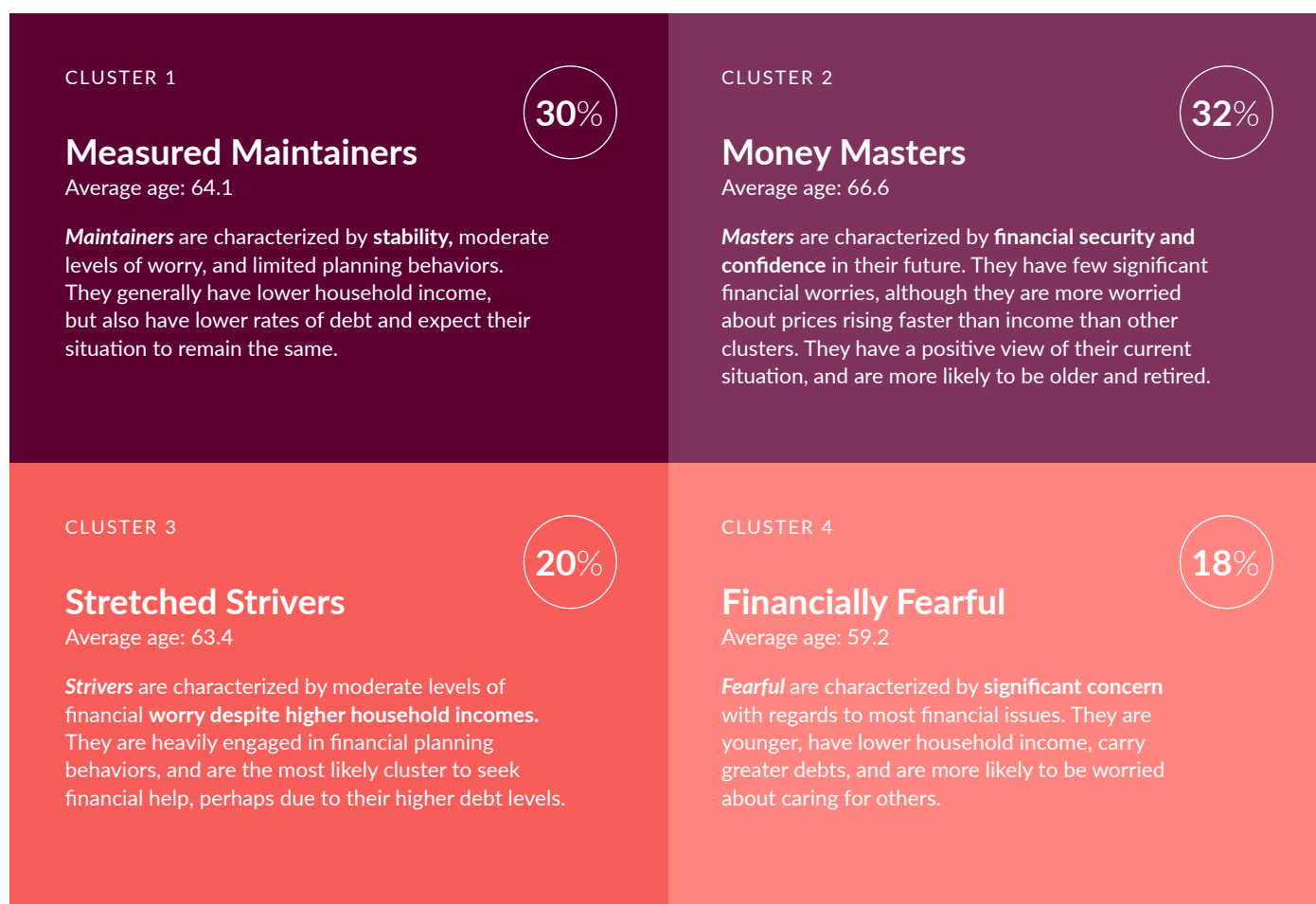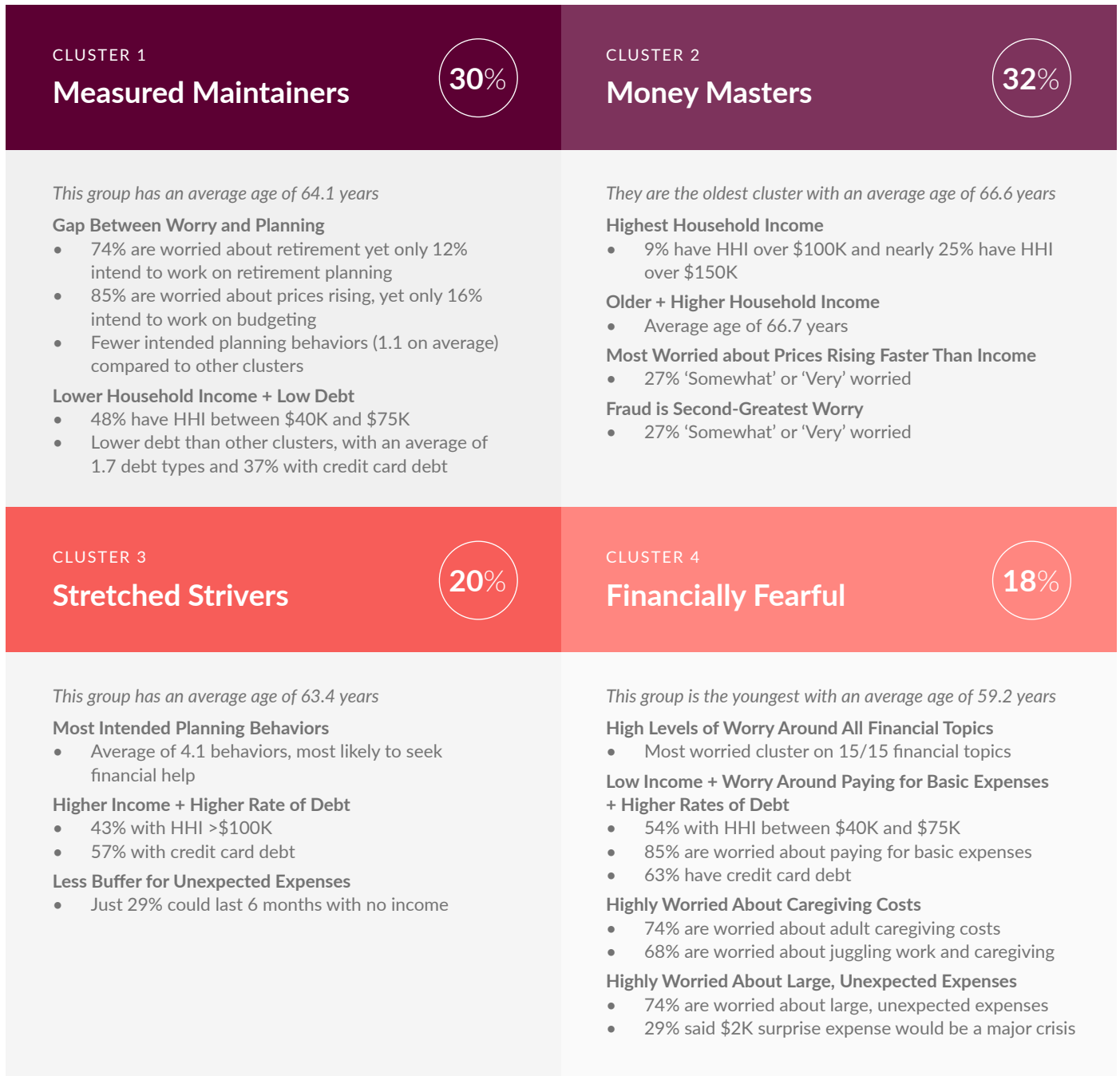
Measured Maintainers and Money Masters are, on average, older with low to moderate financial worries. Although Measured Maintainers have lower income, they also carry lower debt, leading to more stability and financial security. Stretched Strivers have higher income, but they carry more debt. Not surprisingly, they are most likely to seek financial help. Financially Fearful are the youngest and most diverse cluster. They have lower incomes and carry greater debt. They also are the most concerned about all financial issues.

