

DIGITAL INCLUSION FOR ALL

Ensuring Access for Older
Adults in the Digital Age



The digital inclusion of older adults is critical to achieving universal internet connectivity and represents one of the shared global challenges of the twenty-first century. In the modern era, a fast and reliable internet connection is no longer a luxury but essential to building prosperous nations and increasing the economic participation of all citizens. Reliable internet access is also critical for ensuring social cohesion, improved health outcomes, and life-long learning among aging populations.

While the internet was first envisioned as a great equalizer, the inequities of the built environment have significantly shaped opportunities and access in the digital realm. Age, in concert with other factors such as geography, income, race, language, and gender, strongly impacts one’s ability to fully access, benefit from, and contribute to the digital world. A 2022 global survey from Avast, a digital security and privacy provider, found that 27 percent of people over 55 never use the internet, and another 31 percent only use it occasionally. Globally, women—who account for 55 percent of those over 60—were 21 percent less likely than their male counterparts to be online in 2020, and 52 percent less likely in the least developed countries. These gaps in internet access mean that the current state of digital connectivity can reinforce inequalities rather than break them down, for example, by exacerbating gender gaps in financial service access or social protection payments, both of which are increasingly accessed online.

The UN Sustainable Development Goals (SDGs) represent “a shared blueprint for peace and prosperity for people and the planet,” including SDG 1 (ending poverty) and SDG 8 (decent work and economic growth), but are unlikely to be achieved by 2030 as envisioned without fully leveraging the digital space as a driver of economic growth and well-being. UN Secretary General Antonio Guterres has highlighted the role of digital inclusion in the Roadmap for Digital Cooperation, which includes universal connectivity by 2030 and digital inclusion for all among its key targets. In Our Common Agenda, the Secretary General laid out a vision for a Global Digital Compact, to

be agreed to by UN member states in September 2024, seeking “shared principles for an open, free and secure digital future for all.” Addressing the unique challenges of getting older adults online globally, and especially in regions where overall internet connectivity remains low, is fundamental to realizing this vision.

Beyond the multitude of benefits that connectivity can provide, there is also a strong economic case for getting older adults online. Seniors are the wealthiest age cohort in the world, and there were 727 million adults aged 65 and older worldwide in 2020, a number that is expected to more than double by 2050. By 2050, the annual economic contributions of the 50-plus age group in the US will triple, from \$8.3 trillion to \$26.8 trillion. Despite older adults’ potential to contribute to society economically and socially as innovators, mentors, caregivers, and leaders, they lack equitable and reliable internet access in both developed and developing economies. Among countries belonging to the Organisation for Economic Cooperation and Development (OECD), less than 60 percent of adults in 2019 aged 55 to 74 reported using the internet frequently. In developing countries, internet penetration is often far lower. Such digital connectivity gaps are not only to the detriment of older adults but are also a missed opportunity for their communities and countries.

In an effort to address these issues and help close the gaps, in 2022 AARP convened a series of roundtables with experts from governments, the private sector, and non-governmental organizations, focusing on three key pillars for achieving the digital inclusion of aging populations:

- 1. Broadband Access:** Today, broadband is seen as the foundation for an internet-dependent world. However, uptake is undermined by barriers to physical access as well as issues of affordability that impact seniors disproportionately.
- 2. Digital Skills:** Even when connected to the internet, many older adults face a significant but surmountable skills gap that limits the utility of digital devices and services. Adequate and appropriate training can help ensure that older adults get online and get the most out of the digital realm.
- 3. Inclusive Design:** Design processes often tend to treat older adults and their needs as afterthoughts. Involving older adults of all backgrounds and abilities from the start, and adapting to their design needs, can make digital ecosystems work better for everyone.

This brief examines the challenges associated with each pillar and aggregates some of the key recommendations from the roundtable discussions. It presents a selection of cross-cutting recommendations that can aid in fully

Expanding Broadband Access

The Challenge

Access to affordable high-speed internet remains a huge barrier to connectivity for older adults, especially in rural and low-income contexts. Around the world, lower- and middle-income countries, which will account for 80 percent of the global population of adults over 60 by 2050, lag behind high-income economies in the infrastructure needed to get people online. The International Telecommunications Union (ITU) reported that 87 percent of people in developed countries were online in 2019, compared to 47 percent in developing countries and just 19 percent in the least developed countries. In high-income and developing countries alike, urban areas tend to have greater internet access than rural areas, and older adults tend to account for a higher proportion of the population in rural areas than in urban areas. Globally, 76 percent of urban dwellers

use the internet, compared to just 39 percent of rural people, making physical access to broadband a continuing challenge.

