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Assessing Statewide Need for Older Adult Health Promotion Services: The Oklahoma Experience

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Abstract

The growing senior population and persistent poor health status of seniors in Oklahoma compels a fresh look at what health promotion services would be well received. Surveys were distributed to a list of registered voters age 65 and older in Oklahoma with a total of 1,248 surveys returned (19.8%). Survey items asked about interests in services, classes, and activities, plus current barriers to accessing and/or engaging in such programs. To account for survey weighting, Rao-Scott Chi-Square Tests were performed to determine differences by demographic characteristics. We identified services, classes, and activities that were (and were not) of interest to seniors in Oklahoma with legal assistance (52.1%), exercise classes (46.6%), internet classes (40.7%), and indoor exercise activities (45.5%) receiving the highest level of interest. Barriers to interest in participating in programs included not wanting to go and not knowing availability of such services. The results of this survey provide useful data on health promotion gaps for seniors, interests and barriers to engaging in such activities, and guidance for statewide program development. Future program development needs to be focused on areas of interest for older adults, including legal assistance, exercise classes, and internet classes.

Keywords

Education and training; Exercise/Physical Activity; Home and community based care and services; Quantitative research methods; Successful Aging; Survey design

Literature Review

Aging population

The 2015 American Community Survey estimated that there were 576,031 individuals aged 65 and older living in Oklahoma and these numbers are expected to increase almost fifty percent to more than 757,000 older Oklahomans by 2030 (United States Census Bureau,

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2017; United States Department of Health and Human Services, 2015). At the same time, Oklahoma's health indicators continue to be among the lowest in the U.S. According to the United Health Foundation, Oklahoma ranked 48th in "overall senior health" in 2017(United Health Foundation, 2017). Thus, the need for Oklahoma's older population to participate in health education and promotion services, activities, and programs is critical.

Health Promotion Services and Outcomes

A wide array of health education and health activities have been shown to improve senior health (Bray et al., 2013; Galbraith et al., 2016; Nutbeam, 2000; Renders et al., 2001; Tomioka, Braun, Compton, & Tanoue, 2012; Wagner et al., 2001). Two particularly effective health education programs available through Stanford University are the Diabetes Self-Management Program (DSMP) and Chronic Disease Self-Management Program (CDSMP) (Attridge, Creamer, Ramsden, Cannings-John, & Hawthorne, 2014; Bodenheimer, Lorig, Holman, & Grumbach, 2002; K. Lorig, 1996; Tomioka et al., 2012), This self-management program is based on self-efficacy theory and incorporates problem solving, decision making, and confidence building that emphasizes the patient's role in managing their own illness. The program has been widely disseminated throughout the US (Smith et al., 2017; Towne, Smith, Ahn, & Ory, 2014) and has shown health benefits including improved healthy behaviors and outcomes (i.e., hospitalizations, exercise and cognitive symptom management) (Bodenheimer et al., 2002; K. Lorig, 1996; K. R. Lorig, Ritter, et al., 2001; K. R. Lorig, Sobel, Ritter, Laurent, & Hobbs, 2001; K. R. Lorig et al., 1999).

In addition, there is a recent focus on improving health literacy to improve health outcomes (Bennett, Chen, Soroui, & White, 2009; Berkman et al., 2011; Nutbeam, 2000; T. Sentell, Baker, Onaka, & Braun, 2011; T. L. Sentell & Halpin, 2006; von Wagner, Steptoe, Wolf, & Wardle, 2009). Having the capacity to obtain, process, and understand basic health information and (of greater relevance to this work) services needed to make appropriate health decisions is critical for older adults to be engaged in preserving their health and decreasing disparities in health outcomes (Attridge et al., 2014; Kim & Lee, 2016; Lyons, 2014; Mallmann, Galindo Neto, Sousa Jde, & de Vasconcelos, 2015; March et al., 2015; Richards & Cai, 2016; Schembri et al., 2016; Wilkins, Jung, Wishart, Edwards, & Norton, 2003). In a reciprocal manner, education and service providers must be selective in what activities to offer due to limited time, funds and interest from consumers.. Activities that address risk factors and help individuals both avoid and cope with disease are highly valued by older adults.

Aging Research in Oklahoma

In Oklahoma there has been limited research on the statewide older population with only one article focusing on health promotion services and urinary incontinence (McFall, Yerkes, & Cowan, 2000). The remaining articles focused specifically on Native American education program such as using talking circles for breast health education and using the multidimensional health locus of control to improve education in the state (Egan et al., 2009; Haozous, Eschiti, Lauderdale, Hill, & Amos, 2010). In fact, there have been very few studies that have focused on rural populations (Aguirre, Wilhelm, & Joshi, 2012; Bronstein, McCallion, & Kramer, 2006; Gutschall, Miller, Mitchell, & Lawrence, 2009; Murphy-

Southwick & McBride, 2006; Scala, 2003; Weinert & Hill, 2005). One early study by Scala (2003) reported that “older people living in rural areas face unique challenges, not only in accessing benefits and services, but also in gathering information about programs that can help them.” However, it remains unclear why engagement in healthy behaviors remains such a challenge for many older Oklahomans.

