

The Journal of NEAFCS

2009



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Editor: Dr. Rebecca J. Travnicek
University of Missouri Extension

NATIONAL MEETING DATES

September 20-24, 2010

Annual Session and Exhibits, Portland, Maine

September 26-30, 2011

Annual Session and Exhibits, Albuquerque,
New Mexico

September 24-28, 2012

Annual Session and Exhibits, Columbus, Ohio

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PRESIDENT'S MESSAGE

One of the privileges of being President of NEAFCS is being allowed to greet you in the *Journal of the National Extension Association of Family and Consumer Sciences (JNEAFCS)*. Rising to the Challenges of an Aging America presents a theme relevant to every citizen. We know that the fastest growing segment of our population worldwide is the elderly. As we look at their needs, we know that research based information on care giving, grandparenting, nutrition, healthy life styles, and preventive activities all contribute to the ability of Extension FCS agents to deliver quality programming.

This issue of *JNEAFCS* has a clear focus, presents relevant material, and provides a means for our talented FCS professionals to present program's impacts and creative research. For those of us working everyday with our aging population, *JNEAFCS* presents findings applicable to our needs.

As you read your Journal, think of the programs you carry out that impact your clientele and consider submitting your research and program impacts. Sharing your Journal with co-workers, legislators, advisory groups, and stakeholders emphasizes our reliance on research and our accomplishments that tell the story of Extension—rising to challenges.

We would be remiss if we did not thank Dr. Rebecca J. Travnichek, editor and chair of the *JNEAFCS* Editorial Subcommittee, subcommittee members, peer reviewers, and the Vice President for Member Resources, Judith Kovach, for their efforts in producing this professional publication.

They have done their part. Now you, the member, must rise to the challenge and put the relevant information in this publication to work for Extension clientele—the world is your stage!

Sincerely,

Judith Edwards Breland, PhD

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Message from *JNEAFCS* Editor, Dr. Rebecca J. Travnichek

The phrase “full steam ahead” has been my motto as Editor of the *Journal of the National Extension Association of Family and Consumer Sciences (JNEAFCS)*. However, it is a good thing the topic of this volume was not time management, for I have not been successful in completing it as planned. I take full responsibility for the lateness with which you are receiving your copy of *JNEAFCS*.

This is my third volume as Editor of *JNEAFCS* and even though we (the Editorial Subcommittee) may have the process finally figured out, we always learn something new with each volume. Learning from the process is what keeps the *JNEAFCS* Editor position interesting.

This volume focuses on being proactive in working with our rapidly aging population. Sixteen articles were received and reviewed. You now have the opportunity to read 11 out of 16 papers (69% acceptance rate) to inform you about programming and impacts related to issues affecting an aging America. With the need to show program impact, the *JNEAFCS* Editorial Subcommittee hopes to enable and encourage you to utilize and replicate the programs described in this volume of *JNEAFCS* in your local communities. Author contact information is included with each journal article to assist you with learning more about an issue, aid in replicating a program, or helping to find a colleague with similar interests for future research projects.

First we surveyed the landscape and looked over the horizon of aging issues by reviewing pertinent statistics of the United States’ aging population. Specific educational programs targeting older Americans will provide you with programming opportunities to rise to the challenges of the aging population in your own state and local communities.

As this volume of *JNEAFCS* is transmitted to the printer/publisher, the *JNEAFCS* Editorial Subcommittee is rolling full steam ahead toward 2010. The theme for the upcoming 2010 volume, “*The Value of Collaborative Partnerships: Extending the Reach of Extension and Family and Consumer Sciences*,” touches all subject matter tracks within our organization. For *JNEAFCS* members who want to plan ahead, the theme for the 2011 volume of *JNEAFCS* will be “*Social Marketing and Social Networking: Moving Extension FCS into the Future*.” The *JNEAFCS* Editorial Subcommittee would like to refer you to the *JNEAFCS* Submission Guidelines located on the inside back cover of this volume for additional information.

If you have ideas, suggestions, and yes, criticisms, please feel free to contact me. The main goal of the Editorial Subcommittee is to provide members a blind peer-reviewed journal to share impactful programming efforts from across the nation and around the world.

If you would like to join the *JNEAFCS* Editorial Subcommittee, please complete the online committee form located on the *JNEAFCS* Web site. We are a subcommittee of the Member Resources Committee.

I hope you have many opportunities to RISE to the challenges you face in your family and your community!!



Rebecca J. Travnichek, PhD, AFC®

Message from NEAFCS Vice-President for Member Resources, Judy Kovach

Congratulations to the *Journal of the National Extension Association of Family and Consumer Sciences (JNEAFCS)* Editorial Subcommittee for another outstanding publication. The theme, “*Rising to the Challenges of an Aging America*” presents an opportunity to focus on a timely topic. This subcommittee is providing an important professional resource for NEAFCS members to share their outstanding programs and research.

Extension Family and Consumer Sciences Educators have been providing excellent programs for over 75 years. This publication highlights methods, interventions, strategies, outcomes, and evaluations of these innovative programs. This journal also showcases the impacts resulting from these creative teaching educational efforts.

The variety of topics presented in *JNEAFCS* promotes the rich tradition of research based education presented by Extension professionals. This publication is a valuable tool to aid our members and other educators to keep current on research and programming in an era of a rapidly growing aging society.

I extend a very special thank you to our *JNEAFCS* editor, Dr. Rebecca J. Travnichek, Dave Beebe, NEAFCS Executive Director, and all the Journal editorial subcommittee members, and reviewers. Their professionalism makes this peer reviewed publication possible and their dedication has produced a publication that promotes the scholarly programs and impacts of Extension Family and Consumer Sciences Educators.



Judy Kovach

Rising to the Challenges of an Aging America

Rebecca J. Travnichek and Ruth Jackson

The United States is one of many countries around the world growing older at an increasing rate each year. This changing population segment will have significant impact on the workforce, retirement savings, health care, and future legislation. This aging society may change how Cooperative Extension designs, implements, and evaluates impact of educational programming.

Based upon a report by Kinsella and He (2009), the combination of reduced fertility rates and reduced death rates of the older population (65 years of age and over) has posed challenges around the world. Those challenges include:

- *“The world’s population is aging.* People aged 65 and over will soon outnumber children under age 5 for the first time in history.
- *Life expectancy is increasing.* Most countries show a steady increase in longevity over time, which raises questions about the potential for the human lifespan.
- *The number of the oldest old is rising.* The world’s population aged 80 and over is projected to increase 233 percent between 2008 and 2040, compared with 160 percent for the population aged 65 and over and 33 percent for the total population of all ages.
- *Some populations are aging while their size declines.* While the world’s population is aging, total population size is simultaneously declining in some countries, and the list of these countries is projected to expand.
- *Noncommunicable diseases are becoming a growing burden.* Chronic noncommunicable diseases are now the major cause of death among older people in both developed and developing countries.
- *Family structures are changing.* As people live longer and have fewer children, family structures are transformed and care options in older age may change.
- *Patterns of work and retirement are shifting.* Shrinking ratios of workers to pensioners and people spending a larger portion of their lives in retirement increasingly tax existing health and pension systems.
- *Social insurance systems are evolving.* As social insurance expenditures escalate, an increasing number of countries are evaluating the sustainability of these systems and revamping old-age security provisions.
- *New economic challenges are emerging.* Population

aging has and will have large effects on social entitlement programs, labor supply, and total savings around the globe.” (p. 1)

According to the National Population Projections, “the population age 65 and over is increasing at a faster rate than the total population.” From 1950 to 2006, the total population of the United States increased from 151 to 299 million people, which indicates an average yearly increase of 1.2% (U.S. Census Bureau, 2007c). Within that same timeframe, those 65–74 years old grew, on average, 1.5% per year, increasing from 8 to 19 million Americans. Those 75 years of age and over grew most rapidly (approximately 2.8% per year), going from 4 to 18 million people (U.S. Census Bureau, 2007a). According to Kinsella and He (2009), projections indicate the population age group of 65 years and over will nearly double by the year 2050 (Table 1). When the projections for the older population are further separated, it is clear to see the “oldest old” (80 years of age and over) are increasing dramatically (Table 2). In 2010, the oldest old are projected to number slightly over 11 million. Projections for 2050 indicate numbers persons in the oldest old at nearly 32.5 million. The percent of total population for this age category rises from 4% in 2010 to 7% in 2050. Projections also indicate by year 2050 the United States population will include 172 men and 429 women 100 years of age and older.

By 2029, Baby Boomers (all people born in the post World War II period 1946–1964) will be 65 years and older (Day, 2001). Consequently, the age group 65–74 years will increase from 6% to 10% of the total population between 2006 and 2030 (Figure 1). As this group ages, those 75 years of age and over will increase from 6% in 2006 to 9% of the total population by 2030 and will go on to grow to 12% in 2050 (Kinsella & He, 2009). By 2040, those Americans age 75 years and older will surpass the population aged 65–74 years (U.S. Census Bureau, 2005; 1996).

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Table 1. Percent Distribution of the Projected Populations by Selected Age Groups and Sex for the United States: 2010 to 2050 (in thousands)

| Sex & Age | 2010 | 2015 | 2020 | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Both Sexes | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| 65 years + | 12.97 | 14.39 | 16.05 | 17.88 | 19.30 | 19.91 | 20.03 | 20.01 | 20.17 |
| 85 years + | 1.85 | 1.93 | 1.93 | 2.03 | 2.34 | 2.94 | 3.50 | 4.02 | 4.34 |
| 100 years + | 0.03 | 0.03 | 0.04 | 0.05 | 0.06 | 0.06 | 0.07 | 0.10 | 0.14 |
| Male | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| 65 years + | 11.32 | 12.80 | 14.46 | 16.22 | 17.56 | 18.14 | 18.25 | 18.27 | 18.50 |
| 85 years + | 1.24 | 1.35 | 1.39 | 1.51 | 1.79 | 2.29 | 2.75 | 3.19 | 3.46 |
| 100 years + | 0.01 | 0.01 | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 0.08 |
| Female | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| 65 years + | 14.57 | 15.93 | 17.61 | 19.49 | 20.99 | 21.62 | 21.74 | 21.69 | 21.79 |
| 85 years + | 2.45 | 2.50 | 2.46 | 2.53 | 2.88 | 3.57 | 4.23 | 4.84 | 5.19 |
| 100 years + | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.11 | 0.14 | 0.19 |

Source: U.S. Census Bureau

Table 2. Projections of Population by Age 65 and over and Sex in the United States: 2010 to 2050 (in thousands)

| Sex & Age | 2010 | 2020 | 2030 | 2040 | 2050 |
|-------------------|----------------|----------------|----------------|----------------|----------------|
| Both Sexes | 310,233 | 341,387 | 373,504 | 405,655 | 439,010 |
| 65 to 69 years | 12,261 | 17,861 | 20,381 | 18,989 | 21,543 |
| 70 to 74 years | 9,202 | 14,452 | 18,404 | 17,906 | 18,570 |
| 75 to 79 years | 7,282 | 9,656 | 14,390 | 16,771 | 15,964 |
| 80 to 84 years | 5,733 | 6,239 | 10,173 | 13,375 | 13,429 |
| 85 to 89 years | 3,650 | 3,817 | 5,383 | 8,450 | 10,303 |
| 90 to 94 years | 1,570 | 1,976 | 2,360 | 4,180 | 5,909 |
| 95 to 99 years | 452 | 669 | 795 | 1,270 | 2,229 |
| 100 years + | 79 | 135 | 208 | 298 | 601 |
| Male | 152,753 | 168,258 | 183,870 | 199,434 | 215,825 |
| 65 to 69 years | 5,747 | 8,412 | 9,665 | 9,090 | 10,380 |
| 70 to 74 years | 4,191 | 6,660 | 8,529 | 8,406 | 8,782 |
| 75 to 79 years | 3,159 | 4,285 | 6,452 | 7,610 | 7,345 |
| 80 to 84 years | 2,302 | 2,622 | 4,363 | 5,810 | 5,952 |
| 85 to 89 years | 1,297 | 1,466 | 2,144 | 3,437 | 4,282 |
| 90 to 94 years | 473 | 663 | 844 | 1,551 | 2,251 |
| 95 to 99 years | 108 | 186 | 244 | 413 | 753 |
| 100 years + | 15 | 29 | 51 | 81 | 172 |
| Female | 147,479 | 173,128 | 189,634 | 206,221 | 223,185 |
| 65 to 69 years | 6,514 | 9,449 | 10,715 | 9,899 | 11,163 |
| 70 to 74 years | 5,011 | 7,791 | 9,875 | 9,500 | 9,788 |
| 75 to 79 years | 4,123 | 5,371 | 7,937 | 9,161 | 8,619 |
| 80 to 84 years | 3,431 | 3,618 | 5,810 | 7,565 | 7,477 |
| 85 to 89 years | 2,353 | 2,351 | 3,239 | 5,013 | 6,021 |
| 90 to 94 years | 1,097 | 1,312 | 1,515 | 2,629 | 3,657 |
| 95 to 99 years | 344 | 484 | 551 | 857 | 1,476 |
| 100 years + | 65 | 106 | 156 | 217 | 429 |

Source: U.S. Census Bureau. (August 2008). Table 12. Projections of the Population by Age and Sex for the United States: 2010 to 2050 (NP2088-T-12).

According to Kinsella and He (2009), a characteristic of populations commonly found throughout the world is the prevalence of women at older ages. On a global level, there were an estimated 62 million more women than men aged 65 and over in 2008. Women are the majority of the older population in the majority of countries, and their share of the population increases with age (Table 3). This is due, in part, to a longer life expectancy for women. As there are more women in the older age groups, it would also stand there would be more women in each of the categories of marital status. Widowed women outnumber widowed men nearly three to six times (Kinsella & He, 2009).

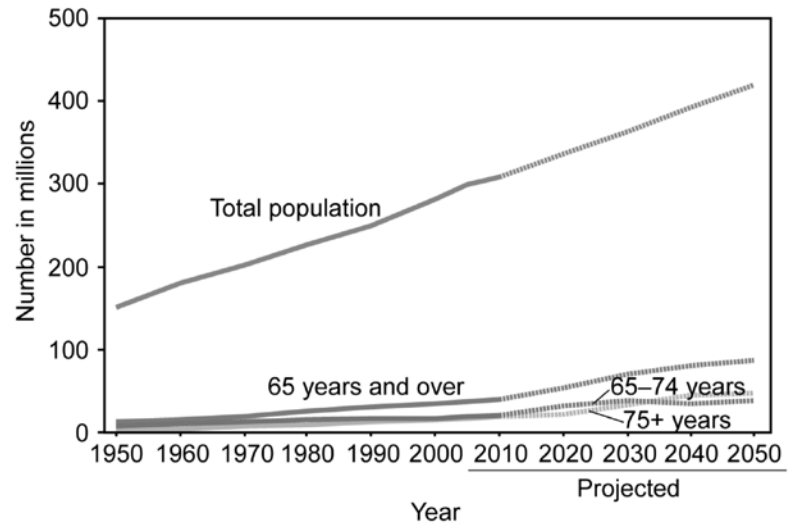
Retirement of the 65-75 year olds, or the Baby Boomers, will have a remarkable demographic effect on the United States, which will cause one of the most significant shifts in history (Day, 2001). During the years of 1946 to 1960, America experienced a fertility rate close to two times the average of the 20th century. Thus the American population is generally growing older due to the increasing age of the Baby Boomers.

