RESIDENTS FIRST

Technology for Connection and Healthy Living in Affordable Senior Housing

January 2026

Volunteers of America®

Institute *for* Public Health Innovation

ACKNOWLEDGEMENTS

This research was made possible through the generosity and insight of many individuals and partners who shared their time, expertise, and lived experience.

This report was authored by Kimberly Barrett, Nephtalie Dorceus, Kari Evans, Jordan Royster, and Christine Stewart.

We extend our deepest gratitude to:

- The **steering committee** of local residents and advocates who grounded the work in community priorities and ensured that the research reflected the realities of older adults living in Southwest Washington, D.C.
- The **advisory research council (ARC)** of experts and practitioners whose guidance shaped the study's direction and strengthened its technical rigor
- The **community participants** whose voices, stories, and perspectives informed every stage of the research and whose experiences continue to guide the development of practical, technology-enabled approaches to aging in place.
- The **experts on aging, housing, and technology** who contributed their time and knowledge to enrich the study's findings and recommendations

This project was commissioned by Volunteers of America (VOA) and made possible with support from the Humana Foundation. The Institute for Public Health Innovation (IPHI) carried out the research and authored this report. Guided by VOA's commitment to confront the challenges of integrating technology into affordable senior housing head-on, the project reflects a bold vision to create a scalable, evidence-based model that advances health, digital inclusion, and belonging while serving as a national learning opportunity for aging and housing practitioners.

Disclaimer: The opinions, findings, and recommendations expressed in the paper are those of the authors and do not necessarily reflect the view of the Humana Foundation or Humana Inc.

EXECUTIVE SUMMARY

Volunteers of America (VOA) commissioned the Institute for Public Health Innovation (IPHI) to explore how technology can meaningfully support healthy aging for low-income older adults in affordable housing. The research is motivated by VOA's genuine commitment to developing a best-in-class new affordable senior housing site in Southwest Washington, D.C. This study recognizes that technology has become a social determinant of aging and, therefore, a critical infrastructure element of aging well; however, its **benefits are realized only when solutions are designed with residents rather than for them**.

This core finding emerged early: The success and sustainability of any technology in housing for older adults relies on a deep understanding of potential residents' motivations, fears, habits, aspirations, and daily realities. Trust is the prerequisite for adoption, and without it, even well-intended tools fail to gain traction.

This research centered on the voices of older adults from the very beginning, using a co-production approach that elevated their lived experience as a primary form of expertise. PhotoVoice, focus groups, key informant interviews, a hands-on technology showcase designed to address uneven exposure to emerging tools, and continuous guidance from a resident-led steering committee ensured that insights were grounded in the real needs and preferences of the people who will live at VOA's new housing community in D.C. Given VOA's expansive affordable housing portfolio across the United States, these findings are also guiding the organization's investments in AgeTech pilots in similar environments.

Buzzard Point, Southwest D.C.

What Older Adults Value

Across engagement activities, five pillars emerged as essential to quality of life:

Connection and engagement — tech solutions that strengthen relationships, reduce isolation, and broaden access to learning, worship, and community life

Safety and security — simple, reliable features such as motion-sensor lighting, smart entry, fall detection, and kitchen safety devices

Health and wellness — technologies that align with familiar routines, such as wearables, medication reminders, and movement or cognitive programs that feel supportive, not clinical

Lifelong learning — accessible classes, virtual travel, and trusted digital literacy opportunities that spark curiosity and confidence

Caregiver support — tools that ease communication, reduce caregiver stress, and provide peace of mind without compromising privacy

Challenges That Must Be Addressed

Even when older adults see value in technology, this study identified several obstacles that limit adoption:

- **Digital literacy and confidence gaps** — especially in navigating apps, telehealth, and security features
- **Privacy and data use concerns**, including discomfort with monitoring or sharing data
- **Cost and connectivity barriers**, such as unaffordable Wi-Fi and data plans or device replacement expenses
- **Design limitations that fail to reflect age-related** changes in vision, hearing, mobility, or cognition

These challenges underscore the need for technology that is trustworthy, affordable, accessible, and paired with reliable, personal support.

Key Recommendations

The report offers a replicable framework that embeds trust and resident voice throughout:

1. **Adopt a five-pillar framework** to guide decisions across connection, safety, health, learning, and caregiver needs.
2. **Include baseline technology assets for all residents**, treating it as essential housing infrastructure.
3. **Engage residents early and often** through ongoing listening that captures evolving wants, needs, and capacities.
4. **Equip resident support staff with smart tools** that make technology usable for residents.
5. **Design for accessibility and inclusion** from the start, ensuring that all technologies account for diverse abilities and personal choice.
6. **Invest in the people and support systems** that make technology work, including training, tech support, and trusted relationships.

A Call to Action

This research makes a compelling case: **Technology succeeds only when it is rooted in trust and shaped by the people it is meant to support.** Listening first — before designing, choosing, or implementing tech-enabled solutions — creates solutions that are not only effective but sustainable.

Housing funders, developers, and operators should treat resident input not as a check-box activity but as the foundation of design.

AgeTech entrepreneurs should test and refine innovations in diverse housing environments with real users.

AgeTech and health funders should invest in the long-term, people-centered support that builds adoption and confidence.

Healthcare practitioners must partner with housing stakeholders to co-create solutions that support daily health.

Researchers must fill the evidence gaps this report identifies, including the need for broader quantitative studies that complement this report's qualitative insights.

Community organizations must help bridge the trust and access gaps by offering culturally relevant outreach, technology education, and supportive spaces where older adults can learn, ask questions, and explore tech-enabled tools.

By centering resident voice, trust, accessibility, and inclusion, this research demonstrates how technology, when co-designed with communities, can strengthen connection, improve health, and support independence for every older adult.

Technology Showcase

CONTENTS

CONTENTS

INTRODUCTION

As the United States population ages, society is navigating a period of dynamic change marked by rising healthcare costs, longer lifespans, and a growing demand for affordable housing and support services. In 2021, individuals aged 55 and older accounted for 55% of total U.S. health spending while representing only 31% of the population, underscoring the disproportionate healthcare needs of older adults (McGough et al., 2024). These demographic and economic pressures are occurring alongside an unprecedented acceleration of technological innovation. Together, these trends present both a challenge and an opportunity: to reimagine how older adults live, connect, and thrive in their homes and communities.

Technology Showcase

A substantial body of research shows that most older adults strongly desire to remain in their homes as they age. Since COVID-19, 77% of adults aged 50 and older report wanting to age in place, maintaining continuity with their homes and communities (Davis, 2022). Yet achieving this can be challenging, especially for those living on fixed incomes or with limited access to healthcare, transportation, and social support. Chronic conditions, mobility limitations, safety risks, and social isolation further complicate the feasibility of aging in place (NCOA, 2024; Moreland et al., 2020).

At the same time, there has been rapid growth in technology solutions to support healthy aging at home. From telehealth platforms and wearable devices to smart home systems and online learning solutions, these innovations are reshaping how older adults manage their health, stay engaged, and sustain well-being in their daily lives. However, understanding older adults' perceptions of technology is necessary to ensure successful implementation. In recent years, **the adoption of technology has increased among older adults when they see it as safe, simple, and easy to integrate into their daily routines** (Pang et. al, 2021).

Recognizing this opportunity, VOA, with support from the Humana Foundation, commissioned IPHI to conduct this research study. The project builds on VOA's vision for a model older adult housing site — Buzzard Point — in Southwest Washington, D.C. that integrates health, housing, and technology to enhance quality of life for a diverse population of low-income older adults. VOA's leadership in tackling this challenge reflects a bold, forward-looking goal: to create a scalable, evidence-based model that demonstrates how technology-enabled housing and services can promote health and belonging among low-income older adults.

This research takes a community-centered, co-production approach that creates the conditions for new findings that are not only meaningful but also replicable and actionable. The value of co-production in aging research is well documented: It deepens understanding of community issues, produces more inclusive and accurate findings, and enables older adult co-researchers to contribute lived expertise while building new skills (James & Buffel, 2023; Fudge et al., 2007). However, what distinguishes this study from previous work is its focus on the "who" rather than the "what." While extensive research exists on user experience with technology, even among older adults, much of it focuses on devices, systems, or features rather than people's likes, wants, and needs. This study takes a deep dive into the experiences, motivations, and challenges of a specific user group: older adults living in urban affordable housing. It explores not just which technologies might work in theory but how, why, and under what conditions they could truly improve daily life for those with limited expendable income.

Clarifying Note: *In this report, "resident" refers to individuals who participated in the study's research activities and mirror the potential population of VOA senior living buildings, while "older adults" is used when referencing findings from the broader literature. In addition, specific technology products mentioned in this report are included as illustrative examples used during engagement activities and do not constitute endorsements or recommendations by IPHI or Volunteers of America.*

For technology to succeed in affordable senior housing, residents must see it as something built with them, not for them. Trust is earned through early and continuous collaboration with potential building residents, ensuring that technologies reflect real needs, not assumptions. By focusing on older adults' likes, wants, and needs, this project takes a crucial step that many skip over — going to potential residents first before a building is even constructed. Rather than presuming to know what older adults value, the research begins with open inquiry, listening directly to potential residents to understand what makes them feel safe, connected, and supported.

This approach also acknowledges that understanding older adults' willingness to adopt technology, their experiences to date, and the diversity of their needs is foundational to successful adoption and scalability. It sets the stage for adapting and growing technology solutions that are not only innovative but also trusted and accessible to all.

The central question this research addresses is: **What obstacles and pain points do lower-income older adults face in maintaining their health, safety, and connection — and can technology offer feasible, meaningful solutions?** The findings of this study provide a roadmap for technology adoption that enhances the quality of life of older adults.

Why this research matters depends on who you are:

Housing funders, developers, and operators gain practical guidance on how technology can drive resident satisfaction, improve safety, reduce crisis-related costs, and ultimately boost retention.

AgeTech entrepreneurs gain direct insight into what low-income older adults actually want and will use. These resident-validated findings help innovators consider solutions that reflect real-world needs and daily realities.

AgeTech and health funders are offered community-informed solutions with measurable outcomes that improve health and strengthen community impact, aligning financial investment with social good.

Healthcare practitioners benefit from models that strengthen patient engagement, support medication adherence, and reduce isolation-related health risks that are often linked to avoidable hospitalizations.

Definition of AgeTech
AgeTech is a category of technologies, products, services, and experiences designed to meet the needs of the world's aging population, empowering older adults to live longer, healthier, and more independent lives. — AARP AgeTech Collaborative

Researchers gain a deeper understanding of the gaps that require further inquiry, including regional and demographic differences, sustainability and funding models, and real-world pilot testing of technology categories.

Community organizations receive actionable strategies to support older adults through trusted outreach approaches, culturally relevant digital literacy training, and ongoing assistance that helps residents navigate new tools with confidence.

The Buzzard Point development in Ward 6 of Southwest Washington, D.C. is intended to become one of VOA's most innovative examples of older adult affordable housing. By adding needed affordable housing for low-income seniors, the development aims not only to address regional housing inequities but also to demonstrate how integrated technology and health solutions can help residents age safely and meaningfully at home.

METHODOLOGY

This research was designed to be both evidence-informed and community-driven. It began with an extensive review of more than 50 studies across the intersecting fields of aging, housing, health, and technology. The review identified best practices for engaging older adults and designing people-centered technology solutions.

Framing the Inquiry

AARP's Smart Home Technology for Older Adults report guided the project's focus on five pillars essential to aging well: connection and engagement, safety and security, health and wellness, lifelong learning, and caregiver resources (AARP, 2024). These pillars served as an organizing framework for both data collection and analysis.

Connection and Engagement

Technologies that foster communication, social belonging, and participation in daily life, helping residents stay connected to family, friends, and community

Safety and Security

Tools that reduce risk and enhance peace of mind, such as keyless entry systems, motion-sensor lighting, and fall detection devices

Health and Wellness

Telehealth platforms, wearables, online exercise classes, and medication management programs that improve daily routines and overall well-being

Lifelong Learning

Digital tools that promote cognitive stimulation, creative engagement, and online classes tailored to older adults' interests

Caregiver Resources

Systems that ease administrative and emotional burden for professional and family caregivers, including AI-assisted assessments, check-in platforms, and voice-activated support tools

Research Design

The study's methodological approach was grounded in principles of co-production, defined by the National Institute for Health Research as involving participants "with" or "by" the public rather than conducting research "about" or "for" them (Fudge et al., 2007). This orientation strengthens the relevance and accuracy of findings while fostering community ownership by centering residents' lived expertise (James & Buffel, 2023).

Within technology research, co-production literature further emphasizes the importance of focusing on older adults' motivations rather than deficits and involving them directly in testing and shaping emerging tools (Rolfe et al., 2021).

Building on these principles, the study employed an integrated community-based participatory research (CBPR) framework paired with grounded theory analysis. CBPR emphasized shared power, inclusion, and mutual benefit, ensuring that older adults served as partners rather than subjects. Grounded theory complemented this by allowing themes to emerge inductively from participants' experiences rather than being constrained by predetermined assumptions. Together, these methods created an iterative, resident-centered process that aligned evidence with lived experience.

Importantly, this approach represents a replicable model for how housing providers can meaningfully collect resident insights before integrating technology into an older adult community. By operationalizing co-production in practical, accessible ways, the study provides a roadmap for engaging future residents early and effectively in planning technology-enabled housing environments.

Oversight and Collaborative Structure

To operationalize CBPR methods, the research team established two complementary structures of guidance and accountability:

- **Steering committee:** Nine older adults from Southwest Washington, D.C., and four local stakeholders shaped recruitment, reviewed emerging themes, and validated findings. They also conducted two equity impact reviews (EIRs) to ensure inclusive participation and accessible recommendations.
- **Advisory research council:** Twenty-five national experts convened by VOA contributed sector knowledge and grounded research findings in real-world experience.