The convergence of these issues – the growing senior population and their increasing need for health care, the evidence of health education and promotion effectiveness, and the lack of information available to guide development of these services– prompted the University of Oklahoma and the Reynolds Foundation to initiate the Oklahoma Healthy Agency Initiative (OHAI). The aim of the Oklahoma Healthy Aging Initiative is to improve the health status of older Oklahomans in the next ten years. OHAI plans to, “enhance the health and quality of life for Oklahoma’s seniors by increasing access to geriatric healthcare, providing excellence in health education, and optimizing health and aging policy” (Oklahoma Health Aging Initiative, 2015). One of the first tasks undertaken by OHAI was the 2013 Consumer Needs Assessment Survey (CNAS), which was implemented to determine the health education and caregiving needs of Oklahoma citizens aged 65 and older. The purpose of this study was to evaluate interest in services, classes, and activities that OHAI could potentially offer to seniors living in Oklahoma.

Methods and Materials

Sample

Data were collected by a mailed survey to a stratified random sample of all 475,518 registered voters age 65 and older in Oklahoma. We obtained the Oklahoma voter’s registration file, current as of January 2013. This file, purchased from the Oklahoma State Election Board, contains information on all registered voters in Oklahoma and includes voter name, address, date of birth, and mailing address by county of registration. Using the estimated population counts from the US Census from 2011 and accounting for deceased individuals on the voter registration rolls, we estimated that approximately 85% of all Oklahomans age 65 and older were represented by these files. A study of voting and registration in the election of November 2012 showed that 87.4% of Oklahomans age 65–74 and 66.5% of Oklahomans age 75 and older were registered to vote (United States Census Bureau, 2013).

Instrument-survey information

The survey was mailed to a stratified random sample of older Oklahomans, with the strata being Oklahoma’s five OHAI Regions (Figure 1). This assured an adequate sample size for each geographic area within the state (stratum), including rural and urban areas. The survey was anonymous; thus responses were not traceable to any individual, although age and ZIP code were requested which allowed us to further stratify results by age and region. Each survey packet included an eight-page paper survey and a self-addressed postage paid return envelope. Surveys were mailed on April 23, 2013 (n=6,705).

(Please Place Figure 1 Approximately here)

Eleven (0.2%) individuals responded to the survey as having either moved out of state or being unable to complete the survey (for example, due to major illness). Of all remaining surveys mailed, 2.6% were returned as undeliverable and 2.4% of respondents were discovered to be deceased through reports from family members and returned mail. To identify and exclude other deceased individuals we searched the US Master Death Index (MDI) file for names in the survey population using name, date of birth, location of last Social Security payment, and the date of the last voting record. The latter was used to classify potential linkages between voter registration files and MDI as a non-match if the date of death was before the date of the last voting record (i.e., if an individual voted after their date of death, they were not the same individual). We used a two-stage method to conduct the MDI check for deceased survey recipients. First, individuals issued social security numbers in Oklahoma were linked using Registry Plus™ Link Plus software (Atlanta, GA), a probabilistic data linkage program, by name and date of birth. We did this because of the large number of deaths required for review. Second, remaining individuals were linked manually with the MDI. Through this process, an additional 399 (6.0%) individuals were classified as deceased.

The self-report survey instrument was written at an 8th grade reading level (Flesch-Kincaid reading grade level 7.1). There were 27 questions on the survey. The survey had six sections: introduction, health and health promotion, activities/recreation, information and assistance, caregiving and “about you.” The introduction section included questions concerning current daily activities and transportation issues (methods and distance). Health and health promotion included current attendance at and interest in health information events. Activities/recreation included questions about where people currently spend their time away from home, services that would be used (services), classes that would be used (classes), and activities that individuals would participate in (activities) if they were free of charge or for a significantly reduced rate. Additionally they included question about senior center use and interest in. The information and assistance section included questions about where individuals go for information about programs, how they find out about community events, and the biggest barriers to such events. Additionally for this section, questions on computers, internet access, and training were asked. The caregiving section asked about the caregiving activities of the respondent. Finally, the “about you” section included demographic question such as gender, age, ZIP code and living arrangements. Demographic variables were collected without sacrificing anonymity and no personal health information was recorded. The design allowed for analysis by demographic variables, delineation of interests in a variety of health promotion offerings (including check lists and open-ended responses), and break-out by services, classes, and activities.

Data Analysis

The resulting data set was cleaned and several variables recoded for statistical purposes. For example, OHAI region of residency was coded based on respondents’ ZIP codes. Poverty level was assigned from U.S. Census data and applied to respondents whose ZIP codes were reported (unknown n=98). Each respondent was assigned an aggregate poverty level category based on the percentage of the population in the respondent’s ZIP code with

income below the poverty level (<5%, 5–9%, 10–19%, >20%). Rural-urban areas were determined from ZIP codes using the four-tier consolidation of the Rural-Urban Commuting Area Codes (RUCA) system (United States Department of Agriculture, 2004; WWAMI Rural Health Research Center, 2015). We categorized the RUCA codes into four groups: 1) Urban core (contiguous built-up areas of 50,000 persons or more corresponding to US Census Bureau's Urbanized Areas); 2) Sub-Urban areas (often in Metropolitan Counties, with high commuting flows to Urban Cores); 3) Large rural town (towns with populations between 10,000 and 49,999 and surrounding rural areas with 10% or more primary commuting flows to these towns, as well as secondary commuting flows of 10% or more to urban cores); and 4) Small town and isolated rural areas-towns (populations below 10,000 and their surrounding commuter areas and other isolated rural areas with more than one hour driving distance to a nearest city).

