



Design for Aging at Home

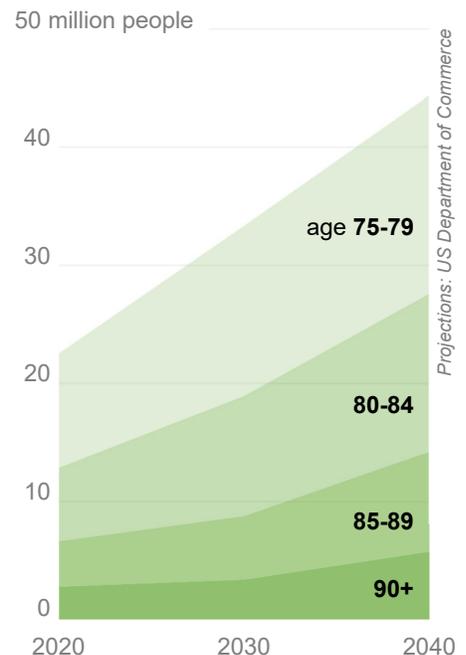
We may not like to admit it, but we are getting older. In fact, so is our country as a whole. The aging baby boom generation and climbing life expectancies will double the number of Americans older than 75 in the next 20 years.

Nearly all of these seniors hope to grow older in the homes that they love, for a variety of understandable reasons:

- Wanting to control their own environment, with the freedom to stay up late, keep pets, and crank up the thermostat
- The desire to remain near friends, family, and familiar surroundings
- A fear of institutions based on news stories about abuse or neglect
- Financial constraints that make it easier to stay in a home they already own

This strong preference is driving the trend known as “aging in place” (though we prefer “aging at home,” which better captures the emotional component of this choice).

The 75+ population in the U.S. is projected to double in the next 20 years.



Businesses see the trend toward aging at home as an opportunity. A bevy of products promise to help people move safely around their homes if they develop mobility constraints or take their medications on time if their memory begins to deteriorate.

Yet these products are out of sync with how older adults see themselves, and don't address what our aging population will truly need to live independently in the homes they love. People hope for more than just "hanging on" at home until their dying breath. They see aging at home—as opposed to moving to a community or facility for the elderly—as a way to *improve* their quality of life.

Thirteen years ago, when Joseph Coughlin and Jasmin Lau presented at the first National Council on Aging, they pointed to a pervasive cultural bias leading to innovation focused only on health and safety without considering older adults as whole people with rich lives and active minds.

This narrow focus prompted Fathom Consulting to explore how to support our clients who are looking for opportunities in the thriving "aging in place" market. Holistic knowledge of how people in our specific community think about their needs as they mature seemed inadequate, so we embarked on our own research—including both qualitative and quantitative studies and a collaborative design workshop with local seniors.



“[In innovation], the laser-like focus on health is driven by a predominant definition of aging as synonymous with frailty and disability.

While not totally incorrect, the definition is incomplete and is at the expense of innovations in other parts of life.”

—Joseph Coughlin and Jasmin Lau, *Cathedral Builders Wanted: Constructing a New Vision of Technology for Old Age*

Our findings, along with secondary research and our body of knowledge about specific products that older adults often use, taught us to take a careful approach to designing for the emotional, physical, and cognitive needs of this audience. Working from Coughlin and Lau's hierarchy, we developed a design framework to help us—and our clients—check our biases and ensure we design for this audience with empathy and respect.



A Needs Framework for Aging at Home

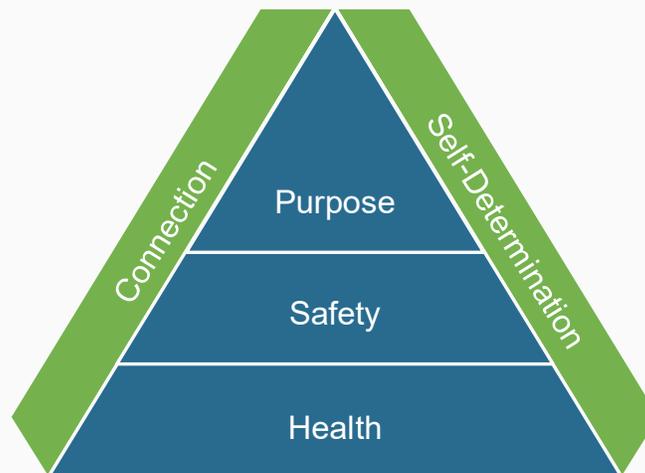
THE TIERS

Like Maslow's hierarchy and Joseph Coughlin's model, our framework places basic needs at the foundation and builds from there.