This layered structure of community leadership and professional expertise brought together both lived experience and technical rigor.

Guiding Research Questions

The guiding research questions were developed collaboratively with the steering committee, who helped refine the focus of inquiry to address both opportunity and feasibility, ensuring that findings would be practical and locally grounded.

Three core questions underpinned this work:

1. **What are the opportunities to integrate technology in affordable housing units to support the health and well-being of older adults?**
2. **What is the feasibility of these technology solutions within this population?**
3. **What enabling factors — such as training, comfort levels, or healthcare support — are necessary to ensure their success?**

Limitations

Readers should consider certain limitations when interpreting the findings of this study. First, the research was designed primarily to be qualitative and included a sample of 65 community members, 33 AgeTech and older adult healthcare experts, and seven VOA senior living resident coordinators. This design enabled an in-depth exploration of resident and stakeholder experiences and perspectives, but limits the generalizability of results. More expansive quantitative research is needed to assess the findings' relevance at scale.

Second, because the study was conducted exclusively in the Washington, D.C. metropolitan area, the findings reflect the social, cultural, and infrastructural realities of this local context and may not represent older adults living in other regions of the United States. While participant demographics closely mirrored those of older adults in D.C. affordable housing, the sample does not capture the full diversity of the regional or national aging population.

Lastly, while the Technology Showcase strengthened the validity of resident feedback by grounding responses in direct experience, exposure was necessarily limited to a subset of technologies and participants. Findings should therefore be interpreted as illustrative of broader adoption dynamics rather than exhaustive evaluations of specific products or platforms.

Taken together, these limitations suggest that while the results offer rich, context-specific insights for D.C.-based housing developers and stakeholders, future studies involving larger and more diverse samples across multiple regions will be important to inform broader housing and technology solutions. Additional research should also explore potential funding mechanisms for integrating technology into affordable housing; develop business metrics such as cost savings, operational efficiency, and improved resident satisfaction to secure buy-in from potential funders; and examine how these insights might translate to the "middle market," encompassing older adults who may not qualify for public subsidies but still struggle to afford new products and premium services. Such work will help scale inclusive, technology-enabled models of healthy aging nationwide.

Strengths

The study possesses several significant strengths; chief among them is its co-production approach, which engaged older adults in the Washington, D.C. area as active partners throughout the research process. The use of grounded theory enabled iterative, cross-verified insights that strengthened the depth and credibility of the results.

The work was further supported by a strong institutional partnership with VOA, whose operational expertise helped keep the research practical, scalable, and aligned with housing and service delivery realities.

Oversight from the steering committee, ARC, and EIR process ensured diverse representation, attention to accessibility, and inclusion of populations often overlooked in technology design.

Together, these elements created a participatory, hands-on methodology that produced findings that were both theoretically informed and immediately actionable for housing, health, and aging service providers.

Members of the Steering Committee

RESEARCH LOGIC MODEL

INPUTS	OUTPUTS	OUTCOMES	OBJECTIVES	GOAL
Methodological Framework • Community-Based Participatory Research (CBPR) • Co-production approach centering resident voice • Grounded Theory qualitative analysis • Equity Impact Reviews (EIR)	• Actionable framework for technology integration in affordable housing	• Clear identification of gaps requiring further research and piloting	Identify resident-centered technology opportunities that can support health, safety, connection, and overall wellbeing.	**Identify how technology can be sustainably integrated into affordable older adult housing to support healthy aging, independence, and quality of life by centering the voices, lived experiences, and trust of potential residents from the outset.**
Data Collection Activities • Literature review • Photovoice • Focus groups with: – Older adults (55+) in affordable housing – VOA resident coordinators – Older adults and caregivers participating in the Technology Showcase • Hands-on Technology Showcase with live demonstrations – Key informant interviews with: – Healthcare providers – Caregivers – Housing managers – AgeTech entrepreneurs and funders	• Identification of technology pillars – Connection & Engagement – Safety & Security – Health & Wellness – Lifelong Learning – Caregiver Resources • Resident-informed qualitative dataset • Documentation of barriers to technology adoption • Documentation of recommendations for: – Baseline technology infrastructure – Staff tools and supports – Accessibility and privacy designs	• Increased understanding of how low-income older adults in D.C. perceive and use technology. • Greater recognition of technology as a social determinant of aging	Assess feasibility of technology integration considering factors such as cost, digital literacy, privacy, usability, and housing operations.	
Partnerships • Building managers (VOA) • Local research organization (IPHI) • Health funder (Humana Foundation) • Resident-led Steering Committee • Advisory Research Council	• Resident and expert-grounded research report • Community-focused dissemination materials	• Improved awareness among developers, practitioners, and innovators of: – Trust as a prerequisite for adoption – The limits of product-first design	Identify conditions for successful implementation, defined by sustained use and scalability of new technologies.	

DATA COLLECTION ACTIVITIES

The data collection process followed a multi-stage, participatory approach, informed by a literature review of more than 50 published and grey sources, to ensure that the research design centered resident perspectives and practitioner experiences.

Research activities continued with a PhotoVoice inquiry to elevate resident perspectives and capture lived experiences. Older adults living in Washington, D.C. were invited to document and narrate aspects of their daily lives through photography and reflection, structured around the five technology categories identified in the literature review. This participatory method created space for participants to reflect on the role technology plays in all aspects of their life.

PhotoVoice participant image

Building on the PhotoVoice stage, the third phase of the research involved three focus groups — two with residents of affordable senior housing and one with resident coordinators from existing VOA older adult communities.

The resident focus groups were held in two older adult housing communities in Southwest D.C. Participants were first asked broad questions about how they stay connected with loved ones and their community, as well as the everyday challenges they face in maintaining their health and well-being.

The discussion then shifted to the five categories of technology identified in the literature review, with participants invited to share reactions to a range of tools and solutions within each category.

Resident service coordinators are support staff who assist residents living in affordable housing communities in identifying, locating, and acquiring the services and supports necessary to remain self-sufficient. The focus group with VOA resident coordinators explored the technologies they currently use to support older adults, identified key gaps, and discussed how new tools or products could improve coordination, communication, and safety.

In the fourth stage, the research team organized a technology showcase to meet residents' need for hands-on, experiential learning. Focus groups revealed that many older adults had limited exposure to newer technology solutions, making it difficult for them to comment on their interest or willingness to adopt products they had never seen or used before. The showcase addressed this gap by inviting potential residents to explore and interact directly with a range of technologies in a facilitated, low-pressure environment.

Finally, to broaden the understanding of aging and technology integration, the research incorporated semi-structured key informant interviews with healthcare stakeholders, AgeTech entrepreneurs, and additional resident support staff. Interview questions examined experiences with innovation processes that target older adults and implementation considerations across healthcare, entrepreneurship and housing management contexts.

Importantly, the study followed an iterative, participatory design in which each stage informed the next. The literature review established the conceptual framework, PhotoVoice illuminated potential resident priorities, focus groups explored real-world perceptions, and the technology showcase enabled hands-on interaction. Key informant interviews layered professional expertise atop resident-driven insights, while the steering committee, ARC, and EIR process ensured inclusion and community voice at every step. A detailed description of each focus group and key informant interview is included in Annex 2.

Literature Review

The research team reviewed more than 50 studies across the intersecting fields of aging, housing, and technology to frame this study, identify known challenges, and highlight opportunities for housing developers to support technology adoption. Taken together, these sources highlight the broader context in which aging, health, and housing systems operate, as well as the essential role technology can play when grounded in the insights of older adults.

Health, Housing, and Technology

Older adults are the fastest-growing population group in the United States, projected to reach 94.7 million by 2060 (Caplen, 2023; Weintrob, 2022). As the population ages, chronic conditions such as hypertension, arthritis, diabetes, and dementia become increasingly common (National Council on Aging, 2024), and risks related to falls, fire-related injuries, and social isolation rise accordingly (Khezrian et al., 2020; Moreland, 2020; FEMA, 2018). Despite these challenges, research consistently shows that autonomy, purpose, and enjoyment remain powerful predictors of resilience and longevity (Irving et al., 2017; Moilanen et al., 2021; Steptoe et al., 2014), underscoring the importance of environments and supports that enable older adults to maintain agency.

Within this context, housing plays an essential role as a social determinant of health. Poor housing conditions are associated with greater chronic illness and injury, as well as diminished mental health (Krieger & Higgins, 2002). Conversely, the ability to age in place — remaining in one's home and community — supports identity, independence, and continuity of relationships (Ratnayake et al., 2022). Yet affordability challenges, limited accessibility, and transportation barriers often make aging in place difficult to achieve, especially for low-income older adults.

Technology, particularly AgeTech, is increasingly positioned as a means of addressing these challenges. Adoption among older adults continues to grow, with 61% owning smartphones and 44% owning tablets (Faverio, 2022). A growing body of evidence shows that AgeTech can reduce social isolation, improve health outcomes, and strengthen social connections (AARP, 2024; Wang et al., 2023; Girishan et al., 2023). However, these benefits are not guaranteed; older adults consistently report concerns related to cost, complexity, usability, and privacy (Heinz et al., 2012; Mitzner et al., 2010; Sun & Ye, 2023), suggesting that successful adoption depends on solutions that are both accessible and aligned with their lived experiences.

This literature review also supports a co-production approach to ensuring success when engaging older adults directly in technology design, testing, and evaluation. This method emphasizes tailoring solutions to individual needs, motivations, and conditions (Sixsmith, 2021; Ollevier et al., 2020; James & Buffel, 2023). As Rolfe et al. (2021) argue, focusing on older adults' aspirations rather than their barriers leads to more relevant and empowering innovations. When paired with equitable infrastructure and implementation, co-production creates solutions that are both trusted and sustainable (Lovarini et al., 2023).

In summary, the literature makes clear that integrating health, housing, and technology within a person-centered, co-produced framework is key to reducing disparities and advancing healthy aging in place.

Washington, D.C.'s Older Adult Population

An exploration of D.C.'s older adult population provided essential local context for this research. Most publicly available demographic data for older adults, such as those collected by the D.C. and the U.S. Census Bureau, focus on individuals 65 and older, even though VOA's new building will serve adults 55 and over. As a result, the information below reflects the closest available data for the population this research aims to support. The city is home to approximately 83,600 residents aged 65 and older, who are predominantly Black (62.5%), female (59.3%), unmarried (58.6%), and living alone (74.1%). About 16.6% live below the federal poverty line, one of the highest rates among major U.S. cities, and another 25% live just above it. Combined, more than 40% of D.C.'s older adults qualify for affordable housing. In addition, poverty is highly stratified: Black older adults are five times more likely to live in poverty than White older adults, and women are disproportionately affected.

Roughly 30% of older adults in D.C. live with one or more disabilities, increasing the complexity of aging safely and independently (Office of the Budget Director, 2020).

A growing digital divide compounds these inequities. Lower-income older adults are less likely to have reliable internet access or digital literacy skills, limiting access to telehealth, online benefits, and social connection (Office of the Budget Director, 2020). These disparities underscore the importance of pairing technology access with training, personal support, and culturally relevant engagement. Given this landscape, the study's guidance and decision-making structures needed to reflect the lived realities of D.C.'s older adults, making the steering committee a central component of the research.

Steering Committee

Steering committee members were recruited through community outreach and selected to ensure diverse representation across age, race, gender, income, and ability. The final committee comprised thirteen community members representing a wide range of lived and professional experiences. Nine were Ward 6 older adults living in affordable housing, joined by the neighborhood commissioner, the head of Waterfront Village (a local organization supporting older adults), a caregiving specialist, D.C.'s Age-Friendly Coordinator, and an AgeTech expert. Together, they reflected the voices and needs of Southwest D.C., bringing perspectives as potential residents, caregivers, and advocates committed to making the city more age-friendly.

The steering committee met six times throughout the project, providing guidance and oversight at every key stage of the research process. The first meeting focused on refining the research questions to ensure they reflected the priorities and lived realities of older adults in affordable housing. The second meeting shaped the data collection plan, including the design of focus groups and interviews, and introduced the first EIR to ensure equal accessibility and inclusion across all engagement activities.

Subsequent meetings were used to review preliminary findings, inform the design of the technology showcase and focus group discussions, and validate final recommendations. The final meeting included a second EIR, which examined whether proposed technology recommendations adequately accounted for potential barriers related to age, gender, ability, and other factors that could limit equitable access.

Their sustained engagement transformed this study from a traditional research project into a collaborative, resident-informed process of discovery and accountability. Even after data collection concluded, the steering committee remained active in disseminating results and ensuring that the findings reached local residents, community partners, and decision-makers who could use them to advance aging in affordable housing.

Advisory Research Council

VOA and IPHI convened a national ARC comprising 25 invited experts from diverse sectors in aging, technology, housing, healthcare, policy, and philanthropy. Co-chaired by Charlotte Yeh, former Chief Medical Officer for AARP, and Stephen Samuels, Vice President of Innovation and Impact Investing at Volunteers of America, the ARC served as a technical and strategic partner, providing insights into emerging innovations and ensuring that the project reflected both community realities and industry advancements.

The ARC met three times during the project, aligning its discussions with key milestones in the research process. Its responsibilities included:

- Identifying and vetting emerging technologies with potential relevance to affordable housing and older adult well-being
- Connecting the research team with AgeTech entrepreneurs, evaluators, and implementation partners to ground the study in current practice
- Reviewing draft findings and thematic analyses to ensure that community insights were contextualized within broader national trends and policy frameworks
- Advising on dissemination strategies, helping to translate lessons learned into actionable guidance for developers and practitioners

While the steering committee centered the lived experiences of older adults, the ARC brought a complementary macro-level lens, bridging community-based insight with national innovation ecosystems.