We used a stratified sample weighted by age and region in order to generalize our results to the entire population of Oklahoma aged 65 and older. We used weights that accounted for the probability of being included in the sample by taking the inverse of the proportion of non-response due to returned mail (1/(Returned Mail/Voter Sample Population)). By applying weights to each response we were able to complete statewide estimates. All percentages and 95% confidence intervals (CI) were weighted.

We calculated frequencies, weighted percentages, and weighted 95% CIs for the survey questions related to services, classes, and activities that were of interest to older Oklahomans (65 and older) if they were available free of charge or at a significantly reduced rate. To determine whether differences were present by age and poverty level, we used the Rao-Scott Chi-Square Test, which adjusts for the weighting applied to the survey responses. All analyses were conducted using SAS® 9.4. We assumed an alpha of 0.05 unless otherwise specified. The study was approved by the Institutional Review Board at the University of Oklahoma Health Sciences Center.

Results

A total of 1,248 completed and valid surveys were returned, representing a 19.8% response rate. Approximately 8% (n=98) of responses were missing ZIP codes and were not included in the statewide analysis, resulting in a sample size of 1,150. A higher percentage of respondents were female (65.2%) and were between the ages of 65 and 74 years (61.4%; Table 1). Regarding area poverty, the highest percent (41.0%) of respondents resided in ZIP codes with 5–9% of the population below the poverty level. Forty percent (40.1%) of older respondents lived in the urban core, and a quarter (25.4%) lived in small or isolated towns (Table 1).

(Please Place Table 1 Approximately here)

Current activities and interest—Survey respondents were asked if they participated in a range of activities (Table 2). Almost 2 in 3 older Oklahoma adults (66.4%) reported meeting with friends or relatives. Other commonly reported activities included church/faith-based or religious activities (57.7%) and participating in a hobby (48.9%). Less commonly reported but important activities among older Oklahoma adults included a health or wellness activity

(31.5%), volunteer work outside the home (26.8%), attending movies, theater, sporting events, cultural events (24.7%), and working for pay (22.9%). Rare activities (less than 10% of older adults) included raising minor grandchildren (7.6%) or participating in professional organizations (5.1%).

(Please Place Table 2 Approximately here)

About one in five (19.4%) older Oklahoma adults attended an event offering free health services in the past year (Table 3). We estimated that nearly 75% of seniors reported they would be at least somewhat interested in classes if available, with 19.8% being very interested in classes (Table 3). However, 51% (95% CI: 38.6, 45.5) were unlikely to attend and/or participate in programs offered by a central community senior center (data not shown). There was a noteworthy group of about one in four (25.5%) who reported that they would have no interest in attending classes. Women (21.4%) were significantly more likely than men (15.2%) to have attended a free health event in the past year (p=0.03) (Table 3). Women (22.3%) were also more likely than men (14.3%) to report being very interested in attending an event (p=0.01). There was a small but significant difference (p=0.04) in rural/urban respondents having attended an event based on small or isolated towns (14.0%) and sub-urban (15.4%) being lower than urban locales, but no significant difference in levels of interest based on rural/urban status (Table 3). There were no significant differences in having attended or interest in attending an event based on age group or area poverty level.

(Please Place Table 3 Approximately here)

Services, Classes and Activities—When asked about specific services, classes, and activities that seniors would use if available free of charge or at a significantly reduced rate, the most popular request was for legal assistance, endorsed by 52.1% of seniors (Table 4). Other commonly requested services were health screenings (36.2%), assistance with tax preparation (31.3%), and prescription assistance (25.8%). Regarding interest in classes, those which focused on exercise (46.6%), computer or internet (40.7%), and health and wellness (38.4%) were the most requested. The most requested activities were indoor exercise activities (45.5%) and day trips such as to museums or parks (39.1%). Walking classes were requested by about 1 in 3 (32.0%) older adults, outdoor activities by 1 in 4 (25.9%), and nature related activities by about 1 in 5 (22.4%).

(Please Place Table 4 Approximately here)

Regarding differences in requests for services by gender, women were more likely to request telephone reassurance (9.5% vs 5.0%, p=0.02), respite for caregivers (9.1% vs 4.9%, p=0.03), and congregate meals at a center (11.7% v. 7.6%, p=0.05) compared to male older adults (Table 4). Interest in classes also differed significantly with endorsement by women generally than men for classes in exercise (46.8% vs 36.0%, p=0.003), arts and crafts/hobby (35.1% vs 19.3%, p<0.0001), nutrition (31.1% vs 20.8%, p=0.002), and caregiver instruction (9.9% vs 4.7%, p=0.007) (Table 4). Additionally, all activities but one were requested more frequently by women compared to men, with significant differences in indoor exercise (49.2% vs 38.4%, p=0.003) activities, walking (35.3% vs 25.4%, p=0.004) classes, and dance lessons (19.2% vs 8.1%, p<0.0001) (Table 4). The one grouped set of activities

requested by men more often than women was billiards/shuffleboard/ping pong (5.3% vs 12.2%, p=0.0004).