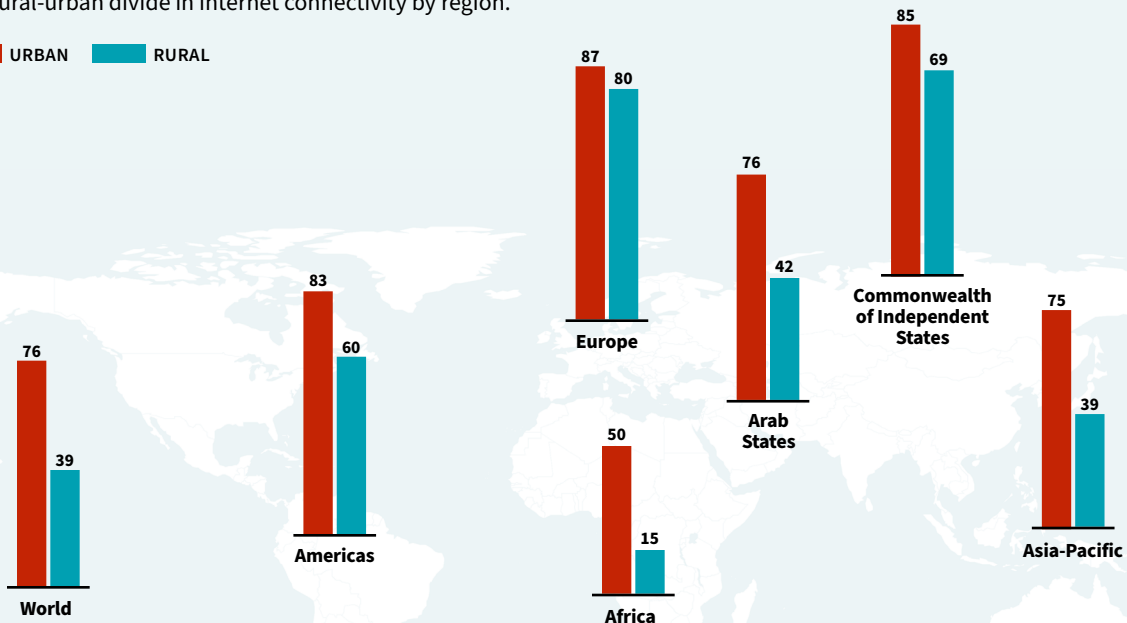
Internet access remains unaffordable for many around the world. For example, the average cost of fixed-broadband access in 2018 in Africa was equivalent to 64 percent of average monthly income. Likewise, while broadband access is widespread in urban areas in the United States, the majority of homes without access are actually in urban areas, where affordability serves as a major impediment to people getting online. Adequate infrastructure, while necessary, is insufficient for closing the digital inclusion gap among older adults—and other groups, particularly low-income populations—if internet subscriptions remain financially out of reach.

While everyone can benefit from affordable, accessible internet, older adults in particular—who may be economically siloed due to lack of access to the internet, are at elevated risk of social isolation, and can greatly benefit from the telehealth and other medical advantages that connectivity permits—have much to gain. For example,

Urban-Rural Divide in Internet Usage

The rural-urban divide in internet connectivity by region.

URBAN RURAL



DATA SOURCE: ITU GLOBAL CONNECTIVITY REPORT 2022

several studies have shown that older adults are more likely to experience lower levels of depression and higher life satisfaction if they use the internet regularly. The internet is increasingly critical for fundamental activities such as pursuing employment, purchasing consumer products, learning skills, accessing government and financial services, and staying connected to family, friends, and wider communities, all areas of life in which older adults experience challenges to their engagement. Expansion of internet accessibility could therefore contribute to the mitigation or easing of these barriers to fulfilled, productive lives in older age.

Recommendations: High-Speed Internet for All

Based on AARP's roundtables and research, the following set of recommendations encapsulate key opportunities for ensuring the digital inclusion of older adults:

Leverage public-private partnerships: No single entity or sector can fix the broadband gap alone. Public efforts are needed for a conducive policy environment and to help build out infrastructure, while private companies can take additional steps to ensure uptake, such as by aiding in “last-mile” delivery. One example is the collaboration among Microsoft, the government of India, and AirJaldi, an internet service provider, to extend broadband access to rural communities in India. Under Microsoft's Airband Initiative, the partnership leverages unused and unlicensed wireless frequency bands to provide internet access to India's rural populations, which include more than 70 percent of Indian adults over 60.