FINDINGS: PERSPECTIVES FROM RESIDENTS, CAREGIVERS, AND AGING EXPERTS

This section synthesizes insights gathered through all data collection activities, including PhotoVoice, focus groups, key informant interviews, and the technology showcase. Together, these perspectives illustrate how older adults, caregivers, resident support staff, and experts view technology in daily life, including what they value and what challenges they encounter.

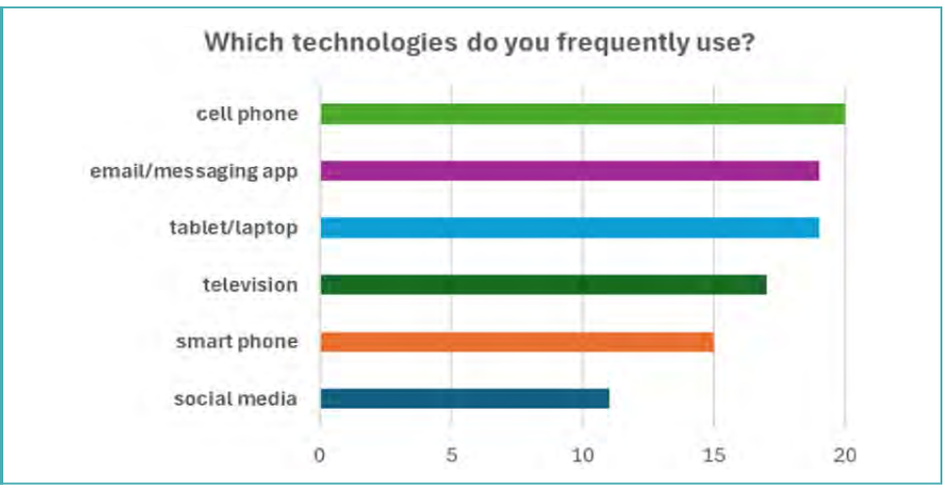
Findings reveal a central tension: **While older adults are interested in using technology to stay connected, safe, and healthy, many encounter structural and confidence-related barriers that limit adoption. What matters most is not just what tools exist but how they fit into real lives — how they can build trust, respect autonomy, and strengthen human connection.**

To provide context, the section begins with an overview of how older adults in Washington, D.C. currently use technology, followed by two key themes that emerged across the research: residents' likes, wants, and needs, and the challenges that shape technology adoption and sustained use.

1. **Residents' likes, wants, and needs** — what older adults and other stakeholders trust, value, and desire from technology
2. **Challenges to technology adoption** – the pain points, fears, and barriers that shape engagement and limit sustained ues.

Older D.C. Adults and Technology Use

To understand community members' current relationship with technology, participants in the technology showcase completed a short survey about device use. Twenty-six older adults from Ward 6 responded.



Survey results revealed that while most participants owned a cell phone, not all had access to a smartphone or tablet capable of using apps or connecting to the internet. This indicates that web-based tools may not be universally accessible among older adults in this community.

Resident Likes, Wants, and Needs

Across all engagement activities, older adults described the importance of communication, community, joy, privacy, and independence. **Technologies that created emotional connection, reduced loneliness, or simplified everyday life resonated most.**

Community members emphasized that tools must feel personal — whether helping them reach loved ones, feel safer at home, or maintain autonomy in daily routines. The following sections explore these preferences in depth, illustrating how older adults define meaningful, trustworthy, and empowering technology.

Connection and Engagement

Older adults emphasized that technology can be valuable for connecting people to information and community life. Whether used for worship, friendship, learning, or transportation, technology was described as meaningful when it reinforced social bonds and supported independence rather than replacing personal contact.

Virtual Communities

Online platforms can widen access to some of the engagements most valued by older adults in Washington, D.C., including religious services, music concerts, and community meetings. For individuals facing mobility or travel challenges, these tools provided a welcome alternative. As one PhotoVoice participant explained:

> *"Westminster [church] has their service online as well as in person. I really like the early morning service but not jumping up after you've had a rough night; I need to rest. And I can enjoy it just as well online as being in person."*
>
> — PhotoVoice Participant

Other platforms, such as the LOOP Village highlighted during the hands-on technology showcase, drew enthusiastic reviews. Event participants valued interactive features like cooking and music classes, virtual tours of global attractions, and online café hours and holiday parties. One attendee explained, "I like meeting people online, getting a rapport going but eventually, I would want to meet them in person. So that's why I like when they said that in the same zip code . . . you can have your own little thing at a restaurant or something."

Another emerging tool, Vermut, offers a social platform where adults 55+ can book activities, connect around shared interests, and create their own in-person meet-ups. By fostering real-world connections and sustained friendships, Vermut helps fill the often-ignored gap between retirement and dependency, when many active and digitally capable older adults remain eager for engagement.

This reflection underscores that technology is valued when it creates pathways to real-world connections. For residents with mobility, financial, or health limitations, virtual engagement extends community life beyond building walls.

Joy and Companionship

Companion devices like the robotic pets designed by Ageless Innovation sparked joy and comfort, especially for those living alone or grieving losses. These technologies were valued as conversation starters or for use in group activities. The founder of one companion pet company reflected on how a simple robotic cat transformed one user's experience: "Their mom didn't talk to anybody... till they got her the cat. Now she has 10 friends." Others shared how companion pets offered comfort in grief, with one participant noting:

> *"When you go through losing loved ones and friends, and you can't physically touch them anymore . . . you can touch that [cat]. It can be that person for a day. It's not actually the person, but it's their spirit and peace . . . so this cat is going to be a comfort to me."*
>
> — Technology Showcase Participant

Another described the appeal of low-maintenance companions: "I could never have a plant or a pet . . . but that idea with the dogs and cats and birds — it's a wonderful concept because it's helped bring so much joy."

These insights show that companion devices can meaningfully reduce isolation and foster social connection. While not substitutes for personal relationships, they can spur conversation, ease loneliness, and bring moments of comfort and joy into daily life.

Entertainment and Connection

Resident support staff noted that residents rely heavily on tablets and smartphones as accessible options for both entertainment and connection. Platforms like YouTube, Facebook, and music streaming services are among the most popular, offering low-cost ways to enjoy content and stay socially engaged. As one staff member observed, "They love to watch videos that are free," while another added, "They love taking pictures, posting pictures." For residents with family living abroad, Facebook Messenger and WhatsApp enable video calls, photo sharing, and regular communication that might otherwise be difficult.

Transportation and Mobility

Technology that helps older adults stay mobile and independent was highly valued, but only when the solutions were easily accessible. Participants praised simple, familiar formats, such as text or voice-based systems, over complex applications.

One promising example discussed was Bridge Social, an AI-powered texting platform that lets users access real-time transportation information, such as bus schedules, entirely via text, with no need for apps or logins. While Bridge Social currently operates only in the Boston area, it represents a strong model for accessible, app-free transit solutions that could be adapted for other communities.

Focus group participants in the 55+ category further emphasized that public transit information should be visible and easily accessible in their buildings. Screens that display bus arrival times were praised as "very helpful... one of the perks that made me choose this building." Many older adults continue to rely on transit information in physical spaces or by phone rather than app-based tools.

Building Connections

Technology can also enhance building-wide communication, helping residents feel more connected, informed, and safe. Tools like ResidentConnect or Pangea, which allow resident support staff to send out calls, texts, or voicemails alongside traditional flyers, were praised as "a really nice follow-up" that increases turnout and participation. **These comments show that while apps and emails may serve some, older adults often prefer low-barrier communication channels embedded in the spaces they use every day.**

Safety and Security

For older adults, feeling secure at home is about confidence, comfort, and control. **Residents expressed a clear preference for safety solutions that are reliable, easy to use, and respectful of their independence.** Both high-tech and low-tech approaches were valued, as long as they fit naturally into daily life.

Low-Friction Safety

Older community members emphasized that the best safety features are those that require little effort or technical skill — an insight consistent with national research. According to Davis (2022), older adults most often report needing low-tech home modifications to safely age in place, including grab bars and no-step showers, broader accessibility updates inside and outside the home, emergency response systems, and smart home devices such as voice-activated assistants and doorbell cameras. The experiences shared in this study echo these priorities: Residents want safety supports that are simple, reliable, and adapted to aging bodies.

Participants favored motion-sensor lighting, keyless fobs, and doorbells with clear visual or auditory cues.

> *"They have given me these motion-sensor lights so that when I get up in the middle of the night, I don't have to struggle to get to a light switch in my bedroom, bathroom, hall, living room, and kitchen. And I think that was real nice that they came up with something like that ... and then it goes out pretty quickly, too."*
>
> — 55+ focus group participant

Keyless entry systems were valued for reducing the need to handle keys, as one technology showcase participant explained: "I don't have to be doing the key like that because my hands are getting really bad. So all I do is hold [the fob] up there, wait for the thing to turn green, and that's it — I'm in."

Beyond locks, participants in the 55+ focus group also highlighted the value of peep holes — "Actually, on my door, there's a peep hole there. So I can look out there to see who is at the door. I love a peephole. It protects me." Others requested doorbells that are louder or paired with flashing lights for greater accessibility. An expert key informant agreed that sometimes it doesn't have to be high tech if simple assistive features are designed well: "Lighting that senses movement has had so much success in reducing falls, and that could be done inexpensively."

Community members also expressed openness to Wi-Fi–enabled appliances when these tools simplify daily routines and improve safety. Participants described wanting remote control options for tasks such as checking whether the stove is off or starting a washer without bending down. Yet they noted that setup could be "tricky," underscoring the need for clear onboarding and technical support. Once operational, remote-control features provided peace of mind and convenience, especially for residents with mobility challenges.

Kitchen safety was another frequent concern. Some buildings still rely on open-flame stoves, which both residents and support staff viewed as unsafe. As one coordinator reflected, "I've just always felt that that was really poor planning." In contrast, participants responded positively to induction-style stoves with lockouts and presence detection: "You've got to push this button for the stove to come on. It lights up each burner, but it doesn't come on. You can't burn yourself — you've got to put the pot on for it to start."

Safety Without Stigma

Falling remains one of the greatest sources of anxiety for older adults, making fall detection a valued safety feature. However, participants emphasized that design matters, and most preferred wearables that look and function like everyday consumer devices, such as a smartwatch, rather than traditional medical alert products. As one focus group participant explained: "Yes, I am a fall threat. I fell not that long ago in the shower, and nobody was home. I was terrified... if I had something to alert my husband, he could have come and helped me get up. So I think that [wearable] would be good for me, personally." At the same time, residents were cautious about ambient monitoring, noting that constant passive observation can feel like surveillance, and there were questions about who monitors the resulting data.

In the home, non-digital safety features remain just as important. Walk-in showers, seat-height toilets, and other accessible fixtures are already recognized as standard for older adults. Still, participants repeatedly stressed that bathroom fall detection is critical, as many fear falling and being unable to reach help. Suggested solutions included emergency buttons or pull cords, though building managers cautioned that these systems must be easy to reach and tested regularly to ensure they function in real emergencies.

Health and Wellness

Participants expressed a strong interest in technologies that enhance well-being without feeling clinical or intrusive. They valued tools that help them stay safe, manage chronic conditions, and maintain both physical and mental vitality, especially when those tools integrate seamlessly into daily routines, foster community connection, and work on devices they already use.

Movement, Mind, and Motivation

Online, personalized fitness programs like Vivo stood out among community members because they combine exercise, brain stimulation, and group connection. One technology showcase participant highlighted the importance of personalization and community:

> *Oh, there's a lot of exercise things out there. The thing I like most about the Vivo — it seemed more personalized, but other people were there too. I don't like to do stuff by myself. I feel comfortable with people there that I can laugh with."*
>
> —Technology Showcase participant

Another participant valued the integration of mind and body: "That's the difference. They're thinking about your brain. Your brain makes everything work... You have to feed your brain in order for anything else to work." This shows that older adults are most motivated by exercise technologies that combine physical health, cognitive engagement, and social connection.

Learning for Health and Longevity

Older community members emphasized the value of online resources for managing chronic health conditions. As one 55+ focus group participant shared, "Once a week, my insurance company has a workshop on different ailments that you may have. It might be on diabetes, high blood pressure, next week, and so forth. I find it to be very informative." Such programs demonstrate how online opportunities can offer education and motivation to help individuals understand and manage multiple health needs.

Medication Management

Staying on top of daily medications is difficult for many older adults. Community members were most receptive to health reminders that fit naturally into their routines via wearables or TV-based tools rather than standalone systems. Wearables such as PingCares offer a flexible approach to health reminders by sending messages directly to the user's wrist. The device also allows caregivers to ask if a user has taken their pill, providing gentle accountability without constant oversight. Similarly, services like ONSCREEN can display medication reminders on a television and allow caregivers to send quick follow-up messages or wellness checks directly to the screen. These examples demonstrate how **integrating medication management into familiar, everyday technologies, rather than introducing entirely new systems, may increase adherence**.

Lifelong Learning

Older adults expressed a strong interest in learning opportunities that nurture curiosity, creativity, and community connection. Online programs were especially valued for their ability to make education and engagement more accessible from home. Participants were motivated by trusted providers and interactive content that felt personally relevant rather than abstract or one-size-fits-all.

Online Learning and Connecting

Platforms like Senior Planet offer free, live Zoom classes covering everything from meditation and exercise to online banking, telemedicine, and technology skills. Similarly, the LOOP Village, featured at the technology showcase, provides hands-on experiences that participants can follow along with at home through cooking and music classes, virtual tours, and local connection features that allow participants to find others in the same zip code. As one resident shared, "The travel part for me — that was kind of interesting because I can't always travel." Another platform, Discover Live, offers virtual tours of destinations around the world as well as personalized "hometown" experiences designed to help older adults reconnect with meaningful places, memories, and communities.

Some participants were already using online education to pursue personal or professional growth. One focus group member explained, "I started a virtual micro-entrepreneurship class," highlighting how digital learning can help older adults explore new interests, develop skills, and stay mentally active from home.