Regarding differences by age, seniors aged 64–74 years were more likely to request legal services (65–74 years: 57.3%, 75–84 years: 46.8%, ≥85 years: 33.6%, p<0.0001) and health screenings (65–74 years: 40.1%, 75–84 years: 31.9%, ≥85 years: 22.4%, p=0.002) than seniors aged 75 years and older (Table 5). Seniors 85 years and older were more likely to request telephone reassurance than younger seniors (65–74 years: 4.5%, 75–84 years: 9.9%, ≥85 years: 27.2%, p<0.0001). Interest in classes also differed by age group with interest generally being higher among seniors aged 65–74. Respondents 85 years and older generally were less likely to request health and wellness, cooking, nutrition, exercise, computer and/or internet, and arts and crafts/hobby classes. Most activities were requested less frequently by those 85 years and older, except for card, board, and table games at 24.2 % in contrast to 20.8% among those age 75–84 years and 23.1% among those aged 65–74 years (p=0.05).

(Please Place Table 5 Approximately here)

There were no differences by area poverty level for classes or activities. However, requests for home delivered meals were higher for those in ZIP codes with 5–9% (10.0%), 10–14% (11.1%), and ≥15% (13.2%), compared to those with <5% (2.5%) of the population below the poverty level (p=0.004). Requests for prescription assistance were higher among those residing in ZIP codes with 10–14% (33.5%) and ≥15% (30.4%) and lower among those with <5% (20.6%) and 5–9% (22.7%) of the population below the poverty level (p=0.005).

There were no significant differences by rural/urban status for services, classes or activities (data not shown). There was a trend toward fewer requests for congregate meals offered in nutrition centers among those residing in the urban core at 7.2%, sub-urban at 10.4%, large rural towns at 11.8%, and small isolated towns at 14.4% (p=0.05).

Barriers to Current Programs—Participants were also asked about the barriers to accessing health promotion programs (Table 6). The most commonly reported barriers to accessing community programs for the elderly were “just don’t want to go” (28.5%) and “didn’t know about services” (22.3%). Among those who indicated other reasons (20.9%), these commonly involved not enough time or being too busy (data not shown).

There were differences in perceived barriers to care based on age groups. Transportation as a barrier and “just don’t want to go” significantly increased as age increased (Table 7). Location of the program, “didn’t know about the services,” and “don’t know how to access/ enroll in services” increase as age increased (Table 7). Except for “just don’t want to go” at 35.7% for men compared to 24.3% among women (p=0.0009) and other (16.0% vs 23.7% p=0.01), there were no significant difference between males and females in reported barriers (data not shown). The only significant difference by area poverty status was lack of transportation. This was reported as a barrier more often among those with a higher percentage of the area living in poverty with 8.4% among those living in areas with <5% of the population below the poverty level (95% CI: 3.7, 13.1), 9.3% among 5–9% (95% CI: 5.9, 12.6), 17.4% among 10–14% (95% CI: 12.3, 22.4), and 21.0% among ≥15% (95% CI: 13.8, 28.1) living in poverty (p=0.001). Two significant differences seen between rural/urban areas

were transportation as a barrier and lack of adequate facilities. Within the urban core, 10.9% (95% CI: 7.0, 14.9) reported transportation as a barrier, whereas 5.2% of sub-urban respondents (95% CI: 0.3, 10.0), 4.0% of large rural towns respondents (95% CI: 1.2, 6.7), and 4.1% of respondents in small isolated towns (95% CI: 1.7, 6.5) reported this as a barrier (p=0.004). Conversely, lack of an adequate facility was reported as a barrier among 7.7% (95% CI: 4.5, 11.1) of the urban core, among 13.9% (95% CI: 6.7, 21.2) the sub-urban, among 15.9% (95% CI: 10.6, 21.2) of the large rural towns, and 16.4% (95% CI: 11.9, 20.9) of the small isolated towns (p=0.01).

Discussion

Results of this survey provide useful data on senior interests and current barriers to community programs/activities. Older adults in Oklahoma were most interested in services, specifically legal assistance, which was highest among the younger elderly. Other requested services were health screenings, assistance with tax preparation, and prescription assistance. Classes that were of interest to seniors included health and wellness, exercise, using the computer/internet, and arts and crafts/hobby classes, which were also more highly preferred among the younger elderly. Seniors reported that indoor exercise activities and day trips were preferred, which were again reported more frequently among the younger seniors. One service that was requested by over one quarter of the oldest age group (85 and older) was telephone reassurance and an activity that was requested among this group was card, board, or table games. In general, women and respondents in more isolated towns were more likely to report interest in services, classes, and activities.

This survey also allowed us to identify barriers to involvement in services, classes, and activities. As anticipated, “not wanting to go” and “not knowing about services” were frequently cited as barriers. In specific areas (high poverty areas or rural areas), transportation and a lack of desire to attend such programs were very common, especially among men and the oldest age groups. A lack of adequate facilities was seen as a bigger barrier in the small isolated towns.

