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Do Villages Promote Aging in Place? Results of a Longitudinal Study

Carrie Graham[1,2], Andrew E. Scharlach[1], and Elaine Kurtovich[1,2]

Abstract

Villages are a new, grassroots, consumer-directed model that aims to promote aging in place and prevent unwanted relocations for older adults. In exchange for a yearly membership fee, Villages provide seniors with opportunities for social engagement (social events and classes), civic engagement (member-to-member volunteer opportunities), and an array of support services. In total, 222 Village members were surveyed at intake and 12-month follow-up to examine changes in their confidence aging in place, social connectedness, and health. The strongest positive results were in the domain of confidence, including significantly greater confidence aging in place, perceived social support, and less intention to relocate after 1 year in the Village. As most seniors were in good health and well connected at the time they joined the Village, there were not improvements in health or social connectedness. Authors discuss the importance of longer term, longitudinal studies to examine the effectiveness of Villages in preventing institutionalization over time.

Keywords

Village model, aging in place, social engagment

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[1]Center for the Advanced Study of Aging Services, School of Social Welfare, University of California, Berkeley, USA
[2]Health Research for Action, School of Public Health, University of California, Berkeley, USA

Corresponding Author:
Carrie Graham, University of California, Berkeley, 2140 Shattuck Avenue, 10th floor, 94704, Berkeley, CA 1210, USA.
Email: clgraham@berkeley.edu

Introduction

Villages are a new, consumer-directed model that aims to support older adults aging in place. They are typically founded and governed by older adults in a neighborhood or town who have a mutual interest in avoiding forced moves or institutionalization in the future (Greenfield, Scharlach, Graham, Davitt, & Lehning, 2012). Unlike other community support models that are government-funded or fee-for-service models, Villages are membership organizations, with older adults typically providing the majority of the support services and paying a yearly membership fee to cover the cost of administration. Villages provide opportunities for social engagement (social events and classes), civic engagement (member-to-member volunteer opportunities), and an array of support services, such as transportation and light housekeeping, as well as services designed to promote health and wellness (referral to care management and health promotion classes; Scharlach, Graham, & Lehning, 2012). The Village model is expanding rapidly in the United States, with the number of Villages increasing from approximately 35 in 2010 to 190 in 2016 (Scharlach et al., 2012; Village to Village Network, n.d.).

Although there can be great variation in structure and service provision among Villages, the primary goal of most Villages is to promote members' independence and prevent undesired relocations (Gleckman, 2010; Gross, 2006, 2007; Gustke, 2014; Lehning, Scharlach, & Davitt, 2015; Poor, Baldwin, & Willet, 2012). These goals are consistent with the wishes of most older adults in the United States who want to live in their own homes and avoid the potentially isolating effects of age-segregated housing (Portacolone & Halpern, 2016; Sabia, 2008). Extending the time that older adults remain in community settings also has the potential to decrease both personal and public financial burden (Kaye, LaPlante, & Harrington, 2009).

Although Villages often are developed by older adults with little or no experience in the field of aging services, they have been (probably unwittingly) designed to provide services and supports that the gerontological evidence shows may indeed promote aging in place. Villages attempt to promote aging in place in three ways: (a) by increasing members' confidence in their ability to manage their environment and perceptions of support, (b) by providing opportunities for social and civic engagement, and (c) by improving or maintaining members' health and well-being.

First, the promise of available support when needed is likely to increase members' confidence in their ability to manage potential challenges to their ability to age in place. Positive perceptions of aging and feelings of control have been shown to positively impact older adults' health and cognitive functioning and thereby potentially reduce the likelihood of institutionalization

(Robertson, King-Kallimanis, & Kenny, 2015; Robertson, Savva, King-Kallimanis, & Kenny, 2015; Wurm & Benyamini, 2014). In an effort to increase members' confidence aging in place, Villages offer companionship services, household assistance, home safety modification, and referral to community services, all of which were associated with higher scores in self-reported measures of confidence among a cross-sectional survey of Village members (Graham, Scharlach, & Price Wolf, 2014). One qualitative study showed that "knowing that services are there when I need them" is a common theme when Village members report what is "best" about Village membership (Scharlach, Graham, Kurtovich, O'Neil, & Rosenau, 2015).