Reframe broadband access in terms of economic gains: Demonstrating the additional benefits of broadband access, not strictly the costs of its provision, can increase public- and private-sector support for increasing access. While building broadband networks presents steep

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The Alliance for Affordable Internet: A Coalition for Digital Change

The Alliance for Affordable Internet (A4AI) is a network of governments, companies, and civil society actors working together to achieve affordable internet access for all. Major private-sector companies, such as Google, Amazon, Meta, Intel, Microsoft, and Cisco, have teamed up with relevant government entities around the world to advocate for supportive policies, engage relevant parties, and conduct research on barriers to access and potential solutions. Their work highlights the goal of “meaningful connectivity”—involving high speeds, appropriate devices, unlimited connection, and daily use—all areas where impediments are particularly pronounced for older adults. In a recent project, Meaningful Connectivity for Rural Communities, A4AI examined the urban-rural connectivity gap in nine low- and middle-income countries, finding that less than 2 percent of people in rural areas in Mozambique and Rwanda, which includes at least 75 percent of those over age 60 in both countries, had meaningful access to the internet. Coalitions like A4AI are generating the policy momentum and identifying gaps critical to successfully reaching development targets like SDG-1.

upfront costs, the ITU estimates that increasing broadband penetration by 10 percent could yield more than a 2 percent increase in GDP per capita in developing countries. Public resources may be needed to unlock these benefits when the market fails to do so, but the projected benefits are multifold for older adults and other marginalized groups as well as for societies generally.

Access means more than infrastructure: The availability of broadband infrastructure is just one aspect of digital inclusion. All people, and particularly underserved groups, need awareness of available resources, skills development to use them, and supportive environments that encourage internet use as a part of daily life. Research during the COVID-19 pandemic suggests that broadband internet connectivity paired with training leads to positive social outcomes for older adults who were previously offline and unable to leverage the internet. Investments in infrastructure must therefore be paired with investments in programs to increase awareness of the benefits, grow digital skills, ensure inclusive design, and facilitate affordability for older adults.

Building Digital Skills

The Challenge

Successful digital inclusion of older adults is dependent on providing individuals with the digital skills needed for an increasingly online world. People who learned to use digital technologies later in life often lag behind those who acquire digital skills earlier in life such as how to use a computer, internet browser, and search engine. This can reduce the utility of online spaces for older adults or shut them out entirely. A [2021 survey](#) of U.S. adults over 50, for example, found that 54 percent wanted better skills to use digital devices but 37 percent said they lacked confidence in using technology. This skills gap can manifest in many ways in daily life, from an inability to access an online portal for public services, to failure to use mobile device reminders to take medication, to an inability to apply for a new job or connect with a community group.

The skills gap can lead to lower earnings as well as lowered consumption. Older adults are more likely to lack the basic digital skills that are critical for participation in many jobs, even when they possess [superior literacy and numeracy skills](#), compared to younger cohorts. For example, according to a [2016 survey](#) of OECD countries, only one in ten adults aged 55 to 65 can complete new multiple-step technological tasks. While the global spending power of seniors is estimated to approach [\\$15 trillion](#) by 2030, that pathway to economic growth will remain underleveraged if seniors remain sidelined in the digital world despite growth in e-commerce.

Social and cultural challenges as well as lack of awareness exacerbate the skills gap. Older adults, many of whom did not grow up adapting to new digital technologies regularly, can feel intimidated by certain learning environments or simply believe that technology is not [designed](#) for them. Likewise, a disconnection from digital platforms can lead to a [lack of awareness](#) wherein individuals simply do not have access to information that could improve their lives, from opportunities for low-cost broadband access, to e-learning classes, to the tools to search for jobs online. A lack of trust also contributes to less participation online, as older age groups are often targets of and particularly concerned with cybercrime such as fraud and theft of personal information.

In the US, OATS (Older Adults Technology Services) has enhanced the digital inclusion of older adults by focusing

Corporations Driving Change: Telefónica

Telefónica, a multinational telecommunications company based in Spain, recognizes digital inclusion as essential to its approach to sustainability and innovation and highlights four elements of inclusion: infrastructure deployment, inclusive access, digital skills, and responsible use. The company provides programs to teach basic digital skills, such as Digital mobil im Alter (mobile for seniors), as well as more advanced training to impart professional skills for a changing workforce. In the World Benchmarking Alliance's 2021 ranking of 150 of the world's largest digital companies, Telefónica achieved the highest score, at 90 out of 100, including the highest score of any company for their efforts in teaching digital skills.

technology training and support on staying connected, engaged, and independent. OATS programs enable community building by facilitating online and offline social connections, which helps to combat social isolation and improve quality of life. Additionally, OATS programs can improve seniors' digital literacy and confidence, which in turn can support better health outcomes and economic opportunities.