Several studies have assessed aspects of community involvement and social participation as predictors of health outcome. Newall, McArthur, and Menec (2015) observed that adults who were more socially engaged had shorter hospital stays. However, it was not clear whether these results were adjusted by age or other potential confounding factors. Cherry et al. (2013) observed that age and hours spent outside the home (social engagement) were significantly related to physical health, while social support did not affect physical health. Furthermore, Nyqvist, Nygard, and Jakobsson (2012) reported a positive relationship between self-reported health and social engagement measured through membership in voluntary organizations and interpersonal trust. Since the ultimate challenge for community organizations that offer services is having participants show up, it is critically important that scarce resources be applied wisely to those services, classes, and activities that offer the greatest potential for health benefit.

Older adults may face barriers to community involvement. Richard et al. (2013) observed that seniors aged 67–84 years in Montreal, Quebec most commonly reported that they never

engaged in hobbies outside the home, attended activities at a community center, took lessons or courses, participated in self-help or discussion groups, visited a public library or cultural center, or did volunteer work. Furthermore, older adults may have difficulty arranging transportation, making social engagement even more difficult. In a survey of American Association of Retired Persons (AARP) adults aged 50–97 years in North Dakota, Mattson (2011) reported differences in transportation by gender, age, disability status, and distance from the travel destination. Females, older aged respondents, and people with disabilities were less likely to drive and more likely to avoid driving than the referent group. People with disabilities and those with a greater distance to travel were also less likely to have adequate transportation options than the comparison groups. Furthermore, a qualitative study of African American seniors in North Carolina showed themes consistent with our survey results, including findings that improved outreach to engage seniors and provision of social support that was valued by seniors (Waites, 2013). We observed similar results with barriers including transportation, lack of adequate facilities, location, and motivation. Barriers identified by seniors in Oklahoma may be addressed by improving outreach and better social support.

Strengths of this survey include the identification of senior interests and barriers to current programs, which are now being used to guide development and implementation of new senior programs into Oklahoma communities. Implementing such programs could potentially decrease health problems and increase quality of life among Oklahoma's older adults. Barriers to programs identified by this survey can help determine methods to increase participation in newly implemented programs. We anticipate that additional analyses of the survey data will aid in appropriate methods of reaching Oklahoma seniors with advertisements that emphasize certain desired programs such as legal aid and tax preparations, in addition to health services, classes, and activities. This survey includes an adequate sample size to analyze for some specific sub-analyses including rural parts of Oklahoma, high poverty areas in Oklahoma, and by age groups.

Limitations of this analysis include the using voter registry as a population source and the somewhat low response rates. Participants were selected from the Oklahoma Voter Registration file and the estimated voter registration differed by age group (87.4% for ages 65–74 and 66.5% for age 75 and older). Consequently, results of this survey may not be representative of the entire Oklahoma senior population, in particular those not eligible to vote and those less likely to register to vote despite eligibility. This latter group is likely to be less socially engaged and at increased risk for poor health. Differences in interests and barriers to program access likely exist between those who responded and those who did not.

Conclusion

Findings from this statewide survey have been reviewed and were integral for OHAI in terms of program planning for Oklahoma seniors. For example, we identified the CDSMP program as one that would be both acceptable and beneficial as it can be marketed as a health and wellness. Additionally, TaiChi is a class (specifically an exercise class) that has been implemented throughout Oklahoma. We have determined that both rural and urban populations are interested in health promotion services but that both urban core and rural

areas have barriers, principally transportation. Identified barriers to program access will be addressed when planning future programs. We have worked with groups in each location to provide convenient and accessible locations for services, classes, and activities. Furthermore, we anticipate that introducing additional specific community services, classes, and activities will decrease poor health behaviors and improve overall health for Oklahoma seniors. As a next step, we plan to implement additional activities and services and evaluate the impact of these programs on health of seniors.

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Figure 1:
Five Regions of the Oklahoma Healthy Agency Initiative

Table 1.

Demographic characteristics of older Oklahomans based on weighted survey responses: Oklahoma, 2013

	N	%	95% CI
Female (v. male)	747	65.2	62.0, 68.4
Age Group			
65–74	695	61.4	58.1, 64.6
75–84	362	30.5	27.4, 33.5
85+	93	8.2	6.3, 10.0
Poverty Level			
<5	167	20.9	18.0, 23.7
5 to 9	485	41.0	37.8, 44.2
10 to 14	311	25.8	23.0, 28.6
15+	173	12.3	10.4, 14.3
Rural/Urban Status			
Urban Core	323	40.1	37.0, 43.1
Sub-Urban	108	12.1	9.9, 14.4
Large Rural Town	332	22.5	19.9, 25.0
Small Town/Isolated	386	25.4	22.8, 27.9

Table 2.

Participated in activities at least 1 day a week older Oklahomans: 2013

Activity	N	%	95% CI (%)
Caring for a sick or invalid spouse, family member or friend living with you	174	14.6	12.4, 16.9
Raising minor grandchildren	96	7.6	5.9, 9.3
Volunteer work outside your home	306	26.8	23.9, 29.8
Church/Faith based or religious activities	675	57.7	54.4, 61.0
Club or civic group activities	227	19.5	16.8, 22.1
Meeting with friends or relatives	746	66.4	63.2, 69.5
Participating in a hobby	540	48.9	45.5, 52.2
Attending movies, theater, sporting events, cultural events	266	24.7	21.8, 27.6
Health or wellness activity	328	31.5	28.4, 34.7
Professional Organization	53	5.1	3.6, 6.6
Working for pay	259	22.9	20.1, 25.7

Table 3.

