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## Research Article

# Caregivers' Considerations on Age-friendly Community Features

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**Abstract**

As communities strive to create age-friendly accommodations that promote the health and wellbeing of a growing aging citizenry, the concomitant growth of caregivers requires additional planning considerations. Increasingly, persons providing care are managing their own aging and negotiating their community's infrastructure for both themselves as well as on behalf of their aged loved ones. This study reports on the findings from a global age-friendly community effort that examined caregivers' perception of the importance of community features across three clustered domains of community life: the built environment; the social environment; and, community and health supports. The study surveyed caregivers (n = 216) and non-caregivers (n = 135) age 50 and older in a Southeastern United States community in which more than half of the residents are age 50 and older and one-third are age 65 and older. Results indicate significant differences across multiple areas with the greatest differences noted in the areas of housing, community supports, and transportation. The findings suggest that caregivers consider their own prospective needs as well as more efficiently managing the needs of their care recipients. Planning to enhance the community features may subsequently benefit aging persons as well as caregivers.

**Keywords**

- Livable communities
- Aging
- Environment design
- Quality of life

**INTRODUCTION**

Across America, communities are responding to an increased aging population along with growing numbers of caregivers providing assistance to loved ones and older individuals. Although Americans age 65 and older comprise only 13% of the nation's overall population, the rate of growth of the aging population is projected to continue, representing almost 20% of all Americans by 2030 [1]. Consequently, the prevalence of caregivers is also expected to grow, from approximately 40 million in 2014 to more than 117 million in 2020 [2]. The needs of aging persons and their caregivers will affect multiple areas of community life including: the broader infrastructure or built environment (i.e. housing and transportation), the social environment (i.e. civic and social participation), and the system of community-based supports and services (i.e. healthcare). Though many communities are currently underprepared to respond to these demographic changes, efforts are underway to enhance aging in community [3]. The World Health Organization's (WHO) Global Network of Age-friendly Cities and Communities represents the most broad-scale effort to improve healthy aging in community. The age-friendly designation process begins with an assessment of residents' aspirations on a variety of community features pertaining to the built and social environment as well as community-based services and supports. This paper examines the findings from a study that compared residents, by caregiver status, on preferences for age-friendly community features in eight domains of community life (Figure 1).

**Age-friendly community features**

A variety of community features have been identified to enhance aging in community and caregiving. Research suggests a variety of community features impact aging and caregiving in the community including aspects of the physical environment such as neighborhood design [5], availability of social participation [6], and access to supportive services [7]. Features that enhance aging in community have been derived from the WHO's Active Ageing framework which is based on a life-course approach to promote health throughout longevity [8]. In 2005, the WHO began a world-wide effort to identify the key features of city life that promote active aging and to assess a community's 'age-friendliness' in order to make necessary changes for improvement [9]. Incorporating input from older adults, caregivers, and public service providers around the world, a Global Age-Friendly Cities guide was subsequently developed in 2007 (Figure 1).

The guide specifies eight focal areas or "domains of livability" (1) outdoor spaces and buildings; (2) transportation; (3) housing; (4) social participation; (5) respect and social inclusion; (6) civic participation and employment; (7) communication and information; and (8) community support and health services. To be succinct, the domains are collapsed into three clustered group: (1) built environment (i.e. transportation, housing and outdoor spaces); (2) social environment (i.e. social participation, civic participation and employment, respect and social inclusion); and (3) community supports (i.e. community supports and health services and communication and information).

## Built environment

The built environment or community infrastructure consists of the following three domains: Open Spaces & Public Buildings, Transportation, and Housing. Outdoor spaces and public buildings include the places we visit or encounter on a regular basis, such as parks or parking lots, and shopping venues. Experiencing these areas as safe and accessible encourages activities and involvement in community life. Accessibility involves removing barriers that limit opportunities for people with disabilities, including those who do have- or will have age-related impairments that could for example, affect the ability to walk or communicate- and otherwise allow individuals to participate in social activities or to access organizations and businesses. Aspects of the built environment, such as recreational parks and other components of leisure infrastructure, support caregiver wellbeing [10]. Modifying the environment to incorporate caregivers and their care recipients with disabilities will allow them to participate in recreation and contribute to society as well [11].