Figure 2: Cluster Descriptions

CLUSTER 1

Measured Maintainers
Average age: 64.1

Maintainers are characterized by **stability,** moderate levels of worry, and limited planning behaviors. They generally have lower household income, but also have lower rates of debt and expect their situation to remain the same.

30%

CLUSTER 2

Money Masters
Average age: 66.6

Masters are characterized by **financial security and confidence** in their future. They have few significant financial worries, although they are more worried about prices rising faster than income than other clusters. They have a positive view of their current situation, and are more likely to be older and retired.

32%

CLUSTER 3

Stretched Strivers
Average age: 63.4

Strivers are characterized by moderate levels of financial **worry despite higher household incomes.** They are heavily engaged in financial planning behaviors, and are the most likely cluster to seek financial help, perhaps due to their higher debt levels.

20%

CLUSTER 4

Financially Fearful
Average age: 59.2

Fearful are characterized by **significant concern** with regards to most financial issues. They are younger, have lower household income, carry greater debts, and are more likely to be worried about caring for others.

18%

Source: *AARP Research*

When it comes to the traits that each cluster possesses, the Measured Maintainers worry about saving enough for retirement and rising prices. Yet they exhibit fewer intended planning behaviors than the other clusters. They're most worried about prices rising faster than income. Stretched Strivers are the most likely cluster to seek financial help, while Financially Fearful are highly worried about caregiving costs and unexpected expenses.

Figure 3: Traits of Each Cluster

CLUSTER 1

Measured Maintainers

30%

This group has an average age of 64.1 years

Gap Between Worry and Planning
- 74% are worried about retirement yet only 12% intend to work on retirement planning
- 85% are worried about prices rising, yet only 16% intend to work on budgeting
- Fewer intended planning behaviors (1.1 on average) compared to other clusters

Lower Household Income + Low Debt
- 48% have HHI between $40K and $75K
- Lower debt than other clusters, with an average of 1.7 debt types and 37% with credit card debt

CLUSTER 2

Money Masters

32%

They are the oldest cluster with an average age of 66.6 years

Highest Household Income
- 9% have HHI over $100K and nearly 25% have HHI over $150K

Older + Higher Household Income
- Average age of 66.7 years

Most Worried about Prices Rising Faster Than Income
- 27% 'Somewhat' or 'Very' worried

Fraud is Second-Greatest Worry
- 27% 'Somewhat' or 'Very' worried

CLUSTER 3

Stretched Strivers

20%

This group has an average age of 63.4 years

Most Intended Planning Behaviors
- Average of 4.1 behaviors, most likely to seek financial help