Second, Villages provide members opportunities for social and civic engagement. It is well established that strong social connections can promote aging in place by protecting against disability and reducing the risk of nursing home placement in older adults (de Leon et al., 1999; Emlet & Moceri, 2012; Kersting, 2001; Miller, Dieckmann, Mattek, Lyons, & Kaye, 2014). Studies suggest that networks involving friends and neighbors and civic engagement such as volunteering play an important role in the health and mortality risk of older adults (Sabin, 1993; Yasuda et al., 1997). Older adults with more friendships, social control, and neighborhood engagement are less likely to express intention to relocate (Oh, 2003). Living alone and losing a spouse both predict nursing home placement (Hajek et al., 2015; Luppa et al., 2009; Sun, Waldron, Gitelson, & Ho, 2012). Villages provide services such as social events, educational classes, transportation, and companionship services aimed at reducing isolation and maintaining social engagement (Graham et al., 2014). Villages also provide opportunities for civic engagement, often using a "member-to-member" volunteering model wherein 30% to 40% of Village members volunteer to assist other members or in Village governance roles (Scharlach et al., 2015). Past research on Village members has shown an association between more frequent participation in Village activities and improved social connectedness (Graham et al., 2014).

Finally, Villages offer services and supports likely to improve or maintain members' health and well-being. Poor health and functional impairment are two of the most common reasons for forced moves or institutionalization for community-dwelling older adults (Gaugler, Duval, Anderson, & Kane, 2007; Luppa et al., 2009). Although few Village members (15%) rate their health as "fair" or "poor," more than half report impairments in independent activities of daily living (ADL; Graham et al., 2014; Scharlach et al., 2015). Villages' services such as transportation, light housekeeping, or yard care are intended to help compensate for these functional impairments. Although Villages typically do not provide direct health or personal care, about 70% either host or refer members to health promotion or wellness activities (Greenfield et al., 2012).

Past research examining Village membership has shown some positive self-reported outcomes in the areas of confidence aging in place, social engagement, and health, but these studies have been limited to retrospective, cross-sectional surveys of Village members (Graham et al., 2014). No previous study has examined changes in these domains longitudinally. Although assessing Villages' long-term impact on member relocation was not feasible in this study, we sought to assess the changes Village members experience in the first year of membership in three areas that have been shown to be associated with subsequent institutionalization: confidence aging in place, social connectedness, and health. We conducted a 12-month longitudinal analysis with the following research questions:

Research Question 1: Are there significant changes in confidence aging in place, social connectedness, or health status during the first year of Village membership?
Research Question 2: What member characteristics are associated with changes in confidence, social connectedness, or health of Village members?

The research study was given an exempt status through the University of California, Berkeley Committee for the Protection of Human Subjects (2011-09-3647).

Method

Sample

Seven Villages in California participated in this study. These Villages had been selected by the Archstone Foundation to participate in its *Creating Age-Friendly Communities Through the Expansion of Villages* initiative, which was designed to support the expansion of the Village model in California. As part of the funding requirements, each Village was required to participate in an evaluation that including collecting data from members. Three participating Villages were located in Northern California, one in Central California, and three in Southern California. Four of the Villages were "agency-based," meaning they were a program or service within a larger senior services agency. Three Villages were freestanding and self-governing.

A total of 222 Village members from seven Villages completed a valid intake and 12-month follow-up survey between 2011 and 2014. The overall response rate for new member intakes for the project was 58% and ranged from 40% to 87% across the seven Villages. A retention rate of 65% was

calculated for 12-month follow-up surveys for all members who joined during the 3-year project period, had a valid new member intake, and had reached the due date for their 12-month follow-up survey. We later excluded from the analyses any respondents who were missing data for more than one of the pre–post repeated-measure outcomes.

Non-Response

The retention rates for follow-up surveys in certain Villages were lower than anticipated. This was likely due to the fact that Village staff rather than professional researchers were relied upon to collect data. Villages tend to have few paid staff, making it difficult for Village staff to prioritize data collection over direct service to members. Analysis comparing the characteristics of responders (those who completed the 12-month follow-up survey) versus non-responders found that significantly more responders were White (96%) compared with non-responders (90%; $p = .0419$), significantly more responders owned their own homes (80%) compared with non-responders (67%; $p = .0159$), and responders were significantly more likely to have an income above the elder economic security index (EESI; Insight Center for Community Economic Development, n.d.; 85%) compared with non-responders (70%; $p = .0055$). Thus, results suggest that non-responders tended to have lower socio-economic levels than those who did respond.