Health. This foundational need includes more than simply managing a condition. Thinking holistically means supporting older adults in maintaining both physical and mental health.

Safety. Preventing falls and fast response in an emergency are important, but this basic need also encompasses privacy and feeling secure in the broader community.

Purpose. Beyond the basics, older adults look for a reason to get up each day. For many, this includes volunteer work, artistic expression, hobbies, continued learning, and supporting others.



THE THEMES

Two themes span all levels of the hierarchy. The intersections of theme and tier encourage us to understand needs in a broader, human-centered context.

Connection. The importance of connecting with loved ones increases as we age. It is integral to all other human needs and its absence (isolation) leads to a lack of purpose and declining health. To remain relevant, products and services aimed at improving health or safety should also connect older adults to the world around them.

Self-determination. Regardless of its intended use, designers of a product or service should consider how it impacts the user's sense of autonomy. The freedom to decide what to buy or how to use it remains essential for older adults, who often fear becoming diminished to the point that they no longer have a say in where and how they live.

The framework provides a visual reminder to aim higher than health and safety and to remember the importance of connection and self-determination to a senior's quality of life. When we are centered and focused on the broader needs of our audience, we are better able to:

- **Craft thorough research** that explores every area of the framework, opening our inquiry to needs in more areas of seniors' lives.
- **Mitigate our biases** and avoid falling back on stereotypes of older adults as primarily frail and disabled.
- **Design together** by bringing older adults into co-creation activities that give them a feeling of autonomy and control of their destiny.
- **Develop holistic design personas** that address not only physical differences or health and safety concerns, but also the variability in how people want to stay connected and how they could be enabled to stay in control of decisions about their lives.

See *Using the Framework*, page 15.



“All we ask is to be allowed ...

the freedom to shape our lives in ways consistent with our character and loyalties ...

to avoid becoming so diminished or dissipated or subjugated that who you are becomes disconnected from who you were or who you want to be.”



– Atul Gawande, *Being Mortal: Medicine and What Matters in the End*

The following pages explore each tier of the model, as well as the intersections between the needs at each level with connection and self-determination. They contain many examples and quotes from our interviews and workshop. The names used throughout have been changed to protect the privacy of the individuals who shared their stories with us.



HOLISTIC HEALTH AND WELLNESS

Traditionally, products and services aimed at improving health have been focused on managing conditions that have progressed to the point of needing medical intervention. Innovation here is too often driven by a desire to qualify for reimbursement from health insurance companies.

Good health, however, requires more than this. A human-centered approach also considers physical activity, nutritious food, and comfortable shelter. Exploring creative and enjoyable ways to meet these other needs can help older adults maintain and improve their overall health.



HEALTH AND CONNECTION

Strong connections to loved ones and community are essential to safeguarding health. Isolation and loneliness increase the likelihood of mortality at rates equivalent to smoking or obesity. Older adults who lack these ties are several times more likely to develop cognitive issues, such as dementia, and mental health issues, such as depression and anxiety.

These correlations hold whether the isolation is objective or perceived, and the phenomenon isn't limited to older adults. (In a 2016 nationwide survey of college students conducted in Canada, 64 percent described feeling “very lonely” even though they live on crowded campuses!) The ties between lack of connection and health risks even led the United Kingdom to appoint a minister of loneliness, and researchers at the University of Wisconsin to declare “social isolation” a public health crisis. Bleeding-edge science is also studying other physiological effects of isolation, such as constantly circulating stress hormones or changes in the way our immune systems fight off infections.

The link between connection and health is no mystery. With others in our lives, we're more likely to eat well and go to bed on time. We're more accountable for practicing good hygiene, taking medications, and getting exercise. Others will likely notice if we are getting sick or acting strangely, leading to swifter diagnosis and treatment.

“I would like to stay here. This is my home. My kids grew up here. I have a lot of memories here. I can't see myself in a condo or senior living.”