Recommendations: Digital Skills for All

Leverage varied points of entry: Successful training programs provide varied points of entry to older adults, meaning approaches that offer numerous options for contact and reflect the different skill sets of seniors. A basic digital skills course could encompass drastically different topics and technologies, from how to update apps on a mobile device to how to use a mouse and keyboard. Singapore's [SG Digital Office](#) has used a combination of training programs to help reach older adults, including community hubs, one-on-one training, and [Silver Infocomm Wellness Ambassadors](#)—adults over 50 with enhanced digital skills who volunteer to help train their peers.

Involve trusted institutions: Learning opportunities work best when delivered by institutions that older adults are familiar with and tend to trust, such as a local library, religious network, or senior center. Digital providers can play a role here by complementing internet service provision with training courses and materials, as Telefónica—a multinational telecommunications company based in Spain—does by pairing broadband access with training programs delivered by volunteer staff and civil society groups.

Tailor training: Optimizing the approachability of training for older adults is critical to maximizing its uptake. To be effective, digital literacy programs require a programmatic framework that is well matched to the specific needs of a community and designed to boost the confidence of older users. Older adults have greater confidence and engagement with training when instructors have shared experiences or are older adults themselves, and some may even dislike being placed with younger instructors. Older adults may also favor trainings based on one-on-one, personal interaction over automated programs. Creating trainings to make learning easy and enjoyable for older adults is therefore key. For example, as part of Israel’s National Initiative to Advance Digital Literacy, the non-profit Machashava Tova works with the Ministry of Social Equity to provide digital literacy courses tailored for older adults on topics such as smartphones, Zoom, and online access to social services.

Keep pace with new technology: Skills training tends to lag behind the latest technology, which leaves older adults without the ability to properly use new devices or services, while old equipment may lack functionality or suffer from increased cybersecurity risks. Digital skills courses need to remain up to date with the release of new technologies so that older adults can be fully involved.

Implementing Age-Inclusive Design

The Challenge

Digital design processes often fail to account for the many disparate needs and abilities of older adults. For example, nearly half of older adults in the United States experience technological barriers that interfere with social connections. Rather than an inclusive approach to design that accommodates all, technology is almost always made to accommodate the modern general user who is already online

Making Cyberspace for Everyone: WAI’s Web Content Accessibility Guidelines

The Web Content Accessibility Guidelines (WCAG), to be updated in early 2023, is a set of international standard for online content developed as part of W3C’s Web Accessibility Initiative (WAI). WCAG is designed to make web content more accessible to people with disabilities of any sort, from blindness and low vision to learning and cognitive limitations, to combinations of multiple disabilities or conditions. WCAG utilizes inclusive design practices, including in its iterative process that seeks the involvement of everyone, from companies to web designers to end users. The WAI also publishes resources in over 35 languages, for designers, developers, policy-makers, and people with disabilities.

and well adapted to the digital realm. The rare exception is assistive digital technology, which tends to offer a drastically different digital experience and reduced functionality. Between these two ends of the spectrum are many other levels of skill and ability to use digital tools. Making a digital world that works for everyone requires design processes that have everyone—including different demographics and marginalized groups—in mind from the start.

Ageism can lead many to equate old age with inability, thus perpetuating stereotypes and incorrect assumptions about aging populations, such as the false notion that older adults are ill-suited to the digital realm and incapable of using technology. Additionally, disabilities are prevalent among older adults—affecting more than 46 percent of those over 60 globally—and represent some of the primary hurdles for getting aging populations online and using digital devices. Older adults with disabilities face a vast array of challenges, from visual and hearing loss to cognitive decline and learning limitations. Design process currently marginalize and negatively impact older adults through the reduced functionality of digital devices or failure to cater to specific needs. Devices are often simply not designed with older adults, including their needs and capacities, in mind, and continued high barriers to using new and emerging products may discourage them from using digital tools entirely. The exclusion of this group, partial or total, represents a huge cost—the World Wide Web Consortium (W3C), the main international standards organization for the web, estimates that people with disabilities, including

older adults, account for more than one billion people globally and a total spending power of \$6 trillion. Designing inclusive digital products could therefore enable businesses to reach a substantial consumer segment.