Procedures

Staff from participating Villages were trained by the researchers to administer intake surveys and follow-up surveys to members. Village staff administered surveys to Village members in person or over the telephone. Completed surveys were mailed to the researchers who then entered the data into a database. Intake surveys were considered valid if administered to members within 4 weeks of when they joined the Village (T1). Villages administered a follow-up survey approximately 12 months after the date of the new member intake survey (T2). Follow-up surveys were considered valid if administered within 8 weeks of the target date. Only data from members who had both valid intake and follow-up surveys were included in the analyses.

Measurement

Descriptive measures. At T1, members were asked about their age, household composition, race, gender, educational attainment, marital status, employment status, primary language, home ownership status, income (above or

below the EESI, self-rated health), ADL (difficulty or no difficulty getting out of bed, showering, dressing, walking), and instrumental activities of daily living (IADLs; difficulty or no difficulty shopping, getting to places outside of walking distance, taking medications, using a computer, performing meal preparation, light housework, or yard work).

Retrospective self-reported impacts. For the retrospective items asked at T2, members were asked to reflect on changes in various domains (confidence aging in place, social connectedness, and health) since they joined the Village. Members were asked to indicate how much they agreed with certain statements, for example, "Since joining the Village, I talk to more people than I used to," using a 4-point agreement Likert-type scale (Bedney, Schimmel, Goldberg, Kotler-Berkowitz, & Bursztyn, 2007).

Pre–post repeated measures. Repeated-measures variables were identical questions asked at both intake (T1) and 12-month follow-up (T2). Members were asked to report on (a) their confidence aging in place (confidence that they can get the help to remain living in their home, need for home modification, and plans to move to other housing); (b) social connectedness, including social engagement (frequency of contact with friends and neighbors), social support (availability of help with routine activities when needed), and civic engagement (frequency of volunteering, frequency of attending meetings for organized groups); and (c) their health, including self-reported health status (excellent, good, fair, or poor), functional status (ADL impairment, IADL impairment, or no disability), and health care utilization in the past year (times called 911, times hospitalized).

Independent variables. The independent variables for bivariate analysis included selected member demographic characteristics: gender; age (50-69 vs. 70-79 vs. 80+); educational attainment (high school graduate or lower vs. some college or higher); household composition (living alone vs. not alone); number of times Village services used (above vs. below median), including transportation, companionship, light housekeeping, yard work, legal services, grocery or meal delivery, home repair, financial advocacy, health care advocacy, pet care, home safety assessment, technology assistance, calls to the Village for information or referral to outside service providers, calls to the Village for other types of information, and other services; number of times attended Village social or educational events; volunteering for Village (volunteered for the Village in the last year vs. did not volunteer); and functional impairment (no self-reported ADL or IADL impairment vs. at least one IADL impairment but no ADL impairment vs. at least one ADL impairment).

Analysis

Descriptive and retrospective analysis. We produced frequencies and descriptive statistics for the demographic measures, measures of Village involvement, and retrospective impact measures.

Pre–post analysis. We conducted pre–post test analyses on the overall sample comparing responses on the intake survey (T1) with responses on the 12-month follow-up survey (T2) for specific repeated measures (as described above). We conducted significance tests to determine if responses were significantly different between T1 and T2 for each variable. For ordinal variables, we conducted the Wilcoxon signed rank test on the difference calculated between the T1 and T2 values for each variable. For dichotomous variables, we conducted McNemar's test. For each item, only members who had valid intake and follow-up surveys were included in the analysis.

Bivariate. We created three-level variables for each of the repeated-measures variables assessing if the member had experienced a change for the worse, no change, or an improvement between T1 and T2. We ran cross-tabs of these three-level variables with the following independent variables: sex, age, educational attainment, household composition, number of times Village services used, number of times attended Village social or educational event, volunteering for Village, and ADL disability. We conducted chi-square tests to determine if differences in the outcome by these factors were statistically significant.

Results

Participant Characteristics

Table 1 describes the demographic characteristics of the respondents who are included in the analyses. The members who participated in both the intake and 12-month follow-up survey are overwhelmingly female (79%), White (96%), and college-educated (70%). Most respondents are financially well-off: at least 84% have incomes above the EESI indicating that they are not financially struggling; 77% live in a home that they own. More than half (65%) are single, and 56% live alone. In terms of health status, only 15% rate their health as fair or poor, 25% have an ADL impairment, and 46% have an IADL impairment.