Transportation pertains to all aspects of driving and mobility options. It includes the condition and design of transportation-related infrastructure such as signage, traffic lights public transportation and sidewalks. Access to reliable, affordable public transit and other travel options is increasingly important for the majority of persons who will outlive their ability to drive between 7-10 years [12]. Caregivers and their care recipients often report transportation as a barrier to healthcare and may cause undue distress [13]. In fact, support services, with a focus in transportation and caregivers, can potentially decrease health care use and costs in general [14].

Housing encompasses current home and living arrangements and opportunities that support aging in community. The availability of appropriate, affordable housing with a choice of styles and locations that incorporate adaptive or universal design features is essential for many of individuals and their caregivers to continue living independently in their community. Many families and caregivers may also want to consider alternative living options such as shared and communal housing that are emerging throughout the country, but are not yet widely available in their community. Other housing options, such as home modifications, can offer caregivers assistance in providing care to their loved ones while enhancing home-based care and safety for the care recipient [15,16].

## Social environment

The social environment, or social capital of a community, consists of the three domains: Social Participation, Civic Participation and Employment, and Respect and Social Inclusion. Social participation such as interacting with family and friends is an important part of positive mental health and for many, the reason for living. Social participation involves both interacting with others as well as the extent to which the community makes such interaction possible. While many people lead very active social lives, as an integrated community, they want they ability to enhance social participation via a wide variety of activities for people of all abilities and financial circumstances. A loss in social participation can negatively impact a caregiver by leading to feelings of loneliness or isolation; however, resources such as support groups can enhance caregiver socialization [17].

Respect and social inclusion comprise another feature of community considerations in age. Community 'culture' that demonstrates respect of aging persons and recognizes the important role that older adults play in society are critical factors for an age-friendly community. Age-friendly communities foster positive images of aging and intergenerational understanding to challenge negative attitudes. American society and culture have stigmatized aging, and many Americans have internalized these negative perceptions. The image of aging must be enhanced through demonstrating respect and inclusion for all persons throughout the community. Respect and social inclusion of caregivers and their care recipients is vital to allow them to feel that they are integral members of society and a part of the community [11].

Civic participation and employment represent another aspect of the social environment in age-friendly communities. Civic engagement includes involvement and integration in aspects of community life that extend beyond daily activities, such as volunteering, becoming politically active, voting or working on committees. For some, these have been lifelong involvements and for others, the retirement years have created a time for more involvement. Employment can be particularly important for those with low and fixed incomes and others who simply desire to remain in the workforce. The ability to remain employed or find new employment provides both economic security as well as benefits employers who recognize the experience and commitment that older employees bring to the workplace.

## Community and health supports

Community supports consist of the following two domains: Community Supports and Health Services and Communication and Information. Good mental and physical health contributes to quality of life and age-friendliness. Access to community-related services that support physical or mental well-being and the availability of health promotion or awareness services that promote and support healthy behaviors and life choices foster healthy aging and wellbeing throughout the lifespan [18].

Community-based health and social services should aim to meet the changing needs with age including caregiver support so that people can be supported throughout their lives and live as fully as possible. Also, innovations in technology, such as telehealth, can provide vital support and health information to caregivers and their care recipients [19].

Age-friendly communities make sure that information about health-related activities and services as well as community events is both readily accessible and in formats that are appropriate for persons of all ages. Age-friendly communities recognize the diversity of needs regarding information and provide multiple sources to connect people with the information they need to best live their lives and meet their needs. Caregivers and their care recipients are one of the groups that may require greater resources and services from the community. Providing support to caregivers and including them in the community social and built environment may enhance their lives by decreasing caregiver stress and increasing community participation [11,20].

Given the importance of the domains in enhancing daily life, health and wellbeing for older adults and their caregivers,

research is needed that incorporates and appreciates the authentic voice and lived experiences of older adults [6]. The current study sought to examine caregivers' perceptions on the importance of age-friendly community features across the three aforementioned clustered domains.