The retirement of Baby Boomers signifies that younger workers will be bearing a large portion of the burden in order to support the increasing ranks of retirees. Presently, there are 3.3 United State workers that support one retiree. However, by 2030 this number will decrease to only two. Interestingly, because of the political influence that the older population has, an increase in payroll taxes to support the upcoming flood of retirees is very likely. When looking at this over a 10-20 year period, this kind

of increase could drastically weigh on the United States' economic growth. Even though increases in per-worker productivity may help with some of the weight of the growing retirement community, the United States will still face one of the most difficult burdens, financially speaking; it has ever encountered (U.S. Census, 2007b).

Land Grant universities are not exempt from feeling the impact of the impending increase of Baby Boomers retiring, and they will be significantly affected by such a

Population growth



SOURCES: CDC/NCHS, Health, United States, 2008, Figure 1. Data from the U.S. Census Bureau.

Figure 1. Population growth for individuals 65 years of age and over, 1950-2050.

Table 3. Marital Status of the Older Population by Sex and Age: Selected Years 1980 to 2006 (in thousands)

| Year & Age | Male | | | | | | Female | | | | | |
|-------------|--------|--------|---------|------------------------|---------|--------------------|--------|--------|---------|------------------------|---------|--------------------|
| | Total | Single | Married | Separated/ Divorced | Widowed | Percent Widowed | Total | Single | Married | Separated/ Divorced | Widowed | Percent Widowed |
| 1980 | | | | | | | | | | | | |
| 55 – 64 | 10,057 | 552 | 8,398 | 740 | 367 | 3.7 | 11,472 | 569 | 7,718 | 1,080 | 2,105 | 18.3 |
| 65+ | 10,012 | 564 | 7,441 | 511 | 1,495 | 14.9 | 15,021 | 1,014 | 5,339 | 790 | 7,878 | 52.4 |
| 75+ | 3,386 | 199 | 2,157 | 138 | 893 | 26.4 | 6,276 | 464 | 1,189 | 227 | 4,396 | 70.0 |
| 1990 | | | | | | | | | | | | |
| 55 – 64 | 9,981 | 556 | 8,004 | 1,073 | 347 | 3.5 | 11,167 | 508 | 7,398 | 1,483 | 1,777 | 15.9 |
| 65+ | 12,565 | 619 | 9,399 | 766 | 1,782 | 14.2 | 18,677 | 1,026 | 7,218 | 1,207 | 9,226 | 49.4 |
| 75+ | 4,624 | 227 | 3,111 | 206 | 1,080 | 23.4 | 8,512 | 536 | 1,964 | 373 | 5,638 | 66.2 |
| 2000 | | | | | | | | | | | | |
| 55 – 64 | 11,569 | 650 | 8,909 | 1,687 | 323 | 2.8 | 12,602 | 627 | 8,129 | 2,342 | 1,504 | 11.9 |
| 65+ | 14,382 | 633 | 10,610 | 1,140 | 1,999 | 13.9 | 20,597 | 889 | 8,626 | 1,748 | 9,333 | 59.4 |
| 75+ | 6,027 | 248 | 4,147 | 329 | 1,302 | 21.6 | 10,451 | 476 | 3,174 | 595 | 6,206 | 59.4 |
| 2006 | | | | | | | | | | | | |
| 55 – 64 | 15,234 | 1,164 | 10,599 | 3,091 | 380 | 2.5 | 16,385 | 1,122 | 9,797 | 3,895 | 1,571 | 9.6 |
| 65+ | 15,607 | 713 | 10,599 | 2,087 | 2,207 | 14.1 | 21,584 | 985 | 8,145 | 2,869 | 9,586 | 44.4 |
| 75+ | 6,929 | 287 | 4,308 | 773 | 1,562 | 22.5 | 11,325 | 512 | 2,886 | 1,071 | 6,856 | 60.5 |

Source: U.S. Census Bureau

surge. Dr. James H. Johnson, Jr. a Distinguished Professor of Management at the University of North Carolina at Chapel Hill recently spoke to a group of Extension faculty at the 2009 Urban Extension Conference in Milwaukee, Wisconsin on this very issue. His keynote speech was entitled The Browning and Greying of America. Dr. Johnson's research and consulting activities focus on the workforce and workplace implications of post- 1990 demographic changes in the United States and on how to create highly competitive and sustainable business enterprises and communities in the current era of economic uncertainty and global insecurity. He indicated that change is coming in the color of gray — the aging of the U.S. population.

Access to and use of the World Wide Web is increasingly important for older people. The Internet plays a central role in communicating (both informally and officially) information about health and health-related products, providing tools for financial planning and investment, banking, filing taxes, and enrolling in government programs, as well as many other activities, such as online shopping and entertainment.

The ability to access services from home may be more important for infirm or homebound older people. Some societies have seen the rise of computer literacy services targeted to seniors. Data from the Pew Internet & American Life Project in the United States show that Internet use has been increasing most rapidly among people aged 65 and over. In late 2007, 37 percent of this age group reported using the Internet, with men and women equally likely to be Internet users (Pew Research Center, 2009).

Summary and Implications for Extension

Cooperative Extension is not immune to this demographic shift. Extension's continued programmatic growth and future is reliant upon a workforce that is highly skilled in working in communities at the grass roots level. In many states there are large numbers of agents/educators that will be retiring in the next five years. In the current economic situation, some universities will not recover the positions (FTE's). Cooperative Extension will need to adapt, not only in meeting the needs of an aging population of learners, but also providing education with fewer educators utilizing educational methods that may not have been introduced as of yet.

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Assessing Needs of Aging Adults: What Cooperative Extension Can Offer

Mary Lou Mueller

Current and projected trends are examined for factors that affect increased longevity and lifestyle choices for aging adults. Some issues faced by a growing population of baby boomers reaching maturity include physiological change, retirement, and volunteering. Opportunities are suggested for Cooperative Extension to address these concerns in favorable learning environments.

Introduction

Americans are living longer than past generations. They are experiencing a quality of life unheard of in previous eras due to advances in modern medicine, improved healthcare, supportive social programs, and laws preventing age discrimination. Longer life expectancy and a burgeoning demographic of 78 million baby boomers (born 1946-1964) are swelling the ranks of older adults in America at an unprecedented rate. This article provides an overview of how aging Americans are changing past concepts of what it means to grow older.

Objective

This article explores trends and indicators common to aging populations including current and projected demographics, sociological and physiological changes, and attitudes about retirement, grandparenting, and volunteerism. Areas of practice will be suggested to contribute to an ongoing discussion of aging issues within Cooperative Extension.

Current and Projected Demographics

Prior to planning any program it is essential to understand the dynamics of the target population (Seevers, Graham, Gamon & Conklin, 1997). In *Profiles of Older Americans: 2005* (U. S. Department of Health & Human Services, 2005), statistics from the U.S. Census Bureau, National Center on Health Statistics, and the Bureau of Labor Statistics provided a comprehensive overview of aging demographics. The numbers show adults age 65 and older have increased 9.3% since 1994, and continued growth is projected. As America ages, those age 85 and over are expected to increase 40% by 2010, and 44% by 2020. If projections hold true, by 2030, seventy-million Americans age 65 and over will comprise nearly one-fourth of the total population (Hilt & Lipschultz, 2006; Charness & Holley, 2004).

The increase in life expectancy is due in part to declining mortality rates. From 1980 to 2003, overall death rates dropped for adults ages 65 and 84 (U. S. Department of Health and Human Services, 2005). Men showed the

largest decline — an average of 32.5% between ages 65 to 74, and 24.8% between ages 75 to 84. Women still exceed men in longevity; and Americans who reach age 65 will live an average of 18.5 years longer — women-19.8 years, men-16.8 years.

Sociological and Physiological Changes

Variations in culture, social construct, and individual development make chronological measures a poor gauge of aging (Findsen, 2006). To conceptualize today's older adults, it is important to recognize that time may pass, but aging and development are not defined by time. Neugarten (1976) categorized the "young old" as ages 55 to 65, and the "aged" as 75 to 85. A more recent study defined the young old as ages 55 to 69 (Hilt & Lipschultz, 2006), indicating that the age of those considered "young old" is expanding.

Myths of old age are being shattered by those who refuse to grow old, perhaps because many older adults see aging as a state of mind (Novelli, 2008). John Thornhill and John Martin (2007) define boomers as a generation that will never be "seniors." When surveyed, boomers indicated their best years were yet to come. Thornhill and Martin report that despite physical signs of aging, today's older Americans are not set in their ways, but remain a fluid and influential demographic that must be recognized.

Although physiological change is inevitable with age, not all changes are visible. In addition to the diminution of vision and hearing, aging also triggers gradual dulling of psychomotor function and cognitive ability (Charness & Holley, 2004). Yet "even people in their seventies and eighties don't necessarily see themselves as old" (Novelli, 2008). Many portray aging as a time for reflection and introspection, as described by 81 year old Jean Illsley Clarke (2008):

"My body isn't as limber as it was. My balance isn't as good; I have to lean against the wall to put on my socks. My eyes, ears, and teeth are thankful for modern technology. I have less energy, and I am

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slow so everything takes longer, longer, longer. . . But those things don't matter. They just are. Lots of other things that used to bother me don't matter now. Sometimes I am bothered by not thinking as fast as I used to, but I think differently now, better" (p. 2).

Another benefit realized by today's older adults is a decline in diseases that once took the lives of their predecessors. Findings of the MacArthur Foundation Study on Aging in America (Rowe & Kahn, 1998) demonstrated a significant drop in the top three precursors to disease: high blood pressure, high cholesterol, and smoking. Additionally, incidences of major illness and multiple illnesses among the aged declined, significant factors contributing to longevity.

Retirement and Giving Back

It is difficult to define the so called "age of retirement." As Findsen (2006) stated, today's "dynamics of retirement are so much more complex than in the past" (p. 76). Not all older adults have the luxury of choosing how and when they will retire. As older adults reach the age of retirement, some retire and seek second careers or volunteer opportunities (Winston & Barnes, 2007). Some continue working, either by choice or by necessity. Either way, those over age 50 have become the new consumer spending majority (Novelli, 2008). They hold 40 million credit cards, nearly half of all credit cards in America, and are growing home-based businesses faster than any other group. They are also considered the wealthiest and best educated generation, despite their predominantly working class upbringing (Novelli, 2008; Thornhill & Martin, 2007).

Recently a group of Certified Family Life Educators (CFLEs) participated in an impromptu e-mail forum discussing aging and the retirement years. Tom Rinkowski offered this insight:

"Having hit the 55 marker a few years ago, I was at the same time hit with the responsibility of care giving for both my parents. This seems to be happening to more and more of my peers. Having successfully launched our three children, we were hoping for some free time to do some volunteering and exploring of our world. At least some leisurely walks. As with most folks taking on this responsibility, we have just exchanged one set of children for another. This phase includes issues of dealing with guilt, renegotiating parent-child bonds, finances, again the grieving of loss of dreams, etc." (personal communication, March 4, 2008).

Many find themselves in a similar plight. Grandparents comprise 72% of those aged 50 and over (Novelli, 2008), with about 9% of grandmothers (Pierret, 2006) falling into the "sandwich generation" (i.e., providing financial support and care for grown children and/or grandchildren while caring for aging parents).

"The implication for older adults is that traditional roles as grandparents may be harder to play, given the myriad of family configurations" (Findsen, 2006, p. 73).

Another perspective, however, which complicates the retirement years, is offered by Carmen Stephens, registered nurse and CFLE, who referred to retirement as a period of "refirement." She and her husband are "looking forward to using these years to volunteer more, to engage in our professions differently, and to continue to impact the lives of youth and young adults" (personal communication, March 3, 2008). Like this couple, many see retirement as a period of renewed purpose.

Part of this purpose is motivated by a desire to provide selfless service that will ultimately improve the well-being of others (Russell, 2007). One respondent from the Russell study defined what makes volunteerism so important to the giver and the receiver:

"The person that contributes to volunteering suddenly has a role in which there is job satisfaction, in which there is a task, in which there are achievements, in which there is social contact" (p. 182).

Program Development

Extension can offer programs for adult learners; as well as volunteer opportunities that allow aging adults to provide service. For ideas about timely issues, brochures were gathered from display racks in two adjacent counties from centers where aging adults meet together for meals and activities. Common themes addressed in this literature included: aging in place, biology of aging, caregiving, diet and nutrition, disease prevention, drug safety, elder abuse prevention, exercise, financial planning, fraud, grandparenting, health and fitness, identity theft, independent living, medical record keeping, positive thinking, preventing falls, recreation, safety, self efficacy, socialization, stress relief, and volunteering.

These topics offer a plethora of programming possibilities, but for a more thorough assessment of need, ethnographic data could be collected from aging adults in multiple counties. Interviews, focus groups, or surveys are research methods that provide more compelling data. Increasing public awareness and community collaborations can also improve successful program outcomes and engage individuals and communities on aging issues (Gerrior &

Crocoll, 2008). State, community agencies, and private partnerships encourage program expansion and outreach. Suggested delivery methods include “interagency working groups, task forces, multistate initiatives, and local, state, and national communities of educators and social service professionals . . . to share and exchange resources, services, and educational materials” (p. 12).

Adult Learning Components

One study identified two necessary program components needed for adult learners, “social involvement and support” (Russell, 2007). Another reinforced socialization as an important element in the learning environment (Findsen, 2006). Self directed learning, guided by educators and professionals, was found to instill a sense of well being among seniors ages 60 to 89, and contributed to learning (Gardner & Holmes, 1999). The MacArthur Foundation Study cited productivity and strong social networks as important factors (Rowe & Kahn, 1998). Research also demonstrated that older adults made good “support buddies” to motivate and reinforce each other while making health-related behavioral changes (Hooker et al., 2005).

Less formal learning environments were also effective when older adults participated in subject selection and methods of delivery (Findsen, 2006). While some were more accepting, actively engaged older adults resisted a “we know what’s best for you” agenda, no matter how well meaning. “The essential message is that older adults (particularly those from professional and business backgrounds) want to take greater charge of their own educational affairs” (p. 71).

It has long been recognized that stakeholders are more vested in programs they help develop. Therefore, older adults should participate in program design and curriculum, as well as planning committees, advisory boards, councils, and coalitions (Seevers et al., 1997). They also make excellent mentors and volunteers for 4-H youth by playing an integral role in 4-H clubs, camps, and field day activities.