—Anita, age 69



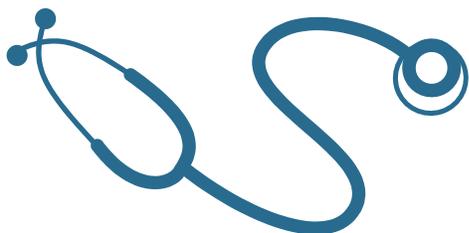
However, older adults still prefer to be selective about their connections. In our research, older adults didn't perceive connection as being around just anyone, but rather as spending quality time with people who were "good for them." Our participants valued friends who weren't pushy, who kept a positive outlook on life, with whom they shared values and beliefs, and who operated at the same speed they did. For example, May, age 77, has been in her neighborhood book club for a decade, but she vows she'll quit on the spot if they start reading romance novels.



HEALTH AND SELF-DETERMINATION

Our society has grown more sensitive to people's desire to make decisions about their own health journey, but a lack of options or frank information can erode a person's control. Many older adults find that their families and the medical community become overly involved in these decisions, steering them down a path they may not want.

We spoke with Dave, age 72, who told us in the first minute that he could be described as a "bitter guy." He felt that politicians (from the city council all the way up to congressmen in Washington, D.C.) were to blame for the unhappiness in his life. Dave said that Medicare didn't cover the pill he had taken for 15 years to treat his painful psoriatic arthritis. After he turned 65, the only way to get this medication affordably was by switching to an intravenous dose. In order to get the treatment he needs, he must now drive to the hospital once a month and sit on an IV drip for four hours. This costs Dave substantial time away from work and loved ones, and it also means that he can no longer travel to his second home in Mexico for more than three weeks at a time.



Many older adults find that their families and the medical community become overly involved in these decisions, steering them down a path they may not want.

In his own words, Dave felt powerless. He was bitter that he'd had no option to keep taking the pill that was improving his health and his quality of life. While his basic health need was technically met by the intravenous version of the drug, the loss of self-determination caused him great emotional distress.



SAFETY IN HOME AND OUT

Historically, the focus of innovation for safety for older adults has been on preventing falls through physical adaptations to the home, and on getting help in an emergency. Both of these address real needs, but they often ignore the inherent loss of privacy and dignity. They meet caregivers' desires to easily monitor their loved ones' safety rather than the authentic needs of the older adults themselves.

Secondarily, because so many of the products and services in this area focus exclusively on safety in the home, they may also feel like a tether for the older adult. Our interviews revealed a need for innovations that would help people feel safe *throughout the community*, in order to keep them engaged in it.



SAFETY AND CONNECTION

Falls account for 70 percent of accidental deaths in people over age 75, and the probability of falling can be predicted by age, the number of medications taken by the individual, and balance or gait disturbances. Vision and cognition decline also play a large role. Without connecting with someone regularly who checks on medication adherence or who might notice changes in vision or balance, older adults might not get proper fall prevention equipment in place.

When living alone at home, a person who has fallen might wait a long time for help or treatment. While most older adults are mortified to wear an emergency response pendant, they may be more open to something less obvious, or something that connects them with a loved one or known caregiver easily.

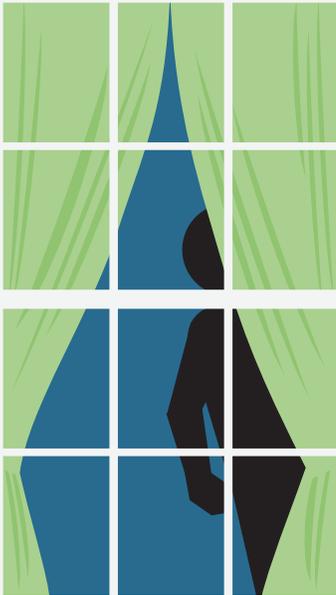
Older adults who are aging at home have seen their neighborhood change over time and many have safety concerns about their community, based on conversations with neighbors or news reports. Older adults are often the targets of break-ins or scams, but having neighbors they can trust helps increase a sense of safety and allows them to feel safe leaving home.

In our survey, the deterioration of the community was a strong reason to abandon one's plan to age at home—even more so than changes in mobility or finances—and nearly tied with the loss of a partner, ability to drive, or a decline in one's cognitive abilities.