## Ecological context of caregiving and aging in community

Caregiving is an integrative relationship that incorporates not only the caregiver, the care recipient and the family unit, but the home and surrounding community as well. Therefore, we use an ecological model, Bronfenbrenner's Theory of Human Ecology Development, and Maslow's Hierarchy of Needs, to capture the caregiver's personal needs in relation to his or her care recipient and the broader community environment. The theoretical foundations underlying caregivers' perspectives are based on Maslow's Hierarchy of Needs [21]. The framework identifies the needs that are the most important to the caregiver so that efforts are focused on helping to meet these needs. Maslow's Hierarchy is often depicted as a pyramid consisting of five levels including: (1) Physiological needs which include the basic essentials needed to maintain life such as food and sleep; (2) Safety needs address issues pertaining to physical protection and personal security; (3) Love and belonging needs can be achieved in intimate and emotionally-based relationships with others; (4) Esteem needs address basic human dignity in which people derive personal value in self-acceptance by others; and (5) Self-actualization needs represent the human drive for personal development (Figure 2). However, in order to achieve top level needs, previous needs in the hierarchy must first be met. That is, basic physiological needs are prerequisite for meeting safety needs and so on. The model is particularly apropos in assessing caregivers as autonomous aging persons, independent of their caregiver role as well.

Building upon both the person in environment and hierarchy of needs, aging and caregiving in the context of community is also applicable to Bronfenbrenner's Theory of Human Ecology (Figure 3) [23]. Bronfenbrenner's theory emphasizes the importance of social influences on human development and functioning in the context of one's environment. Key constructs in the model include the following systems: micro (i.e. individual interactions); meso (i.e. intergroup relations); exo (i.e. higher-level institutional and organizational structures); and macro (i.e. larger cultural features). Caregivers are influenced by all system layers due to the interrelations of their broader environment including aspects of the built and social environments. To the extent that caregivers have supportive services and amenities within the communities in which they reside, both aging in community and caregivers' efforts to provide care and age well are enhanced.

## METHODS

### Measures

The study utilized a self-reported survey tool. Socio-demographic data collected from survey respondents included: caregiver status, gender, age, marital status, and education, income, and race/ethnicity. The survey was a 50 item tool, modified from AARP's Community Survey [28]. (For further details on the AARP survey see AARP, 2013). The importance

of community features in the following domain clusters was addressed:

**Built environment:** The built environment cluster included nine questions on housing (i.e. Well-maintained and safe low-income housing); 17 on transportation (i.e. affordable public transportation); and 13 on outdoor spaces and public buildings (i.e. well-maintained and safe parks that are within walking distance of my home).

**Social environment:** The social environment cluster includes five items each on civic participation and employment (i.e. a range of flexible job opportunities for older adults) and (Opportunities for older adults to participate in decision making bodies such as community councils or committees); 10 items pertaining to social participation (i.e. activities specifically geared to older adults; and eight items accounted for respect and social inclusion (i.e. Feeling your voice is heard in the community).

**Community and Health Support:** The community and health supports domain cluster included 16 items pertaining to community support and health services (i.e. fitness activities specifically geared to older adults); and nine items on communication and information (i.e. clearly displayed printed community information with large lettering).

### Participants

The study included survey participants ( $n=216$ ) who self-identified as caregivers. The socio-demographic characteristics of the survey participants are shown in Table (1). The survey participants ranged from 50 to 98 years of age, were primarily female (70%) and Caucasian (98%), reflecting the community's characteristics. In addition, the majority of the respondents had a postgraduate education (37%) or graduated from college (30%), lived with a spouse (55%), and had children (89%).

### Process and procedures

There were two conditions for inclusion in the study including that participants were age 50 or older and a current resident of the county in which the study was conducted. Informed consent was obtained from both survey and focus group respondents before participation. Prior to commencement, the research obtained Institutional Review Board approval (eIRB #00020938) from the University. A marketing campaign was conducted by community partners to recruit participants for the surveys.