Higher Income + Higher Rate of Debt
- 43% with HHI >$100K
- 57% with credit card debt

Less Buffer for Unexpected Expenses
- Just 29% could last 6 months with no income

CLUSTER 4

Financially Fearful

18%

This group is the youngest with an average age of 59.2 years

High Levels of Worry Around All Financial Topics
- Most worried cluster on 15/15 financial topics

Low Income + Worry Around Paying for Basic Expenses + Higher Rates of Debt
- 54% with HHI between $40K and $75K
- 85% are worried about paying for basic expenses
- 63% have credit card debt

Highly Worried About Caregiving Costs
- 74% are worried about adult caregiving costs
- 68% are worried about juggling work and caregiving

Highly Worried About Large, Unexpected Expenses
- 74% are worried about large, unexpected expenses
- 29% said $2K surprise expense would be a major crisis

Source: *AARP Research*

Whether developing or marketing FinTech solutions to an older audience, recognizing key financial attitudes can increase the odds of success in the marketplace. When looking at key financial concerns around prices rising relative to income, having enough for retirement, unexpected expenses, and debt worries across all clusters, the research suggests potential marketing strategies and product implications *(see Figure 4)*.

Messaging around budgeting and planning resonates with all clusters to address most of their concerns. Messaging around education addresses concerns about managing debt and price increases outstripping income growth. Tracking tools and tools that keep retirement top of mind along with solutions that easily adapt to conditions and help prepare during times of stability can address the primary concerns of the various clusters.

Figure 4: Potential Marketing Strategies and Product Implications For Adults 50-Plus

Traits	Potential Marketing Strategies	Potential Product Implications
Prices rising relative to income was the most commonly reported worry across all groups	**Account for Inflation:** Messages around inflation-hedging strategies, budgeting, and products or services that offer a hedge against inflation could resonate with all groups. Consider developing content that educates your audience on how they can protect their purchasing power in times of inflation.	**Adaptive Features:** When possible, consider financial planning features that update and adapt automatically in light of economic shifts. Provide updates to users and make it as easy as possible for them to shift behaviors when things change.
Having enough for retirement was a large concern for everyone except the *Masters*	**Focus on Retirement:** It's not a surprise, but retirement planning is a significant concern for most clusters. Messages may address this by focusing on retirement planning services, tools, and education. Going beyond accumulating savings, a focus on retirement income management may resonate across all groups (including the *Masters*).	**Keep Retirement Top of Mind:** Consider how product / service features relate to retirement outcomes and orient their benefits towards how they will affect retirement and the management of assets in retirement.
A large, unexpected expense was a primary concern for everyone except the *Masters*	**Prepare for the Unexpected:** Fear of unexpected expenses was widespread, suggesting many do not have sufficient emergency savings. Marketing strategies could include promoting products and services that help cover unexpected costs.	**Nudge Users Towards Preparation:** Explore how product / services can encourage users to prepare for ups and downs, particularly when there are periods of stability.
Debt worries are common across all groups except the *Masters*	**Highlight Debt:** High rates of debt among most clusters suggest that there is a need for debt management and reduction services. Messaging that acknowledges the prevalence of debt and introduces products/services for managing it could be effective.	**Develop Debt Management Tools:** Providing resources on how to manage debt effectively, services for debt consolidation, and tools for tracking and reducing debt could resonate across groups.

**Source:** *AARP Research*

Spotlight: Solutions in the FinTech Space

When it comes to managing finances, most people can use a helping hand, but it's even more critical for those over age 50 who may be considering retirement and need their money to work hard for them in the next phase of life. AgeTech Collaborative startups are poised to empower older adults with innovative, practical solutions.

17 startups in the AgeTech Collaborative portfolio are focused on FinTech. Their solutions range from providing support for financial caregivers to empowering older individuals to make smarter decisions in regard to their money. Here is a sampling of cutting-edge solutions from our portfolio of startups.

myFloc

Managing finances is a priority for all individuals as they age. myFloc is a FinTech solution built to empower older adults and their tapestry of support by providing an easy, secure way to manage expenses. A debit card-based solution, myFloc empowers older adults to get support on their own terms; it connects family, friends, and caregivers on a common platform to reduce the stress of financial caregiving; and it protects against elder financial exploitation.
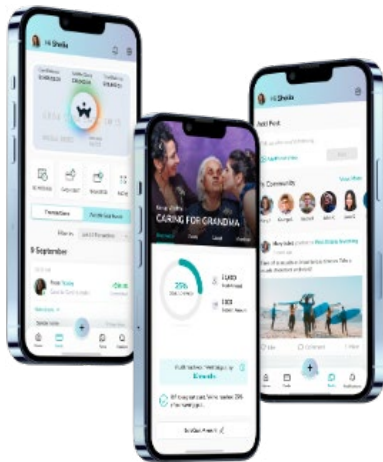
Wellthi

Financial solutions need to address the issues of older adults as well as the institutions that provide financial services. Wellthi is a B2B embedded social/community finance software that modernizes the mobile banking experience with information and resources in easy-to-use groups and information feeds like social networking and online communities. Driven by expert and influencer content that appeals to younger generations, the software can be personalized to the business and user.

Paperwork

FinTech products should empower older adults to manage their finances with confidence. Paperwork is a financial wellness platform that automatically organizes, analyzes, and monitors an individual's financial accounts, insurance policies, and important documents, providing guidance and actionable insights that lead to improved financial outcomes at every stage of life.