Attended free health information event in the past year and level of interest in attending classes to help learn keeping themselves healthy, Older Oklahomans: 2013

	Attended an event				Level of interest in attending classes									
					Not Interested			Somewhat Interested			Very Interested			
	N	%	95% CI	p-value	N	%	95% CI	N	%	95% CI	N	%	95% CI	p-value
Overall	214	19.4	16.7, 22.1		275	25.6	22.6, 28.5	618	54.7	51.3, 58.1	221	19.8	17.1, 22.4	
Gender				0.03										0.01
Male	55	15.2	11.0, 19.3		114	29.8	24.5, 35.1	212	55.9	20.2, 61.7	55	14.3	10.3 18.3	
Female	156	21.4	17.9, 24.8		159	23.5	19.9, 27.1	403	54.3	50.1, 58.5	162	22.3	18.8, 25.8	
Age Group				0.68										0.19
65–74	135	20.3	16.8, 23.8		150	23.6	19.9, 27.3	94	27.5	22.1, 33.0	31	33.2	21.9, 44.5	
75–84	63	17.6	13.0, 22.3		382	54.7	50.4, 58.9	198	56.3	50.2, 62.3	38	49.1	36.9, 61.3	
85+	16	19.0	9.4, 28.4		145	21.8	18.2, 25.3	58	16.2	11.7, 20.7	18	17.7	8.9, 26.6	
Poverty Level				0.86										0.12
<5	31	19.8	13.3, 26.2		42	24.1	17.3, 31.0	98	61.9	54.1, 69.8	21	14.0	8.3, 19.7	
5 to 9	95	19.8	15.6, 24.0		118	26.8	22.0, 31.5	267	54.5	49.2, 59.8	87	18.7	14.6, 22.8	
10 to 14	63	20.2	15.0, 25.4		77	27.6	21.7, 33.5	151	48.6	42.2, 55.1	71	23.7	18.2, 29.3	
15+	23	16.2	9.4, 23.1		37	21.2	14.0, 28.5	93	55.4	46.7, 64.1	39	23.4	16.0, 30.8	
Rural/Urban Status				0.04										0.69
Urban Core	66	21.5	16.8, 26.3		82	25.2	20.2, 30.1	168	54.3	48.5, 60.0	67	20.6	15.9, 25.2	
Sub-Urban	15	15.5	7.9, 23.1		18	20.6	11.9, 29.2	65	63.1	53.1, 73.2	20	16.3	8.8, 23.8	
Large Rural Town	77	23.7	18.1, 29.3		79	27.9	21.9, 34.0	180	53.3	46.7, 59.9	61	18.8	13.8, 23.9	
Small Town/Isolated	56	14.0	9.9, 18.1		96	26.5	21.2, 31.9	205	53.0	46.7, 59.0	72	20.5	15.5, 25.5	

Table 4:

Services, Classes and Activities Older Oklahomans Would Use If Available Free Of Charge or For a Significantly Reduced Rate Overall and by Gender: 2013

	Overall			Male			Female			Male vs Female
	N	Weighted %	95% CI	N	Weighted %	95% CI	N	Weighted %	95% CI	p-value
Services										
Legal assistance (wills, power of attorney, medical powers of attorney, etc)	594	52.1	48.7, 55.5	200	52.1	46.4, 57.8	388	52.0	47.8, 56.1	0.97
Assistance with tax preparation	351	31.3	28.2, 34.4	120	32.7	27.3, 38.2	226	29.9	26.1, 33.7	0.40
Telephone reassurance (daily check-in calls)	91	8.0	6.2, 9.8	**20**	**5.0**	**2.6, 7.5**	**70**	**9.5**	**7.0, 11.9**	**0.02**
Congregate meals at a center	128	10.4	8.4, 12.4	**37**	**7.6**	**4.8, 10.4**	**89**	**11.7**	**9.0, 14.3**	**0.05**
Home delivered meals	104	9.1	7.2, 11.0	30	7.8	4.7, 10.9	72	9.7	7.2, 12.1	0.36
Health screenings	422	36.2	33.0, 39.4	131	32.7	27.4, 37.9	286	37.8	33.8, 41.9	0.13
Prescription assistance	307	25.8	22.9, 28.7	116	28.8	23.6, 33.9	188	24.1	20.6, 27.6	0.14
Respite for caregivers	83	7.9	6.1, 9.7	**20**	**4.9**	**2.5, 7.4**	**61**	**9.1**	**6.7, 11.6**	**0.03**
Other	79	7.6	5.8, 9.4	22	5.6	3.0, 8.2	56	8.6	6.2, 11.0	0.11
Classes										
Health and wellness	431	38.4	35.1, 41.7	133	36.5	30.9, 42.1	293	39.0	35.0, 43.1	0.47
Cooking	211	18.6	16.0, 21.2	64	16.9	12.6, 21.3	147	19.7	16.4, 23.0	0.33
Nutrition	293	27.3	24.3, 30.3	**71**	**20.8**	**16.0, 25.6**	**221**	**31.1**	**27.2, 34.9**	**0.002**
Exercise	477	43.3	40.0, 46.6	**128**	**36.0**	**30.4, 41.6**	**343**	**46.8**	**42.7, 51.0**	**0.003**
Mental Health	142	12.4	10.2, 14.6	45	10.4	7.1, 13.7	94	13.4	10.5, 16.3	0.20
Chronic Disease	136	11.5	9.4, 13.6	33	8.5	5.4, 11.7	100	12.9	10.1, 15.6	0.06
Caregiver	89	8.0	6.2, 9.8	**17**	**4.7**	**2.3, 7.1**	**72**	**9.9**	**7.4, 12.4**	**0.007**
Using the computer and/or Internet	472	40.7	37.4, 44.0	152	39.9	34.3, 45.5	314	41.0	36.9, 45.1	0.75
Arts and crafts/hobby	329	29.8	26.7, 32.9	**72**	**19.3**	**14.8, 23.8**	**253**	**35.1**	**31.1, 39.1**	**<0.0001**
Storm preparedness (Tornado, Ice etc…)	152	12.2	10.1, 14.3	50	10.5	7.2, 13.8	100	13.0	10.2, 15.7	0.28
Other (please specify)	52	5.1	3.6, 6.6	18	6.1	3.2, 9.0	34	4.7	3.0, 6.5	0.40
Activities										
Indoor exercise activities	507	45.5	42.2, 48.8	**134**	**38.4**	**32.8, 44.0**	**369**	**49.2**	**45.1, 53.4**	**0.003**