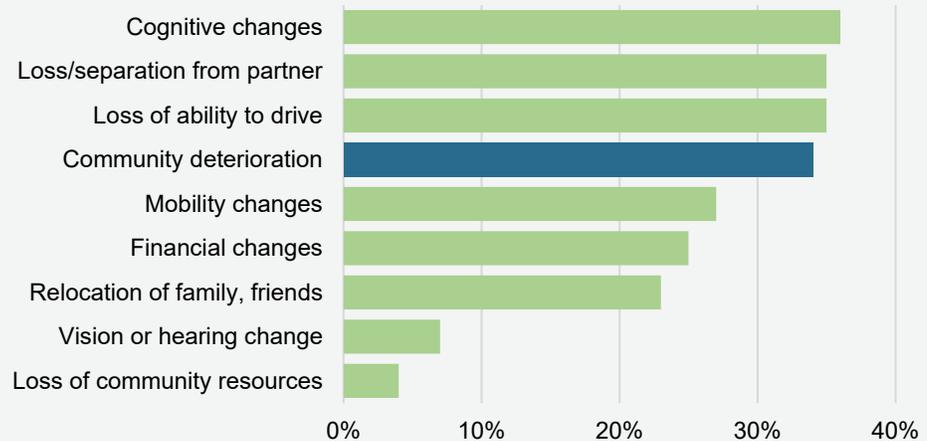
There Goes the Neighborhood

Losing connections with neighbors can make people feel less safe. Deterioration of community ranked high among the reasons that respondents said they might choose to leave their homes.



Which of the following do you think would cause you to leave your home sooner than planned?

Percent responding “probably would move” or “definitely would move”



One woman we interviewed, Anne, was the victim of a break-in in 1999. Today, her fears are reinforced by her use of crime tracking apps, allowing her to read and listen to police scanner activity in her area. When we spoke with Anne, she was contemplating knee surgery that would make it easier for her to get around; however, she was putting it off because it would require her to be away from her home while in rehab for a few weeks. “Who knows what I might come back to?” she despaired.



SAFETY AND SELF-DETERMINATION

When it comes to aging at home, self-determination is often eroded by well-meaning caregivers. Anxiety about the safety of a parent may lead them to install additional safeguards that their loved one really doesn't want. It also often leads to painful conversations about when to give up on the dream of aging at home and move “where someone can take better care of you.” The options for what that place might be have traditionally been quite limited and, in most cases, aren't satisfactory to the person who was planning to age at home.



In our collaborative workshop, one group prototyped an advanced monitoring system that could help people remain safe in their homes as they aged. Anticipating that some people might object to the intrusion of more screens in their life, they designed a delicate butterfly drone that could land on a person's shoulder, letting them know it was time to check in or take their medications.

A woman we interviewed, Maxine, didn't consider staying with either of her daughters a viable option, as she couldn't picture herself being comfortable with the way they kept house and the food they prepared. In addition, she felt their homes were already crowded by their growing children. While she loved her grandchildren, she had no desire to live amongst their daily chaos.

This left Maxine considering assisted living. Her only requirements were that it be close to her current home, have a nice view of nature from the windows, and be welcoming to her cat, Charlene. She wasn't sure if such a place existed, and she hoped she wouldn't have to find out.



“With limited options, the last third of a person’s life is often spent making radical changes in response to comparatively minor changes in physical or physiological condition.”

–M. Scott Ball, *Aging in Place: A Toolkit for Local Governments*

The pressure to move in with family is one reason why some older adults actually do prefer a traditional emergency response system--it provides a straight line to emergency services without notifying their loved ones that they have had a fall or medical emergency. This divergence in opinion highlights the need for living arrangements that respect people's wishes for how safety measures are implemented.



FINDING PURPOSE AND MEANING

At the top of the pyramid, when the basic needs for health and safety have been satisfied, older adults look for purpose and meaning. Our definition of purpose encompasses two needs identified by Coughlin and Lau—legacy and contribution—but also includes the many other reasons people have for getting up each day. Not all older adults want to spend their time trying to leave a legacy or pursue altruistic volunteer work. Many just want to continue to pursue their artistic and leisure passions.

At our workshop, one group brainstormed ways to help other older adults find new, purposeful pursuits after they retired from their careers. Their “retirement concierge” could help connect new retirees to volunteer work, educational opportunities, or ways to translate their skills into paid gigs.



“[We fail] to recognize that they have priorities beyond merely being safe and living longer; that the chance to shape one’s story is essential to sustaining meaning in life.”

– Atul Gawande, *Being Mortal: Medicine and What Matters in the End*

In our interview with Maggie, age 76, we learned that she used to teach sign language and conduct a sign language choir at church each week, but no longer wants that constant responsibility. Now she performs as a solo signer because she missed the opportunities to express herself through signing. Although most of the congregation can hear, she still enjoys sharing her art with them.