Recommendations: Design for All

Elevate design-for-all concepts: Companies and universities can achieve an optimal user experience for people across age groups by being more intentional about the digital inclusion of older consumers and maintaining a focus on the unique needs of 50-plus users throughout the development process.

This creates a digital ecosystem in which everyone can participate with a similar level of access and functionality. For example, Apple iPhones now include a measurement for walking steadiness, which can help predict a user's risk of falling, which is particularly prevalent among older adults, and Apple Watches can be set to call emergency services if a fall is detected.

Involve older adults: Similar to peer-training with digital skills, involving older adults in the product design lifecycle, including co-creation, testing and feedback, can break down misconceptions and expose challenges for a range of groups that may not be obvious to designers and manufacturers. For



instance, the Center for Aging and Brain Health Innovation in Toronto uses a lived experience advisory panel, consisting of adults 55 and older, to help evaluate and co-design innovations to improve the experience of aging.

Emphasize ability: At a broader level, age-inclusive design should be reconceptualized not as a burden but as a route to enabling and accessing the unique skills of everyone, especially older adults. Older adults have rich knowledge and technical and occupational skills that will be lost if digital tools are inaccessible to them.

Cross-Cutting Recommendations

AARP's roundtable discussions, complemented by additional research from FP Analytics, highlight several recommendations and best practices that are universally important to the digital inclusion of older adults going forward. These concepts can guide overall efforts to get older adults, as well as other overlooked and underserved groups, fully involved in, benefiting from, and contributing to the digital world.

Focus on where inequalities are greatest: Key to addressing development targets such as SDG-1 (ending poverty) and SDG 8 (decent work and economic growth) is prioritizing those groups where disparities are most acute. In the digital realm, focusing on older adults is a good start, but impactful programming will also consider the other factors that compound digital exclusion, particularly race, gender, income, and geography. Intersectional solutions are critical to overcoming complex, prevalent, and entrenched challenges. For example, in the United States, white Americans over 50 are six times more likely than Black Americans over 50 to have basic digital skills. Identifying and addressing intersecting inequalities can drive multidimensional change and maximize impact.

Build coalitions: Digital inclusion of older adults is a shared responsibility requiring the collaboration of public, private, and non-profit entities at local, national, and international levels. Governments can ensure rights and protections, facilitate systematic inclusion, and mobilize resources to bridge market gaps. Private companies can target investments, deliver essential technological tools, innovation, and expertise, and define the upper-bound potential of digital involvement. Civil society and non-governmental organizations can shine a light on excluded groups, provide support to and communicate with older adults, and hold stakeholders accountable. Vision and

resources may be driven at the national or international level, but effective implementation will require the diligence and granular knowledge of local actors in individual communities.

Recognize the business and social imperatives: By adopting strategies that address the gaps in digital access, skills, and design, companies can both further corporate social responsibility goals, by helping improve the livelihoods of aging populations, and access a burgeoning new market opportunity. This is critical, because spending on new technology among those 50 or older in the United States is projected to amount to \$108 billion in 2030.

Speak their language—literally and figuratively: Digital devices and services need to be attuned to local contexts. Governments and internet providers can ensure that digital products and resources are available in local languages. More broadly, successful programs to get people online will be sensitized to the variability of needs, particularly among older adults, and incorporate adaptive and responsive forms of engaging users.

Develop consistent data and benchmarks: Understanding of the global benefits of digital inclusion and the national and regional gaps that persist is hindered by inconsistent data across and within countries, and varying conceptions of what qualifies as adequate digital access. While metrics that track hard infrastructure remain essential, measurements of factors such as digital skills and supportive environments are equally critical to building

a complete picture of digital ecosystems and identifying where interventions can have the greatest impact. A 2021 study by the World Benchmark Alliance found that out of 150 of the world's most influential technology companies, only 12 published any impact assessments, suggesting that such companies are falling short on their commitment to use technology as a force for good. Expanding the knowledge base with a keen eye toward the experience of older adults remains key to achieving digital inclusion.

Looking Ahead

As much of daily life moves online—from work opportunities to essential services such as healthcare and banking—inclusion in the digital world has become critical to the well-being of people around the world. This is especially true for older adults, who face acute risks from exclusion from online spaces. As this analysis shows, digital inclusion is an area ripe for public-private collaboration, inclusive design, and innovation. Working together, governments, internet service providers, and other stakeholders, can support older adults to be healthy, fulfilled, and productive in their later lives.

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