Table 1. Village Member Characteristics: Demographics and Village Involvement.

Member demographics	*n* (%)
Age range (*n* = 186)	
50-59	7 (3.8)
60-69	38 (20.4)
70-79	65 (35.0)
80-89	63 (33.9)
90 and older	13 (7.0)
Household composition (*n* = 199)	
Does not live alone	87 (43.7)
Lives alone	112 (56.3)
Race (*n* = 198)	
White	190 (96.0)
Non-White	8 (4.0)
Gender (*n* = 198)	
Male	42 (21.2)
Female	156 (78.8)
Education (*n* = 196)	
Less than high school graduate	6 (3.0)
High school graduate	7 (3.6)
Some college/technical training/Associate of Arts	45 (23.0)
Bachelor's degree or higher	138 (70.4)
Marital status (*n* = 199)	
Single	129 (64.8)
Married/partnered	70 (35.2)
Employment status (*n* = 198)	
Not currently employed	170 (85.9)
Employed	28 (14.1)
Primary language spoken (*n* = 199)	
English	190 (95.5)
Language other than English	9 (4.5)
Home ownership status (*n* = 199)	
Owns home	154 (77.4)
Does not own home	45 (22.6)
Income below or above elder economic security index threshold (*n* = 176)	
Below	29 (16.5)
Above	147 (83.5)

(continued)

Table 1. (continued)

Member demographics	*n* (%)
Self-rated health (*n* = 198)	
Excellent	28 (14.1)
Very good	79 (40.0)
Good	62 (31.3)
Fair	23 (11.6)
Poor	6 (3.0)
Disability (*n* = 198)	
No disability	58 (29.3)
At least one impaired instrumental activity of daily living (no ADL impairment)	91 (46.0)
At least one impaired activity of daily living (with or without IADL impairment)	49 (24.8)
Involvement with village	***n* (%)**
Village (*n* = 199)	
Village 1	28 (14.1)
Village 2	21 (10.6)
Village 3	23 (11.6)
Village 4	35 (17.6)
Village 5	22 (11.1)
Village 6	33 (16.6)
Village 7	37 (18.6)
Village services use	
Mean number of times used Village services during past year excludes social events, discussion groups, and classes (*n* = 199)	26.7
Mean number of times attended Village social events, discussion groups, or classes (*n* = 186)	18.5
Volunteer work for Village (*n* = 198)	
Volunteered for Village in past year	60 (30.3)
Did not volunteer for Village in past year	138 (69.7)

Note. ADL = activities of daily living; IADL = instrumental activities of daily living.

Confidence Aging in Place

Retrospective. In retrospective questions administered in the 12-month follow-up (Table 2), more than three quarters of respondents (79%) said they are more likely to be able to stay in their own home as they get older because of their Village membership. In addition, 29% said that they have an easier time

Table 2. Retrospective, Self-Reported Impacts at 12-Month Follow-Up.

Because of your membership in [name] Village, how much do you agree with the following statements?	Valid *N*	*N* (%) *agree* or *strongly agree*
Confidence aging in place		
I am more likely to be able to stay in my own home as I get older	186	147 (79.0)
I have an easier time taking care of my home	180	53 (29.4)
I have an easier time taking care of myself	173	62 (35.8)
Social connectedness		
I know more people than I used to	191	142 (74.4)
I talk to more people than I used to	193	117 (60.6)
I feel more connected with other people than I used to	191	103 (53.9)
I participate in activities and events more than I used to	187	102 (54.6)
I leave my home more than I used to	187	74 (39.6)
I am less lonely than I used to be	176	85 (48.3)
I am more likely to know how to get assistance when I need it	191	158 (82.7)
I know more about community services than I used to	194	141 (72.7)
I use more community services more than I used to	186	92 (49.5)
I am more likely to know how to get assistance when I need it	191	158 (82.7)
Health and well-being		
I am more likely to get the medical care I need, when I need it	185	69 (37.3)
I feel healthier than I used to	176	66 (37.5)
I feel happier than I used to	178	90 (50.6)
My quality of life is better	187	115 (61.5)

taking care of their home and 36% reported having an easier time taking care of themselves because of their Village membership.

