

# Implications

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A Newsletter by Informedesign. A Web site for design and human behavior research.

## Aging and the Designed Environment

### The Basics

Whether young or old, aging affects everyone. Think about the people in your life. Is there a grandparent or parent who is experiencing age-related changes that are limiting their ability to perform daily tasks? Are you considering retirement yourself and wondering which living situation is the best option for you?

Issues of aging will affect us all in our personal and professional lives. People in all walks of life will need to respond to many challenges related to an aging population in the years to come. People in the design professions are uniquely positioned to contribute by creating physical environments that can compensate for age-related changes extending independence and improving the health, well-being, and safety of older adults.

The convergence of a number of important factors brings issues of aging to the forefront of our attention. Current demographic trends, advances in health care, increased life expectancy, and the importance of housing as a basic human need have made aging a pressing concern for our nation.

The demographics are compelling. According to the U.S. Census Bureau, the elderly population will more than double between now and the year 2050, to 80 million. Most of this growth will occur between 2010 and 2030, when the “baby boom” generation (those born between 1946 and 1964) enters their elderly years. The “oldest old” (85 and over) are the most rapidly growing elderly age group. In 1994, there were 3 million people 85 and over in the U.S.; this number is expected to reach 19 million by 2050.

Improved health care has increased life expectancy in this country, but with age comes the increasing risk of disability and dependence. Fifty percent of people 85 or older need some assistance with daily activities compared to only 9% of people 65 to 69 years old. As the elderly population grows, the disability rate and the number of older adults needing assistance with life activities will increase, requiring us to reexamine care options.

### Lifestyle Options

Where we live is a central component of well-being and quality of life. The residential environment is the setting in which many of our basic physical, social, and psychological needs are met. One of the biggest challenges in the next 30



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years will be how to meet the demand for quality living environments for the burgeoning population of older adults.

Housing options for older adults can be viewed as a continuum with independent living on one end and long-term skilled nursing care on the other. There are an increasing number of choices in between including:

- **Aging in Place:** living independently in one's current home, modifying the home to meet needs and bringing services into the home.
- **Congregate Senior Housing:** an individual unit within a development exclusively for seniors with shared activities and limited services provided.
- **Assisted Living:** an individual room or apartment in a building offering meals, assistance with daily activities, and 24-hour supervision.
- **Continuing Care Facilities:** a variety of housing and care options are offered on one site.
- **Long-Term Skilled Nursing Care:** 24-hour medical care provided in a residential setting.

## Meeting the Challenge

Successful design depends on a good fit between the person and the environment where an individual's abilities are in balance with the demands of the environment. The process of providing appropriate environments that correspond to the abilities and needs of users is the responsibility of designers and their clients. Providing quality environments at all levels of care will require that designers and design decision makers (management/administrators) understand how people's needs change as they age and how to manipulate the physical environment to compensate for sensory, mobility, and cognitive losses.

It is essential that designers continue to learn all they can about age-related changes in physical abilities (strength, range of motion, manual dexterity, mobility), sensory abilities (vision, hearing, sense of smell, balance and coordination, touch, and body temperature control), cognitive abilities (memory loss and dementia), and social and psychological needs to create better residential environments for older adults. The research summarized at Informedesign is intended to provide designers with this valuable knowledge.

By Lou Bunker-Hellmich, Ph.D., Research Associate

## The Aerodynamics of the Frisbee

Have you ever heard about some huge amount of money that went to a research project on something you think is absolutely frivolous...like the aerodynamics of the Frisbee or the mating habits of the tsetse fly? We just can't figure out what possible "good for humankind" can come from this kind of research! Or, are you tired of looking for new design information on technology used in restaurants or patient recovery time in health care units? You know that in your last project you implemented some leading edge design solutions, but no one knows about them. Would you like to share this with other designers, design students, design educators, and even your own team? Now you have a chance to contribute to a research project, and it will be right up your alley because you will be one of the researchers!

Informedesign will match up practitioners, who are doing some very interesting and vital projects, with educators, who want to do some very interesting and vital research projects. Remember, educator/researchers are required to do research and are excited to work with practitioners doing research on a real project. Practitioners, educators, and researchers can complete the Collaboration Request. You simply identify your area of work or research,

what you are looking for in a collaborator, and what you can bring to the collaboration. Informedesign staff looks over the entries and posts brief descriptions so you can contact a potential collaborator via e-mail!

There are several ways you can collaborate with a researcher and contribute to the body of knowledge. Let's say that you have completed three new elementary schools or a residence for a chemically sensitive client. You tried some new things based on some information you read and it seems to be working. First, you can collaborate with a researcher who will write this up as qualitative, exploratory research. Second, the researcher could also do a post-occupancy evaluation to identify the benefits of your design solution. Third, for the next project you do, the researcher could collect data on various factors before the implementation of your new design and after the new design and compare the differences. YOU could contribute to the understanding of how design influences behaviors.

Log on to [www.informedesign.umn.edu](http://www.informedesign.umn.edu), look for Collaborative Research on the Main Menu, and complete the Collaboration Request! By this time next year, YOUR research could be in our database!

By Denise Guerin, Ph.D., Coordinator

## Learn More About Age-Related Changes

If you are interested in finding out more about age-related changes go to these Research Summaries:

- “Effects of Aging on Everyday Vision”—*Journal of Visual Impairments and Blindness*
- “Effects of Flooring on Balance”—*Human Factors*

Information on home modifications that facilitate aging in place can be found in the following Research Summaries:

- “Housing Modifications Can Help the Disabled Elderly Age in Place”—*Environment and Behavior*
- “Risk of Home Injury Among the Elderly”—*Journal of Environmental Psychology*

The social and psychological needs of older adults are the topic of the following Research Summaries:

- “Assisted Living Residents’ Quality of Life”—*Journal of Gerontology*
- “Culturally-Specific Design Supports Dementia Patients”—*Environment and Behavior*

### Photo Courtesy of:

Dave Hansen

Ag Experiment Station, University of Minnesota



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## The Mission

The Mission of Informedesign is to facilitate interior designers’ use of current, research-based information as a decision-making tool in the design process, thereby integrating research and practice.

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