The survey was available in both print and electronic versions. The electronic link to the survey was widely dispersed via a variety of modalities including list serves, emails, public notices, newspaper, and advertisements throughout the community. Kiosks promoting the survey were held at popular gathering such as farmers markets and religious festivals. Print versions of the survey were available at eight library locations throughout the county. Additional outreach efforts to solicit input from persons with limited mobility were conducted with a variety of providers across the continuum of care including senior centers, social service agencies, and residential housing sites.

### Data analysis

Survey data were analyzed using Statistical Package for Social Sciences software, version 23.0 (SPSS Inc., Chicago, IL). Bivariate

statistics were conducted on demographic data and 2 x 2 Chi-square tests of independence were conducted by caregiver status (i.e. yes/no) and by proportion of importance of each domain feature. Findings are reported if they were significant ( $p < .001$ ) and have at least a small effect size. The effect sizes, phi ( $\Phi$ ), were reported for meaningful differences detected at small or larger amounts (i.e.2 or greater).

## RESULTS AND DISCUSSION

### Built environment

**Housing:** Chi-square test results indicated there were significant differences in caregivers' perceptions of importance of housing-related items (Table 2). Among the top three features, caregivers were more likely than non-caregivers to report that the following features were important, such as: 'co-housing options to live with others,'  $\chi^2 (2, n = 292) = 26.77, p < .001$ , with 52% of caregivers reporting this option as important versus 25% of non-caregivers; 'homes that are equipped with assistive devices,'  $\chi^2 (2, n = 298) = 24.84, p < .001$ , with 87% of caregivers reporting this feature as important versus 67% of non-caregivers; and 'affordable housing options for older adults,'  $\chi^2 (2, n = 301) = 19.36, p < .001$ , with 81% of caregivers reporting this feature as important versus 65% of non-caregivers.

**Transportation:** Chi-square test results indicated there were significant differences in caregivers' perceptions of importance of transportation-related items (Table 2). Caregivers were more likely than non-caregivers to report that certain transportation features were important, such as: 'affordable public transportation,'  $\chi^2 (2, n = 302) = 21.95, p < .001$ , with 78% of caregivers reporting this feature as important versus 76% of non-caregivers; 'well-maintained public transportation vehicles,'  $\chi^2 (2, n = 298) = 16.41, p < .001$ , with 80% of caregivers reporting this feature as important versus 77% of non-caregivers; and 'safe public transportation stops of areas,'  $\chi^2 (2, n = 297) = 15.40, p < .001$ , with 80% of caregivers reporting this feature as important versus 77% of non-caregivers.

**Outdoor spaces and buildings:** Chi-square test results indicated there were significant differences in caregivers' perceptions of importance of outdoor spaces and public building items (Table 2). Caregivers were more likely than non-caregivers to report that certain outdoor space features were important, such as: 'public parks with enough benches,'  $\chi^2 (2, n = 307) = 21.04, p < .001$ , with 90% of caregivers reporting this feature as important versus 71% of non-caregivers; 'well-maintained public restrooms,'  $\chi^2 (2, n = 306) = 16.08, p < .001$ , with 90% of caregivers reporting this feature as important versus 72% of non-caregivers; and 'wide variety of services to maintain independence,'  $\chi^2 (2, n = 303) = 15.34, p < .001$ , with 95% of caregivers reporting this feature as important versus 81% of non-caregivers.

### Social environment

**Social participation:** Chi-square test results indicated there were significant differences in caregivers' perceptions of importance of social participation items (Table 3). Caregivers were more likely than non-caregivers to report that certain social participation features were important, such as: 'Local schools that involve older adults in events,'  $\chi^2 (2, n = 306) = 18.57, p < .001$ , with 67% of caregivers reporting this feature as important versus 48% of non-caregivers; and 'Conveniently located venues for entertainment,'  $\chi^2 (2, n = 312) = 15.63, p < .001$ , with 90% of caregivers reporting this feature as important versus 82% of non-caregivers.

