



Intel's Global Aging Experience Project

The global population is aging rapidly, presenting health care organizations, governments and societies with unprecedented challenges. At Intel, we believe that new technologies, designed with an explicit focus on the needs of older adults and their clinicians and care providers, can help to meet those challenges, easing the burden on strained health care systems and providing peace of mind and meaningful engagement for the aging.

In support of that goal, the [Health Research and Innovation \(HRI\)](#) group within [Intel's Digital Health Group](#) launched a multi-year project called the Global Aging Experience. The objective of the research project is to gain an understanding of the social and cultural differences in people's experiences of aging and health, and to identify the types of technologies and services that could empower people to be more proactive in managing their health and wellness.

Since data shows that western European countries are experiencing the effects of this aging demographic shift most acutely, we focused initially on seven European nations: France, Germany, Ireland, Italy, Spain, Sweden, and the UK. We utilized ethnographic research techniques such as open-ended interviews, observations and multi-day visits to dozens of households. Following are the key findings of the field research.

Did you know?

- In 2002, about 10% of the world's population was 60 years of age or older. By 2050, that percentage will more than double, to 21%--nearly two billion people.
- Currently many European countries have the world's highest ratio of elders to the general population. However, Asia, Latin America and the Caribbean are the world's fastest aging regions, with the percentage of elders in both regions projected to double between 2000 and 2030.
- America's graying population is increasing the demand for health care. Today roughly 80% of older adults in the US have at least one chronic condition, and half have at least two.

Key Findings

In the seven European countries we studied, we found a range of differences in people's experiences of aging and health. However, we also uncovered several common themes that help us to determine what technology might be useful to an aging population.

People want to focus on what they CAN do, not what they can't. Few people self-identify as either sick or old. Many people seek out challenges in order to keep themselves mentally sharp, and choose not to use canes or other assistive devices. Still, many people will need assistance. The key is to provide technology that people recognize as helping them to do what they want, rather than reminding them that they are no longer capable.

Aging in place means more than staying at home. The ability to take care of one's own home maintenance or gardening, to buy groceries and prepare meals, to move about the neighborhood or town—all of these factors can seriously impact an aging person's ability to live a desired life. Technology can play a major role here—for instance, by helping communities to identify and enable trusted providers of home services, to enable mobility, and provide increased peace of mind, both within and outside the home.

Health is not an objective quality; it's defined collaboratively and culturally. Health is defined through interactions and negotiations among various people, including informal caregivers, family members, hired in-home and medical care givers, and the elderly themselves—all of whom may differ in their assessments of the elders' health. Cultural, social and political systems also shape attitudes and behaviors related to health.

People mark the progression of aging by watershed events such as falls, change of residence, or loss of a loved one. Monitoring and early intervention are useful, but people often are in a state of healthy denial about aging and thus may not embrace such solutions. Our technologies must enable people to understand the state of their own health through active daily monitoring, but to do so in a way that aligns with their preferred ways of living.

Healthy aging is inextricably linked to social participation. People of all ages aspire to have a sense of belonging, a legitimate role in the lives of their families and communities. Aging adults want to continue to feel useful, productive, and engaged with family and community, without feeling they are a burden.

Healthcare networks are large and increasingly complex. Several people we visited had been forced to learn how to navigate the healthcare system, due to illness. More than one said it was unfortunate that they had no place to share their hard-won knowledge. A collaborative user-based technology system could enable sharing.

Eight Key Areas of Need

Our data shows that an aging population shares a set of common concerns and values that prove robust for thinking about new technologies. Our research identified eight key areas of need that technology might address:

- 1. Creating Environments of Choice:** The lived-in space is crucial to a person's sense of well-being. Technology can help people to inhabit a space more fully—whether their own home or a nursing home—with a greater sense of well-being, by enabling practices that make healthy living at home so appealing: enacting micro-routines (small daily rituals such as gardening, checking the weather or cooking), interacting with locals (e.g., at the market), or encountering simple but meaningful things such as photos and mementos.
- 2. Enhancing Safety:** One's needs for "feeling safe" may shift over time. Younger adults may worry about saving for retirement or living in a crime-free neighborhood. An older person might share these concerns, but also worry about the consequences of a fall in the home, and whether or not someone will be there to help.
- 3. Supporting Cognition:** Research has shown that engaging in novel, stimulating mental activity has important health benefits. Innovations such as memory aids could prevent the depression and accelerated decline that occurs when people become socially isolated due to worry or embarrassment about their failing memory.
- 4. Aiding Physical Activities:** People find tremendous value in simple, unobtrusive devices for aiding with physical mobility, perception (eyeglasses, hearing aids) or other issues associated with physical activity. Few if any computing technologies today fit that description, but carefully designed technology, placed on the body or in the environment, offers tremendous promise.
- 5. Bringing Healthcare Home:** There are major opportunities for technology to help people cope with chronic disease, such as diabetes, more proactively and in the home. There also are opportunities to help people adopt practices that enhance health and wellness, from eating right to exercising more. By providing information, coaching, motivation or simply routine personal contact, technology can enhance wellness in simple yet profound ways.
- 6. Help in Finding Care:** Simply navigating the health care system in any of the countries we've visited (including the U.S.) can be overwhelming. Technology-based services, if well designed, could ease this burden by eliminating much of the overhead associated with the bureaucracy of accessing care.
- 7. Enabling Social Interaction:** People are naturally social, but many aging adults face a decline in social engagement, due to cognitive decline or the loss of physical mobility. Research has shown that this has devastating effects on health. There are many ways in which technology can help to overcome social isolation, by enabling people to initiate or accept social contact in new ways.
- 8. Maintaining a Meaningful and Useful Life:** With a growing cohort of adults over 60 will come an increasing demand for avenues of expressing creativity, energy, skills and talents developed over a lifetime. One of the keys to successful aging, experts agree, is a sense of purpose. Technology could tap into this wealth of human capital, enabling the aging to continue to lead meaningful, productive lives in new ways, with more ease.

Asking the Right Question

We completed our European field research in 2006. We are now analyzing the results and planning the next phase of our Global Aging Experience project, which will take Intel researchers to Asia.

Technology is not a magic bullet to address the challenges of an aging global population, but we believe that it could be an integral part of the solution, and our European research reinforces this view. Intel doesn't claim to have all the answers to the healthcare problems facing the planet, but we believe that we're asking the right question: How can we increase the quality of life for a global population that will double in size by 2050, while reducing the cost of medical care through innovative technologies? We invite other businesses, governments, technologists and users to join us in finding the answer.

For more information, visit <http://www.intel.com/healthcare/>

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