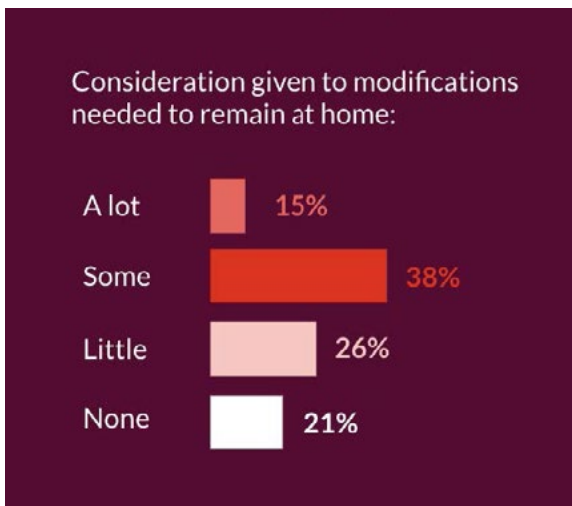# ③ Smart Home Technologies: Making Aging in Place Easier

77% of adults believe it's important to age in place rather than having to move to a home or neighborhood that's better suited to their needs.

Source: *Older Adults' Preparedness to Age in Place, AARP; Michigan Medicine, April 2022*

Although the majority of adults believe it's important to age in place *(see Figure 1)*, they may live in homes or neighborhoods that were not built with their needs in mind. In fact, many houses were either constructed when there were a smaller number of older adults in the population or they were built with the younger end of the population range in mind. But by 2034, more people will be over age 65 than under 18 in the U.S., according to the Census Bureau. Most homes, including 55+ communities, are not equipped with smart home technologies that could benefit individuals as they age. **AgeTech Collaborative startups in the Smart Home space are providing solutions to help older adults age in place.**

A smart or connected home is a home networked to enable the interconnection and interoperability of multiple devices, services and apps, ranging from communications and entertainment to healthcare, security and home automation. These services and apps are delivered over multiple interlinked and integrated devices, sensors, tools and platforms.[5]

Figure 1: Aging in Place

Consideration given to modifications needed to remain at home:

- A lot — 15%
- Some — 38%
- Little — 26%
- None — 21%

Source: *Older Adults' Preparedness to Age in Place, AARP; Michigan Medicine, April 2022*

The Smart Home technology currently targeted toward older adults has the potential to allow them to remain in their homes and live independently for longer. While technology exists to make this happen, challenges remain in overcoming older adults' lack of confidence in using technology and their concerns over privacy and security. To better understand and address these challenges, the AgeTech Collaborative analyzed both secondary research and qualitative research with unpaid family caregivers living in and out of the home as well as care recipients. The analysis uncovered insights into the perceptions of older adults around Smart Home technologies.

Among the findings were that adults 50-plus are most interested in learning to manage Smart Home technologies to stream entertainment and video chat.

Their primary motivations for using tech more often include staying connected, being entertained, and managing day-to-day living. Social isolation can prove to be detrimental; therefore, using technology to socialize is a key need for older adults.

[5] *"Connected Home",* Gartner

Perceptions and Barriers around Smart Home

The participants from the qualitative research perceived the key value drivers of Smart Home tech as the following:

- Potential value for aging in place
- Increased independence and convenience
- Increased safety and security

Some of the concerns around Smart Home technologies included the following:

- Usability issues and the fear of not figuring it out
- Data privacy concerns
- Hesitation regarding safety and reliability
- Lack of device and service integration

Why It Matters

Due to the effects of the pandemic, such as essential activities moving under one roof, demand for a suite of connected home devices and services exploded. Even as pandemic restrictions have subsided, consumer habits and expectations have irrevocably shifted. In fact, the global Smart Home device market is expected to top $165B by 2025.[6]

During lockdown, Americans—including older Americans—took to their screens to stay connected, shop, and obtain medical care. While the pandemic is thankfully now in the rear-view mirror, it continues to shape the attitude of older adults about their future, further cementing their interest in aging in place. To respond to this need, there are four market segments that are most relevant to older consumers. They are: Communication and Engagement, Safety and Security, Heath and Wellness, and Learning and Contribution.

2024 Categories Technology for Older Adults

1 Communication and Engagement	2 Safety and Security	3 Health and Wellness	4 Learning and Contribution	5 Connecting Families and Caregivers
Smartphones, Smart TVs, Tablets, Chatbots, Smart Speakers, Voice Assistants, Hearables, Hearing aids	*Smart home, Smart Watch, Voice Help, Fall Detection, Sensors, Smart Clothes, Activity Monitors*	*Health Apps, Telehealth, Medication mgmt., Disease mgmt., Fitness/ Trackers, Health Wearables*	*Legacy, Education and Learning, Working, Volunteering, Fintech*	*AI-enable: Cameras, Motion, Sensors*

Source: *Technology for Aging, Aging and Health Technology Watch 2024*

[6] CB Insights, *"The Future of the Home,"* 2022

The **Communication and Engagement** segment includes technologies from email, VR , games and apps to smart speakers, voice assistants, and hearables. These kept us connected to others while in isolation, and the technologies will continue to evolve, emphasizing voice and 'no-touch' offerings.

Meanwhile, the **Safety and Security** segment (security, voice help, cameras, fall detection, etc.) offers peace of mind for those who live alone. The pivotal entrance of Apple's fall detection legitimized the market for caregiving smartwatch wearables with fall detection. Other sensor-based in-room approaches to fall detection are now in-market.