Pre–post test. In the pre–post test, significantly fewer (decrease from 24% to 15%) respondents were considering moving to alternative housing at T2 compared with T1 ($S = 6.4$, $p = .0113$). Of the respondents who said they were considering moving, the most common type of housing they were considering was a senior housing community (41%), with fewer respondents considering downsizing or moving to an assisted living facility. Respondents

were significantly more confident that they could get the help they needed to stay in their current residence at T2 (S = 7.97, $p = .0017$). Significantly fewer respondents indicated that their homes needed modifications to improve their ability to stay over the next 5 years (about 28% needed modifications at intake, while less than 17% of these individuals needed modifications 12 months later; S = 8.0, $p = .0046$); the modifications most commonly needed were bathroom/safety improvements. There was no significant change in respondents' confidence that they could afford to stay in their home or in how long they wanted to stay there (most said "the rest of my life" at baseline).

Bivariate. In chi-square tests, those who lived alone were significantly more likely to have increased confidence at T2 that they could get the help they needed to stay in their current residence than those who did not live alone ($\chi^2 = 9.8$, $p = .0074$; Table 3). Thirty-nine percent of those living alone reported increased confidence compared with 24% among those living with others. In addition, those with an IADL impairment and those with an ADL impairment were significantly more likely than those without impairments to have increased confidence (43%, 33%, and 14%, respectively; $\chi^2 = 15.8$, $p = .0033$).

Social Connectedness

Retrospective. In retrospective questions administered in the 12-month follow-up (Table 2), 74% of respondents said they know more people, 61% said they talk to more people, and 54% said they feel more connected with other people because of their Village membership. About half (55%) said that they participate in activities and events more and 48% are less lonely because of the Village. More than a third of respondents (40%) reported that they leave home more often since joining the Village. In addition, about 30% reported at the 12-month follow-up that they had done volunteer work for the Village. Almost three quarters (73%) of participants reported being more aware of available community services and about half (50%) said they use more community services because of their Village membership.

Pre–post test. In the pre–post analysis (Table 4), results on social engagement were mixed. Respondents were significantly more likely at 12-month follow-up to say that they had someone to count on for assistance with routine activities than they had at intake (S = 1,018, $p \leq .0001$). However, there was a significant decrease in the frequency with which respondents reported talking to friends and neighbors at the 12-month follow-up compared with intake (S = −569.5, $p = .0425$), though at both points respondents talked to friends and neighbors quite frequently. (More than half of respondents reported they did so at least once a day.) There were no significant changes in the pre–post test

Table 3. Bivariate Results by Subgroup (Significant Results Only).

Confidence can get help to live in current residence as long as like	Decreased confidence *n* (%)	No change *n* (%)	Increased confidence *n* (%)	*p* value
Does not live alone	12 (14.0)	53 (61.6)	21 (24.4)	.0074
Lives alone	24 (21.8)	43 (39.1)	43 (39.1)	
No disability	10 (17.5)	39 (68.4)	8 (14.0)	.0033
At least one IADL disability (no ADL disability)	16 (17.8)	35 (38.9)	39 (43.3)	
At least one ADL disability (with or without IADL disability)	10 (20.8)	22 (45.8)	16 (33.3)	
Considering moving to alternative housing	**Increased intention to relocate** *n* (%)	**No change** *n* (%)	**Decreased intention to relocate** *n* (%)	***p* value**
Does not live alone	9 (11.4)	53 (67.1)	17 (21.5)	.0230
Lives alone	3 (3.0)	83 (83.0)	14 (14.0)	
Volunteer work for any organization	**Decreased frequency** *n* (%)	**No change** *n* (%)	**Increased frequency** *n* (%)	***p* value**
Volunteered for Village in past year	19 (31.7)	18 (30.0)	23 (38.3)	.0004
Did not volunteer for Village in past year	47 (34.6)	70 (51.5)	19 (14.0)	
Called 911 in past 12 months	**Increased frequency** *n* (%)	**No change** *n* (%)	**Decreased frequency** *n* (%)	***p* value**
Used Village services in past year	16 (16.0)	72 (72.0)	12 (12.0)	.0125
Did not use Village services in past year	11 (11.5)	83 (86.5)	2 (2.1)	

Note. ADL = activities of daily living; IADL = instrumental activities of daily living.

on measures of getting together socially with friends/neighbors nor feelings of belonging to a community.

Although respondents rated their civic engagement quite high (more than 80% reported attending organized group meetings and more than 60% doing volunteer work at intake), results showed that there were significant decreases reported in the frequency of both attending organized group meetings

Table 4. Pre–Post Outcome Variables (Significant Changes Only).