	Overall			Male			Female			Male vs Female
	N	Weighted %	95% CI	N	Weighted %	95% CI	N	Weighted %	95% CI	p-value
Outdoor exercise activities	280	25.9	22.9, 28.9	95	25.9	20.8, 31.0	182	25.8	22.2, 29.5	0.98
Walking classes, supervised walking, walking trails	352	32.0	28.9, 35.1	**92**	**25.4**	**20.4, 30.5**	**255**	**35.3**	**31.3, 39.3**	**0.004**
Card, board, and table games (bridge, poker, dominoes, scrabble, bingo etc.)	262	23.1	20.3, 25.9	82	20.8	16.2, 25.5	178	24.2	20.6, 27.8	0.27
Day trips (such as to museums, parks)	454	39.1	35.8, 42.4	138	34.5	29.0, 39.9	310	41.0	37.0, 45.1	0.06
Dances or dance lessons	166	15.4	13.0, 17.9	**33**	**8.1**	**5.0, 11.2**	**130**	**19.2**	**15.9, 22.6**	**<0.0001**
Nature-related activities	249	22.4	19.6, 25.2	84	21.7	16.9, 26.4	163	22.9	19.4, 26.4	0.69
Billiards, Shuffleboard, Ping Pong	85	7.9	6.1, 9.7	**48**	**12.2**	**8.4, 15.9**	**34**	**5.3**	**3.4, 7.2**	**0.0004**
Croquet, lawn polo, horseshoes Tennis, basketball, volleyball	93	9.0	7.1, 10.9	40	10.2	6.8, 13.7	52	8.2	5.9, 10.6	0.33
Other	71	6.7	5.0, 8.4	23	6.6	3.6, 9.6	48	6.9	4.8, 9.0	0.88

Table 5:

Services, Classes and Activities Older Oklahomans Would Use If Available Free Of Charge or For a Significantly Reduced Rate by Age Groups: 2013

	65–74 years			75–84 years			85+ years			
	N	Weighted %	95% CI	N	Weighted %	95% CI	N	Weighted %	95% CI	p-value
Services										
Legal assistance (wills, power of attorney, medical powers of attorney, etc)	390	57.3	53.1, 61.6	171	46.8	40.7, 52.8	33	33.6	22.7, 44.5	**<0.0001**
Assistance with tax preparation	217	32.8	28.7, 36.8	109	29.4	23.9, 34.9	25	27.6	16.9, 38.2	0.50
Telephone reassurance (daily check-in calls)	33	4.5	2.7, 6.2	32	9.9	6.2, 13.7	26	27.2	16.7, 37.7	**<0.0001**
Congregate meals at a center	67	9.6	7.1, 12.1	47	12.4	8.5, 16.4	14	9.3	3.8, 14.7	0.38
Home delivered meals	52	7.9	5.6, 10.2	37	10.5	6.8, 14.2	15	13.3	5.5, 21.1	0.21
Health screenings	281	40.1	36.0, 44.3	116	31.9	26.3, 37.5	25	22.4	13.2, 31.5	**0.002**
Prescription assistance	191	26.4	22.7, 30.1	89	23.2	18.2, 28.2	27	31.4	20.2, 42.5	0.34
Respite for caregivers	47	7.7	5.4, 10.1	25	7.6	4.4, 10.8	11	10.2	3.4, 16.9	0.75
Other	48	7.6	5.2, 9.9	25	7.3	4.2, 10.4	6	9.0	1.8, 16.2	0.89
Classes										
Health and wellness	301	44.1	39.9, 48.4	107	29.7	24.1, 35.2	23	26.4	15.9, 37.0	**<0.0001**
Cooking	162	23.0	19.4, 26.6	44	13.7	9.4, 18.0	5	3.0	0.3, 5.7	**<0.0001**
Nutrition	215	32.0	28.0, 36.0	70	22.3	17.1, 27.5	8	9.6	2.6, 16.7	**<0.0001**
Exercise	323	47.5	43.3, 51.8	123	36.7	30.8, 42.6	31	35.3	23.9, 46.7	**0.006**
Mental Health	87	12.5	9.7, 15.3	45	13.1	9.0, 17.2	10	9.8	3.1, 16.5	0.75
Chronic Disease	85	11.9	9.2, 14.7	45	11.8	8.0, 15.7	6	6.8	0.9, 12.7	0.43
Caregiver	53	7.9	5.6, 10.2	27	7.7	4.5, 10.9	9	10.0	2.9, 17.2	0.80
Using the computer and/or Internet	307	42.9	38.7, 47.1	145	42.5	36.5, 48.5	20	17.7	9.4, 26.0	**0.0001**
Arts and crafts/hobby	236	34.6	30.5, 38.6	82	25.1	19.8, 30.4	11	10.7	3.6, 17.9	**<0.0001**
Storm preparedness (Tornado, Ice etc…)	98	13.2	10.3, 16.0	42	10.5	7.0, 14.1	12	10.4	3.9, 16.9	0.47
Other (please specify)	26	4.2	2.4, 5.9	19	6.7	3.6, 9.9	7	6.6	1.1, 12.1	0.26
Activities										
Indoor exercise activities	333	47.9	43.7, 52.2	148	45.2	39.1, 51.3	26	28.0	17.3, 38.6	**0.007**
Outdoor exercise activities	209	31.9	27.9, 35.9	61	17.9	13.2, 22.6	10	10.3	3.2, 17.4	**<0.0001**
Walking classes, supervised walking, walking trails	259	36.9	32.8, 41.0	80	25.9	20.4, 31.3	13	17.2	7.8, 26.6	**0.0003**