**Civic participation and employment:** Chi-square test results indicated there were significant differences in caregivers' perceptions of importance of civic participation and employment items (Table 3). Caregivers were more likely than non-caregivers to report that certain civic participation and employment features were important, such as: 'Well-paying jobs for advanced skills or experience,'  $\chi^2 (2, n = 305) = 19.11, p < .001$ , with 60% of caregivers reporting this feature as important versus 35% of non-caregivers; and 'Jobs that are adapted for people with disabilities,'  $\chi^2 (2, n = 307) = 16.56, p < .001$ , with 53% of caregivers reporting this feature as important versus 34% of non-caregivers.

**Respect and social inclusion:** Chi-square test results indicated there were significant differences in caregivers' perceptions of importance of respect and social inclusion items (Table 3). Caregivers were more likely than non-caregivers to report that "Transportation to and from volunteer activities,"  $\chi^2 (2, n = 314) = 16.28, p < .001$ , with 75% of caregivers reporting this feature as important versus 54% of non-caregivers.

### Community and health supports

**Community support and health services:** Chi-square test results indicated there were significant differences in caregivers' perceptions of importance of community support and health services items (Table 4). Among the top three features, caregivers were more likely than non-caregivers to report the following civic participation and employment features were important: 'Home delivered groceries,'  $\chi^2 (2, n = 308) = 51.11, p < .001$ , with 85% of caregivers reporting this feature as important versus 52% of non-caregivers; 'Home delivered medications,'  $\chi^2 (2, n = 310) = 35.00, p < .001$ , with 87% of caregivers reporting this feature as important versus 60% of non-caregivers; 'Easily understandable and helpful local answering services,'  $\chi^2 (2, n = 310) = 33.30, p < .001$ , with 91% of caregivers reporting this feature as important versus 68% of non-caregivers.

**Communication and information:** Chi-square test results indicated there were significant differences in caregivers' perceptions of importance of respect and social inclusion items (Table 4). Caregivers were more likely than non-caregivers to report that 'An automated, easy to understand community information source,'  $\chi^2 (2, n = 304) = 24.12, p < .001$ , with 83% of caregivers reporting this feature as important versus 61% of non-caregivers; and 'Access to community information in one central source,'  $\chi^2 (2, n = 306) = 23.70, p < .001$ , with 87% of caregivers reporting this feature as important versus 66% of non-caregivers.

## DISCUSSION

Caregivers' wellbeing is important to persons providing care, care recipients, and broader society as well. This study sought to determine caregivers' perspectives on age-friendly community features that support aging in the community for themselves as well as their aged care recipients. This study's findings

suggest that perceptions of important age-friendly community features vary by caregiver status in all domains of livability, and particularly pertaining to the built environment and community supports. It appears that caregivers' perceptions, in addition to their own aging, are also influenced by their caregiving experiences as well. For example, caregivers reported a greater importance on housing features such as co-housing, assistance at home and affordable living options. The importance of shared and supportive housing features may reflect caregivers' recognition of and potential necessity for receiving care at home in later life and future health trajectories. The increased importance on affordable housing and transportation features may also reflect caregivers' recognition of costs associated with increased needs and longer lives. Outdoor spaces and public building features may also reflect caregiving responsibilities, such as the increased importance of accessible bathrooms.

Aging caregivers differed from non-caregivers on the importance of many community support features as well. Here too, these items may reflect easier ways to meet caregiving responsibilities at home. For example, home delivered meals and medications along with a variety of home care features such as well-trained aides, affordable providers and a range of services such as housekeeping were rated more important by caregivers. These findings reflect previously documented knowledge about the need to support caregivers at home [29].

This study is not without limitations. Although findings likely resonate with caregivers in other communities, the study was purposive and cross sectional in design and cannot be broadly generalized. Though representative of the community under study, participants' socio-demographic characteristics may not be reflective of other communities. In addition, the W.H.O. age-friendly community domains have been critiqued due to the lack of empirical underpinnings [9] and the lack of evaluation in relationship to health and other outcomes [30,31] (Golant, 2013; Lehning, Smith, & Dunkle, 2014). Despite these shortcomings, the study yields useful considerations about age-friendly community features from the perspectives of caregivers.

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