	Intake	12-month follow-up	
	n (%)	*n* (%)	*p* value
Health care utilization			
How many times in the last 12 months have you called 911? (*n* = 196)			.0079
None	175 (89.3)	161 (82.1)	
1 time	15 (7.7)	23 (11.7)	
2 or more times	6 (3.1)	12 (6.1)	
In the past 12 months, how many times have you been hospitalized? (*n* = 199)			.032
None	158 (79.4)	146 (73.4)	
1 time	33 (16.6)	35 (17.6)	
2 or more times	8 (4.0)	18 (9.0)	
Functional status			
Difficulty walking across the room (*n* = 199)			.0074
Without difficulty	163 (81.9)	182 (91.5)	
With some difficulty or only with assistance from another person	36 (18.1)	17 (8.5)	
Self-efficacy/confidence aging in place/home modification and intention to relocate			
How confident are you that you can get the help you need to live in your current residence for as long as you would like? (*n* = 196)			.0017
Very confident	80 (40.8)	103 (52.6)	
Somewhat confident	96 (49.0)	82 (41.8)	
Not too confident or not confident at all	20 (10.2)	11 (5.6)	
Does your current residence need any modifications or changes to improve your ability to live there over the next 5 years? (*n* = 196)			.0046
Yes	55 (28.1)	34 (17.4)	
No	141 (71.9)	162 (82.6)	
Are you considering moving to other housing? (e.g., a smaller home, a senior housing community, assisted living, or other; *n* = 195)			.0113
Yes	46 (23.6)	29 (14.9)	
No	149 (76.4)	166 (85.1)	
Social connections			
In the past month, about how often did you usually talk with friends or neighbors, including other Village members (by phone or Internet)? (*n* = 199)			.0425
At least once a day	99 (49.8)	100 (50.3)	
A few times a week	74 (37.2)	56 (28.1)	
About once a week	13 (6.5)	17 (8.5)	
Less than once a week or never	13 (6.5)	26 (13.1)	

(continued)

Table 4. (continued)

	Intake	12-month follow-up	
	n (%)	*n* (%)	*p* value
If you need some extra help with activities such as these (e.g., grocery shopping, preparing meals, or getting a ride), to what extent would you agree that there is someone you can count on to help you? (*n* = 191)			<.0001
Strongly agree	71 (37.2)	92 (48.2)	
Agree	76 (39.8)	76 (39.8)	
Disagree	33 (17.3)	21 (11.0)	
Strongly disagree	11 (5.8)	2 (1.1)	
In the past 12 months, how often did you do volunteer work for any religious, charitable, political, health-related, or other organizations, including the Village? (*n* = 197)			.0251
Several times a week	43 (21.8)	27 (13.7)	
About once a week	36 (18.3)	30 (15.2)	
About once a month	20 (10.2)	33 (16.8)	
Less than once a month or never	98 (49.7)	107 (54.3)	
In the past 12 months, how often did you attend meetings of any organized group, including the Village? (such as: a choir, a committee or board, a support group, a sports or exercise group, a hobby group, or a professional society) (*n* = 198)			.0065
Several times a week	54 (27.3)	36 (18.2)	
About once a week	56 (28.3)	43 (21.7)	
About once a month	31 (15.7)	50 (25.3)	
Less than once a month or never	57 (28.8)	69 (34.8)	

(S = −1,124.5, p = .0065) and volunteering (S = −704, p = .0251) between intake and 12-month follow-up.

Bivariate. There were no significant differences between overall volunteer participation by any of the independent variables, with the exception that those who volunteered more often for their Village were significantly more likely to increase their overall frequency of volunteering at T2 (38% vs. 14%; $\chi^2 = 15.9$, $p = .0004$).

Health and Functional Status

Retrospective. In retrospective measures asked at the 12-month follow-up (Table 2), 38% said they felt healthier because of their Village membership.

Pre–post test. In longitudinal analysis, the only significant change in health outcome was in walking across the room (82% reported no difficulty at intake, while 92% reported no difficulty 12 months later; S = −140, $p = .0074$; Table 4). There were no significant changes in the pre–post test in most of the health outcome measures, including self-rated health status, falls, or other ADL/IADLs.

Bivariate. Chi-square tests showed no significant differences associated with any independent variables.