The Health and Wellness segment was bolstered by the shutdown of health visits during the pandemic. Telehealth is now firmly entrenched as a care option, and Remote Patient Monitoring (RPM) is also on a growth trajectory. Other technologies in the space include health apps, medication and disease management tools, fitness trackers, and health wearables.

Lastly, the **Learning and Contribution** segment allows older individuals to stay aware and active in society, contribute through online volunteering, and train for new jobs. These independent market segments can come together to promote a fulfilling and interactive life for older adults as they age in their homes.

Figure 3: 50-Plus consumers own devices at a similar rate as younger cohorts

Percent of adults who own the following technology devices

● Ages 18-49 (n=884)
● Ages 50+ (n=2,095)

	Ages 18-49	Ages 50+
Smartphone	91%*	86%
Smart TV	75% *	70%
Smart TV	60%	59%
Smart TV	41%*	28%
Home Assistant	38%*	31%
Smart Home Technology	27%	24%
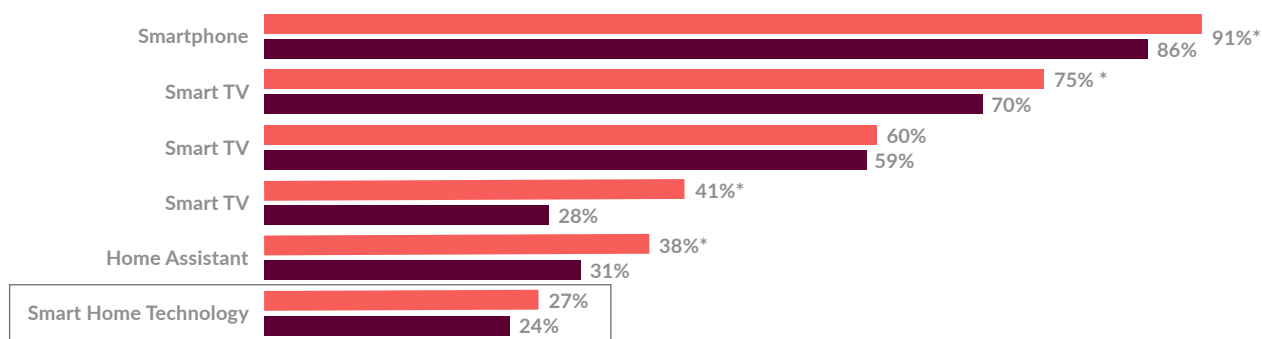
* Indicates a significant difference at a 95% confidence level

Source: *AARP Tech Trends, 2023*

Recommendations:

It's tech-enabled services, not products, that need to evolve to meet the needs of the aging population. These recommendations, from Aging and Health Technology Watch, should help guide anyone already in or looking to delve into the Smart Home space in order to help more people 50-plus age in place:

- One go-to-market channel is not enough
- Privacy and security features should be built into the design of software and websites
- Technologies must be well-supported and intuitive

- Device and app vendors must be capable of integration and extension
- Upgrades must be invisible or painless
- Access to ongoing training and refreshers has much work needed
- By identifying the real user need, a service problem is solved

[7] *"The Positive Impact of Apple Watch Fall Detection on Elderly Health and Mobility,"* Mariam Adedeji, March 2023

Spotlight: Solutions in the Smart Home Space

As the research above suggests, there's a need in the Smart Home category for effective, tech-enabled solutions geared at helping make the lives of those in the 50-plus market easier and more comfortable. AgeTech Collaborative participants are answering the call with cutting-edge solutions targeted at those hoping to age in place.

14 startups in the portfolio focused on Smart Home technologies, from an easy-to-locate ring that controls objects by simply pointing at them and a toilet seat that collects medical data to fall-risk screening technology that can be used at home. Here are a few highlights:

Lotus

91% of U.S. homes were built before Smart Homes existed. Upgrading requires rewiring wall switches and installing and pairing smart speakers. So, at Lotus, they created a wearable ring that controls objects at home by pointing—without apps, rewiring, or internet. It works in three easy steps: First, you put on the ring; then you snap on the switch cover; and, finally, you point and click. Like your TV remote, Lotus uses infrared technology, keeping your offline moments offline. Unlike your TV remote, it remains conveniently at your fingertips.

Casana

According to a Casana study, 88% of participants expressed a preference for monitoring their health from home rather than visiting a doctor's office or medical facility. Casana is innovating healthcare delivery with a smart toilet seat that enables effortless, integrated, and accurate in-home health monitoring. The FDA-cleared Heart Seat® captures heart rate and blood oxygenation. Future clinical measurements under development, such as non-invasive blood pressure, will assist medical teams with monitoring chronic conditions beyond the four walls of the physician's office. From easy-to-navigate interfaces for health monitoring to streamlined communication tools, Casana offers effortless technologies that help provide a sense of autonomy.

Zibrio

Falls are the leading cause of trauma deaths and injuries among older adults, resulting in severe physical and psychological consequences. Approximately one in four individuals aged 65 and over experiences a fall every year. ZIBRIO provides measurement-based fall prevention along the continuum of care. It combines precision measurement with a user-friendly design, making it both durable enough for high-traffic clinical settings and simple enough for patients to use in their own homes.