Media Usage

In this age of new media (e.g., text messaging, handhelds, podcasts, webinars, and more), how well have older adults engaged in the use of cyberspace? Novelli (2008) found Internet use increased “ten-fold” for those fifty and over and they purchased twice as many computers as younger consumers. Electronic media outreach was well suited for those ages 55 to 65, since two-thirds are Internet proficient. It is not as helpful for those over age 65, where only one-third were found to exhibit Internet competencies (Charness & Holley, 2004). Excellent resources for FCS professionals are the

eXtension website (www.extension.org), where a new financial security eXtension site was launched in 2008. It provides an excellent array of learning opportunities recommended for older adults, from Web conferencing and streaming video, to interactive quizzes and password protected work spaces such as PowerPay (Schuchardt & Pankow, 2008). FCS professionals can also use the website’s search engine to locate relevant topics — a recent search using the term “older adults” netted several pages of results.

The Cooperative State Research, Education, and Extension Service (CSREES) website is another beneficial Internet resource for FCS professionals and others. Entering the word “aging” into the site’s search engine provided access to over 600 resources, including reports, fact sheets, publications, and more.

Advertisers discovered that ads geared specifically to older adults had a two-fold effect (Novelli, 2008): half surveyed felt the ads were “insulting and condescending,” on the other half appreciated that ads were “sensitive to their needs and feelings” (p. 158). If these findings can generalize to Extension’s program advertising, then there is no right or wrong way of marketing programs to older adults — there is an equal chance of reaching a responsive audience. One study suggested using “a variety of marketing methods to attract participants and volunteers” (Hooker et al., 2005, p. 159).

Consequently, print and broadcast media (e.g., television, radio, and newspapers) are appropriate methods, as well as posters, brochures, and fliers placed at strategic locations such as senior centers, libraries, and medical centers (Clark et al., 2005).

Implications for Extension

How does Extension programs address these aging trends and indicators? As ranks swell with vibrant and productive older adults, Extension programming for this demographic will need to grow exponentially. Programming for older adults should respond to relevant trends and indicators mentioned above. For example, Rowe and Kahn (1998) developed a model of successful aging that addressed three main components: 1) avoidance of disease and disability; 2) maintenance of physical and cognitive functioning; and 3) active engagement with life. Extension can contribute through programs geared specifically towards older adults that address topics relevant to aging populations.

Family and Consumer Sciences professionals are uniquely positioned to provide programming that specifically meets educational needs of aging audiences and facilitates opportunities for older adults to contribute decades of acquired knowledge, experience, and wisdom.

The 1994 Americans with Disabilities Act (ADA) guides efforts to reach all audiences without discrimination. "Programs and activities sponsored by Cooperative Extension must be open to any interested persons regardless of race, religion, gender, national origin, age, color, or physical disability" (Seevers et al., 1997, p. 60).

Conclusion

Bill Novelli (2008), Chief Executive Officer of AARP, put it this way, "All of us carry a strong desire . . . to leave a legacy, to feel we have made a difference in other people's lives" (p. 5). FCS professionals who understand and are responsive to the needs and abilities of today's older adults, will find an important audience for Extension programming and a valuable volunteer resource of wisdom and knowledge within these ranks. Furthermore, this overview and suggested needs assessment may be utilized to stimulate program ideas and demonstrate what Cooperative Extension can offer an aging America.

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Cooperative Extension Responds to Local County Caregiver Training Needs

Gloria J. Barrett and Mary L. Blackburn

A collaborative venture between the University of California Cooperative Extension (UCCE) - Sacramento County, and Sacramento County In-Home Supportive Services Public Authority (IHSS), responded to a critical need to train registry in-home caregivers. UCCE assessed the emerging needs, developed/adapted curricula and evaluation tools and methods, and documented outcomes and impacts. This successful six year program has trained 1,876 paid IHSS in-home caregivers in Sacramento County. Preliminary evaluations showed positive change in knowledge, skills, attitudes, interest, and self-confidence.

Introduction

Advances in medical technology and improved healthcare have led to an increase in life expectancy, and a population of more than 37.3 million Americans over the age of 65. That number is expected to double over the next 30 years as baby boomers age (Novelli, 2004; Administration on Aging, 2009). Longevity comes at a high cost, since chronic diseases exact a particularly heavy health and economic burden on older adults and local health care systems. The Centers for Disease Control and Prevention (2008) reports associated long-term illness diminishes quality of life and significantly increases health care costs. The risk of disease and disability increases with advancing age, and at least 80% of seniors have one chronic condition, and 50% have two. Three million older adults reported they could not perform basic activities of daily living, such as bathing, shopping, dressing, or eating (Barrett, 2005).

In California the increase in seniors over age 65 is at a rate greater than the national average, and within counties the rates vary from 7 to 20 percent (United States Census Bureau, 2000). Over 50% have high blood pressure and arthritis, and heart disease and diabetes are on the rise (Wallace, Pourat, Enriquez-Haass, & Sripipatana, 2003). A case study of limited income elders (n=377) was conducted in a bay area metropolitan county where 10.1% are seniors over age 65, and 8.1% of them lived below the poverty level. A total of 100% of the group reported one chronic condition; 22%—two; 15.4%—three; 8.5%—four; 5%—five; and 5%—six or more chronic conditions (Blackburn, in press). The Center for the Advanced Study of Aging Services, University of California Berkeley, estimates that more than 1.5 million adults in California have physical or mental disabilities that necessitate ongoing assistance with day-to-day living (Scharlach & Santo, 2001).

The number of people over the age of 65 in Sacramento County represents 15 percent of the county's population. By the year 2040, Sacramento County is expected to experience a 157.8 percent increase in population aged 60 and older, and a threefold (316.2 percent) increase of those 85 and older (Community Services Planning Council, 2004). The increase in the number of older citizens is creating problems for communities without adequate resources or economic stability to support a growing elderly population (Aldwin & Gilmer, 2004). Both population growth rates and the percentage of older adults in the population have social, economic, and health care cost implications for Sacramento County.

The number of elderly and mature adults with disabilities that require ongoing assistance with day-to-day living activities continues to increase in Sacramento County. The demand for in-home caregivers increases as the population grows older, and so does the need for caregiver training. Education, support, and training programs for caregivers are critically important because substantial evidence in the literature indicate care-giving can have a highly negative impact on the health and well-being of the caregiver (Toseland & Smith, 2001). The extent to which care-giving affects the physical and mental health of the caregiver remains an important area for future research priorities. There is tremendous need to strengthen the ability of family caregivers and others to provide the necessary care and support for their clients/family members without jeopardizing their health or well-being (Ory, Yee, Tennstedt, & Schulz, 2000).

For the purpose of this paper, a caregiver is defined as an adult family member or another individual who is an informal provider of in-home and community care to an older or incapacitated individual (Scharlach & Santo, 2001). California Assembly Bill 1682 (1999) requires that each county "Act as, or establish, an employer for

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in-home supportive service personnel for purposes of provisions of statutory law regarding employer-employee relations..." Public authorities are expected to improve the quality of In-Home Supportive Services (IHSS) by providing caregiver screening, registry services, referral services, and consumer and caregiver training. Also, the state statute mandates IHSS to provide education for the caregivers on its registry (Lynch, 2002).

Purpose

This paper reports how a mutually supportive partnership between Cooperative Extension (CE) and California (IHSS) provided a framework for long term collaboration and a stable funding base for CE programming in Sacramento County. It also describes how an ongoing training/education program was developed, conducted, and how results, outcomes, and impacts were evaluated for over 1,876 Registry in-home caregivers in Sacramento County.

Methods

The State of California In-Home Supportive Services Management Statistic Summary for 2007 reported 18,514 individual caregiver providers for Sacramento County (California Department of Social Services, 2007). Pursuant to the California state mandate, the IHSS requested that UCCE Sacramento County help adapt/develop and evaluate an education and training program to address the training needs of its registry caregivers. After an initial planning meeting with the program staff, a needs assessment was conducted with 1,000 caregivers. These data were used to establish specific training needs and the subject matter components of the curriculum. A partnership agreement was executed that stipulated that the training would be open to Sacramento and Yolo County In-Home Supportive Services providers. IHSS would promote the program and advertise the training to their providers through a monthly newsletter and follow-up telephone calls. University of California Cooperative Extension Community Development/Public Policy Advisor, Sacramento County would develop/adapt curricula, conduct 150 hours per year of training and evaluation, and provide certificates of completion for all in-home caregiver who attended six hours of training.

Curriculum Design

The education and training programs were designed to improve the caregivers' knowledge and skills in specific subject matter that would help prepare them to provide better services to their clients, teach them specific problem solving and coping techniques, and educate them about available resources. The Cooperative Extension CDPP and Nutrition, Family, and Consumer Sciences advisor designed curriculum based on needs

assessments of 1,000 in-home caregivers from the In Home Supportive Services registry, IHSS staff, and a review of related literature (Toseland & Smith, 2001). The Cooperative Extension Caregiver Training Program initiated in 2002 included eight two-hour lessons: health promotion/activities of daily living (3 hours), nutrition (3 hours), and resource management (2 hours). Each year subject matter was added based on need and by request of registry caregivers (Table 1).

Program Delivery

The caregivers represented diverse cultural and ethnic groups, therefore the classes were offered in English, Spanish, Hmong, and Russian. Teaching methods varied with participatory learning strategies that included hands-on activities such as preparing a nutritious meal, and interactive small group discussions about changes caregivers could make in the kitchen to insure client safety. Supplemental take-home material and information from the Alzheimer's Foundation and Diabetes Association, and more, enhanced learning opportunities and increased access to educational resources.

Evaluation Tool

The one-page English language Caregiver Training Evaluation tool was a survey with 14 items adapted from a tool designed by Kay Rockwell (Rockwell, 1999). It assessed four program components: 1) instructional methods, 2) training outcomes, 3) appropriateness of the training facility, and 4) suggestions for future programming (Appendix 1). Seven training variables included: training facilities, learning objectives, appropriateness of objectives, relevance of content, organization of content, supportiveness of the instructional aids, and the overall evaluation of the training. Five variables to measure participant change were: knowledge, skill/ability, attitude, interest, and confidence. These 12 variables were measured by Likert-type items ranked from 1 to 5, with "5" as the highest score. A closed-ended (yes/no) question asked if the caregiver would recommend the training to others. Respondents were also asked to offer recommendations for future trainings.

Data Analysis

At the end of each lesson the trainer and caregivers reviewed the purpose of specific objectives listed on the class handouts and each caregiver completed the training evaluation. Preliminary analysis was conducted on evaluations from 143 caregivers who attended one or more training classes. From September 2002 through May 2003, caregivers collectively completed 526 evaluations. Descriptive statistics were calculated for all Likert-type items. Regression analysis was used to measure *caregiver change* by each training variable.

Multiple regression analysis was used to determine which training variable(s) predicted what type(s) of caregivers' change.

Findings

Preliminary results from Caregivers (N = 143) who attended one or more trainings reported a positive change in knowledge ($M = 4.62 \pm SD = .72$), skill/ability ($M = 4.58 \pm SD 0.76$), attitude ($M = 4.73 \pm SD = .60$), interest ($M = 4.71 \pm SD = .68$), and self-confidence ($M = 4.67 \pm SD = .70$). To date, 1,876 caregivers have been trained and 683 subject matter certificates awarded. Forty-five percent of the caregivers earned certificates in nutrition, 36% of caregivers earned certificates in activities of daily living (health promotion), and 19% of the caregivers earned certificates in resource management (Barrett & Song, 2003).

Assessing Caregiver Change

Mean scores for self-reported changes in knowledge, skill/ability, attitude, interest, and confidence were averaged to create a composite variable of caregiver change ($M = 4.68$, $SD = .60$). For overall program effectiveness, a multiple regression analysis was conducted using composite caregiver change as the dependent variable, and the training variables as independent variables (Table 2).

The overall regression was significant ($F_{7,394} = 63.63$, $p < .001$), and four of seven independent variables significantly predicted caregiver change: presentation of objectives ($\beta = .19$, $p < .01$); appropriateness of objectives ($\beta = .19$, $p < .01$); relevance of content ($\beta = .19$, $p < .05$); and organization of content ($\beta = .16$, $p < .05$) (Barrett, Swanson, & Song, 2005).

In addition to an overall analysis, participant change was broken down into its separate components and regression equations were generated using individual indicators of change as dependent variables. Five additional regression equations were computed to assess different types of caregiver change:

- **Knowledge** - When change in knowledge was entered as the outcome variable, and the caregiver perception variables were used as predictor variables, the regression equation was statistically significant ($F_{7,398} = 33.22$, $p < .001$). Of the seven independent variables, only two significantly predicted caregiver change in knowledge: presentation of objectives ($\beta = .22$, $p < .01$) and organization of content ($\beta = .19$, $p < .05$).

Table 1. Sacramento County Caregiver Training Curriculum Modules

| Subject Area | Goal Statement | Learning Objectives |
|---|--|--|
| BOWEL AND BLADDER CARE | To increase the knowledge and understanding of the caregivers on how to maintain healthy bowel and bladder functions and the special needs for bowel and bladder care. | Caregivers will be able to: a) Identify activities that promote healthy bowel functions b) List age-related changes in bowel and bladder functions c) List foods that promote bowel and bladder functions |
| SKIN CARE | To stress to caregivers the importance of good skin care and how to promote wound healing. | Caregivers will be able to: a) Assess the skin for decrease in circulation b) Discuss the importance of daily skin care c) Demonstrate proper techniques in wound care |
| DIABETES | To help caregivers understand the physiology and manifestations of the disease of diabetes. | Caregivers will be able to: a) Discuss the disease with their clients. b) Define diabetes c) List the symptoms d) Identify people at risk e) Describe healthy meals |
| INFECTION CONTROL | To educate caregivers on the importance of preventing infections | Caregivers will be able to: a) Describe the four types of infectious disease microorganisms b) Discuss how these microorganisms invade the body c) Recognize the signs and symptoms of septic shock d) Access resources from the Center for Disease Control and other agencies |
| DEMENTIA/MEMORY LOSS | To educate caregivers on the signs and symptoms of dementia and memory loss | Caregivers will be able to: a) Define dementia b) Identify safety factors associated with care of clients with memory loss c) Recite various ways to prevent injury d) Discuss tips used to help residents with memory loss |
| PREVENTING FALLS | To provide caregivers with methods to prevent falls in the home. | Caregiver will be able to: a) Assess the home on potential areas for injury b) Identify client physical changes that lead to falls c) List environmental risk associated with falls |
| SELF-NEGLECT | To train caregivers on how to assess the environment and be alert to changes in the emotional and physical status of the client. | Caregivers will be able to: a) Discuss the importance of positive attitude b) Describe behaviors that reflect self-neglect c) Identify resources in the community to help prevent self-neglect |
| FOOD SAFETY | To help caregivers learn the key messages about keeping food safe and understand the importance of these messages to themselves and the clients. | Caregiver will be able to: a) Identify the symptoms of food-borne illness b) Identify population groups at the highest risk/danger of food borne illness c) Identify the danger zone at which bacteria grows fastest and foods spoils quicker d) Learn how to thaw meat, poultry, and seafood safely |
| CANCER, HYPERTENSION, AND HEART ATTACKS | To provide caregivers with basic facts and information about cancers, heart attacks, and hypertension. | Caregiver will be able to: a) Identify major risk factors associated with heart disease b) List key warning signs of cancer c) Discuss the importance of yearly physical exams |
| JOB SKILLS | To introduce the caregiver to the role and responsibilities of in-home caregivers. | Caregiver will be able to: a) Identify basic activities of daily living b) List major psychological needs of clients c) Discuss ethical behaviors expected of caregivers |

Note. The University of California Cooperative Extension Caregiver Training Curriculum included eight 2-hour lessons in four subject-matter areas: activities of daily living, health promotion/chronic disease, job skills, and food safety.