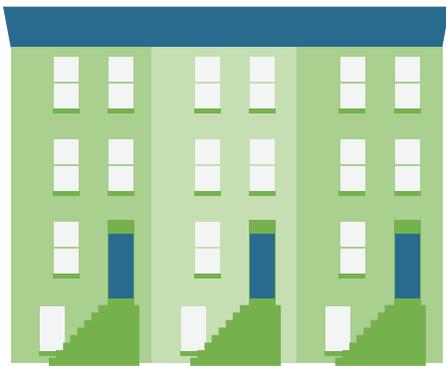




PURPOSE AND CONNECTION

Unsurprisingly, connection is also deeply interwoven in the need for purpose. Of the purposes we uncovered in our interviews, none of them were solitary pursuits—and most were strongly tied to the connections the person had made in prior years. Most of the older adults we spoke with were still active with groups related to the careers they had worked in throughout their lives.

One gentleman in our research spent his career working in agricultural economics at a university and is still active in the sustainable local food movement in his community to this day. In 2011, he connected with like-minded people at a political protest, which created lifelong friendships as well as the formation of two bands with which he enjoys playing weekly (one polka and the other Brazilian!).



“I’m not a joiner, but I need to be surrounded by people I have something to share with. I’d like to belong to a local group doing something, working on something together.”

—Mabel, age 78

Another person we interviewed spent her career as a bereavement counselor. Today, she continues to work with professionals across the nation with the goal of “changing our country’s understanding of grief.” She also has daily Skype meetings with a group of five women who she met in a forum for the newly widowed. She described their deep connection because they are the only ones in her life who truly know what it’s like to lose a spouse. One thing missing for her is a connection with her neighbors, who she knows well, but has not yet found a common interest with.

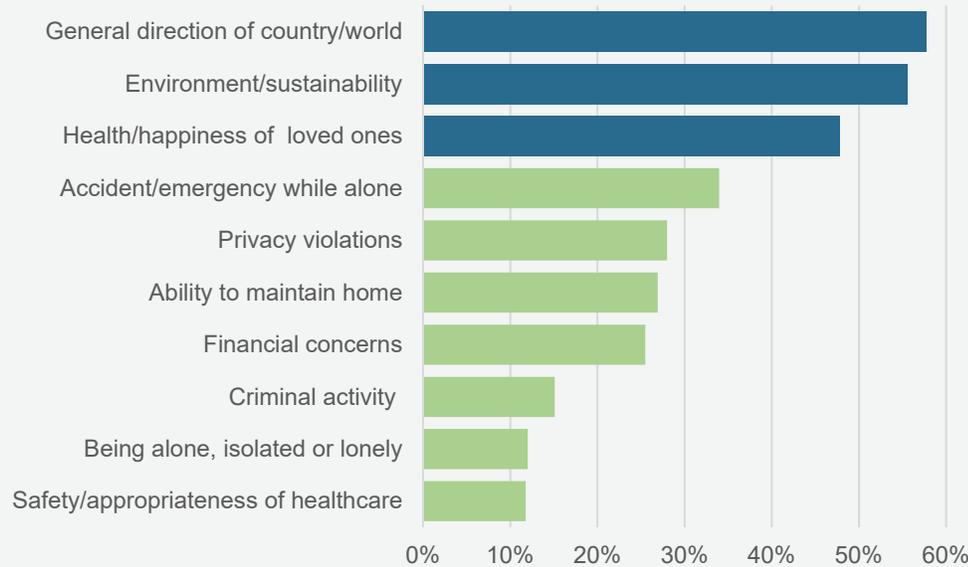


Thinking Globally

Much is made of the changes we face when we age, but our survey respondents were more concerned with the well-being of the people in their lives, and of the world as a whole.

How concerned are you about the following topics?

Percent responding “concerned” or “very concerned”



Our survey also revealed that connection with others is key to what older adults care most about. When asked directly, survey-takers responded that they remained much more concerned about others than themselves. The general direction of the country and world and the environment were the top two concerns, followed closely by the health and happiness of loved ones. All three ranked much higher than all of the options that mentioned a potential negative impact to the survey-taker themselves.



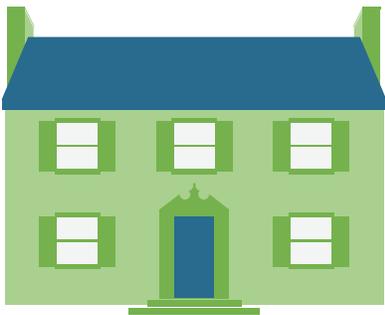


PURPOSE AND SELF-DETERMINATION

There were also signs in our interviews of the importance of choice and self-motivation when it came to purpose. Indeed, it seems that reluctantly going into an activity only because one has been asked automatically excludes it from becoming a passion for many people. Most of our participants were reluctant to talk about the things they were doing because they *had* to do them, like cooking salt-free food, continuing to work, and, for a few women we spoke with, spending long stretches of time caring for their grandchildren.