④ **AI:** Living Independently for Longer

Eight in 10 older adults have heard about GenAI, but only **9% have experimented with it.**

Source: *2024 Tech Trends and Adults 50+, AARP Research, 2024*

The year 2023 saw rapidfire advances in the use of Artificial Intelligence (AI), which MIT defines as **"technology that enables computers and digital devices to learn, read, write, talk, see, create, play, analyze, make recommendations, and do other things humans do."** As with many other technology sectors, the potential for AI-powered advancements in AgeTech is huge.

Researchers at multiple universities have been ramping up AI and Aging initiatives funded by the National Institute on Aging and the National Science Foundation. Multiple grants and awards totaling over $70 million are fueling projects in wearables, remote monitoring, health apps, voice biomarkers, and more. Generative AI and AI-related startups raised nearly $50 billion in 2023, per Crunchbase data, with some, including OpenAI, Anthropic and Inflection AI, raking in billions of dollars all by themselves.
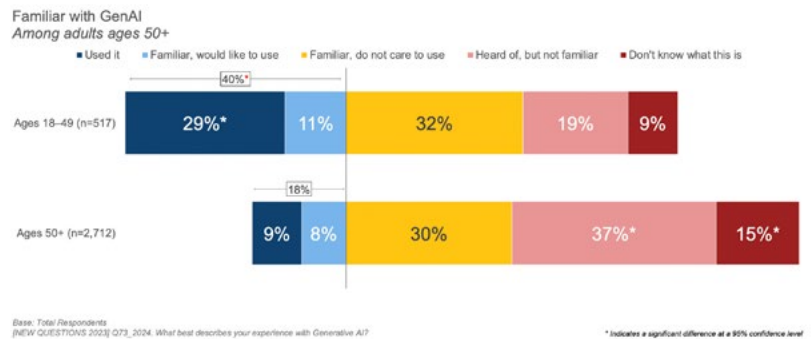
These investments have captured the attention of tech companies, research institutions and universities and also leads to a great opportunity in the Aging market.

Barriers to AI Adoption

However, recent research has shown there are barriers to consider. Chief among them are the perceptions older audiences hold around AI.

According to an AARP survey conducted in 2023 of U.S. adults, 85% of people aged 50+ have heard of Generative AI, but only 9% have used it *(see Figure 1)*.

Figure 1: Familiarity with GenAI Among Adults Ages 50+

Familiar with GenAI
Among adults ages 50+

■ Used it   ■ Familiar, would like to use   ■ Familiar, do not care to use   ■ Heard of, but not familiar   ■ Don't know what this is

	40%*		
Ages 18–49 (n=517)	29%*	11%	32%	19%	9%
	18%		
Ages 50+ (n=2,712)	9%	8%	30%	37%*	15%*

Base: Total Respondents
[NEW QUESTIONS 2023] Q73_2024. What best describes your experience with Generative AI?

** Indicates a significant difference at a 95% confidence level*

Source: *2024 Tech Trends and Adults 50+, AARP Research, 2024*

Of the 85% of older adults that were familiar with Generative AI, only 31% were excited about it *(see Figure 2)*. In terms of Generative AI's impact on digital safety, more older adults were concerned that Generative AI will make things less safe (29%) than older adults that believed it would make things more safe (11%).

Figure 2: Perceptions among Adults Aged 50+ who are familiar with GenAI

Percent excited about Generative AI
Among adults age 50+ who heard of GenAI

69% Not excited
31% Excited
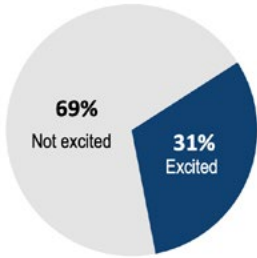
Base: Heard of Generative AI (n=2,314)
Q75_2024. How excited are you about the potential benefits of Generative AI in making your life easier and more enjoyable (e.g., personalized recommendations, virtual health assistants)?

Belief of Generative AI's impact on digital safety
Among adults age 50+ who heard of GenAI

Will make things more safe 11%
60% Undecided
29% Will make things less safe
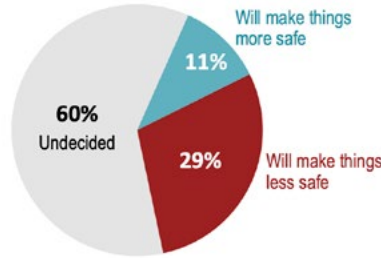
Base: Heard of Generative AI (n=2,314)
Q74_2024. Please move the dot along the bar to indicate how you believe Generative AI might be used in the future as it relates to your digital safety (e.g., fraud, scams, data privacy).

Source: *2024 Tech Trends and Adults 50+, AARP Research, 2024*

Why It Matters

There are a myriad of ways AgeTech solutions can benefit from the implementation of AI, from alleviating social isolation to improving mobility to enabling independent living, and more.

AI offers the ability to learn from and tailor the user experience. It can also analyze and deliver critical insights to caregivers and caregiving teams. Moreover, AI has the potential to address major concerns in the 50-plus market, including the following:

① Aging in Place

Research conducted by AARP over the years has shown that independence is important to many older adults in America. AI-enhanced AgeTech offers potential to help them live in their own homes for longer. Smart Home systems integrated with AI can adapt to older consumers' daily routines and preferences and help with everyday tasks. AI-powered home monitoring systems can bolster safety by detecting falls or accidents and notifying emergency services, if needed.