- **Skills** - When change in skill was used as the dependent variable, the overall equation was significant ($F_{7,398} = 31.37, p < .001$), but the lesson content explained a significant portion of the variance. The relevance ($\beta = .22, p < .05$), and organization of information ($\beta = .24, p < .01$) strongly predicted change in caregiver skills.

- **Attitude** - For change in caregiver attitude, the overall equation was significant ($F_{7,397} = 54.22, p < .001$) and content and objectives significantly predicted change. Specifically, presentation ($\beta = .21, p < .01$), appropriateness of objectives ($\beta = .20, p < .01$), relevance of content ($\beta = .18, p < .05$), and caregiver overall evaluation ($\beta = .19, p < .05$) were significant predictors.

- **Interest** - The overall regression equation for change in caregiver interest was also significant ($F_{7,398} = 47.79, p < .001$). Presentation ($\beta = .15, p < .05$), appropriateness ($\beta = .23, p < .01$), and organization of content ($\beta = .18, p < .05$) were significant predictors.

- **Confidence** - When change in caregiver confidence was used as the dependent variable, the equation was significant ($F_{7,399} = 51.75, p < .001$) and three significant predictors were: presentation of objectives ($\beta = .22, p < .01$), appropriateness of objectives ($\beta = .24, p < .001$), and relevance of content ($\beta = .20, p < .05$) (Barrett & Song, 2003).

Discussion

The literature reports that voluntary training programs to increase the knowledge, skills, and confidence of caregivers, and enhance their ability to care for their clients are not well attended. Many caregivers may have barriers that prevent them from attending classes voluntarily. Family providers have difficulty attending

because it is hard to get relief from care-giving, and attendance may also be low if the providers are not paid to attend (Barnes, Sutherland, & Logsdon, 2005).

Studies assessing the effectiveness of skills training programs found equivocal and at times contradictory results (Whittier, Goon, & Aaker, 2004). However positive responses and changes have been reported from the preliminary evaluations of the CE caregiver training program in Sacramento County California (Barrett, Swanson, & Song, 2005). About 50 percent of the caregivers attended multiple training sessions and earned subject-matter certificates. Caregivers voluntarily attended training on their own time and did not receive additional pay or promotions for attending or earning certificates.

Instructional factors related to the perceived effectiveness of this Cooperative Extension Caregiver Training Program were associated with four training variables:

- Appropriate objectives were *problem-focused* rather than information-focused, and addressed *preventing and solving problems* rather than abstract information about problems (Levine, 2001). For example, major objectives of the session on preventing falls were for caregivers to be able to assess the home of the client for hazards and learn how to eliminate or reduce the hazards.

- Clearly stated objectives explained at the beginning of each session helped caregivers understand the lesson structure and sequence, facilitated efficient learning, and reduced anxiety because the caregivers understood where the training was going and what they would be expected to learn (Diamond, 1998).

Table 2. Summary of Multiple Regression Analysis for program effectiveness (N=143)

| Independent Variables | Standardized Coefficients β | t-value |
|--------------------------------------|-----------------------------------|---------|
| Constant | | 1.56 |
| Feelings about the facility | .00 | -.012 |
| Presentation of objectives | .19 | 2.74** |
| Appropriateness of objectives | .19 | 2.91** |
| Relevance of content | .19 | 2.41* |
| Organization of content | .16 | 2.12* |
| Supportiveness of instructional aids | -.05 | -.91 |
| Overall evaluation of program | .12 | 1.31 |

Note. Evaluation of impact by change in independent variables. Regression analysis for overall participant change: ** $p < .01$, * $p < .05$.

This was a very important variable because many caregivers have limited educational experience and may feel uncomfortable in a classroom.

- Relevant and timely needs assessment guided curriculum content was designed to meet specific and current information needs of caregivers seeking learning experiences to satisfy their needs. Adult learners are “most interested in information and ideas that solve problems... and can be applied immediately” (Levine, 2001).
- Well-organized content meant lessons were presented in a linear format, beginning and ending with a statement of objectives. Multiple opportunities were offered for caregivers to share their insights and act as peer educators, and the caregivers’ knowledge and experiences were recognized and utilized as an important adult education principle.

Based on analysis of exit evaluations, the training significantly improved knowledge, skills, attitudes, and interest of caregivers. All of them stated they would advise others to attend the training. Some samples of how they expressed their satisfaction with the training were: “*I enjoy learning all I can;*” “*All of these classes are very helpful and important;*” and “*This class is very important to care givers and client as well.*” As a result of the caregiver’s suggestions, four new training topics were added to the list of subject matter for caregivers: *Myths and Facts of Aging, Dining with Diabetes, High Blood Pressure and Heart Attacks, and Healthy Living.*

Impact data were from self-selected caregivers, therefore outcomes may be biased toward learners who are comfortable in a classroom setting. Conclusions are based on self-reported data, rather than objective outcome measures, and caregivers may not have understood some terms on the evaluation.

Summary and Implications for Extension

As the population of older Americans increases, the need for effective education and training programs to educate in-home caregivers is more critical in communities throughout California and the country as a whole. The dissemination of best practices and up-to-date information to non-formal caregivers is essential to enhance knowledge, skills, and to change behaviors to help improve program delivery and quality of care. The University of California Cooperative Extension (CE) partnership with In-Home Supportive Services Public Authority in Sacramento County has proven to be a very successful program that trains paid registry in-home caregivers. In addition, it established a critically important long-term funding base to help stabilize CE

programming in that county. These emerging needs for caregiver training may prove to be another local revenue stream that CE human resources staff might be able to tap, to augment a sagging funding base at the local level. Future research and demonstration activities are expected to focus on standardizing curricula to train IHSS caregivers and marketing throughout California.

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The Impact of Adult Caregiving on Government Employees in Six Rural Counties in Wisconsin

Molly Spaulding, Mary Brintnall-Peterson, Faye Malek, Kathryn Miller, Peggy Nordgren, Dianne Weber, and Teri Zuege-Halvorsen

A two year multi-state pilot program was initiated in 2006 to educate employers and employees about the impact of caregiving on the personal lives and the job responsibilities of employed caregivers. The University of Wisconsin (UW) Cooperative Extension surveyed employees in six rural county governments to assess their needs. The respondents were 676 (48%), of which 378 (62%) were identified as caregivers. About 28.04% were the sole/main caregivers and 71.96% shared caregiving responsibilities. Data showed caregiving impacts on the level of absenteeism, tardiness, job concentration, and responding to calls/emergencies at work. Results showed the need for employer education and support systems to help caregivers balance work and life to be productive employees.

Introduction

Family caregivers comprise thirteen percent of the workforce in the United States. Fifty-nine percent of family caregivers who assume caregiving responsibilities for adults over age 18 either work or have worked while providing care (Neal & Wagner, 2002). Sixty-two percent of employed caregivers have had to make adjustments in their work life from reporting late to work and/or giving up work entirely (National Alliance for Caregiving and American Association of Retired Persons (AARP), 2004). The 2008 National Study of Employers found more of them provided information about services to older adults today (39%) than in 1998 (23%). This change is associated with an increase in the number of persons who work as well as assume caregiving responsibilities (Galinsky, Bond, Sakai, Kim, & Giuntoli, 2008).

County, state, and national data demonstrate a notable increase in the demographics of the age 65 and older population. The changing trend has led Cooperative Extension (CE) Educators to focus more attention on adult caregiver needs. CE Family Living Educators routinely assess needs and design educational interventions to address the problems/concerns of families in local communities. But, the needs of employed caregivers are of particular interest because of the challenges they face trying to balance family life and work/job responsibilities.

This increased interest in the needs of family caregivers led to the development of a two year multi-state pilot program initiated in 2006. The goal was to educate employers and employees about the impact of caregiving on the personal lives and the job responsibilities of employed caregivers.

The collaborators on the pilot project were the American Association of Retired Persons (AARP) Foundation; state and local AARP offices; Cooperative State Research, Education, and Extension Service (CSREES), United States Department of Agriculture (USDA); and University Cooperative Extension Offices in New York, North Carolina, Oregon, and Wisconsin. The project targeted small employers and the employees who were caregivers, and used educational materials developed by the AARP Foundation called *Prepare to Care* (AARP, 2008). The University of Wisconsin (UW) Cooperative Extension project team chose rural county governments as their target audiences.

The UW-Extension Family Living Educators in six counties (Bayfield, Calumet, Green Lake, Manitowoc, Taylor, and Washburn) selected their respective county executive, administrator, and/or personnel director as the employer's contact person. These connections were feasible as a starting point because county government is often the largest employer in rural counties and

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UW-Extension Educators had close partnerships with county employers and employees. However, before the planned intervention with the *Prepare to Care* materials, UW-Extension Educators needed to conduct baseline assessments of employee caregiving responsibilities and support needs. This report presents findings of needs assessments conducted in six rural counties.

Purpose

The purpose of the UW pilot project was to collect baseline data on the extent of caregiving and the need for caregiving outreach in each county; provide information on the need for future caregiver educational efforts; and establish a basis for adult caregiving outreach and county personnel policy discussions. The project objective was to increase the awareness of the economic impact of caregiving on the employer and the emotional impact of caregiving on the employee. The findings were expected to generate greater support for employees trying to find a balance between their caregiving and work needs; and increase the engagement of community partners to help employers and employees address caregiving related issues in the work place more effectively.

Method

The confidential survey instrument developed by six Wisconsin Cooperative Extension Educators and the UW-Extension Program Specialist in Aging was designed in a web-based format. The survey examined the scope and needs of adult caregivers employed in six rural county governments. The data collected included the number of employed adult caregivers in each county; personal demographic characteristics of age and gender, the scope of the employee's caregiving responsibilities, and the effects of caregiving on their work responsibilities. Caregivers also listed specific information that would help them balance their work and caregiving responsibilities. Human-subjects protection approval was obtained through the UW-Extension Institutional Review Board and each pilot county secured prior approval through their respective county administrative structure to disseminate the questionnaire electronically.

The team reviewed the available electronic technology in each county and determined which employees could receive the survey via e-mail since some employees, by the nature of their jobs, did not have computer access (i.e. highway department personnel and in some cases, law enforcement). Each county decided whether to include contracted personnel, part-time, or limited-term employees, and who would be classified as a "county employee." If employees did not have computer access, a hard copy of the survey was provided.

The electronic questionnaires were distributed with an introductory e-mail explaining the importance of the data to be collected on employed caregivers. Questionnaires were typically sent out at the beginning of the week and remained active for three weeks. Reminders were sent via e-mail at the beginning of the second and third weeks encouraging employees to complete the questionnaire. During the three week period, arrangements were made to distribute and collect hard copy surveys from employees in departments with no computer access and UW-Extension Educators entered these data into the computerized survey. Data collected from all six counties were tabulated automatically through a web-based process and overall data from the six counties were compiled at the state level.

Findings

The number of employees responding to the survey was 676 or a response rate of 48%. Of this number 378 (62%) were identified as caregivers because they had assumed at least one caregiving responsibility listed in the survey for an adult family member or friend in the preceding six months. The caregiving responsibilities reported by these respondents included driving to the doctor - 41%; home maintenance - 38%; grocery shopping - 31%; legal, financial, and healthcare documentation -31%; arranging meals - 24%; paying bills -22%; arranging for services - 11%; and providing personal care - 10%. Caregiver characteristics identified were:

- *Types of Caregivers* — Of the 378 identified as caregivers, 106 or 28.04% described themselves as the "main" caregiver, and 272 or 71.96% are called "other" caregivers because other people assisted with the caregiving responsibilities.
- *Gender and age* — Among the *main* caregivers (n=106), 83 or 78.3% were female and 23 (21.70%) were male. The largest proportion of the main caregivers – forty three percent were between the ages of 46-55 years; twenty-six percent were age 36-45, and 26% were age 56-65. Also, 25% of *other* caregivers were male, compared to 21% of *main* caregivers.
- *Caregiving responsibilities* — Fifty-nine percent of *main* caregivers provided care for one adult, 33% for two adults, and 9% for three or more adults. Among the *other* caregivers, 53% cared for one adult, 37% for two adults, and 10% provided care for three or more adults (Table 1).
- *Family members receiving care* — Parents and/or in-laws were the largest group receiving care from both *main* and *other* caregivers, 72% and 65%, respectively.

• *Living arrangements* — The majority of those receiving care lived in their own residence within 100 miles of the main caregiver 61% and 70% of other caregivers. About 26% of main caregivers reported they lived in the same household as the recipient, while only 3% of other caregivers lived in the same household.

Negative Impacts of Caregiving on Employment Responsibilities

The majority of *main* and *other* caregivers (61% and 87%, respectively) reported spending up to seven hours per week to fulfill their caregiving responsibilities. About 25% of *main* caregivers and 10% of *other* caregivers spent eight to 14 hours per week on caregiving responsibilities. The remaining caregivers (13% and 3%, respectively) reported spending 15 or more hours per week on caregiving responsibilities (Figure 1). Results showed caregiving impacted on four areas:

- *Absenteeism* — Among all caregivers, 226 or 66% missed work due to their caregiving responsibilities. As

the hours of caregiving per week increased, there was an associated increase in absenteeism due to caregiving. Additionally, as hours of care increased, there was a greater likelihood of caregivers using sick leave, vacation days, personal time, working from home, or taking unpaid leave to fulfill caregiving responsibilities.

- *Tardiness* — When caregivers providing up to 7 hours per week of care are compared to those who spent 8 or more hours per week, there was an associated increase in the likelihood that caregivers who provided more hours of care arrived at work late, and/or left work early.

- *Caregiving on the job* — As caregiving hours increased employees used breaks or lunch time to arrange for services for the care recipient, and responded to calls or emergencies during work hours.

- *Attention deficits* — Some caregivers reported being unable to concentrate while at work.