Health Care Utilization

Retrospective. In retrospective questions (Table 2), 37% said they were more likely to get the medical care they needed when they needed it because of their Village membership. (At intake, less than a quarter of respondents had been hospitalized and about 10% had called 911 in the past year.)

Pre–post test. In the pre–post test (Table 4), analyses revealed that respondents reported an increased number of hospitalizations (S = 307, p = .032) and increased 911 calls (S = 185.5, $p = .0079$) in the past year. There were no significant changes in measures of re-hospitalization, emergency department visits, skilled nursing facility stays, or delayed medical care.

Bivariate. In chi-square tests, members who used Village services more frequently showed a larger decrease (12%) in calling 911 compared with those who used services less frequently (decrease of 2%; $\chi^2 = 8.8$, $p = .0125$). There were no member characteristics significantly associated with change in frequency of hospitalizations in pre–post tests.

Discussion

Similar to past studies reporting Village member characteristics, respondents in this study were overwhelmingly White, English-speaking, in good health, and had strong social connections at the time they joined the Village. They were more financially secure than typical seniors, with only 17% struggling financially according to the EESI measure (compared with 47% of seniors struggling financially in California overall; Insight Center for Community Economic Development, 2011). Village members are much more highly educated than typical seniors in the United States, with 70% having completed a bachelor's degree (compared with 24% of seniors nationally). Although most descriptive information suggests they are less vulnerable than typical seniors,

their rates of ADL impairment were comparable with community-dwelling seniors in the United States (25% vs. 28% nationally), and rates of IADL impairment were slightly higher (46% compared with 40% nationally). Furthermore, Villages tend to attract seniors (especially women) who live alone. More than three quarters of Village members are women and more than half (56%) live alone (compared with 28% of U.S. seniors nationally who live alone; Administration for Community Living [ACL], 2012). Women who live alone are a particularly vulnerable group because they are much more likely to struggle financially, a factor negatively associated with aging in place (Sabia, 2008; Wallace & Smith, 2009).

Results showed that after 1 year as a member of a Village, respondents reported greater confidence and perceptions of support due to their membership. They were significantly more likely to feel confident aging in their homes and less likely to be considering relocating than they were when they joined. These are important results considering previously established links between positive self-perceptions of aging and reduced risk for frailty, cognitive decline, and potential subsequent institutionalization (Robertson, King-Kallimanis, & Kenny, 2015; Robertson, Savva, et al., 2015; Wurm & Benyamini, 2014). Furthermore, we see that Village members who may be the most vulnerable (those who live alone and those with some functional impairment) were particularly likely to report increased confidence in their first year of membership. Given the high rates of Village members who live alone and the higher risk of institutionalization for these seniors, the increase in confidence reported by these members is an important result.

Results on measures of social and civic engagement were mixed. Although retrospective results suggest that members perceived an increase in social connections and social support after their first year of membership, measures of the frequency of social contact declined significantly at T2. Village members generally reported a high frequency of social connections at intake, which may have produced a ceiling effect. It seems possible that connections with non-Village friends and family members may decline over time, as Village contacts increase. The measures in this analysis also did not take into account the *quality* of the social connections that were made through the Village, which may contribute to the perception of increased social support despite an objective decrease in frequency of connections. As Village members age, health or physical decline may weaken social connectedness, and perhaps the goal of maintaining social connections (rather than increasing them) as members age would be a more appropriate expectation for Villages.

The majority of Village members in this study rated their health as excellent or good at the time they joined. Although about a third of members retrospectively reported they felt healthier because of their Village membership,

the objective measures of health and functional status remained steady in the first year of membership. In light of this, the increased incidence of hospitalizations and 911 calls in the first year of membership was surprising. As a number of previous studies have suggested (e.g., Blenkner, Bloom, & Nielsen, 1971; Weissert, 1988), involvement of supportive services can increase use of health and long-term care services by facilitating access to needed services among individuals with unmet needs that otherwise might be unresolved without professional assistance.

We can expect increased incidence of poor health and functional impairment as Village members age, and some older adults may join Villages at a point where they are just beginning to experience some of the increased frailty normally associated with aging. Currently, Villages focus primarily on meeting the social needs rather than the health-related needs of older adults. Although they may refer members to outside care management or home health care services, these are not typically provided directly by most Villages. If Villages aim to affect the health and well-being of their aging members over time, they may need to develop more services focused on health promotion, chronic disease prevention, and health care advocacy.