② Social Isolation

AI-driven social robots can help alleviate loneliness and isolation by offering companionship, reminding older adults of medication schedules, and facilitating communication with loved ones through video calls.

③ Brain Health/Cognitive Health

AI can also be harnessed to assist seniors with cognitive decline conditions like dementia and Alzheimer's. Smart devices can provide memory prompts and medication reminders and even engage older adults in brain-stimulating activities, offering much-needed support to both the individuals and their caregivers. Virtual reality (VR) and augmented reality (AR) technologies offer immersive experiences that can improve cognitive function and memory recall. AI chatbots and virtual companions provide companionship, engage in conversation, and play cognitive games to stimulate mental agility.

④ Mobility

Maintaining mobility is essential for an active lifestyle and independence. AI technology can enhance transportation options for older adults, ensuring safer and more accessible journeys. Self-driving cars equipped with AI systems can help older adults travel independently, especially those who cannot drive due to physical limitations or cognitive impairments.

AI-powered navigation apps can offer real-time guidance, considering mobility limitations, traffic

conditions, and accessibility to make commuting easier and more efficient. Robotic exoskeletons and mobility aids enable older adults with mobility impairments to regain independence and perform activities with which they would otherwise struggle.

⑤ FinTech

Anti-scam AI technology is enabling seniors to protect their finances so they can live independently in their own homes. With scams against older adults on the rise, traditional measures are proving inadequate. However, AI technology is emerging as a promising solution, offering tools to proactively identify and block scams in real-time, safeguarding seniors' financial assets.

In addition, AI and machine learning developments are expected to yield more intuitive and personalized financial services. For instance, predictive analytics could offer precise financial advice based on individual spending habits and savings goals. At the same time, voice-activated technologies could simplify navigation for those struggling with small screens or complex interfaces.

Considerations:

- Guidelines could help address many of the security concerns that are making people skeptical about trusting artificial intelligence. This means considering AI's vulnerabilities and potential dangers, particularly as they may affect vulnerable groups.

- For businesses stepping into the world of AI, it's crucial not to stumble into the unintentional bias trap. Older adults often express frustrations associated with how technology is designed, with many feeling that tech is developed without input from end users like themselves. AI systems should be genuinely fair, unbiased, and welcoming to all.

- Leveraging AI's tailorability can be a huge win for creating effective AgeTech solutions. Ensure training data is up-to-date to accurately suggest age-appropriate content and services. It's also important to consider things like older adults' vocal patterns and mobility differences.

- One of the primary barriers preventing older adults from fully embracing technology is the complexity of user interfaces. AI can bridge this gap by enabling intuitive, user-centric design principles.

Spotlight: Solutions in the AI Space

Of the 150+ of AgeTech Collaborative startups, 24 are currently using AI for everything from alleviating social isolation to increasing mobility and supporting caregivers. Here are three innovative companies using AI to address the needs of aging adults:

Zemplee

Zemplee enables older adults to live independently for longer. Zemplee's AI-powered passive sensing technology uses movement and behavior tracking to monitor for health, well-being, and safety. With no video camera and no wearable, Zemplee uses an array of passive sensors placed throughout the home or living units of senior living facilities on walls, furniture, and appliances. The attentive AI enables seniors to age in place with dignity and privacy. Zemplee monitors falls, nutrition, and medication adherence, activity, and other behavioral determinants of health to ensure sustained longevity.
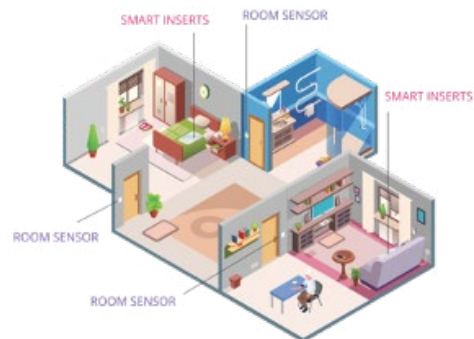
care.coach

care.coach is aiming to solve the caregiver crisis and improve health outcomes through a unique combination of AI and human intelligence, all packaged in an easy-to-use, at-home device. The avatar on the device leverages AI-driven automation to deliver the empathy and intelligence of a human team working around the world 24/7. By engaging with the member throughout the day, care.coach provides psychosocial support and gains rich data for the health plan that can be used to improve member experience.

6Degrees

6Degrees has developed an AI that focuses on and categorizes human motion. This allows people with disabilities or limited motion to interact with technology using the range of motion they do have. Users can connect to smart devices via Bluetooth and interact with devices such as phones and tablets. The technology is being used to assist people with disabilities, improve communication, and enable more independent living. AI is a critical component of this functionality. By converting a person's motion into digital commands, the technology fits the way an individual moves, rather than the individual having to adjust to the technology.

⑤ Inclusive Design: Designing for an Older Audience

64% of people aged 50-plus **do not** believe technology is designed with their age group in mind.

Source: *2024 Tech Trends and the 50-Plus. Washington, DC: AARP Research, January 2024*

Digital technology plays a significant role in the lives of older adults, who comprise a large and growing segment of the multibillion-dollar market for consumer electronics and apps. But, too often, tech products are designed without accounting for the unique needs and preferences of older consumers, causing friction, frustration, and lost opportunities on both sides.

Why It Matters

3 out of 4 older adults want new technology purchases to work seamlessly with technology they already own.