A greater percentage of the *main* caregivers (32%) than *other* caregivers (24%) reported that care- giving

Table 1. Employed Caregiver Characteristics

| Characteristic | Main Caregiver n=106 | Other Caregiver n=272 |
|---|-------------------------|--------------------------|
| Male | 22 (21%) | 67 (25%) |
| Female | 83 (78%) | 199 (73%) |
| 36 – 45 years old | 28 (27%) | 67 (25%) |
| 46 – 55 years old | 45 (43%) | 110 (40%) |
| 56 – 65 years old | 28 (26%) | 57 (21%) |
| Caring for one adult | 62 (59%) | 143 (53%) |
| Caring for two adults | 35 (33%) | 100 (37%) |
| Caring for three or more adults | 9 (9%) | 26 (10%) |
| Providing care for: | | |
| Parent or in-law | 69 (65%) | 195 (72%) |
| Spouse | 14 (13%) | 3 (1%) |
| Adult child | 7 (7%) | 5 (2%) |
| Aunt or uncle | 6 (6%) | 8 (3%) |
| Grandparent | 4 (4%) | 24 (9%) |
| Friend | 2 (2%) | 18 (7%) |
| Care-giving responsibilities * | | |
| Driving to appointments | 86 (81%) | 176 (65%) |
| Completing legal, financial, or healthcare forms or documents | 78 (74%) | 121 (45%) |
| Home maintenance | 67 (63%) | 175 (64%) |
| Grocery shopping | 65 (62%) | 133 (49%) |
| Bill payments | 57 (54%) | 85 (31%) |
| Arranging meals | 55 (52%) | 95 (35%) |
| Arranging services | 27 (26%) | 42 (15%) |
| Providing personal care (assisting with ADLs) | 27 (26%) | 38 (14%) |

* Respondents were instructed to choose all responsibilities that apply therefore, multiple responsibilities could be checked. ADLs – activities of daily living

somewhat or definitely made their employment more difficult. Among all caregivers (n = 378) there was a greater percentage of caregivers who missed work among those who said caregiving had made their employment more difficult than those who said caregiving had *definitely not* or *not really* made their employment more difficult. Caregivers who said caregiving made employment difficult were: associated with increases in the number of times they arrived at work late, left work early, and were absent from work. They were unable to concentrate while at work, used breaks or lunch time to arrange for services for care recipients, and responded to calls and emergencies during work hours.

Resources Requested by Employed Caregivers

All employed caregivers who responded to the survey (n=676) reported interest in receiving educational information about caregiving on a variety of topics (Table 2). Caregivers who were “very interested” ranged from 15% to 26% of various topic areas, and those “somewhat interested” ranged from 40% to 53%. General areas of interest were: caregiving benefits offered through county government; planning for future caregiving needs, including legal, financial, and healthcare issues; and available community resources for caregivers. In addition, employees wanted to learn about available community resources for caregivers, including

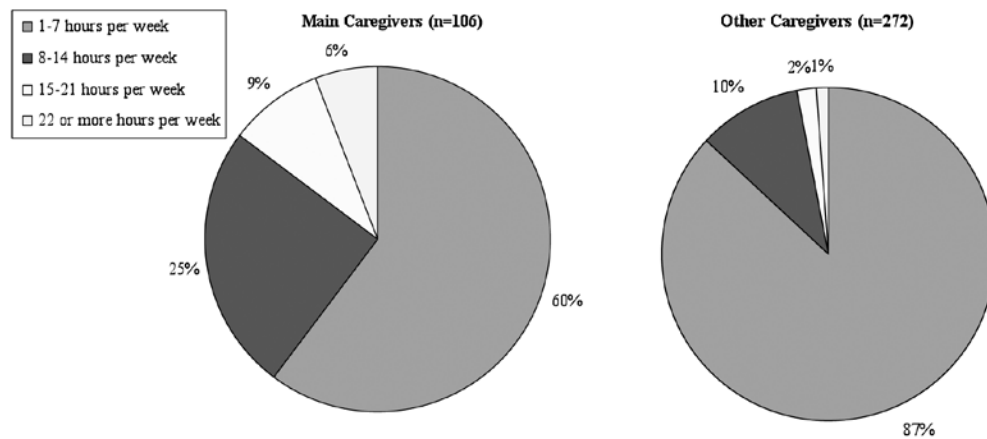


Figure 1. Time Spent in a Care-giving Role by Employed Caregivers

Table 2. Caregiving Resources Employees Requested

| Caregiver resources, education, or information | Among all survey respondents (n = 676) | |
|--|--|---------------------|
| | Very interested | Somewhat interested |
| <i>Subject matter areas</i> | | |
| Care-giving benefits offered through employer | 26% | 46% |
| Legal, financial, or healthcare planning | 24% | 48% |
| Available community resources for caregivers | 22% | 46% |
| Financing care-giving | 21% | 41% |
| Assisting with tough decisions | 19% | 40% |
| Planning for future care-giving needs | 17% | 53% |
| Stress management | 17% | 42% |
| Long Term Care Insurance | 17% | 41% |
| Identifying solutions to care-giving problems | 15% | 48% |

financing caregiving and making tough caregiving decisions. The most preferred methods of receiving educational resources and information were through fact sheets, employee newsletters, and lunchtime seminars. Other options like group educational sessions before and after work, support group meetings, or individual appointments with a support person were ranked very low among employee interest.

Discussion

Recent demographic trends show a rapid increase in the aging population and the number who will need care from family members, friends, neighbors and others in the community. The employed caregiver survey data showed a significant number (56%) of employees in county government are caregivers to some degree. Much like what is found in other employers nationwide, over half of caregivers in county government responding to the survey was aged 46-65. Overall, the results demonstrated a dramatic impact of caregiving on employed caregivers in rural county governments. Caregiving also impacts negatively on employers as seen in the amount of absenteeism, tardiness, responding to caregiving needs on the job, and the lack of concentration on job duties. The significance of this impact will only increase in the next ten years as the workforce continues to age and more employees are faced with caregiving responsibilities.

The survey data were essential to defining the target audience and their needs since caregiving responsibilities are challenging for employees who must also balance work and family. The findings showed most of these employed caregivers were in the early stages of caregiving and preferred brief and applicable resources provided by their employers like: fact sheets, newsletters, resource directories, and in some instances, lunchtime seminars. Employees selected these delivery methods to compliment their busy life schedules.

The survey findings reinforced the need for employers to be educated on caregiving issues since employees need work/life balance to reduce their stress and be productive employees. The results provided an opportunity for UW-Extension Educators to help clarify the economic impact adult caregiving has on county government. The financial implications to employers are directly related to time spent away from work on caregiving as well as time and focus on caregiving duties while in the workplace.

Implications for Extension

While the pilot survey was conducted in rural Wisconsin counties with populations ranging from 15,000 to 82,000, the web-based delivery method makes it feasible to distribute it to employers in both rural and urban settings. The survey findings were beneficial to UW-Extension

Educators because they could be used to help raise awareness of caregiving in the workplace; educate local policy makers, county department heads, county board supervisors, elected officials, and ultimately county employees. Executive summary sheets of the results were developed and used to share the local survey data with county administrators and boards, department heads, human resource personnel, and employees. The findings were also shared with County Extension Committees, Aging Units, and in some cases community service organizations such as Rotary, Kiwanis, and Optimists.

The assessments of the county government workforce led to opportunities for UW-Extension Educators to offer educational programs and market caregiving resources including 'Prepare to Care' to employers and employees in their counties. Extension educators nationwide are in a position to provide resources, assistance, and guidance to help both employers and employees address family caregiving issues in the workplace. The use of an electronic employee caregiving survey may be the first step in initiating outreach and programming for employed caregivers. Cooperative Extension Service can respond to these preferred learning styles by utilizing alternative methods of reaching this audience, such as written communication, and electronic methods, including eXtension, rather than the traditional face-to-face education familiar to most extension educators.

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Building Strength of Aging Women in Wisconsin: The StrongWomen™ Program

Angela Flickinger

The StrongWomen™ program was started in Rock County in 2006 and spread to 27 counties in 2008. This program offers middle aged and older women the opportunity to participate in recommended strength training exercise in an easy and affordable manner. The StrongWomen™ program in Wisconsin was evaluated to measure the impact on individual participants and the expansion of the program statewide. Nearly 1,700 women received an average of 10 weeks of strength training in Wisconsin through the StrongWomen™ Ambassador program. Extension educators can initiate StrongWomen™ programs in their respective states. Results of the posttest evaluation showed significant gains in individual physical strength, flexibility and balance were experienced by 95% of the women.

Introduction

A regimen of weight bearing exercise increases strength, muscle mass, bone density, and decreases the risk of diseases such as osteoporosis, arthritis, diabetes, obesity, and depression (Seguin, Epping, Buchner, Block, & Nelson, 2004). This type of regular exercise is especially beneficial to middle aged and older women because increased muscular strength helps to maintain functional status and independence (Nelson & Wernick, 2000). The Center for Disease Control and Prevention's (CDC) recommends that older adults participate in 30 to 60 minutes of moderately intense aerobic activity most days of the week. Also, do muscle-strengthening activities on two or more days a week to work all major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms). Despite the benefits of these recommendations, only seven percent of women participate in the appropriate amount of strength training (U.S. Dept. of Health and Human Services, 2000). Many factors contribute to this low percentage: lack of weight training experience, lack of education, and fear or lack of available classes.

The StrongWomen™ program, developed by Drs. Miriam Nelson and Rebecca Seguin of the Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy at Tufts University, is an 8 to 16 week exercise program based upon extensive scientific research (StrongWomen, 2006). The program provides middle aged and older women information about nutrition and strength-building physical activity. The Wisconsin StrongWomen™ program provides an optional ten minute nutrition and health education lesson to enhance the program. It complements the exercise program, further decreases the risks and effects of certain diseases (e.g., osteoporosis), and improves participant's quality of life.

The StrongWomen™ program participants meet twice a week for 60 minutes. The program is relatively inexpensive, uses simple and easily-accessible equipment, and has the flexibility to be held in a variety

of places. There are additional savings if the instructor leads this program as part of his/her job. Equipment needed includes an exercise mat or towel, and a range of dumbbells. Heavier dumbbells are needed further into the program as participants progress in strength development.

Purpose

The purpose of the StrongWomen™ program is to increase the number of women participating in safe and effective strength training programs. The objective of the Wisconsin StrongWomen™ program is to establish the program in Wisconsin and lay the groundwork for increased opportunities for women to participate in affordable, safe, and effective strength training

Method

The StrongWomen™ (SW) program relies on an expert model training approach to provide training opportunities to as many communities as possible. Ambassador training for the SW program is provided through Tufts University. It requires the individual to attend two to three SW trainings, be affiliated with or working within a not-for-profit setting, be actively offering SW classes, be personally active in strength training, and have organizational capacity and infrastructure support to offer several SW leader workshops per year. The Family Living Educator for University of Wisconsin-Extension, Angela Flickinger, became the SW Ambassador for Wisconsin in 2007 after receiving training at Tufts University. Prior to becoming the ambassador, Flickinger led a SW program with tremendous success in Rock County, Wisconsin.

The effectiveness of this program is demonstrated using the Senior Fit Test (SFT) which contains a total of five activities that measure the basic abilities necessary to perform daily tasks safely and independently. Effectiveness of the program is demonstrated through pre- and post-program tests.

Program participants meet twice a week for 60 minutes.

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The program is relatively inexpensive, uses simple and easily-accessible equipment, and has the flexibility to be held in a variety of places. Equipment needed includes an exercise mat or towel, and a range of dumbbells. Heavier dumbbells are needed as program participants progress in strength development. There are additional savings if the instructor leads this program as part of his/her job.

Participants in the 8 to 12 week SW program were given a pre- and post-program SFT. The six activities measured included the: 1) chair stand test, which requires the subject to stand up and sit down in a chair as many times as possible in 30 seconds; 2) arm curl test, which measures the number of five-pound arm curls the subject can do in 30 seconds; 3) two-minute step test, which requires the subject to walk in place as many steps as possible in two minutes; 4) chair sit-and-reach test, which measures leg flexibility as the subject reaches towards her toes; 5) back scratch test, which measures arm flexibility as the participant reaches behind her back; and 6) eight-foot up and go test, which measures how fast the participant can stand up from a sitting position, walk around a cone that is eight feet away, return to the chair, and sit down.

Combined these tests measure strength, flexibility, and endurance; provide initial teaching points for the site leaders and feedback on how well the participants responded to the strength training. The pre- and post-tests can be used as motivation for participants to continue the program after class and as a tool for to measure their personal gain. At the end of the program, each graduate is given a written evaluation of their program outcomes.

Findings

StrongWomen™ trained 82 additional class leaders and increased the capacity for strength building opportunities among older women in Wisconsin. Another 15 leaders were trained in the neighboring states of Indiana, Illinois, Michigan, Minnesota, and West Virginia. Seventy-nine leaders were contacted via e-mail and phone one to six months after their training to determine the impact of their respective programs. The survey included questions about the implementation of the StrongWomen™ program, number of sessions they provided, and the number of women reached.

Sixty-nine (87%) of the 82 Wisconsin SW trained site leaders responded to the survey. Of the respondents, 29 are currently teaching the SW program in 27 different counties in Wisconsin and 21 site leaders plan to teach classes in the near future (see Figure 1). Through 2008, approximately 120 SW sessions were completed with approximately 14 participants per session, which is

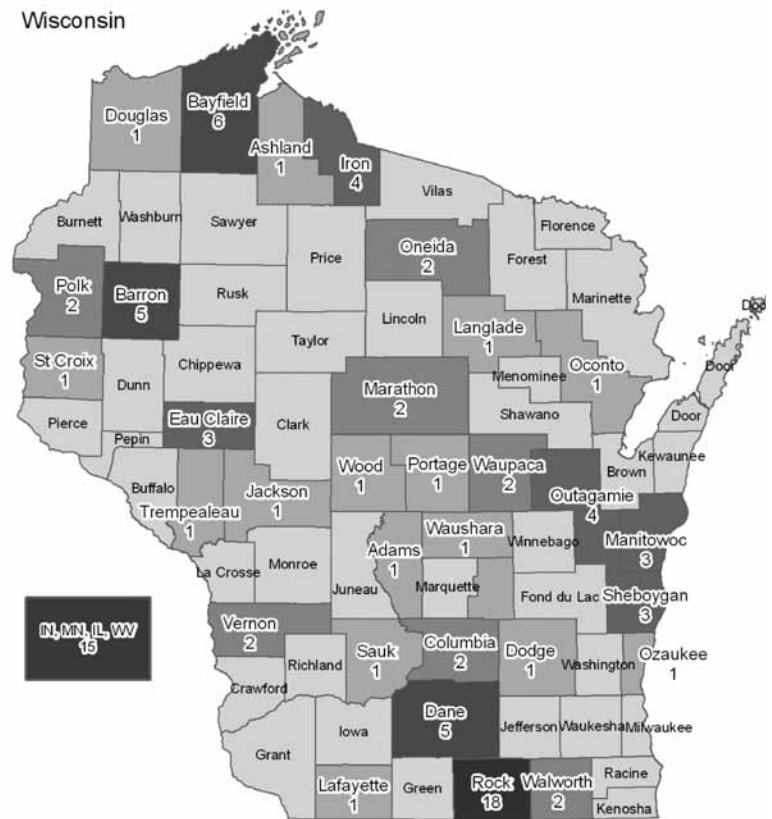


Figure 1 Instructors for Strong Women Trained as of March, 2009.

ideal for the SW program. Through these SW sessions, nearly 1,700 women received an average of 10 weeks of strength training and health education.