	65–74 years			75–84 years			85+ years			
	N	Weighted %	95% CI	N	Weighted %	95% CI	N	Weighted %	95% CI	p-value
Card, board, and table games (bridge, poker, dominoes, scrabble, bingo etc.)	171	25.0	21.3, 28.7	67	17.8	13.2, 22.4	24	28.1	17.3, 38.9	**0.05**
Day trips (such as to museums, parks)	293	41.1	37.0, 45.3	136	38.3	32.4, 44.2	25	26.3	15.9, 36.6	0.05
Dances or dance lessons	115	17.8	14.5, 21.2	46	13.4	9.2, 17.5	5	5.0	0.0, 10.1	**0.01**
Nature-related activities	177	25.9	22.2, 29.7	63	18.9	14.1, 23.8	9	8.5	2.3, 14.7	**0.0009**
Billiards, Shuffleboard, Ping Pong	68	10.4	7.8, 13.1	15	4.0	1.7, 6.3	2	3.5	0.0, 8.4	**0.004**
Croquet, lawn polo, horseshoes Tennis, basketball, volleyball	71	11.5	8.7, 14.3	18	5.2	2.5, 7.8	4	4.0	0.0, 8.4	**0.003**
Other	42	6.7	4.5, 9.0	16	5.0	2.3, 7.7	13	12.5	4.9, 20.2	0.08

Table 6.

Barriers to Accessing Programs among Oklahoma Respondents: 2013

Barriers	N	Weighted %	95% CI
Transportation	61	6.9	5.0–8.8
Location	191	18.5	15.8–21.2
Lack of adequate facilities	137	12.6	10.3–14.9
Didn't know about services	215	22.3	19.3–25.3
Don't know how to access/enroll in services	74	7.7	5.8–9.6
Just don't want to go	284	28.5	25.3–31.7
Other	198	20.9	17.9–23.9

Table 7.

Barriers to Accessing Programs among Oklahoma Respondents by Age Group: 2013

	65–74 years			75–84 years			85+ years			
	N	Weighted %	95% CI (%)	N	Weighted %	95% CI (%)	N	Weighted %	95% CI (%)	p-value
Transportation	**29**	**5.6**	**3.3, 7.8**	**20**	**7.0**	**3.6, 10.4**	**12**	**16.3**	**6.8, 25.8**	**0.009**
Location	**128**	**21.3**	**17.6, 25.1**	**53**	**15.0**	**10.6, 19.4**	**10**	**11.0**	**3.6, 18.4**	**0.03**
Lack of adequate facilities	97	14.2	11.2, 17.3	36	11.3	7.2, 15.4	4	5.2	0.0, 10.8	0.10
Didn’t know about services	**152**	**26.6**	**22.5, 30.6**	**51**	**16.2**	**11.4, 21.0**	**12**	**12.1**	**4.3, 19.8**	**0.0009**
Don’t know how to access/enroll in services	**55**	**9.7**	**7.0, 12.5**	**14**	**3.9**	**1.5, 6.2**	**5**	**6.5**	**0.3, 12.8**	**0.02**
Just don’t want to go	**134**	**21.4**	**17.7, 25.1**	**120**	**40.5**	**34.1, 46.9**	**53**	**62.6**	**50.6, 74.6**	**<0.0001**
Other	123	21.4	17.6, 25.2	57	20.2	14.8, 25.5	18	19.6	10.1, 29.2	0.90