Trusted Instructors

Across discussions, trust in the learning provider emerged as a key factor shaping engagement. As one aging expert explained, "When you're learning something new, and you're sometimes vulnerable . . . you want to make sure the person teaching you is a trusted resource — someone in the community."Partnerships with local, credible institutions, such as libraries, senior centers, and Meals on Wheels, help build that trust while fostering a sense of belonging and confidence among learners.

Enhancing Digital Security

Participants also linked digital literacy to online safety, noting that **a fear of scams often discourages engagement with online opportunities**. Practical strategies such as short, repeated "scam drills," call-screening tools, and tutorials on locking apps or bank cards (like EBT) were cited by resident coordinators as helpful ways to reduce anxiety. Some senior housing communities already host a "digital safety hour," in which residents bring suspicious messages or calls to staff.

This model normalizes alertness while empowering residents to engage online with greater confidence. When digital security is framed not as a burden but as a set of visible benefits and routine safeguards, residents may be more likely to engage with online tools.

Caregiver Resources

Ideally, behind every older adult is a network of caregivers — family members, resident support staff, and healthcare professionals — whose support is critical to maintaining safety, health, and independence. Community members emphasized that technology should strengthen, not complicate, this care network. Tools that streamline communication, reduce administrative burden, and offer peace of mind were especially valued.

A consistent theme across engagement activities was **the need for interoperability — systems that connect resident-facing tools with the platforms caregivers and healthcare providers already use**. Without interoperability, caregivers must juggle multiple apps, logins, and dashboards, reducing adoption and increasing frustration. When systems communicate with each other, however, caregivers gain a clearer picture of a resident's well-being, providers can make more informed decisions, and residents benefit from coordinated, proactive support.

Caregiver Connections

Community members appreciated tools that help family members stay informed without being intrusive. At the technology showcase, participants reacted positively to ONSCREEN, a TV-based, AI-assisted device that enables caregiver check-ins and telehealth sessions through a familiar interface. One participant shared, "A lot of times my grandfather doesn't answer the phone or says he doesn't hear it, and sometimes he has the TV blasting loud. With that device, I'd definitely be able to get in contact with him. He may be frustrated because I'm interrupting his show, but at least I'd know he's OK." Another added, "Maybe because it's the big screen — when you're on the phone, loved ones who aren't well don't always tell you the truth. With this, you can look around and notice things. That's good."

Similarly, PingCares, a wearable watch that tracks vital signs and connects to caregivers in emergencies, resonated strongly with caregiver participants: "I would feel much better knowing that information about my grandparents... especially if their phone goes dead or they can't find it. The watch will always be on their wrist, even when they sleep. I really like the watch."

Another promising tool is ThriveLink, a voice-activated system that helps residents and caregivers enroll in essential benefits such as health insurance, food assistance, and utility programs simply by answering spoken questions over the phone. By simplifying complex administrative tasks, tools like ThriveLink reduce caregivers' stress while keeping households connected to critical services.

Tools for Healthcare Providers

Healthcare providers expressed cautious optimism about the use of AI and remote monitoring tools, noting that technology can enhance direct patient interaction when used thoughtfully. Some saw promise in using passive monitoring or remote vitals collection to free up more time for meaningful, face-to-face care once patients are in the room.

One physician described a hybrid model in which traveling nurses visit patients to collect vitals and then remain present during telehealth appointments with specialists who might otherwise be out of reach. This approach, they explained, allows older adults to access specialty care without leaving their community.

Technology Showcase

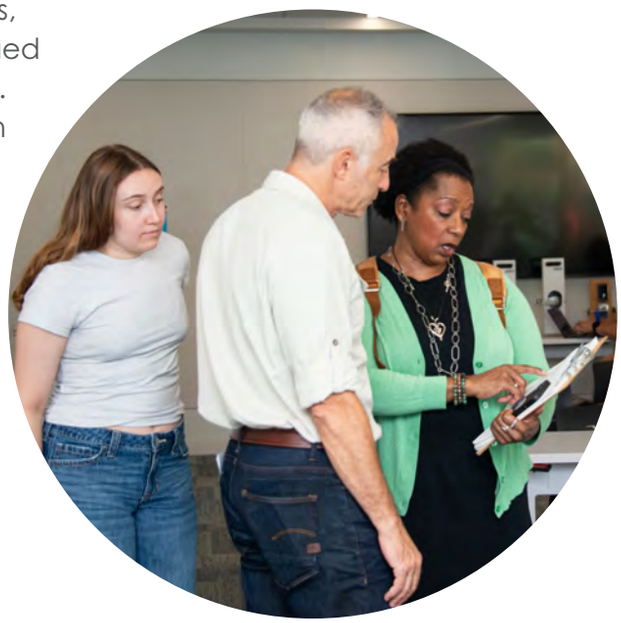
> *"We can deliver high-quality care — like we can hear the stethoscope through the technician... and we've contracted with a company to do diabetic eye exams using AI, so we have a little camera that can do the exam if someone can't find an ophthalmologist."*
>
> — Physician

By blending AI-driven tools with in-person assistance, providers can make healthcare more accessible, personalized, and efficient without sacrificing the personal support that older adults value most.

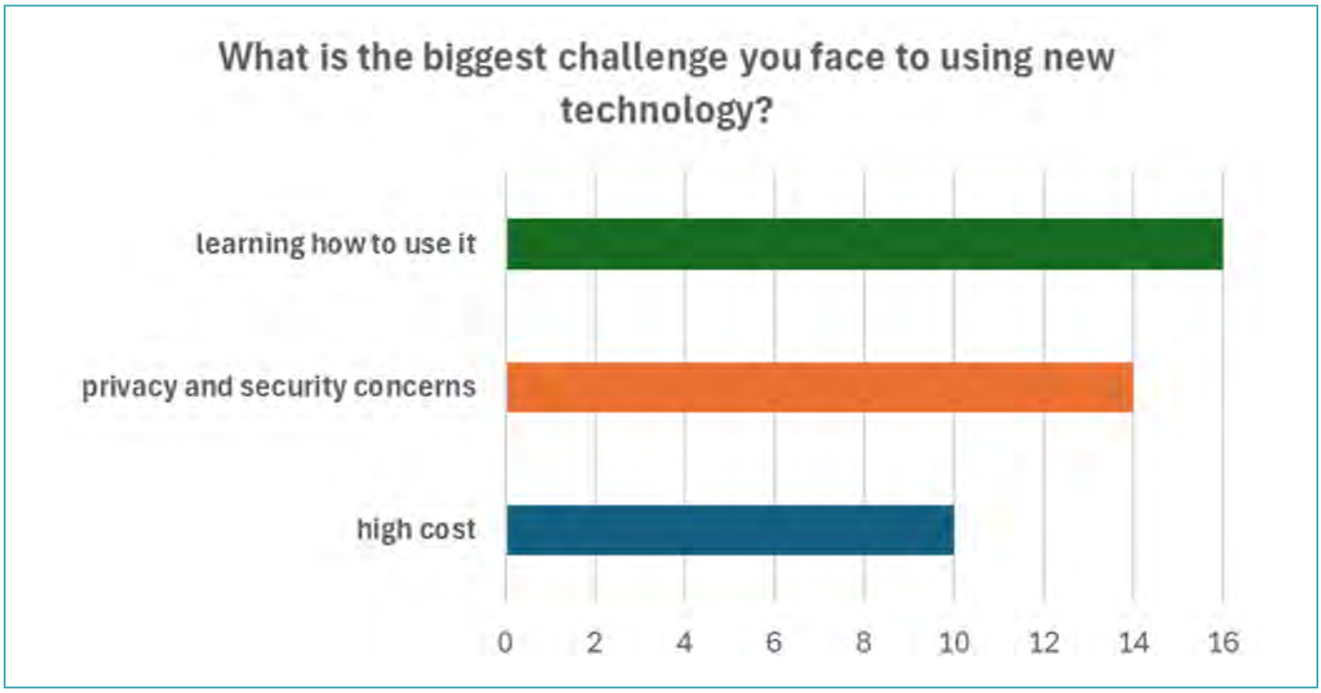
Challenges in Technology Adoption

While enthusiasm for technology was strong, older adults, caregivers, and resident support staff consistently identified challenges that prevent full adoption and sustained use. These obstacles were less about resistance to innovation and more about confidence, accessibility, and trust.

During the technology showcase, participants completed a brief survey ranking common challenges in adopting new technology. **The most frequently cited obstacle was difficulty learning how to use new tools, underscoring the need for clear instruction, personalized support, and ongoing training.** Additional concerns about privacy, data security, and cost also mirrored what surfaced in earlier discussions, highlighting that for many older adults, technology adoption depends as much on trust and relevance as on technical design.



Technology Showcase



Digital Confidence and Online Safety

Older adults are not unwilling to learn new technologies but often lack consistent, hands-on digital literacy instruction and the confidence to engage safely. Much of this hesitation stems from fears about privacy, scams, and online security.

Ongoing Need for Digital Literacy Support

Digital literacy emerged as a consistent need across interviews and focus groups. As one aging expert noted,

> *"A number of years ago, people thought that as future cohorts aged, digital literacy wouldn't be as much of a concern. But to the contrary, we know that's not true because technology is changing so quickly that we need to maintain that training and education in order to stay connected."*
>
> — Aging Research Expert

This insight reflects a broader reality: **Digital literacy is not a one-time achievement but a lifelong learning process that requires consistent support as tools, platforms, and interfaces evolve.**

Variation in digital skills and technical assistance needs was observed across housing contexts. The Smarter Service — a company that provides on-site tech concierge support for older adults in senior living communities — shared notable differences in the types of troubleshooting requests they receive from residents in affordable housing compared to those in middle- to higher-income settings. User data showed that residents in affordable housing are more likely to own one or two devices, such as a cell phone and a laptop, and often need help with tasks like setting up a new device or basic troubleshooting. In contrast, residents in market-rate communities typically have more than two devices and seek assistance with issues such as application use and management. These disparities underscore that digital inclusion is not just about device ownership but also about sustained access to training and personalized support.

Health Literacy and Telehealth Confidence

Older community members often recognize the potential of telehealth and online health resources to improve their care, but confidence and familiarity remain significant hurdles. Many are open to virtual visits yet hesitate to use them without direct support. As one resident coordinator explained:

> *[Telehealth] was something that we did try to push a lot because that would be, you know, a huge thing, even making appointments... we've had limited success with that. I think with assistance, they're open to it, but we have to be right there with them. We have to open the appointment for them. So it's... I don't know if we've reached the point where any of them are comfortable doing it on their own."*
>
> —VOA resident coordinator

Although health portals could improve access to care, staff found uptake limited and often stopped promoting health portals when residents showed resistance.

Other resident support staff echoed that residents often prefer in-person guidance to navigate telehealth platforms or interpret follow-up physician instructions. Many rely on trusted sources like friends, family, and doctors rather than searching for health information online. As one resident coordinator shared, "Looking things up and researching online — that's not really something they're used to. They listen more to what their friends may tell them, or they learn by asking their doctor questions or asking their kids for help."

A healthcare provider reinforced this point, emphasizing that older patients often struggle less with technology itself and more with the complexity of the healthcare system: "From my standpoint, it's navigating the system — just finding a doctor, understanding who they need to see. They ask, 'What did the doctor just say? Where do I need to go? Who do I call?' My patients can get very confused."

These insights underscore that digital health literacy must extend beyond technical skills and help residents navigate care systems, follow instructions, and build confidence in managing their own health.

Digital Security Concerns

Digital security emerged as both a pressing need and a barrier to technology adoption. Older adults are aware of scams, but that awareness can sometimes lead to avoidance rather than to safe engagement protocols. As one resident coordinator noted, "They are very afraid of messing it up or clicking on something wrong and getting scammed because they know there are so many scams out there." Another added that residents still fall prey to fraud despite their caution. One participant of a 55+ focus group noted: "I'm getting mail that I applied for social security or workman's comp or unemployment. And the $15,000 tax thing — like I owe taxes. I'll get calls and wish I didn't." These fears make older adults cautious, but they also highlight the need for routine, practical anti-scam education.

Anxiety around links, verification codes, and unknown callers leaves many hesitant to interact with online platforms. Resident support staff described how this plays out: "Two-factor authentication is so frustrating to older adults. Most of them cannot access their own Social Security accounts anymore . . . I end up saving their passwords for them, and that is another security threat." This reliance on resident support staff acting as digital intermediaries underscores the need for supportive solutions.

Privacy, Trust, and Control

Across engagement activities, older adults described a delicate balance between wanting tools that keep them safe and connected and fearing the loss of privacy that often accompanies digital monitoring. Many expressed enthusiasm for technologies that could help them stay independent — such as fall detection, medication reminders, or ways to connect with family — but cautioned that these benefits quickly erode if the tools feel intrusive, confusing, or vulnerable to scams. Participants repeatedly emphasized concerns about who might access their personal information, how securely it would be stored, and whether the very technologies intended to support them might expose them to new risks, including financial fraud or unwanted surveillance.

VOA Michigan resident with her PinCares watch

Hesitation was extreme around cameras, wearables, ambient monitoring devices, and health portals, where the boundaries between safety and surveillance can feel blurry. Residents stressed the need for transparency, consent, and physical backups, noting that monitoring must be opt-in rather than automatic. Fear of falling, for example, is a major concern among older adults, making fall detection highly valued, however, participants were clear that safety features should never come at the expense of autonomy. As one resident asked, "Will I be tracking my own movement, or can someone else also be tracking it? If I have to give them permission first, that's fine, I guess."

For some, the idea of passive monitoring was a nonstarter. One participant rejected the notion outright, saying, "No 1984, all right," invoking George Orwell's warning about constant surveillance. Others simply wanted reassurance that they — not technology vendors or building managers — would be in control: "Can you control it? I need to know how it's going to be executed. What's it controlling, where they're at?"