There are currently 18 trained leaders in Rock County that offer SW at 12 locations. Health and nutrition education lessons were incorporated into the StrongWomen™ program in these classes. The rationale of these lessons assured women were in a stage of change with exercise, and any further health education would be positively received. To date, 481 individuals have participated in the StrongWomen™ (SW) 12-week program in Rock County. Evaluations on these lessons indicated that women increased amounts of fruits and vegetable consumed. In general women who received these lessons made healthier food choices and became more aware of their individual health

Feedback from the Rock County SW program has been very encouraging for leaders and participants. Senior Fit Test results from women over a three year period are examples of the success of a SW program. One hundred percent of participants learned how to properly use ankle weights and dumbbells to increase their strength. Based on Senior Fit Test (SFT) results, 95% of participants improved their strength, endurance, balance, and

flexibility. Quantitative data collected from the Senior Fit Test show improvements in the chair stand test, arm curl test, two minute step test, sit and reach test, back scratch test, and the eight-foot up and go test (see Figure 2).

Results of the SFT for 119 Rock County SW program participants show average increases in:

- leg strength of 30% in the Chair Stand Test;
- arm strength of 30% in the Arm Curl Test;
- lower extremity endurance and strength of 11% in the Two-Minute Step Test;
- leg flexibility of 71% in the Sit and Reach Test;
- arm flexibility of 61% in the Back Scratch Test; and
- leg strength and speed by a decrease of 0.15 seconds in the Eight-Foot Up and Go.

Participants also exhibited a decreased need for medication that targeted chronic conditions and pain. They reported walking more, eating healthier, and making weight training a life-long commitment.

Anecdotal benefits reported by trainers included positive impact from Nancy Krueger, a new site trainer in Outagamie County, she said, *“I have taught exercise and health classes for years and this StrongWomen program has been the most rewarding one I have taught. I have seen great commitment from the ladies in my class and have seen great improvements in their strength. They enjoyed seeing the results from the pre- and post-test, and the most rewarding thing was that they were very motivated to continue the class.”*

Summary

The StrongWomen™ (SW) program provides middle aged and older women the opportunity to perform the recommended amount of strength training exercise in an easy and affordable manner. In addition to the benefits received from the exercise program, they increased their confidence and independence while performing tasks of daily living, and they received health and nutrition information to broaden their knowledge of preventative lifestyle practices.

Wisconsin now has a SW program Ambassador and 82 site leaders in 31 counties. Approximately 1,700 women who benefited from the SW program increased their strength, flexibility, and endurance.

Hopefully, this is just the beginning as SW programs continue to provide the older female population opportunities to reduce risks for chronic diseases and harmful falls through strength training as more SW leaders are trained, more classes become available in new communities. The demand for classes is expected to increase as success stories are shared by participants with friends and acquaintances. The momentum seen in the Wisconsin SW program needs to continue and expand beyond Wisconsin to women in other states. Ultimately, as a result of increased strength, more women will achieve better health, will improve their quality of living, maintain their independence, and ultimately reduce public costs.

Implications for Extension

Each state has the opportunity to take part in the StrongWomen™ Ambassador program. This program was developed for non-profit organizations such as state Extension programs. Once a person receives the proper training, they can train others to be StrongWomen™ leaders in their respective state. This could expand the capacity of this program nationwide and facilitate increased strength, flexibility, endurance, and health status for older women.

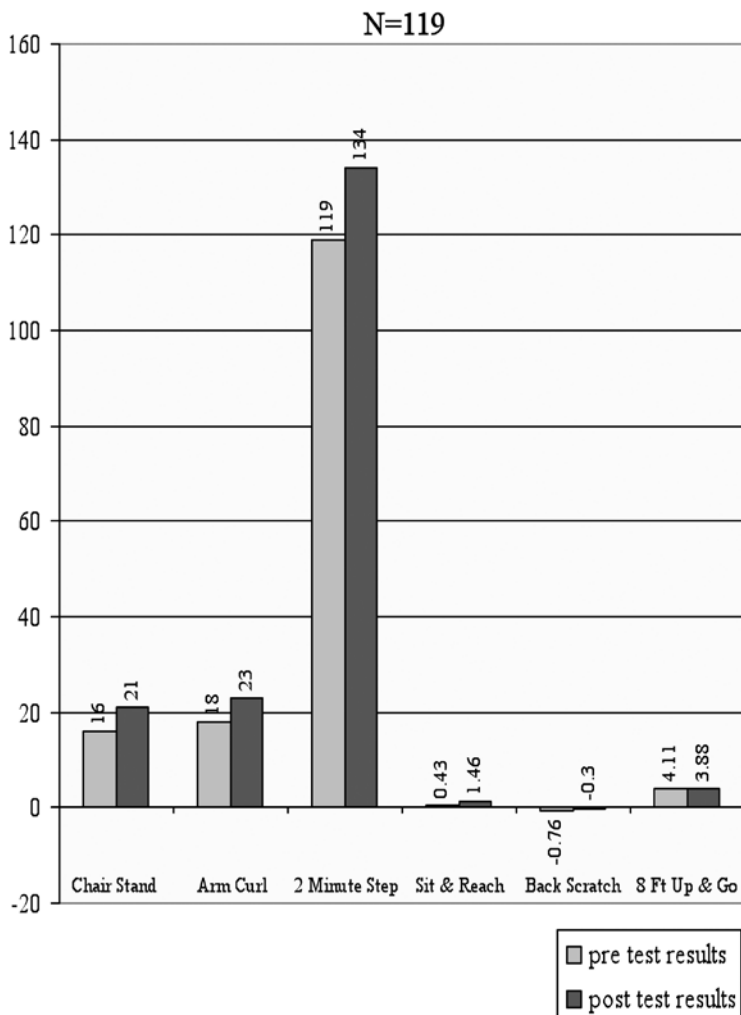


Figure 2

Rock County SFT Results 2005-2008

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PROGRAM EXCELLENCE THROUGH RESEARCH AWARD

Elizabeth Reames (Louisiana)

This tri-state study tested the effectiveness of the Serving Food Safely curriculum to increase knowledge and promote safe food handling practices of food recovery agency staff and volunteers. Results indicated that knowledge and adoption of recommended food safety practices increased for both staff and volunteers following participation in curriculum workshops.

Harriet Shaklee, Lorie Dye, Carol Hampton, Susan Traver, Kathee Tifft, Barbara Abo, Valdesue Steele, Cindy Kinder, Diane Demarest, Janica Hardin, (Idaho)

The University of Idaho Extension investigated emergent literacy components in the Parents as Teachers curriculum, found it to be thoroughly infused with literacy content, and that parent's and children's literacy-relevant behaviors increased while in the program. These findings strengthened UI Extension's early learning outreach to parents, professionals, and policy makers.

Bone Builders: Ten Years of Improving Bone Health

Sharon Hoelscher Day and Linda Block

Osteoporosis is a preventable and treatable disease, but it is a growing problem among older persons. Bone Builders is a multi-faceted, osteoporosis prevention program; including volunteer train-the-trainer education, community classes, and a social marketing campaign. Over ten years of existence, Bone Builders has proven that a multi-faceted, community-based, osteoporosis prevention program can improve knowledge and change health behaviors.

Introduction

Osteoporosis is a preventable and treatable disease, but it is a growing problem. The 2004 Surgeon General's Report on Bone Health and Osteoporosis (United States Department of Health and Human Services, 2004) states that 50% or more of women over the age of 60 will have osteoporotic fractures. A woman's risk of developing osteoporosis is equal to the combined risk of developing breast, uterine, or ovarian cancer. In addition, an average of 24% of hip fracture patients aged 50 and older die in the year following their fracture. This high rate is due to limited awareness of risk factors and how to prevent osteoporosis. Unfortunately, many women do not know they have osteoporosis until they have a fracture.

A 1999-2000 baseline, random sample, community phone survey with 200 Arizona women aged 25-55 found three-quarters of respondents (77%) said they knew what osteoporosis was. However, fewer than two-thirds (58%) could correctly define it and 91% did not know what types of exercise could reduce the risk for osteoporosis (Larkey, Day, Houtkooper, & Renger, 2003). As large numbers of baby boomers become seniors, osteoporosis will become a greater challenge with higher medical costs for fractures, hospitalization, and nursing homes for more senior women. (National Osteoporosis Foundation, 2007). Although osteoporosis is thought of as an old person's disease, it could be described as a pediatric disease with geriatric outcomes. Prevention is critical for women of all ages because bone density developed in the years before age 30 is the foundation for bone health for the rest of life. As a result of these growing concerns, osteoporosis prevention was identified as a critical issue in Maricopa County, Arizona.

The University of Arizona Cooperative Extension and College of Public Health formed the Community Health Advancement Partnerships (CHAPS) to build community-based health promotion outreach in Arizona counties to address critical issues, like osteoporosis. (Houtkooper et al., 2002). Bone Builders started in 1998

as the CHAPS partnership in Maricopa County with Cooperative Extension and ten other organizations. Bone Builders developed as a multi-faceted, osteoporosis prevention program with several components, including volunteer train-the-trainer education, community classes and a social marketing campaign.

Bone Builders partners included the University of Arizona College of Medicine, Arizona Nutrition Network, Arizona Osteoporosis Coalition, county health departments, City of Phoenix, health providers, Dairy Council of Arizona, and many other community organizations. Bone Builders currently has staff and volunteers in three counties and volunteers only in six additional counties reaching 80% of Arizona's population.

Purpose

This paper describes how Cooperative Extension addressed this growing health concern by developing a new program and that program's impact over the past ten years. The initial goals of Bone Builders were to increase awareness of osteoporosis risk factors and to increase osteoporosis prevention behaviors, such as eating high-calcium foods and increasing physical activity by women age 25-55 years old.

The audience expanded to all women plus men over age 55 in 2000 with new funding from the Arizona Department of Health Services.

Methods

The Bone Builders program included: train-the-trainer workshops for volunteers, community classes, health fairs displays, bone density screening and a social marketing campaign. All program components focus on three key messages; eat high calcium, low fat foods, do weight-bearing exercise and talk with your healthcare provider about your risks. The curriculum was based on physical activity and bone strengthening research at the University of Arizona, local focus groups, and other osteoporosis prevention research. Volunteers and staff

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collected risk factors and knowledge gained data from classes and health fairs. Class participants completed risk factor questionnaires and surveys to determine their stages of change and knowledge about osteoporosis.

Bone Builders built a volunteer force to promote osteoporosis prevention in community and worksite settings. More than 430 volunteers completed a two-day workshop which was taught face-to-face and by videoconference, simultaneously in Phoenix and Tucson once or twice per year over the past ten years. The instructors included University of Arizona faculty in Nutritional Sciences, Medicine and Physiology, dietitians, county Extension Family and Consumer Sciences faculty, pharmacists, local physicians, and DEXA (Dual Energy X-ray Absorptiometry) technicians.

Volunteers received lesson plans, background information, outreach resources, planning/reporting materials, and a quarterly newsletter. Trained volunteers and staff taught community classes, provided outreach education at health fairs and assisted with bone density screenings. The Bone Builders community classes included single sessions or 3-part series where participants do exercises and learn about high calcium foods, osteoporosis risk factors, and prevention behaviors. The length of service by each volunteer varies from six months to several years. One of the major challenges in building and maintaining a community education program is keeping and motivating volunteers. Volunteers receive regular newsletters, email updates and invitations to update and trainings. The county Extension faculty organized local volunteers, supplied resources, coordinated media outreach and processed data.

Bone Builders social marketing campaign used public service announcements, newspaper feature articles, a website, and phone information hotlines. Other components of the social marketing campaign were the "Like Mother, Like Daughter, Building Strong Bones for a Lifetime" brochure, an accompanying poster in English and Spanish, and the website, www.bonebuilders.org with prevention information in English and Spanish. The Bone Builders social marketing campaign supports and enhances the direct classes and health fair outreach education.

Results

Over the past ten years, Bone Builders staff and volunteers have taught 1,900 classes to 37,200 participants and reached 98,800 people at 555 health fairs. Class evaluations from 2,000 community participants in Maricopa County in 2005 rated their knowledge before the classes as 2.5 (on a 5-point Likert scale with 5

high) and 4.5 after the classes. Similar knowledge improvements were found during other years.

Baseline assessments from a sample of 211 community class participants in 2006 found 48% had a family history of osteoporosis. Participant demographics included 21% under age 44, 39% between ages 45 and 64, and 40% age 65 or older. Seventy-one percent took calcium supplements, 16% did some weight-bearing exercise, 38% had a bone scan before the class, and 40% of those scanned had below normal bone density. Seventy-nine % intended to make changes as a result of the class.

When these same participants answered a telephone survey 4-6 months later, 39% of the 211 participants said they increased their calcium consumption as a result of the Bone Builders classes and 15 people who had not planned to make any changes at the time of the class also increased their calcium intake. Nineteen percent started taking supplements, 36% had increased their weight-bearing exercise, and 22% got a bone density scan as a result of attending Bone Builders classes.

Annually, the Bone Builders social marketing campaign had a million "media impressions" through newspaper articles and television feature segments. ("Media impression" is the term used for each time a person views information in a social marketing campaign.) Over the past ten years, Bone Builders distributed 95,000 brochures titled, "Like Mother, Like Daughter, Building Strong Bones for a Lifetime," and 4,800 accompanying posters in physicians' offices, community centers, and worksites. The website www.bonebuilders.org also provides both English and Spanish versions. Annual visitors to the website have grown each year from 9540 visitors and 343,590 hits in 2002 to 34,938 visitors with 922,057 hits in 2007 or 96 visitors per day. (Visitors are separate visits to the website and hits include all the pages, graphics or files viewed during the visits.) The Arizona Orthopedic Surgeons Association, Arizona Osteoporosis Coalition and Center for Disease Control's state initiative website have all linked to the Bone Builders website.

Summary and Implications for Extension

Osteoporosis prevention is an issue that will require long-term programming. Bone health will be a continuing problem as long as women do not meet their calcium and exercise needs. Bone Builders brought together researchers, educators and healthcare providers to work together to reduce the risks of osteoporosis in Arizona. This collaboration continues today with Cooperative Extension as a key player in osteoporosis prevention.

Bone Builders has proven that a multi-faceted, community-based, osteoporosis prevention program can

improve knowledge and change health behaviors. It also shows that Cooperative Extension has a critical role to play in health education by bringing together diverse health professionals, nutrition and family experts, grassroots organizations and community volunteers to address growing prevention concerns.