Age-inclusive design entails achieving an optimal user experience for people across age groups by being more intentional about including older adults in the design and maintaining a focus on the unique needs of 50-plus users throughout the development process.

Accessible design has advanced technology to be more inclusive of those with disabilities or changing abilities (often due to aging). Disability-centered thinking can sometimes reinforce stereotypes about aging. Accessibility features are often very helpful for older adults who are experiencing changes in sensory, cognitive, or mobility functionality, but the accessibility lens does not fully address the needs of 50-plus users.

Source: *Montepare & Brown, 2022*

Figure 1: Age-inclusive Design Lifecycle

Metrics

Research

Co-design

User-case Develpoment

User Experience

User Interface

Agile Development

Testing and QA

Adoption

Marketing

Source: *AARP Research*

Market Case:

People 50 and over constitute a large and influential market for technology products, devices, and services. Approximately 70% of those 50-plus made a tech purchase in the past year, and their spending on technology has been increasing significantly since 2019. In 2023, the age group spent an average of $912 on tech purchases—an increase of 130 percent over pre-pandemic levels. Projections suggest that the overall spend will increase in the U.S. market to $120.2 billion in 2030.[8]

Corporate Social Responsibility:

Technology makes life better for people in important ways as they age. Older adults' primary motivations for using tech are to stay connected, be entertained, and manage day-to-day living. Older adults also benefit significantly from technologies that facilitate access to healthcare, in-home services, and e-commerce, Smart Home/home automation, and other features that bring the necessities and conveniences of the modern world to their door when transportation is more challenging. By adopting digital age-inclusion strategies that address gaps in digital access, skills, and design, companies signal their commitment to positively impacting society and creating goodwill toward an important user community.

Risk and Cost Reduction:

Failure to think about inclusive design can add costs down the road. According to a recent study by the Centre for Inclusive Design in Australia:

- Inclusive design should be used at the beginning of the design process because the cost to implement inclusive design increases the later it is introduced.
- Design that is not inclusive can lead to complaints, legal challenges, planning delays, and costly retrofits as a product or service matures.
- Poor design can also negatively impact brand reputation. The relative cost of retrofitting a product or service to become inclusive will increase significantly over time and can reach up to 10,000 times the cost of introducing inclusive design earlier on.

Recommendations:

Here are some things that AARP recommends to keep in mind when designing age-friendly user experiences around technology:

- Learning a new skill and fully adopting technology can be enjoyable.
- Visual learning unlocks the full potential of the brain.
- Proactive training builds confidence before acquisitions.
- Clear, systematic and explicit instructions are appreciated.
- Older users who adopt new technology like to share their experience with others.
- Be conscientious about imagery and language within the product.
- If your product requires special training, seek expert guidance on developing curricula around the needs of older adults.
- Deliver clear, straightforward customer support.

[8] *"2023 Tech Trends and Adults 50+,"* AARP Research, January 2023 | [7] *"2022 Tech Trends and Adults 50+,"* AARP Research, December 2021

Conclusion

Among the areas that the AgeTech Collaborative explored in 2023 were providing support for unpaid caregivers; finding new solutions for managing and protecting your money as you age; helping older individuals to age in place; using AI as a means to stay independent for longer; and ensuring that startups in the AgeTech space consider the needs of older adults when designing products. This year, we expect to see the increasing presence of AI and with it, the rapid acceleration of innovation in leading AgeTech categories, such as Caregiving, Fintech, and Smart Home. It is critical for innovators in the AgeTech space to leverage the principles of inclusive design to ensure success with the older adult market.

The AgeTech Collaborative aims to expand the ecosystem of key stakeholders who are united in their mission to improve people's lives as they age. In 2023 alone, we welcomed 191 new participating organizations to our ecosystem of 370-plus.

Another of our goals is to continue facilitating the development of solutions that serve the 50-plus audience and, in turn, to provide startup founders who have innovative ideas with pilot, co-creation, funding, and collaboration opportunities as well as curated services to help them grow their businesses. Moreover, we want to help these founders capitalize on the longevity market by using and reimagining innovative technologies to support the aging population.

Through our accelerator program, we welcomed 67 visionary startups in 2023. We connected them with 38 testbeds with which to test out products, over 75 investors and venture capitalists to engage in funding, and 63 top companies focused on the longevity space to help advance each startup's goals. The platform also offers access to 65 business services.

In addition to the support we offer startups, the AgeTech Collaborative has opportunities for all its participants. For example, participating enterprises and investors gain access to cutting-edge technologies and opportunities to network and collaborate with others in the space. Meanwhile, participating testbeds have the added advantage discovering startups for pilot opportunities, while enterprises can access insights into marketing and production development for an older audience through the AgeTech Collaborative.

In 2024, we plan to explore more AgeTech subsegments, categories, and areas of need that are critical to the older adult market and bring those insights to our participants with the goal of generating more solutions like those highlighted in this report and, ultimately, advancing our mission: **to make aging easier for everyone.**

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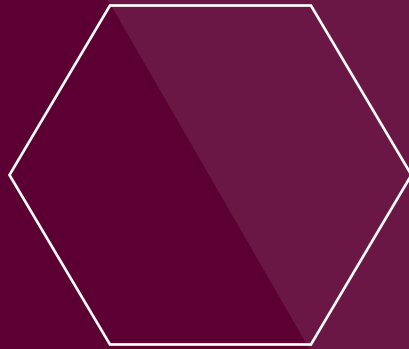
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