Even residents who currently use smart devices or personal security cameras emphasized that trust depends on having clear, customizable controls. They preferred systems that allow features to be toggled on or off — such as activating a camera only at night for safety — so that technology enhances independence rather than undermines it.

Accessibility and Inclusion

Physical and Sensory Barriers

Design shortcomings, ranging from small buttons and poor contrast to inconsistent accessibility features, often prevent older adults from fully using technologies meant to support them. Many community members described everyday frustrations with devices that fail to account for common changes in vision, hearing, dexterity, and mobility. Weak audio, limited tactile feedback, or hard-to-read screens made even basic functions challenging. These barriers not only reduce usability but also erode confidence and independence.

HapticNav, a navigation app that uses a phone's vibration function to guide users to their destination, is providing an alternative to visual or audio directions for those with sensory impairments. By delivering navigation through touch, it demonstrates how accessible design can meaningfully support people with differing visual or auditory capabilities.

Sometimes tools that technically meet ADA standards can still fall short in practice. As one technology showcase participant explained, "Sometimes when people say things are wheelchair accessible, they go by a measurement that is much smaller than what we need. Especially when they go by those ADA measurements — oh that width don't work." These insights reinforce that designs should be tested with real users, not just built to meet minimum code requirements.

Voice-activated technologies also raised concerns. While many residents appreciated the convenience of voice assistants, those living with memory loss or cognitive changes found them disorienting. As one aging expert cautioned, "If a voice assistant starts asking you questions, that could be very startling and confusing."

Cognitive overload was another recurring issue. Some residents described the challenge of managing multiple devices for everyday tasks, such as using one fob for the building entrance and another for their apartment door. One participant shared, "I hope it would be universal. In our apartment building, you've got to take two different devices to get into your door. All those should be integrated... because when you get older, you forget a lot of stuff."

These insights highlight a broader design principle: The fewer the steps, the greater the access. Integrating systems reduces confusion and fosters confidence.

Financial Barriers

Affordability remains one of the most persistent obstacles to technology adoption among older adults in low-income housing. High costs for internet service, data plans, and streaming subscriptions often limit residents' ability to stay connected or explore new tools. Even when devices are provided through grants or family members, maintaining consistent connectivity can be prohibitively expensive.

Many community members reported scaling back their internet packages. As one resident coordinator explained, "Some residents canceled their cable because it's so expensive," highlighting how affordability shapes not just entertainment options but overall access to digital engagement.

These challenges create an uneven playing field where the ability to connect depends less on interest or skill and more on financial means. For many older adults on fixed incomes, technology becomes a luxury rather than a lifeline.

Technology Opt-Out Options

Older community members also stressed the importance of always having non-digital alternatives. Back-up keys, manual overrides, and paper-based systems offer reassurance and prevent exclusion during power outages or tech failures. They also pointed out that not all older adults have smartphones, meaning app-based solutions could exclude many unless alternative access options are provided.

Everyday Barriers to Engagement

Older adults described a range of everyday challenges that affect how — and whether — they engage with technology. From medication management to transportation and motivation, their feedback revealed that even the most promising innovations can fall short when they overlook the realities of daily life.

Medication Management

Staying on top of daily medications is a common struggle. Phone alarms are often missed, and automated dispensers or smart reminders go unused. As one participant admitted, "I didn't take my pill today. I didn't take it yesterday, and I keep saying, 'Put it up in my phone, take it with an alarm.' But then the TV's on, or I'm saying my prayer or something else, that distracts me. And then the alarm is already gone off, and I've forgotten the thing."

Community members expressed a preference for gentle reminders delivered through familiar tools, like a smartwatch vibration or a message on the television, rather than new standalone devices. A pilot project by one aging services provider demonstrated this lesson: Automated pill dispensers were installed to reduce pharmacy trips, but residents largely ignored them. Follow-up conversations revealed that many valued their pharmacy visits as important social connections. The experience underscores a core principle of co-design: Successful tools begin with understanding what residents truly value.

Device Reliability and Maintenance

Practical challenges also influence tech adoption. Remembering to charge devices, managing app settings, or understanding whether wearables are water-resistant can deter consistent use. Passive monitoring systems, such as motion or radar sensors that track daily activity, received similarly mixed reactions. While residents recognized the potential for these tools to detect unusual patterns, like not leaving a bedroom by a certain time or staying in the bathroom too long, many expressed skepticism about reliability and accuracy. One participant shared: "I have an air purifier in every room. If [a sensor] thinks that's my breathing going crazy, it might send a false alarm. So I'm kind of skeptical about that."

Transportation Access

Residents struggle with paratransit delays and app-based systems. Washington, D.C.'s MetroAccess bus system was described by a focus group participant as "not timely . . . when it is time to leave, they don't come until two hours later." A local physician added that Medicaid rides were limited: "After they hit their limit with Uber or Lyft, they can't go anywhere." Such gaps may lead to missed medical appointments and increased isolation.

Motivation Gaps

Technology adoption among older adults was driven less by technical skill and more by personal relevance. Residents were far more likely to engage with technology when it aligned with their daily routines, social connections, and sense of identity. As one AARP representative explained, "You could tell me I should go do pottery because it'll improve my health, but unless I actually have an interest in making some kind of creation with pottery, it's really not going to work for me."

This dynamic was echoed by residents who understood the potential benefits of digital tools such as online medical record platforms like MyChart, yet continued to rely on paper-based systems that felt familiar and sufficient. In these cases, **the barrier was not lack of awareness or capability, but a motivation gap—an absence of compelling, personal reasons to change established habits**. Recognizing and addressing these motivation gaps is essential when introducing new technology options, ensuring solutions are offered in ways that resonate with residents' priorities rather than assuming adoption will follow from access or instruction alone.

Continued Need for Personal Connection

Some 55+ community members emphasized that although virtual participation is a helpful option, it is not the same as gathering in person. One PhotoVoice participant described the experience of watching an emotional church service online: "One Sunday, I was streaming online, and the service was so good I got sad. And I started tearing up because I wanted to be there. Instead, I watched it on my sofa." These reflections suggest that while digital access can reduce some barriers to community connection, it cannot fully address the needs for personal interaction.

RECOMMENDATIONS

This research made clear that technology alone cannot solve the challenges of aging in affordable housing. Successful adoption depends on the person-centered infrastructure that surrounds it, including trust, training, relevance, and design that centers around the lived experience of older adults.

Technology Showcase

Residents, caregivers, housing professionals and AgeTech experts emphasized that tools must do more than function — they must fit into daily life, support independence, and strengthen community connection. Equitable access, affordability, and ongoing digital literacy support are essential for technology to become a bridge to well-being rather than a new source of exclusion.

The findings underscore that experiential learning—such as hands-on showcases or pilot demonstrations—is a prerequisite for meaningful resident input, particularly in settings where exposure to emerging technology has been limited.

The following recommendations translate these lessons into a practical framework for implementation. They outline the conditions, principles, and actions needed to integrate technology effectively within low-income housing for older adults.

Each recommendation aligns with one of six key goals:

- **Adopt a five-pillar framework for technology integration** — organize innovation around the domains that matter most for aging well.
- **Establish core, baseline technology for all residents** — treat technology as essential infrastructure, not an amenity.
- **Identify and prioritize resident likes, wants, and needs** — conduct early and ongoing assessments to match tools to individualized needs, building on this study's replicable model for uncovering resident voice early in the design and planning process.
- **Equip building staff with smart tools** — strengthen the human systems that make technology work.
- **Ensure accessibility in technology design and deployment** — build inclusion, flexibility, and resident choice into every step.
- **Invest in ongoing human and financial support** — sustain success through continuous education, affordability, and reliable in-person support delivered by resident managers, caregivers, and on-site technology helpers.

Taken together, these recommendations create a roadmap for scalable, personalized innovation, ensuring that technology enhances safety, connection, and well-being for every older adult, regardless of income, ability, or digital skill level.

Adopt a Five-Pillar Framework for Technology Integration

Drawing on both the existing literature and the findings of this research, the team identified five categories of technology that can most meaningfully enhance the quality of life for older adults. Supported by prior studies (such as AARP's Smart Home Technology for Older Adults report) and validated through focus groups, interviews, and community engagement, these categories or 'pillars' reflect the intersection of what evidence shows works and what residents say they need. Housing, health, and technology initiatives should center on technologies that support:

Connection and Engagement

Safety and Security

Health and Wellness

Lifelong Learning

Caregiver Resources

Every technology decision — whether building infrastructure, resident devices, or staff and caregiver systems — should map to at least one of these pillars. This ensures that innovation is not only functional but also meaningfully enhances well-being and inclusion.

Establish Core, Baseline Technology for All Residents

To make affordable older adult housing truly supportive, every resident should have access to a core set of technologies that promote health, safety, and overall well-being. Technology should be treated as an essential part of the housing infrastructure, much like electricity or running water, that helps older adults maintain their physical health, mental wellness, and social connection. Establishing a baseline standard ensures that no resident is left behind, regardless of income, ability, or comfort with digital tools.

Recommended baseline infrastructure includes:

- **Reliable, broadband (10+ Gbps) building-wide Wi-Fi** at low or no cost to residents.
- **A wearable or fall-detection system**, such as motion sensors or smartwatches, to support safety and independence. These devices must incorporate clear, user-friendly data-sharing settings so residents can decide what information is visible to resident support staff or caregivers.
- **A personal tablet for every resident**, recognizing that older adults prefer individual access over shared community computers and that tablets offer flexibility for communication, digital literacy practice, entertainment, and participation in online classes and virtual communities. Many of the technologies explored in this research, including Senior Planet, the LOOP Village, Vermut, Discover Live, Vivo, and Centri Life, are tablet-friendly and designed for ease of use. Even ONSCREEN, a TV-based video-calling platform, offers a tablet-compatible version, ensuring residents can connect with caregivers and loved ones on their own time and terms.
- **Smart appliances and fixtures**, such as:
  - motion-sensor lighting to reduce falls
  - safety-enhanced, induction-style stoves with automatic turn-off features
  - doorbells with visual alerts (flashing lights)
  - large, accessible peepholes specially designed for residents with vision loss
  - remote-controlled appliances (e.g., washers, dryers, dishwashers)

Identify and Prioritize Resident Likes, Wants, and Needs

Start With Resident Voices

Effective technology integration begins not with devices but with the people who will use them. This research demonstrated that listening early and often is essential for uncovering what matters most to future residents. Engaging older adults at the start of the design and planning process ensures that technology solutions reflect their lived realities, daily routines, aspirations, and concerns. It also prevents costly missteps caused by assumptions about what older adults need. By creating structured, trust-building opportunities for potential residents to share their perspectives, housing providers can surface insights that may otherwise go unnoticed, especially among individuals with lower digital confidence or limited prior exposure to technology. This approach, highlighted throughout this study, offers a replicable model for developers and providers seeking to build technology-enabled communities that are inclusive, relevant, and embraced by those they aim to serve.

Conduct Individualized Technology Assessments

Technology is most effective when it reflects each resident's unique needs, preferences, and abilities. Conducting individual assessments on an ongoing basis ensures that tools introduced into affordable 55+ housing genuinely enhance quality of life rather than leaving some residents behind. These assessments also create opportunities to match the right solutions to the right people, fostering dignity, autonomy, and engagement. As one AgeTech entrepreneur explains:

> *"I don't pretend to know what will work best for the person you're caring for. It's personal... not one-size-fits-all. We have plenty of surprise cases where we hear great stories about the impact. So it's also just not being bound by our own perceptions or sort of paradigms in terms of what we've seen over time."*
>
> —AgeTech entrepreneur

Core recommendations:

- **Start with trust building by engaging residents early and often**, using this research as an example roadmap.
- **Conduct individualized tech needs assessments** upon move-in and at regular intervals, expanding on the five pillars of quality of life: connection and engagement, safety and security, health and wellness, lifelong learning, and caregiver resources.

- Use validated tools such as **BetterAge**, which evaluates multiple well-being domains, including physical and mental health, financial stability, loneliness, social supports, and sense of purpose (National Institute on Aging, n.d).
- Assess both **strengths and challenges** — including digital literacy, mobility, sensory limitations, and health literacy.
- **Reassess at least annually** to adapt supports as resident needs evolve.

Provide Opportunities to Test and Learn

Effective technology integration requires structured opportunities for residents to test, experience, and provide feedback on new tools before full implementation. This research shows that hands-on engagement helps residents develop familiarity, confidence, and trust in emerging technologies, while allowing providers to identify usability issues early. Systematic opportunities to trial devices, ask questions, and communicate concerns reduce the risk of non-adoption, highlight practical barriers, and support better alignment between technology features and residents' needs. Embedding these processes into planning helps housing providers make more informed decisions, avoid costly missteps, and increase the likelihood that technology solutions will be adopted and sustained. The following strategies illustrate practical ways housing providers can support hands-on experimentation and gather user feedback when introducing new technologies.

- Host regular **technology showcases** or use virtual reality for demonstrations.
- Encourage **group engagement** by demoing interactive tools like companion pets, games, or online classes that build confidence and socialization.
- Blend **digital and in-person experiences**, such as connecting online social groups to local meetups or community gatherings.

Always Offer Tech-Free and Human-Override Options

True accessibility requires non-digital alternatives. To build trust, housing developments should guarantee that all essential functions can still operate without relying solely on digital systems.

- Provide **manual or analog backups** (keys, paper forms, physical call systems).
- Design all devices with **human-override feature**s to ensure safety during power or internet outages.

Equip Resident Support Staff with Smart Tools

Resident coordinators and other resident support staff are the frontline in affordable older adult housing, and their ability to deliver high-quality care depends on having the right tools. Focus groups made clear that resident support staff are often the linchpin of successful technology adoption: They help residents troubleshoot devices and bridge the gap between digital tools and daily life. For technology to be truly effective, staff systems must not operate in isolation but rather integrate seamlessly with the tools residents use.