Volunteers can be effective in program delivery, but recruiting, training, monitoring and motivating volunteers are on-going challenges that Cooperative Extension must address to build and maintain a grassroots health education program.

Supporting ongoing volunteer training, community classes and compiling evaluation over many years has challenged the Cooperative Extension system in Arizona. Bone Builders has generated support and varying amounts of funding annually to continue its osteoporosis prevention education, but it has been difficult to provide financial support for staff in all counties. New funding mechanisms are needed to support long-term health related programs by Cooperative Extension.

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Difficulties Experienced Among Newly Remarried Elderly Couples

Brian Higginbotham, Katie Henderson Reck, and Nancy Brooks

There is limited research on relationships and later-life transitions. This study assesses remarriage difficulties experienced by elderly remarried couples. The study sample was comprised of 192 couples with at least one spouse over the age of 60, and the union was not a first marriage for either individual. The areas of greatest difficulty for both husbands and wives were: couple expectations, organizing and participating in stepfamily events, reacting to children's emotions, and trust with stepchildren. Husbands and wives had relatively similar ratings of perceived difficulty for the majority of the 52 topics covered. Implications for practice, research, and using validated measurement tools are discussed.

Introduction

The elderly population is one of the most rapidly growing segments within the United States with approximately 12.1% of the population over the age of 65 (U.S. Census Bureau, 2006). It is unclear how many of these individuals will undergo a marital transition in any given year, but census data indicate approximately 15% of men, and 17% of women over the age of 60 have been, or are currently remarried (U.S. Census Bureau, 2004). As the “baby boomers” age, this cohort is expected to experience divorce, widowhood, cohabitation, and remarriage more than any other generation (Ganong, Coleman, McDaniel, & Killian, 1998; Lambert, n.d.). It is assumed that these late-life relational transitions introduce new challenges to satisfying relationships, specifically due to the concurrent expectations of and interactions with ex-partners, adult children, and adult stepchildren (Gabe & Lipman-Blumen, 2005; Ganong & Coleman, 2004).

Although the Census Bureau (2006) estimates the number of remarriages, published statistical figures underestimate the presence of stepfamilies among the remarried elderly. The *Encyclopedia of Marriage and the Family* (Levinson, 1995) defines a stepfamily as consisting of at least one minor child living with a biological parent and their spouse, or with a stepparent who is not the child's biological parent. The same definition is used to determine the number of stepfamilies by the Census Bureau (Kreider, 2005). According to this definition, elderly couples who remarry and have children under the age of 18, who are living in the same household, are counted; however, families who create adult stepfamilies, with children who are over the age of 18 and/or children not living in the household, are not counted. Therefore,

the exact number of stepfamilies including the elderly is likely much higher than current government estimates of remarriage (Teachman & Tedrow, 2008).

As people age they may face specific challenges such as the loss of a spouse, divorce, reduced finances, health issues, and dealing with adult children (Ganong & Coleman, 2004; Lambert, n.d.). Existing empirical work with stepfamilies rarely controls for age, which questions the possibility of irrelevance for elderly cohorts who aren't raising young (step)children. Yet, there is ample theoretical rationale for why elderly couples who remarry may still face unique difficulties. Difficulties associated with the creation of any relationship are often tied to the symbolic meaning held by the individuals involved.

Symbolic interaction theory assumes that how one defines a situation helps to explain the associated problems and what actions and solutions should be undertaken (LaRossa & Reitzes, 1993). In the case of elderly remarried couples, the couple may see remarriage as “seizing the day” or insuring companionship (Gabe & Lipman-Blumen, 2005).

Adult children, on the other hand, may see the remarriage as a threat to their inheritance or an act of disrespect to their deceased parent's memory. Consequently, remarriage may create unanticipated tension, conflict, and difficulties for elderly remarried couples. Not only do they have to deal with the expectations and challenges of being a new spouse, they must also deal with the challenges arising from being a parent and/or stepparent to adult children.

In a previous study, 26 mid-life couples were administered the QCS to determine difficulties within their stepfamilies (Beaudry, Boisvert, Simard, Parent,

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& Blais, 2004). The mean age for men was 41 years and the mean age for women was 38 years. The study highlighted the importance of communication skills for men and women. However, they also found a significant relationship between the presence of children from a previous union and the difficulties experienced by the male spouse. These previous findings assisted in understanding stepfamily difficulties, but it is still unknown what specific difficulties elderly couples with stepchildren not living in the home, would report. This study seeks to fill this gap in the literature.

Purpose

Research on elderly populations has increased over the past decade but large gaps in the literature still persist. There is limited research on the additional challenges elderly populations encounter when remarrying. This study seeks to document specific difficulties experienced by elderly couples who have recently remarried. Research is needed to inform and improve the work of educators teaching skill building programs to this growing population.

Method

The Questionnaire used in this study, Assess the Difficulties of Couples in Stepfamilies (QCS), is the only known instruments to identify potential problems experienced by couples in stepfamilies (Beaudry, Parent, Saint-Jacques, Guay, & Boisvert, 2001). The QCS is made up of four subscales: difficulties associated with the social and family dimension; difficulties associated with the role of spouse; difficulties associated with the role of parent; and difficulties associated with the role of stepparent. In the latter two subscales, the QCS questions concerning (step)children are not age specific and can be answered by individuals with adult or minor children. Individuals without (step)children skip these questions.

Participants were selected from marriage licenses in a western state. Surveys were mailed to 4,886 remarried couples, and 1,086 were completed and returned by wives and 943 by husbands. Of those returned, 192 couples with complete datasets were marriages with at least one spouse over the age of 60. Ages of grooms ranged from 48 to 94 (mean = 68.8; median = 67.0; SD = 7.9) and brides 29 to 90 (mean = 61.3; median = 61.0; SD = 10.3). The number of marriages ranged from 1 to 7. Income ranged from less than \$10,000 to over \$100,000 (median = \$50,001-\$60,000). The majority of respondents were Caucasian (groom = 96.0%; wife = 95.7%). Years of education ranged from 8 years to 17 years (groom mean = 14.3; wife mean = 13.7). Seventy-seven percent of men and 72% of women reported having children from a

previous relationship. Six percent of couples had minor children (< age 18) and 9% had adult children (> age 18) living in their home.

Findings

Table 1 presents the mean scores, standard deviations, and ranking of the 52 questions in the QCS for both husband and wife participants. The t-values identify several significant gender difference. Mean scores of difficulties for both husbands and wives were relatively low for this newlywed sample. In general, women reported greater levels of difficulty than men on each of the four subscales. Wives reported higher levels of difficulty on 38 of the 52 items, nine of which were statistically significant. Husbands reported higher levels of difficulty on 13 of the 52 items, with one being statistically significant.

The areas of greatest difficulty for both husbands and wives included: couple expectations (Q2 and Q3); organizing family events with an enlarged family (Q16); participating in family events in the context of a stepfamily (Q19); reacting to children's emotions (Q24); and trust with stepchildren (Q38). The areas of least difficulty for both husbands and wives were: giving time to new spouse (Q4); mourning the previous relationship (Q5); ensuring the stepparent is viewed as a legitimate representative in the children's school and medical environment (Q11 and Q12); reconciling religious values (Q20); respecting the positive feelings children have for their biological father or mother (Q25); dealing with spouses criticism about the way children are raised (Q33); and disciplining spouse's children (Q39).

In light of the age demographics of the study sample, *childrearing*-related difficulties were not frequently reported. Few of the elderly remarried couples had children living at home and it is likely that those with nonresidential children did not have the need or opportunity to engage in many of the experiences captured in the parenting and stepparenting subscale (i.e., disciplining). However, despite the fact that over 90% of the sample did not have residential children, several of the *parenting*-related issues were still areas of difficulty (i.e., reacting to children's emotions and gaining stepchildren's trust).

For many of the items, difficulties reported by husbands and wives had relatively similar ratings (i.e., finances). However, there was a number of areas that had large differences. The largest were in ratings for difficulties within the social and family dimensions subscale was working together to resolve problems as a couple (Q1) ranked 1st for husbands and 6th for wives. In the role of spouse subscale, the greatest difference was having access to resources or people capable of understanding

their experiences as a stepfamily member (Q15) ranked 9th for husbands and 5th for wives. For the difficulties as a parent in a stepfamily subscale, explaining family reconstitution to children (Q23) ranked 2nd for husbands and 9th for women. Finally in the difficulties as a stepparent subscale, clearly understanding spouse's expectations with regard to the role of stepparent had the largest difference among husbands and wives (Q36) ranked 3rd for husbands and 12th for wives.

Summary and Implications for Extension

This study calls attention to a growing demographic phenomenon of remarriage difficulties in later life, presents some answers, and raises additional questions for future research and practice. Women reported significantly higher levels on nine of the 52 survey items, while husbands reported significantly higher levels of difficulty on only one. The finding of few significant differences is consistent with previous research, which identified more gender similarities than differences in difficulties experienced by remarried couples (Beaudry et al., 2001). The implication of this finding is that recruitment efforts and programmatic content for elderly stepfamilies need not be necessarily gender specific.

Both men and women are likely to benefit from topics in stepfamily education programs offered by Extension (Adler-Baeder & Higginbotham, 2004). Husbands and wives gave the highest ratings of difficulty to many of the same topics: articulating expectations, organizing and participating in events in the context of an enlarged family, reacting to children's emotions, and establishing trust with the spouse's children. Communication training, which is a hallmark of most couple and relationship education (CRE) programs, would likely be a key skill that could help address many of the difficulties identified in this survey (cf. Beaudry et al., 2004).

Despite the age of the participants in the sample, issues related to (step) children were still some of the highest rated difficulties. Like young and midlife remarried couples, elderly couples have to balance the new with the old, and often struggle to maintain relationships stemming from blood and marriage (Ganong & Coleman, 2004). For biological parents in stepfamilies, the highest rated difficulties were dealing with "my spouse and my children competing for my attention and love," and "knowing how to react when my children express emotions about our stepfamily." For the stepparent, establishing trust and "feeling I have 'my' place in the family" were the most difficult. Few traditional CRE programs address these issues because most programs have been developed for young or midlife couples getting married for the first time. This does not mean elderly remarried couples would not benefit from learning skills taught in general

CRE curricula (i.e., communication, conflict resolution). However, to meet their unique relational needs they may benefit more by attending classes designed specifically for them (Adler-Baeder & Higginbotham, 2004).

Extension educators and specialists could help to address these needs by offering more CRE classes, and creating more resources (i.e., factsheets) that address the difficulties facing elderly populations. Recruiting remarried couples of any age to CRE is difficult, educators may want to consider: a) easily accessible on-line options to convey relevant information and/or b) incorporating relationship and stepparenting content into existing programs already attended by elderly couples. An example of one programmatic merger implicated by this study is CRE's family financial education program typically offered by Extension family and consumer sciences educators. The men and women in the study sample rated "dealing with financial problems that arise from living in a stepfamily" as the third and fourth, respectively, most difficult aspect of their role as a spouse in a remarriage. In addition to the normative financial concerns of the elderly, the questions and complexities of inheritance and asset management introduced by remarriage (e.g., Ganong et al., 1998; Higginbotham, Anderson, & Lown, 2007), present opportunities for Extension professionals to identify and/or create financial education resources to address the unique relational concerns of the adult remarried stepfamily.

Scholars, practitioners, and educators still need to conduct research and demonstration programs to better understand and meet the needs of elderly remarried couples. Relatively little is known about elders who choose to cohabit rather than remarry later in life. Research is also needed to redefine stepfamilies beyond those with children under the age of 18 living in their household. Measurement tools may need to be created or modified to more closely reflect the current issues elderly couples are facing (i.e., retirement instead of childrearing). These measurement tools should not, however, completely ignore the possibility of on-going interactions and difficulties with young and adult children.

The significant role played by grandparents, the elderly stepfamily configuration and its potential effects on subsequent generations, present opportunity for further study. Research could be designed to determine how programming on topics identified in Table 1 (i.e., relationship skill building, financial education) could be adapted for the elderly, similar to the techniques commonly used for young first-time couples. It is recommended that additional studies using validated measurement tools be undertaken with elderly population samples.

Table 1. Summary of Paired Sample T-Tests for Husband and Wife Reported Level of Difficulty