One 73-year-old woman we interviewed was desperately trying to get out of her responsibilities as treasurer for her condo association. She felt like the accounting work had been dumped on her because she no longer had a full-time job. Also, she felt forced to use the accounting system that had been set up by the person before her, which meant long hours on the computer trying to figure out what was what.

This woman had set a goal to find someone competent to whom to pass the role within the next year. Once free of this responsibility, she would finally be able to move closer to her children to fulfill what she described as her true purpose: being a mother and grandmother.



“My husband has four children and many grandchildren. We are pretty busy, probably more busy than we really want to be. When there’s a day with nothing going on it’s kind of a blessing.”

—Victoria, age 70



DESIGNING FOR THE SPECTRUM OF HUMAN NEEDS

Innovators have some challenging work to do in the coming years. We know that there are many unmet opportunities for older adults aging at home. We also know that serving them well will mean understanding their authentic human needs. How we do this will require resisting and re-writing society's narrative that those who are older than us need help only with the challenges of frailty and disability.

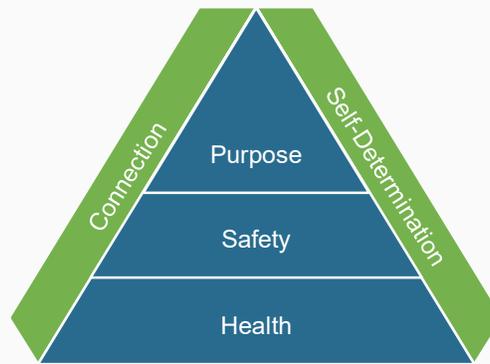
As demographics shift, well-meaning human services agencies and uneasy health insurers will become more interested in products and services to help older adults who are aging at home. If history is any guide, they will focus on preventing falls and expensive illnesses.

In addition, there will be new ideas and pressure from ventures that seek to make a profit in the longevity market. Many of these entrepreneurs will be satisfied to sell caregivers peace of mind at the expense of their loved ones' privacy and independence.

Our framework is one tool we—and those reading this white paper—can use to stay above the fray. It reminds us to focus not just on health and safety but also purpose, and to ensure that all the products and services we design account for the deep human needs for connection and self-determination.

Using traditional ethnography, design thinking, and co-creation methods, we are confident that innovative products and services can satisfy the full range of needs of older adults. And those who take this human-centered approach can expect greater adoption and use of their innovations for years to come.





Using the Needs Framework

Here are four ways the framework keeps us centered.

Crafting thorough research. In order to ensure the ethnographic research we execute will allow us to understand the full lives of older adults, we try to plan interviews, activities, and even data-gathering strategies that will highlight needs in every area of the framework. You can learn a lot through a few days shadowing an older adult; you'll learn more by bearing in mind the impact of connection and self-determination on addressing the needs of health and safety. It is also important to spend time with your research subjects both alone—so they can speak freely about their feelings—and with their loved ones or caregivers, so you can observe how they communicate.

Mitigating bias in design. When we start to think about this population and how they might use a new product or service, it is all too easy to fall back on stereotypes of frail and disabled older adults. By thoroughly discussing how each section of the framework affects our solutions, we can ensure that we've gone beyond designing only for the physical limitations many people experience as they get older.

Designing together. Embracing co-creation techniques and allowing older adults to inform how they are supported (and with what) as they age at home will ensure that solutions are useful, usable, and adopted. We were inspired by the willingness and positive energy of older adults when asked to solve some of life's little (and not-so-little) challenges. Feedback after one four-hour co-creation session was that "we'd barely scratched the surface." The framework provided an accessible tool to jumpstart design thinking in a variety of areas.

Developing holistic design personas. When thinking about personas as stand-ins for actual customers, it can be helpful to capture their approach to life. We can add detail such as "values face-to-face connection" or "researches all options when making decisions." Rather than focusing only on physical differences or health and safety concerns, we can document these nuances—which can have a major impact on how people will use the product or service. Well-rounded personas, fleshed out with details from careful ethnographic research, will be useful for design inspiration.