Integrated systems allow staff and caregivers to gain timely insight into resident well-being without compromising autonomy or privacy. When resident-facing tools (such as wellness check-ins, fall detection systems, or communication platforms) connect to staff dashboards, resident support staff can identify patterns, respond quickly to concerns, and provide targeted support. This alignment simplifies workflows, reduces duplicative tasks, and ensures that residents do not have to navigate complex systems alone.

In short, technology must make staff jobs easier, communication smoother, and resident care more proactive, freeing up more time for the personal connection that older adults value most.

Resident support staff should have:

- **Mobile tablets** for each staff member, with access to cloud-based forms, e-signatures, and resident files for real-time documentation
- **Digital communication platforms** (e.g., ResidentConnect or Pangea) with features such as automatic translation and group messaging to reach linguistically diverse residents, helping residents stay safe with regular updates and feel engaged in building activities
- **Integrated caregiving and safety platforms** that allow residents to confirm daily well-being through check-ins via text, buttons, or kiosks that improve safety while respecting autonomy
- **AI-assisted documentation tools** to auto-populate forms, allowing staff to focus on meaningful interaction instead of paperwork

Ensure Accessibility in Technology Design and Deployment

Accessibility must be the foundation of all technology integration efforts in affordable senior housing. As this research and the EIR process made clear, older adults are not a homogenous group; differences in ability, race, language, income, and cognition all shape how residents experience technology. Designing for inclusion from the start ensures that no one is left behind and that innovations enhance health, safety, and quality of life for all residents.

Broad accessibility means:

- **Cognitive accessibility:** Voice-activated technologies may confuse or startle some residents; alternative cue systems (such as radar or passive sensing) may be more appropriate, particularly in memory-care contexts. Additionally, residents experiencing cognitive decline may require simplified building entry systems, door access solutions, or staff-assisted entry to support safety and independence.
- **Visual accessibility:** Wearables and in-unit devices should include tactile or auditory feedback options to accommodate residents with visual impairments.
- **Racial and physical diversity:** Sensors and wearables must be calibrated and tested to ensure accuracy across different skin tones and body types.
- **Language diversity:** Technology systems should support multiple languages and dialects and rely on plain-language instructions rather than technical terminology.
- **Device access:** Technologies that require smartphone-only or app-based access to housing or healthcare systems should be considered carefully, recognizing that not all residents own or use smartphones.

Invest in the Conditions That Make Technology Usable

Prioritize Simplicity and Everyday Relevance

Technology should fit seamlessly into residents' daily lives, enhancing comfort and connection without adding complexity. As a director from AARP explained:

> *We've learned a lot of lessons over the last 20 years, and one thing that we, or at least I, really like to point out when people ask the question of like, 'What's the secret sauce with teaching older adults technology?' The first thing that always comes to mind for me is the intrinsic motivation. You might think to yourself, 'Technology is this grand solution. It's going to change your life.' You have all these tools like generative AI or your smartphone... but the reality is that the individuals that we work with most of the time, unless they find value in or have that motivation to learn, it's not going to be there."*
>
> — Aging Expert

This insight underscores that usability and relevance drive sustained engagement. Technology is most successful when it aligns with what matters to older adults and supports everyday needs.

To achieve this:

- Maximize **compatibility** with devices residents already own.
- Ensure **long battery life** and easy charging options.
- Align solutions with **intrinsic motivation**: Technology adoption increases when older adults understand how it improves their day-to-day life.
- Prioritize **simple, intuitive designs** with clearly labeled buttons and accessible color contrasts.
- **Incorporate accessibility adaptations** for hearing, vision, and dexterity differences without resorting to infantilizing designs.

Invest in Ongoing, Resident-Centered Support

Training and personal support are as essential as technology itself. Devices alone do not guarantee adoption; trust, confidence, and hands-on help do. Throughout this research, potential residents and staff alike emphasized that older adults learn best through ongoing, individualized support and opportunities to practice at their own pace. As one resident coordinator explained:

> *Overall, I think the best support was just walking them through their issues on an individual level — like on a need-to-need basis. When I would try to set up formal things like classes or try to encourage better participation, it wasn't always successful. But when they had an issue — when they were using their tablet [and] something came up — then they were right here at my door, like, 'I need this addressed right now.' So I found that to be a better strategy."*
>
> —VOA resident coordinator

Older adults learn best when instruction is accessible, personal, and responsive to real-world challenges.

To sustain engagement and confidence:

- **Embed digital literacy, health literacy, and digital security education** directly into housing programs (e.g., Senior Planet curriculum).
- Prioritize **1:1 support and small group coaching** over formal classes.
- **Partner with trusted institutions** (e.g., libraries, senior centers, and churches) for ongoing, culturally relevant training, ensuring programs feel familiar and credible.
- Develop **on-site or mobile "tech concierge" models** that provide troubleshooting and personalized guidance (e.g., The Smarter Service).
- Cultivate **peer educators and technology champions** among residents to build sustainable, community-led learning.

Protect Resident Trust

Trust is at the foundation of technology adoption for older adults. They are far more likely to engage with digital tools when they understand how their information is used and feel confident that their privacy is protected. Throughout this research, potential residents expressed a willingness to share personal data when the value was clear and reciprocal — for example, sharing health information to access telehealth appointments — but discomfort when data use felt opaque or uncontrolled. Transparent practices and resident choice are therefore essential to building lasting confidence in technology.

To maintain that trust:

- Establish **transparent data practices** — clearly define who sees resident data, when, and for what purpose.
- Guarantee **resident choice** in all participation and data sharing.
- Prohibit the **sale or misuse of resident data**.
- Support technologies that have **privacy controls** built directly into interfaces so residents can toggle visibility and sharing preferences easily.

When residents feel ownership over their data and autonomy in their choices, technology becomes a tool for empowerment — not surveillance.

Ensure Affordability and Sustainability

Affordability must extend beyond the cost of purchasing devices to include the ongoing expenses and infrastructure that make technology usable and sustainable over time. For older adults in affordable housing, recurring costs such as Wi-Fi fees, charging equipment, or troubleshooting support can become barriers to continued use. Ensuring equitable access means accounting for these costs from the outset and building systems that make technology support financially sustainable.

As one expert from a senior-focused nonprofit explained:

> *We have some use cases on our website that highlight different ways providers have been creative around finding ways to pay for some of this stuff. There are areas that have tax credits. Some are getting foundation money. Some just get donors to help offset. Some have relationships with cellular companies where they'll put their tower on their building and that will help get a subsidy to provide that. Once you have connectivity, the second thing is having access to affordable devices and then digital literacy training."*
>
> — Aging Expert

To ensure affordability and sustainability, practitioners should:

- **Subsidize or cover** electricity costs, cellular data, and the broadband necessary for technology operation.
- Establish **repair and replacement programs** for chargers, cords, or lost devices.
- Leverage **creative funding partnerships** — tax credits, foundations, telecom partnerships, or local donors — to sustain access.

By designing for affordability and sustainability, developers, funders, and housing providers can ensure that technology becomes a permanent support — not a temporary benefit — for older adults aging in affordable housing.

CONCLUSIONS: A CALL TO ACTION

This research makes one central argument: Technology is not an add-on — it is quality-of-life infrastructure.

When thoughtfully designed and deployed, technology can help older adults stay healthy, connected, and fulfilled.

When poorly matched to resident realities, it becomes another barrier that isolates vulnerable groups and drives costs across systems.

Inclusion and accessibility are not just a moral imperative — it is sound business practice. Technologies that exclude residents lead to failed adoption, wasted investment, higher staff burden, and poorer health outcomes. Resident-driven innovation, by contrast, yields long-term returns: safer communities, stronger trust, and healthier, more stable housing environments.

Technology Showcase

A Challenge to Every Sector

Housing Funders, Developers, and Operators:

The housing of the future must treat broadband and accessible design as core infrastructure that is no less essential than plumbing or electricity. Technology decisions should align with the five pillars of quality of life: connection and engagement, safety and security, health and wellness, lifelong learning, and caregiver support.

AgeTech Entrepreneurs:

Older adults have made it clear: Relevance and trust matter most. Successful technologies are co-designed, tested in real-world housing environments, and supported by hands-on training.

AgeTech and Health Funders:

Sustainable impact depends on investing in people-centered training and support, not just devices. Technology ecosystems require investment in training, partnerships, and processes in addition to the innovative software and products.

Health Practitioners:

By collaborating with housing providers, healthcare providers and organizations can extend preventive care into daily life, supporting medication adherence, fall detection, and mental well-being before crises occur.

Researchers:

The next phase of work requires rigorous, mixed-methods research that tests these findings at scale, develops business metrics to demonstrate return on investment, and evaluates emerging technologies in real-world housing environments.

Community Organizations:

As trusted anchors in older adults' lives, community organizations can provide culturally relevant outreach, digital literacy support, and safe spaces for older adults to test new tools, ask questions, and build confidence.

If developers and innovators continue to design for the "average resident," they risk reinforcing exclusion by default. This research made it clear: **Inclusion of diverse voices across race, age, literacy, and ability is not optional — it is the difference between technology that empowers and technology that marginalizes.**

By integrating solutions across all five pillars of technology and strengthening the enabling conditions of trust, affordability, training, and accessibility, housing can become a platform for health, social connection, and independence. Technology in affordable housing is not just smart; it's fair, advancing both innovation and inclusion for every older adult.

CITATIONS

1. AARP. (2024, July). State of AgeTech report. AgeTech Collaborative. https://agetechcollaborative.org/insights/state-of-agetech-report/

2. American Senior Communities. (2017, October 31). Top 10 health concerns for seniors: ASC blog. ASC Care. https://www.asccare.com/health-concerns-for-seniors/

3. Caplen, A. (2023, May 25). U.S. Older Population Grew From 2010 to 2020 at Fastest Rate Since 1880 to 1890. United States Census Bureau. Retrieved from https://www.census.gov/library/stories/2023/05/2020-census-united-states-older-population-grew.html

4. Davis, M.R. (2022, November 21). Despite Pandemic, Percentage of Older Adults Who Want to Age in Place Stays Steady. AARP. Retrieved from https://www.aarp.org/home-family/your-home/info-2021/home-and-community-preferences-survey.html

5.Faverio, M. (2022, January 13). Share of those 65 and older who are tech users has grown in the past decade. Pew Research Center. https://www.pewresearch.org/short-reads/2022/01/13/share-of-those-65-and-older-who-are-tech-users-has-grown-in-the-past-decade/

6.FEMA. (2018, October). Fire safety for older adults - U.S. fire administration - FEMA. U.S. Fire Administration. https://www.usfa.fema.gov/downloads/pdf/publications/fa_221.pdf

7.Friedman, H.A. (2022, February 28). Age-inclusive language: Are you using it in your writing and everyday speech? Washington University in St. Louis: Institute for Public Health Center for Aging. Retrieved from https://publichealth.wustl.edu/age-inclusive-language-are-you-using-it-in-your-writing-and-everyday-speech/#:~:text=Terms%20like%20seniors%2C%20elderly%2C%20the,the%20older%20population%20are%20preferred.

8.Fudge N., C. D. A. Wolfe, C. McKevitt (September 2007). Involving older people in health research, Age and aging, 36(5)492–500, https://doi.org/10.1093/aging/afm029

9.Gerlach L.B., Solway E.S., Malani P.N. (2023). Social Isolation and Loneliness in Older Adults. JAMA, 331(23):2058. doi:10.1001/jama.2024.3456

CITATIONS

10. Girishan Prabhu, V., Stanley, L., Morgan, R., & Shirley, B. (2023). Designing and developing a nature-based virtual reality with heart rate variability biofeedback for surgical anxiety and pain management: evidence from total knee arthroplasty patients. Aging & Mental Health, 28(5), 738–753. https://doi.org/10.1080/13607863.2023.2270442

11. Heinz, M., Martin, P., Margrett, J.A., Yearns, M., Franke, W., Yang, H., Wong, J., & Chang, C.K. (2012). Perceptions of Technology among Older Adults. Journal of Gerontological Nursing, 2013;39(1):42–51. https://doi.org/10.3928/00989134-20121204-04

12. Irving J, Davis S, Collier A. (2017). Aging With Purpose: Systematic Search and Review of Literature Pertaining to Older Adults and Purpose. The International Journal of Aging and Human Development, 85(4):403-437. doi:10.1177/0091415017702908

13. James H, Buffel T (2023). Co-research with older people: a systematic literature review. aging and Society, 43(12):2930-2956. doi:10.1017/S0144686X21002014

14. Khezrian, M., McNeil, C.J., Murray, A.D., Myint, P.K. (2020). An overview of prevalence, determinants and health outcomes of polypharmacy. Therapeutic Advances in Drug Safety, 11. doi:10.1177/2042098620933741

15. Krieger, J., & Higgins, D. L. (2002). Housing and health: time again for public health action. American journal of public health, 92(5), 758–768. https://doi.org/10.2105/ajph.92.5.758

16. Lovarini, M., O'Loughlin, K., & Clemson, L. (2023). "THREE: Technology to support aging in place in Australia". In Care Technologies for aging Societies. Bristol, UK: Policy Press. Retrieved Nov 11, 2024, from https://doi.org/10.51952/9781447364825.ch003

17. Mather, M., Jacobsen, L.A., & Pollard, K.M. (2015). Aging in the United States. Population Reference Bureau Population Bulletin [PDF file]. Retrieved from https://www.prb.org/wp-content/uploads/2016/01/aging-us-population-bulletin-1.pdf

18. McGough, M., McGough, M., Claxton, G., Amin, K., & Twitter, C. C. (2024, January 4). How do health expenditures vary across the population? Peterson-KFF Health System Tracker. https://www.healthsystemtracker.org/chart-collection/health-expenditures-vary-across-population/

19. Mitzner, T. L., Boron, J. B., Fausset, C. B., Adams, A. E., Charness, N., Czaja, S. J., Dijkstra, K., Fisk, A. D., Rogers, W. A., & Sharit, J. (2010). Older Adults Talk Technology: Technology Usage and Attitudes. Computers in human behavior, 26(6), 1710–1721. https://doi.org/10.1016/j.chb.2010.06.020

CITATIONS

20. Moilanen T, Kangasniemi M, Papinaho O, et al (2021). Older people's perceived autonomy in residential care: An integrative review. Nursing Ethics, 28(3):414-434. doi:10.1177/0969733020948115

21. Moreland B, Kakara R, Henry A. Trends in Nonfatal Falls and Fall-Related Injuries Among Adults Aged ≥65 Years — United States, 2012–2018 (2020). MMWR Morb Mortal Wkly Rep, 69:875–881. DOI: http://dx.doi.org/10.15585/mmwr.mm6927a5.