A unique contribution of this study is the focus on aging in place for seniors who are not at immediate risk of institutionalization. Past studies have overwhelmingly focused on interventions for frail seniors, including those who rely on long-term services and supports, or those who were discharged after being admitted to skilled nursing or hospitals (Graham, Anderson, & Newcomer, 2005; Kemper, 1988; Naylor & Keating, 2008). Unlike interventions that tend to privilege care management and personal assistance for individual frail seniors—and which have shown only limited success (Applebaum, 2012)—the Village model includes a combination of community-building activities, meaningful engagement, peer support, and service access for older adults at earlier stages of life. In this way, the Village model incorporates some of the elements of Thomas and Blanchard's (2009) concept of aging in community, such as engagement and interdependence, that, can be argued, are important to establish before the onset of frailty. Thus, Villages can be seen as a relatively innovative approach for seniors who wish to plan ahead for aging in community. This model can not only increase confidence about the availability of help when needed but also enhance an older adult's sense of social connection, contribution, control, and community to set the stage for ongoing aging in community.

Limitations

There are several potential limitations to this study. First, the lack of a control group with which to compare the Village cohort makes it impossible to assess

the actual impact of Village membership and the possibility that some of the declines in social engagement and increases in health services use may reflect the normal aging process. The sample could not be selected randomly, although participant characteristics appear to reflect what is known about Village members in general. In addition, sample size limited our analysis to nonparametric statistics and bivariate analyses of change scores. Future research, using a larger sample of Village members, will be needed to construct and test multivariate models of Village impacts.

As noted above, our measures of social connection exhibited a ceiling effect, limiting our ability to detect any increases in the frequency of social contact. We also failed to include measures of the quality of social connections. The inconsistency between the improved social connections reported in the retrospective questions and the decrease in the frequency of social contacts in the pre–post test may be resolved in future studies by including questions that measure quality or intimacy of social connections, rather than just the frequency of those interactions.

Next, this study only examines the first 12 months of Village membership. Because most Village members join a Village when they are fairly healthy and well-connected socially and because deterioration in health and social connections often occurs slowly over time, we would not expect to see events such as institutionalization or forced moves for several years after joining the Village. To truly assess whether Village membership can prevent institutionalization or forced moves, it will be important to follow Village members for several years.

Finally, this study includes members from seven Villages in one state. It will be important to expand this research nationally to a larger sample of Villages to understand the wider impact of Village membership among diverse types of Villages in a variety of geographic regions. Study participants, while quite homogeneous (more likely to be female and financially secure than seniors in the state of California), had demographic and health characteristics that were very similar to those of a national sample of Village members (Scharlach & Graham, 2015). Further research is needed with Villages serving populations that are more ethnically or socioeconomically diverse.

Conclusion

Villages offer social connections, health promotion activities, and supportive services designed to help members to age in place with a sense of community. Results from this study confirm that many Village members clearly perceive that the Village has improved their social connections, health, and confidence

aging in place. Longitudinal analyses comparing members at intake and 12 months later showed statistically significant improvements with regard to confidence aging in place and perceived support but not in actual health ratings, social connections, nor health services utilization. Indeed, many members say they join Villages to ensure that support will be there in the future when they need it, rather than to meet current health and social needs. With this in mind, we would propose that Villages be conceptualized as a preventive model for older adults who are not yet at risk for institutionalization, aimed at promoting aging in community and perhaps subsequently reducing the risk of institutionalization and other deleterious outcomes in the longer term. Further research should follow Village members for a longer period of time, focusing especially on whether Villages maintain health and social connections relative to comparison groups of non-members. The improved confidence among members found in this study could be a first step in preventing institutionalization down the road, but to maintain the health of their members as they age, Villages may need to focus their programs more on health promotion, care management, and health care advocacy.

Declaration of Conflicting Interests

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Author Biographies

Carrie Graham, PhD, is a medical sociologist and gerontologist at the University of California (UC) Berkeley. She is also an Associate Adjunct Professor at the University of California, San Francisco (UCSF) Institute for Health and Aging.

Andrew E. Scharlach, PhD, is the Kleiner professor of Aging at the UC Berkeley, School of Social Welfare. He is also the director of the Center for the Advanced Study of Aging Services.

Elaine Kurtovich holds an MPH from UC Berkeley and is a staff research associate at Health Research for Action, a center in the UC Berkeley School of Public Health. She is also a physical therapist.