22. National Council on Aging. (2024, May 30). Top 10 chronic conditions affecting older adults. The Top 10 Most Common Chronic Diseases for Older Adults. https://www.ncoa.org/article/the-top-10-most-common-chronic-conditions-in-older-adults/

23. National Institute on Aging. (n.d.). BetterAge. U.S. Department of Health and Human Services. https://www.nia.nih.gov/research/sbir/nia-small-business-showcase/betterage

24. National Institute for Health and Care Research. (2024). Co-production. Learning for Involvement. https://www.learningforinvolvement.org.uk/topic/co-production/

25. Office of the Budget Director, Council of the District of Columbia. (2020). The state of older adults in the District of Columbia: Getting to know D.C.'s older adults [Research report]. https://static1.squarespace.com/static/5bbd09f3d74562c7f0e4bb10/t/5f91dbfcf4433c22bbc35756/1603394563391/The+State+of+Older+Adults+in+the+District+of+Columbia.pdf

26. Ollevier, A., Aguiar, G., Palomino, M., & Simpelaere, I. S. (2020). How can technology support aging in place in healthy older adults? A systematic review. Public Health Reviews, 41(1). https://doi.org/10.1186/s40985-020-00143-4

27. Pang, C., Collin Wang, Z., McGrenere, J., Leung, R., Dai, J., & Moffatt, K. (2021). Technology adoption and learning preferences for older adults: evolving perceptions, ongoing challenges, and emerging design opportunities. In Proceedings of the 2021 CHI conference on human factors in computing systems (pp. 1-13).

28. Ratnayake, M., LPCMH, ATR, NCC;1, Lukas, S., Brathwaite, S., Neave, J., Henry, H., & BS-c;5 (2022). Aging in Place: Are We Prepared? Delaware journal of public health, 8(3), 28–31. https://doi.org/10.32481/djph.2022.08.007

29. Rolfe, S., Pusram, A., Robertson, J., Gibson, G., & McCall, V. (2021, May 21). aging Well with Assistive Technology: Co-producing technology solutions with older people. Housing LIN. https://www.housinglin.org.uk/_assets/Resources/Housing/OtherOrganisation/Literature-Review-_web-version-300119.pdf

CITATIONS

30. Sixsmith, A. (2021). Chapter 9: AgeTech: Technology-Based Solutions for Aging Societies. In Promoting the Health of Older Adults: The Canadian Experience (pp. 139–140). Canadian Scholars Press.

31. Steptoe, A., Oliveira, C. de, Demakakos, P., & Zaninotto, P. (2014, March 4). Enjoyment of life and declining physical function at older ages: A longitudinal cohort study. CMAJ. https://doi.org/10.1503/cmaj.131155

32. Sun, E., & Ye, X. (2023). Older and fearing new technologies? The relationship between older adults' technophobia and subjective age. Aging & Mental Health, 28(4), 569–576. https://doi.org/10.1080/13607863.2023.2241017

33. University of Florida. (2024, September 23). Cultural Perspectives on Aging: How the Experience of Aging Differs Around the World. Retrieved from https://online.aging.ufl.edu/2024/09/23/cultural-perspectives-on-aging-how-the-experience-of-aging-differs-around-the-world/

34. Vaportzis, E., Giatsi Clausen, M. & Gow, A.J. (2017). Older Adults Perceptions of Technology and Barriers to Interacting with Tablet Computers: A Focus Group Study. Front. Psychol. 8:1687. doi: 10.3389/fpsyg.2017.01687

35. Wang, S., Reaves, S., Newman, M., Castaneda, S., & Emery-Tiburcio, E. (2023). CATCH-ON Connect: a tablet intervention to address social isolation and loneliness. Aging & Mental Health, 28(4), 633–637. https://doi.org/10.1080/13607863.2023.2217501

36. Weintrob, G. (2022, January 28). Aging around the world. Columbine Health Systems Center for Healthy Aging, Colorado State University. Retrieved from https://www.research.colostate.edu/healthyagingcenter/2022/01/28/aging-around-the-world/

APPENDIX 1: COMPLETE METHODOLOGY

This research was designed to be both evidence informed and community driven. It began with an extensive review of more than 50 studies across the intersecting fields of aging, housing, health, and technology. The review identified best practices for engaging older adults in research and for designing person-centered technology solutions that address their needs in daily life.

Framing the Inquiry

Connection and Engagement

Technologies that foster communication, social belonging, and participation in daily life, helping residents stay connected to family, friends, and community

Safety and Security

Tools that reduce risk and enhance peace of mind, such as keyless entry systems, motion-sensor lighting, and fall detection devices

Health and Wellness

Telehealth platforms, wearables, online exercise classes, and medication management programs that improve daily routines and overall well-being

Lifelong Learning

Digital tools that promote cognitive stimulation, creative engagement, and online classes tailored to older adults' interests

Caregiver Resources

Systems that ease administrative and emotional burden for professional and family caregivers, including AI-assisted assessments, check-in platforms, and voice-activated support tools

AARP's Smart Home Technology for Older Adults report was particularly influential, offering a framework of four pillars critical to aging well: connection and engagement, safety and security, health and wellness, and learning and contribution. Building on these insights, the research team added a fifth pillar — caregiver resources — to capture the role of family caregivers, resident support staff, and frontline staff in supporting older adults' independence and well-being. These five categories helped organize data collection activities and analysis throughout the project.

The literature also shaped the research's co-production approach, which positions older adults as equal partners rather than passive participants throughout the study.

The concept of co-production is defined by the National Institute for Health Research (NIHR) as involving participants "with" or "by" the public rather than "about" or "for" the public's benefit (Fudge et al., 2007). Co-production enables a deeper understanding of community issues, produces more inclusive and accurate findings, and empowers co-researchers from the community to develop new skills while contributing unique lived expertise (James & Buffel, 2023). Within this project, co-production was not a single activity but a guiding ethos that shaped recruitment, data collection, analysis, and dissemination.

Complementing this framework, the research team also drew from best practices in the co-production of technology solutions for older adults (Rolfe et al., 2021). The literature emphasizes that effective co-production centers on older adults' aspirations and motivations rather than their limitations, as an overemphasis on barriers can unintentionally reinforce fear or resistance to technology. It further highlights the importance of direct, hands-on engagement with technologies during development, ensuring that older adults can test, react to, and shape emerging tools. Meaningful co-production also requires acknowledging participant concerns — such as privacy, usability, and cost — and designing solutions that are personalized to individual needs, accounting for user capacity, ongoing support, and equitable access.

Research Design

Building on this foundation, the study designed an integrated CBPR approach with grounded theory analysis. CBPR emphasized shared power, inclusion, and mutual benefit, ensuring that older adults were not research subjects but partners in discovery. Grounded theory complemented this approach by allowing themes to emerge inductively from participants' lived experiences rather than imposing them through predetermined frameworks.

Together, these methods created a cyclical and adaptive research process in which each stage informed the next — linking evidence, community insight, and practical application while operationalizing the principle of "nothing about us without us." This turned research into a shared process of learning, innovation, and empowerment for older adults and their communities.

Oversight and Collaborative Structure

To operationalize these methods, the research team established two complementary structures of guidance and accountability:

- The **steering committee** was composed of nine older adults from Southwest Washington, D.C. and four local community stakeholders who shaped participant recruitment, reviewed emerging themes, and helped validate findings and recommendations. The committee also conducted two EIRs: the first to ensure equitable access and participation in the research and the second to assess whether the resulting technology recommendations

were inclusive and accessible for all potential residents, regardless of race, age, gender, or ability. Their ongoing involvement transformed the project from an external study into a collaborative process of shared discovery.

- **The ARC**, convened by VOA, consisted of 23 national experts in health technology, aging, and housing. While advisory in nature, this council provided critical feedback, shared lessons from implementation across the sector, and helped connect the research to emerging AgeTech innovations.

This layered structure of community leadership and professional expertise grounded the study in both lived experience and technical rigor.

Guiding Research Questions

The guiding research questions were developed collaboratively with the steering committee, which helped refine the focus of inquiry to address both opportunity and feasibility — ensuring that findings would be practical and grounded in local experience.

Three core questions underpinned this work:

1. What opportunities exist to integrate technology in affordable housing units to support the health and well-being of older adults?
2. How feasible are these technology solutions within this population?
3. What enabling factors — such as training, comfort levels, or healthcare support — are necessary to ensure their success?

The research team explored these questions through direct engagement with older adults living in affordable housing, as well as with the resident support staff, caregivers, and other stakeholders who support them.

Engaging the Community

Because the goal of this research was to provide information relevant to the new Buzzard Point development, community participants were intentionally selected to reflect the demographics of potential residents — older adults living in affordable housing in Southwest Washington, D.C. This population was prioritized to ensure that findings were directly relevant to those who stand to benefit most from technology integration in supportive housing. To complement these resident perspectives, VOA resident managers from other senior housing

communities, along with local caregivers and healthcare professionals, were also engaged. Their participation provided practical and professional insight into how technology can be integrated effectively into daily operations, care routines, and community life — ensuring the research captured both resident experience and provider perspective.

In keeping with the principles of CBPR, the research team implemented multiple strategies to make participation accessible and meaningful. Practical supports — including stipends, transportation assistance, and conveniently located meeting spaces — helped remove logistical barriers. Hands-on technology orientation sessions and flexible participation formats (in-person, phone, and assisted virtual options) ensured that residents of varying abilities, comfort levels, and digital literacy skills could engage fully in the research process.

This approach was especially important given the demographic realities of Washington, D.C.'s older adult population. The city is home to approximately 83,600 residents aged 65 and older, the majority of whom are Black (62.5%), female (59.3%), and living alone (74.1%). More than 40% qualify for affordable housing, and nearly 30% live with one or more disabilities (Office of the Budget Director, 2020). Compounding these disparities, many lower-income older adults lack reliable internet access or digital literacy skills, which can limit their participation in telehealth, online benefits enrollment, and digital communication.

To ensure equitable representation and inclusion, the first EIR guided participant recruitment and data collection strategies. Recommendations from this process included:

- Partnering with trusted community leaders (e.g., pastors, resident support staff, and neighborhood associations) to build awareness through word-of-mouth outreach
- Holding sessions at familiar and trusted community hubs, such as the Southwest Library and local farmers' markets
- Pairing participants with disabilities (e.g., those with vision or mobility limitations) to support comfort and inclusion
- Using plain-language materials, verbal instructions, and on-site assistance to accommodate different literacy levels
- Allowing participants to use familiar devices (e.g., personal phones) during technology-based activities such as PhotoVoice

These intentional design choices balanced research rigor with accessibility, ensuring that participants could meaningfully contribute their experiences and perspectives. The resulting insights authentically reflect the lived realities, needs, and aspirations of older adults who mirror the future residents of the Buzzard Point development.

Limitations

Readers should consider certain limitations when interpreting the findings of this study. First, the research was designed to be primarily qualitative and included a sample size of 65 community members, 33 AgeTech and senior healthcare experts, and seven senior living resident managers. This design enabled an in-depth exploration of resident experiences and perspectives but limits the generalizability of results. More expansive quantitative research will be needed to assess the findings' relevance at scale.

Second, because the study was conducted exclusively in the Washington, D.C. metropolitan area, the findings reflect the social, cultural, and infrastructural realities of this local context and may not represent older adults living in other regions of the United States. While participant demographics closely mirrored those of older adults in D.C. affordable housing, the sample does not capture the full diversity of the regional or national aging population.

Lastly, while the technology showcase strengthened the validity of resident feedback by grounding responses in direct experience, exposure was necessarily limited to a subset of technologies and participants. Findings should therefore be interpreted as illustrative of broader adoption dynamics rather than exhaustive evaluations of specific products or platforms.

Taken together, these limitations suggest that while the results offer rich, context-specific insights for D.C.-based housing developers, future studies involving larger and more diverse samples across multiple regions will be important to inform broader housing and technology solutions. Additional research should also explore potential funding mechanisms for integrating technology into affordable housing; develop business metrics, such as cost savings, operational efficiency, and improved resident satisfaction, to secure buy-in from potential funders; and examine how these insights might translate to the "middle market," where older adults may not qualify for public services but still struggle to afford new tools and products. Such work will help scale inclusive, technology-enabled models of healthy aging nationwide.

Strengths

The study possesses several significant strengths. Chief among them is its co-production approach, which engaged older adults in the Washington, D.C. area as active partners throughout the research process. Their participation ensured that findings centered on lived experience and were directly relevant to the realities of residents in affordable housing communities. The use of grounded theory supported an iterative, multi-stage design that allowed for cross-verification across multiple data sources, thereby enhancing the depth and applicability of the findings. Another key strength lies in the institutional partnership behind the study. VOA, one of the nation's largest nonprofit housing developers and providers of aging services, brought decades of experience in senior housing operations, resident engagement, and service delivery. This operational knowledge helped ensure that the research remained practical, scalable, and aligned with the day-to-day realities of affordable senior housing.

Oversight by the steering committee, the ARC, and the EIR process ensured diverse representation, attention to accessibility, and an intentional focus on populations often excluded from technology design — such as residents with disabilities, limited literacy, or income instability.

Finally, the study's hands-on and participatory methodology makes its findings highly actionable for housing developers, funders, and health and aging service providers. By blending resident-driven insights with professional and operational perspectives, this research produced evidence that is both theoretically grounded and practical for implementation.

INPUTS	OUTPUTS	OUTCOMES	OBJECTIVES	GOAL
Methodological Framework • Community-Based Participatory Research (CBPR) • Co-production approach centering resident voice • Grounded Theory qualitative analysis • Equity Impact Reviews (EIR)	• Actionable framework for technology integration in affordable housing	• Clear identification of gaps requiring further research and piloting	Identify resident-centered technology opportunities that can support health, safety, connection, and overall wellbeing.	**Identify how technology can be sustainably integrated into affordable older adult housing to support healthy aging, independence, and quality of life by centering the voices, lived experiences, and trust of potential residents from the outset.**
Data Collection Activities • Literature review • Photovoice • Focus groups with: – Older adults (55+) in affordable housing – VOA resident coordinators – Older adults and caregivers participating in the Technology Showcase • Hands-on Technology Showcase with live demonstrations – Key informant interviews with: – Healthcare providers – Caregivers – Housing managers – AgeTech entrepreneurs and funders	• Identification of technology pillars – Connection & Engagement – Safety & Security – Health & Wellness – Lifelong Learning – Caregiver Resources • Resident-informed qualitative dataset • Documentation of barriers to technology adoption • Documentation of recommendations for: – Baseline technology infrastructure – Staff tools and supports – Accessibility and privacy designs	• Increased understanding of how low-income older adults in D.C. perceive and use technology. • Greater recognition of technology as a social determinant of aging	Assess feasibility of technology integration considering factors such as cost, digital literacy, privacy, usability, and housing operations.	
Partnerships • Building managers (VOA) • Local research organization (IPHI) • Health funder (Humana Foundation) • Resident-led Steering Committee • Advisory Research Council	• Resident and expert-grounded research report • Community-focused dissemination materials	• Improved awareness among developers, practitioners, and innovators of: – Trust as a prerequisite for adoption – The limits of product-first design	Identify conditions for successful implementation, defined by sustained use and scalability of new technologies.	

APPENDIX 2: DETAILED DESCRIPTION OF DATA COLLECTION ACTIVITIES

PhotoVoice

To center potential resident perspectives, the research began with a PhotoVoice activity involving six older adults living in affordable housing in Ward 6 of Washington, D.C. Participants documented their daily lives through photographs and reflections, sharing what brought them joy, fostered connection, or posed challenges. Using the five technology categories identified in the literature, participants discussed what mattered most in their homes and communities.

PhotoVoice surfaced the values, barriers, and priorities that shaped residents' lived experiences, directly informing the design of subsequent focus groups to ensure that technology discussions remained grounded in reality.

Focus Groups

IPHI conducted four focus groups with different stakeholder groups, including current VOA building resident coordinators, current residents in affordable senior housing, and a combination of older adults and caregivers who attended a hands-on technology showcase.

VOA Resident Coordinators

Seven resident coordinators from VOA communities across five states shared firsthand experiences supporting older adults in daily life. Their insights revealed operational challenges, staff workload considerations, and the importance of designing technology that aligns with real-world housing practices.

55+ Residents in Affordable Housing

To better understand the experiences, needs, and perspectives of local older adults, IPHI conducted two focus groups in senior housing communities in Southwest Washington, D.C. with 25 participants ranging in age from 56 to 88. Participants were predominantly African American (90%), female (73%), and two-thirds (66%) reported living with one or more disabilities; 40% had experienced housing instability at some point in their lives. Importantly, the focus groups were conducted in different housing contexts: Focus Group 1 included residents of a primarily market-rate building (449 market-rate and 136 affordable units) with multiple technology-enabled amenities, while Focus Group 2 included residents of a publicly operated DCHA property with limited in-building technology exposure. These differing environments shaped the nature of the discussions around daily routines, sources of connection, and reactions to technology, and reinforced the need for hands-on engagement to support more meaningful resident feedback.

Technology Showcase

The final focus group was held following a hands-on technology showcase, where 12 local older adults and one caregiver tested and evaluated different tools and products. Participants reflected on usability, privacy, and relevance to their lives. This experiential format revealed that direct interaction can shift perceptions — turning skepticism into interest — and underscored the importance of ongoing support and training.

All focus groups were recorded, transcribed, and coded thematically to ensure that resident and coordinator insights were systematically analyzed and reflected in the study's findings.

Key Informant Interviews

To complement community insights, the research team conducted 28 key informant interviews with stakeholders across AgeTech, healthcare, housing, and caregiving. Interviews lasted 30–45 minutes and explored implementation challenges, opportunities for integration, and strategies for supporting older adults' independence and well-being.

Participants included:

- community members from demographics not captured in focus groups (including one individual who is legally blind and another who relies on caregivers for daily tasks)
- family caregivers and service coordinators
- local healthcare providers
- housing managers and resident coordinators
- AgeTech experts, funders, and entrepreneurs*

*A full list of tech-enabled solutions reviewed for this research are included in Appendix 3.

Together, these diverse perspectives helped identify the conditions that enable successful technology adoption and the barriers that persist in real-world practice.

Technology Showcase

A consistent limitation emerged during early focus groups: many older adults were asked to react to technology categories or tools they had never seen, used, or encountered. Given the rapid pace of innovation in the AgeTech sector—and uneven exposure to emerging tools in affordable housing contexts—participants often lacked a concrete reference point for imagining how new technologies might function in their daily lives. As a result, hypothetical questions about technology preferences or willingness to adopt proved insufficient on their own.

To address this gap, the research team organized a hands-on technology showcase designed to provide participants with direct, experiential exposure to a range of emerging tools aligned with the study's five technology pillars. This approach acknowledged a core reality of equitable research engagement: residents cannot evaluate what they do not know exists.

APPENDIX 2: DETAILED DESCRIPTION OF DATA COLLECTION ACTIVITIES

The showcase allowed participants to see, touch, and interact with technologies in a facilitated, low-pressure environment, transforming abstract concepts into concrete

experiences. This exposure enabled residents to offer more nuanced, realistic feedback about usability, privacy, relevance, and support needs—insights that were not consistently accessible through discussion-based methods alone.

Importantly, hands-on interaction often shifted participant responses. Technologies initially met with skepticism were reconsidered once residents understood how they worked, while other tools lost appeal when practical challenges became visible. These reactions strengthened the validity of the findings by grounding resident feedback in lived, experiential understanding rather than speculation.

The Technology Showcase functioned as a critical methodological bridge between resident voice and rapidly evolving innovation, ensuring that subsequent insights reflected informed choice rather than unfamiliarity.

Solutions demonstrated included:

- **PingCares** — a wearable that tracks vital signs and connects to caregivers in emergencies
- **ONSCREEN** — a TV-based device and AI companion that supports check-ins and telehealth
- **Vivo** — live, interactive exercise classes for older adults that connect body and mind
- **Brivo + Allegion** — smart locks and wearable access solutions for secure housing
- **The LOOP Village** — online community for older adults offering live events, fitness and meditation classes, music sessions, and dedicated times for social connection
- **Cherish Home Hub** — an ambient sensor system that detects falls and uses AI to monitor patterns in daily activity
- **Ageless Innovation** — animatronic companion pets that reduce loneliness and encourage interaction.

APPENDIX 3: FULL LIST OF REVIEWED TECHNOLOGIES

- **Ageless Innovation:** animatronic companion pets designed to provide comfort, reduce loneliness, and encourage playful interaction
- **Allegion:** designs and manufactures security and access solutions, including smart locks and wearable access solutions for secure housing
- **BetterAge:** an online platform that allows older adults to complete a free online assessment that evaluates multiple domains of well-being while considering social determinants of health
- **Bridge Social:** a technology company that uses AI to connect cities and communities with older adults. It helps seniors access essential services like transportation, events, and caregiving through a text-first platform to reduce staff workload and streamline communication
- **Brivo:** provides cloud-based physical security solutions, like building access control, video intelligence, visitor management, and intrusion prevention
- **CareDaily:** provides an open Ambient Operating System that unifies fragmented devices and data in homes and multifamily communities, enabling affordable senior housing providers to personalize support, monitor wellness 24/7, prevent falls and fires, connect families, and encourage independence for older adults and younger people with disabilities
- **Centri Life:** a digital financial literacy platform that teaches banking, budgeting, and tax filing for older adults
- **Cherish Home Hub**: an ambient sensor system that detects falls and uses AI to monitor patterns in daily activity and overall well-being
- **Discover Live:** virtual tours of global destinations and personalized "hometown" visits
- **Grace by LifePatterns:** a privacy-first Ambient AI platform for independent and assisted senior living residences that leverages massive spatial intelligence data to proactively sustain a safer, healthy environment and enhanced quality of life
- **HapticNav by Haptic (WearWorks Inc.):** a patented tactile navigation system that converts spatial data into intuitive vibration cues so older adults and residents with vision or cognitive challenges can move more safely and independently without needing to constantly look at a screen or rely on audio

APPENDIX 3: FULL LIST OF REVIEWED TECHNOLOGIES

- **The LOOP Village:** an online community for older adults offering live events, fitness and meditation classes, music sessions, and dedicated times for social connection
- **ONSCREEN:** a TV-based device and AI chatbot that supports caregiver check-ins and telehealth
- **PingCares:** a wearable watch that tracks vital signs and connects to caregivers in emergencies
- **Rendever:** a virtual reality system designed specifically for older adults and healthcare organizations to combat social isolation and improve well-being through shared, immersive experiences
- **The Smarter Service:** on-site "tech geeks" that assist residents with technology setup and troubleshooting
- **Toi Labs, Inc. (TrueLoo® smart toilet seat):** a smart toilet seat that uses advanced image analysis to automatically monitor stool and urine patterns in senior-living and home environments, helping caregivers detect early changes in health and reduce staff workload without requiring any changes to residents' daily routines
- **ThriveLink:** an AI-powered platform to help individuals enroll in social safety net programs via their phones
- **Vermut:** a social prescription platform for adults 55+ that enables local, real-world friendships through interest-based groups, user-led activities, and community-driven meet-ups
- **Vivo:** live, interactive exercise classes designed for older adults that connect body and mind.
- **XanderGlasses:** purpose-designed smart glasses that help individuals with hearing challenges or auditory disorders understand speech by projecting real-time captions without a phone or internet connection

APPENDIX 4: LIST OF STEERING COMMITTEE MEMBERS

- **Linda Anthony** — Resident, Ward 6
- **Amera Bilal** — Manager, Dementia Capable Program, Prince George's County Department of Family Services (Aging and Disabilities Services Division)
- **Robbie Dawson** — Resident, Ward 6
- **Sharon Easton** — Resident, Ward 6
- **Patricia Griffin** — Resident, Ward 6
- **Fredrica "Rikki" Kramer** — Chair, ANC 6D; Commissioner, 6D07
- **Michael Horn** — Resident, Ward 6
- **Gail Kohn** — Age-Friendly DC Coordinator, Office of the Deputy Mayor for Health & Human Services
- **Gwen McKoy** — Resident, Ward 6
- **Carol Muldrow** — Resident, Ward 6
- **Christine Spencer** — Resident, Ward 6
- **Pam Troutman** — Executive Director, Waterfront Village

APPENDIX 5: LIST OF ADVISORY RESEARCH COUNCIL MEMBERS

- **Jean C. Accius, PhD** — President & CEO, CHC: Creating Healthier Communities
- **Garry Choy** — Chief Clinical Transformation Officer, UnitedHealth Group
- **Scott Code** — Vice President, Center for Aging Services Technologies (CAST), LeadingAge
- **Scott Collins** — Chairman & CEO, Link-age Group
- **Soojin Conover** — Innovation Portfolio Strategy Principal, Humana Foundation
- **Karen M. Dale** — Market President, AmeriHealth Caritas
- **Amy Eisenstein, PhD** — Senior Program Officer, RRF Foundation for Aging
- **Stephen (Steve) Ewell** — Executive Director, Consumer Technology Association Foundation
- **Ted Fischer** — Co-Founder & CEO, Ageless Innovation
- **Denise Graeber** — Senior Vice President, Clinical Service Ops/Product Management, Signify Health
- **Todd Haim, PhD** — Director, Office of Strategic Extramural Programs, National Institute on Aging (NIA)
- **Amelia Hay** — Vice President of Startup Programming and Investments, AgeTech Collaborative™, AARP
- **Ken Honeycutt** — Director of Healthcare Commercialization, Samsung
- **Joseph C. Kvedar, MD** — Professor of Dermatology, Harvard Medical School; Editor-in-Chief, npj Digital Medicine
- **Sarita A. Mohanty, MD, MPH, MBA** — President & CEO, The SCAN Foundation
- **Sumit Nagpal** — Founder & CEO, Cherish Health
- **Upali Nanda, PhD** — Executive Vice President & Global Director of Innovation, HKS
- **Greg Olsen** — Acting Director, New York State Office for the Aging
- **Kyu ("Q") Rhee, MD** — CEO, National Association of Community Health Centers
- **Stephen Samuels** – Vice President, Innovation & Impact Investing at Volunteers of America
- **DeAndra Sharp** — Impact Manager, Next50 Foundation
- **Christine Spencer** — Steering Committee Representative, James Creek Resident Council
- **Diane Ty** — Managing Director, Center for the Future of Aging, Milken Institute
- **Jon Warner** — Chairman / U.S. Ambassador, Cherish Health / ECH Alliance
- **Charlotte Yeh, MD, FACEP** – Yeh Innovation LLC


Volunteers
of America®


Institute for
Public Health
Innovation