| Subscale and Questions | Husband Mean (Std. Dev.) | Wife Mean (Std. Dev.) | Husband Rank | Wife Rank | t | |
|--|--|--------------------------|--------------|-----------|----------|--|
| <u>Difficulties with Social and Family Dimensions</u> | | | | | | |
| Q1 Working together to resolve our problems as a couple | 1.60 (.778) | 1.38 (.784) | 1 | 6 | -1.164 | |
| Q2 Accepting a different kind of life as a couple than I had imagined | 1.40 (.736) | 1.50 (.979) | 3 | 2 | -1.434 | |
| Q3 Clearly explaining to my spouse my expectations, needs and limits with regards to our relationship as a couple | 1.41 (.759) | 1.57 (.907) | 2 | 1 | -2.415** | |
| Q4 Giving time to my spouse | 1.28 (.678) | 1.31 (.758) | 7 | 9 | -0.355 | |
| Q5 Mourning my previous marital relationship | 1.26 (.679) | 1.34 (.815) | 9 | 7 | -0.945 | |
| Q6 Devoting time to our life as a couple | 1.30 (.792) | 1.32 (.805) | 6 | 8 | -0.253 | |
| Q7 Having friends in common | 1.39 (.764) | 1.47 (.845) | 4 | 5 | -1.118 | |
| Q8 Accepting the presence of a former spouse in my life as a couple | 1.27 (.741) | 1.48 (.967) | 8 | 4 | -2.027** | |
| Q9 Being recognized as a couple by each of our families of origin | 1.39 (.907) | 1.49 (.999) | 5 | 3 | -1.018 | |
| <u>Difficulties with the Role of Spouse</u> | | | | | | |
| Q10 Having to function in society as a stepfamily | 1.23 (.594) | 1.27 (.764) | 5 | 8 | -.41 | |
| Q11 Ensuring the stepparent (me or my spouse) is viewed as a legitimate representative in the children's school environment | 1.11 (.538) | 1.00 (.000) | 12 | 13 | 1.626 | |
| Q12 Ensuring the stepparent (me or my spouse) is viewed as a legitimate representative in the children's medical environment | 1.09 (.526) | 1.02 (.125) | 13 | 12 | 1.217 | |
| Q13 Dealing with legal problems that arise from living in a stepfamily | 1.13 (.522) | 1.08 (.315) | 11 | 10 | 1.157 | |
| Q14 Dealing with the financial issues of a stepfamily | 1.15 (.725) | 1.29 (.683) | 9 | 5 | -1.698* | |
| Q15 Having access to resources or people who are capable of understanding the difficulties I am experiencing as a member of a stepfamily | 1.49 (.608) | 1.60 (.851) | 1 | 1 | -0.965 | |
| Q16 Organizing family events in the context of an enlarged family (former and new family, grandparents, etc.) | 1.18 (.632) | 1.26 (.725) | 8 | 9 | -1.306 | |
| Q17 Sharing spaces in the house with different members of the family | 1.26 (.785) | 1.29 (.919) | 4 | 7 | -0.365 | |
| Q18 Dealing with prejudices regarding stepfamilies | 1.37 (.891) | 1.43 (.984) | 2 | 2 | -0.672 | |
| Q19 Participating in family events in the context of a stepfamily | 1.13 (.539) | 1.07 (.466) | 10 | 11 | 2.293** | |
| Q20 Reconciling my religious values with my life in a stepfamily | 1.18 (.490) | 1.29 (.694) | 6 | 6 | -1.519 | |
| Q21 Showing affection to my spouse in front of the children | 1.18 (.604) | 1.35 (.799) | 7 | 3 | -2.398** | |
| Q22 Managing money in the context of a stepfamily | <u>Difficulties as a Parent in a Stepfamily</u> | | | | | |
| Q23 Explaining family reconstitution to my children | 1.31 (.841) | 1.21 (.771) | 2 | 9 | 1.062 | |
| Q24 Knowing how to react when my children express emotions about our stepfamily (sadness, anger, etc.) | 1.44 (.929) | 1.40 (.890) | 1 | 2 | 0.444 | |
| Q25 Respecting the positive feelings that my children have for their father or mother | 1.11 (.538) | 1.16 (.672) | 11 | 10 | -0.772 | |
| Q26 Dealing with the negative feelings my children have for their father or mother | 1.27 (.103) | 1.29 (.710) | 4 | 3 | -0.159 | |
| Q27 Reconciling the way my spouse and I feel about raising children | 1.12 (.458) | 1.22 (.744) | 10 | 8 | -1.23 | |
| Q28 Dealing with my spouse and my children competing for my attention and love | 1.25 (.795) | 1.48 (1.033) | 5 | 1 | -1.843* | |
| Q29 Supporting my spouse when he or she deals with my children | 1.10 (.569) | 1.26 (.835) | 12 | 6 | -1.743* | |
| Q30 Understanding what my spouse expects of me as a parent | 1.12 (.569) | 1.16 (.649) | 9 | 11 | -0.629 | |
| Q31 Dealing with the presence of my children's father or mother in my current family life | 1.30 (1.011) | 1.26 (.836) | 3 | 5 | 0.244 | |
| Q32 Dealing with the fact my spouse criticizes the way I act with my children | 1.16 | 1.24 | 7 | 7 | -0.869 | |

Table 1. (Continued) Summary of Paired Sample T-Tests for Husband and Wife Reported Level of Difficulty

| Subscale and Questions | Husband Mean (Std. Dev.) | Wife Mean (Std. Dev.) | Husband Rank | Wife Rank | t |
|---|-----------------------------|--------------------------|-----------------|--------------|----------|
| Elderly Remarried Couples 2 | | | | | |
| Q33 Dealing with the fact that my spouse criticizes the way my children are being raised | (.616) 1.06 | (.844) 1.07 | 13 | 13 | -0.256 |
| Q34 Dealing with the fact that my children and my spouse argue | (.408) 1.16 | (.328) 1.11 | 6 | 12 | 0.574 |
| Q35 Accepting that my family is different from that which I had imagined | (.660) 1.13 | (.416) 1.27 | 8 | 4 | -1.826* |
| Difficulties as a Stepparent | | | | | |
| Q36 Clearly understanding my spouse's expectations regarding my role as a stepparent | (.507) 1.21 | (.726) 1.14 | 3 | 12 | .942 |
| Q37 Dealing with the presence of the father or mother of my spouse's children and his or her family | (.600) 1.19 | (.535) 1.26 | 5 | 6 | -0.614 |
| Q38 Establishing a relationship of trust with my spouse's children | (.735) 1.34 | (.880) 1.61 | 1 | 1 | -1.635 |
| Q39 Disciplining my spouse's children | (.821) 1.04 | (1.121) 1.04 | 17 | 16 | 0.000 |
| Q40 Feeling I have "my" place in the family | (.202) 1.20 | (.202) 1.61 | 4 | 2 | -2.794** |
| Q41 Adapting myself to my spouse's children's schedule with regards to custody and visits | (.572) 1.06 | (1.100) 1.10 | 16 | 13 | -0.389 |
| Q42 Feeling my spouse's support when I deal with his or her children | (.433) 1.07 | (.592) 1.20 | 15 | 8 | -1.264 |
| Q43 Dealing with the negative feelings my spouse's children have for their mother or father | (.328) 1.11 | (.683) 1.17 | 11 | 11 | -0.504 |
| Q44 Making direct requests to my spouse's children without using him or her as an intermediary | (.610) 1.11 | (.643) 1.24 | 12 | 7 | -1.069 |
| Q45 Accepting that my family is different from that which I had imagined | (.458) 1.16 | (.816) 1.33 | 6 | 5 | -1.646 |
| Q46 Living with children whose values and lifestyles are different than mine | (.621) 1.22 | (.764) 1.44 | 2 | 4 | -1.502 |
| Q47 Accepting the positive feelings I have for my spouse's children | (.737) 1.10 | (1.072) 1.03 | 14 | 17 | 0.893 |
| Q48 Accepting the negative feelings I have for my spouse's children's father or mother | (.548) 1.14 | (.183) 1.20 | 8 | 10 | -0.553 |
| Q49 Knowing how to react when my spouse's children express positive feelings about me | (.606) 1.10 | (.571) 1.08 | 13 | 14 | 0.241 |
| Q50 Knowing what to do when my spouse's children express negative feelings about me | (.436) 1.15 | (.277) 1.46 | 7 | 3 | -2.145** |
| Q51 Showing affection to my spouse's children | (.656) 1.12 | (.946) 1.20 | 9 | 9 | -1.093 |
| Elderly Remarried Couples 3 | | | | | |
| Q52 Accepting the additional domestic tasks associated with my spouse's children | (.326) 1.12 | (.550) 1.08 | 10 | 15 | 0.531 |
| | (.379) | (.334) | | | |

Note. Paired sample t-values indicate significant differences between husbands and wives. * = p<.10; ** = p<.05

Through programming and research, Extension educators can be pioneers in identifying ways to positively impact the quality of life for remarried elderly individuals and their families. As Extension educators continue to serve families in communities across the country, the needs of the aging baby boomer generation will demand more attention. Among the various lifestyles entered into by this generation, remarriage among elders, which in most cases leads to the formation of adult stepfamilies, will require more consideration in curriculum development.

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Extension Opportunities for Grandparents Raising Grandchildren

Chutima Ganthavorn

Results of this survey show grandparents raising grandchildren have needs for Extension programs in health and nutrition. However, grandparents represent a hard to reach audience and may require nontraditional modes of program delivery. To develop effective programs for grandparents raising grandchildren it is helpful to include them in the needs assessments and program planning process.

Introduction

Grandparents raising grandchildren represent a unique group of older Americans facing special challenges during their golden years. The number of children under 18 living in grandparent households has increased steadily from 2.2 million in 1970 (Bryson & Casper, 1999), to almost 4.8 million in 2007 (U. S. Census, 2007). According to the 2000 census, almost 5.8 million grandparents live with one or more of their own grandchildren under 18 years of age. Of these grandparents, just over 2.4 million, or 42%, are responsible for the welfare of the grandchildren. In California, the number of grandparents who are responsible for their grandchildren is about 295,000.

In Riverside County, California, the number is almost 17,000 (U. S. Census, 2000). The Riverside County Board of Supervisors recognized the needs of this growing group of seniors and created the Grandparents Raising Grandchildren (GRG) Program in 1998. Operating under the Office on Aging, GRG addresses issues and resolves problems experienced by grandparents raising grandchildren. The survey reported here were collected through a partnership between GRG Program and University of California Cooperative Extension, Nutrition, Family and Consumer Sciences (NFCS) Program.

Grandparents raising grandchildren typically face many challenges such as legal custody issues, strain in family financial resources, and grandchildren's special needs or behavioral problems (Blackburn, 2001; Hayslip & Kaminski, 2005; Ross & Aday, 2006). These challenges can take a toll on the health of the grandparents and their families. A literature review by Hayslip and Kaminski (2005), found grandparent caregivers were more likely to experience poor physical health and mental stress, and incidences of depression, diabetes, hypertension, and insomnia are greater among grandparent caregivers than noncaregivers. Even though grandparents raising grandchildren are in need of assistance and training, planning an Extension program for this audience may not

be as easy as some of the traditional Extension programs with youth and families. Some programs designed for grandparents raising grandchildren have encountered low levels of participation (Ganthavorn & Hughes, 2007; Leder, Grinstead, & Torres, 2007). Therefore, this survey was initiated to provide opportunity for grandparents raising grandchildren to participate in program planning for health and wellness education.

Purpose and Objectives

The purpose of this survey project was to determine how the Nutrition, Family and Consumer Sciences Program at UC Cooperative Extension can best provide assistance to grandparents raising grandchildren and to give them an opportunity to have a voice in the selection of health related program activities for their families. The objectives were to determine grandparents' needs, the types of program delivery and program assistance they require, and which ones most likely to help improve the health status of families of grandparents raising grandchildren.

Method

The survey questionnaire was designed by the Cooperative Extension NFCS Advisor, in conjunction with the GRG Program and Public Relations Committee and approved by University of California Davis Institutional Review Board. Questions were chosen to explore the following areas: state of health of grandparents (to document their needs), interests and willingness to participate in a health education program, health topics of interest, type of program delivery desired, and income level (to determine eligibility for federally funded programs). Questions related to respondents' demographics were not included because the Committee felt grandparents viewed this type of question as personal and might be reluctant to complete the survey. Questions related to income and participation in federal assistance programs were included to determine if this audience would be eligible for federally funded nutrition programs such as Expanded Food and Nutrition Education Program (EFNEP) and Food Stamp Nutrition

Education Program (FSNEP). The income question was worded so respondents only indicated whether their income was below 185% of federal poverty level.

In April, 2008, a four-page questionnaire was mailed with a cover letter and a stamped return envelope to 800 grandparents enrolled in the Riverside County Grandparents Raising Grandchildren Program. For participants living in Coachella Valley, with a large Hispanic population, the questionnaire was sent in English and Spanish. A total of 112 responses were received from April-August 2008, a 14% response rate. Data were tabulated using Microsoft Excel. For each question, the number of responses varied from 94-108. Because of a limited budget, there was no direct follow-up mailing, but a survey reminder was published in the GRG newsletter just prior to and after the survey was mailed.

Findings

The State of Health of Grandparents Raising Grandchildren

More than half (56%) of the grandparents had at least one of the following health conditions: high blood pressure, heart disease, cancer, or diabetes. Hypertension or high blood pressure was the most common problem, with 42% reporting this condition. Grandparents reporting they had been diagnosed with heart disease (8%), cancer (12%), and/or diabetes (18%). A quarter of the grandparents (25%) said they did not have health insurance and over one third (36%) had a grandchild with a disability. The types of disabilities most often mentioned were Attention

Deficit (AD), Attention Deficit Hyperactivity Disorder (ADHD), learning disability, and autism.

Table 1 shows the perception of grandparents raising grandchildren had of their personal health. Although the majority of grandparents were either neutral or agreed with the statement, "I am in good health," 50% agreed that they are overweight (self-rated response). Only about half of the grandparents (52%) said they were physically active every day, or that they made healthy choices for their diet. Almost half of the grandparents (44%) said they felt stress very often, 32% did not have someone to talk to for emotional support, and 36% felt alone they were taking care of their grandchildren alone.

Interest in Health Education

Almost half of the grandparents (42%) strongly agreed that they would most likely participate in a free program or class to help them change to a healthier lifestyle; and 39% said grandchildren would most likely participate. The type of program they felt most beneficial would provide group support and social connection (48%) and health information by mail (37%). Table 2 shows the top three areas of interest for grandparents are stress management, healthy cooking, and chronic disease. About one-third of grandparents said their grandchildren would most likely participate in a program that teaches youth about healthy food choices.

Types of Program Delivery

When asked, "What type of program delivery is most suitable for you and your family?" the majority of grandparents preferred a program that is one hour long

Table 1. Responses to the statements regarding their health by grandparents raising grandchildren.

| Statement | Strongly Disagree | | Neutral | | Strongly Agree |
|--|-------------------|-----|---------|-----|----------------|
| I am in good health. | 9% | 11% | 30% | 23% | 27% |
| I feel stress very often. | 10% | 13% | 33% | 25% | 19% |
| I am overweight. | 19% | 7% | 24% | 19% | 31% |
| I am physically active everyday. | 6% | 18% | 21% | 24% | 31% |
| I make healthy choices for my diet. | 2% | 16% | 30% | 28% | 24% |
| I have someone to talk to for emotional support. | 19% | 13% | 18% | 24% | 26% |
| I feel alone taking care of my grandchildren. | 26% | 14% | 24% | 16% | 20% |

Table 2. Grandparents' Responses Regarding Program Topics of Interest.

| Topics/Classes | Least likely to participate | | Neutral | | Most likely to participate |
|---|-----------------------------|----|---------|-----|----------------------------|
| Senior's Nutrition (What do I need to eat for optimum health?) | 14% | 8% | 31% | 21% | 27% |
| Children's Nutrition (What should I feed my grandchildren to help them maintain their health?) | 10% | 6% | 26% | 23% | 35% |
| Healthy Cooking (How do I select and prepare healthy foods?) | 8% | 5% | 25% | 20% | 42% |
| Eating Healthy When Eating Out (How do I make healthy choices when I eat out?) | 11% | 5% | 31% | 20% | 33% |
| Food Safety (What do I need to know to keep food safe?) | 17% | 2% | 26% | 20% | 35% |

(60%), once a month (52%), on a Saturday (33%), and at a location within 10 miles from home (65%). Although 92% of the grandparents had their own transportation, distance was a big concern with the current high gas prices. Only 3% were willing to travel more than 30 miles from home to participate in an educational program.

About 70% of grandparents raising grandchildren had access to a computer and Internet; 49% said they used a computer almost every day, 57% had an e-mail address, and 31% said they were most likely to participate in an online program.

The Riverside County Office on Aging, Grandparents Raising Grandchildren Program also publishes a quarterly newsletter. Seventy-one percent of grandparents said they read the newsletter all the time, and 46% strongly agreed that food and nutrition information in the newsletter was valuable.

Summary

Most of the grandparents raising grandchildren in the survey were low-income and would be eligible for federally funded nutrition programs such as EFNEP and FSNEP. Seventy percent of the grandparents indicated that their household income is below 185% of poverty level, based on the 2007 Federal Poverty Guidelines. Only a small percentage were recipients of federal assistance programs such as Head Start (10%), WIC or the CSFP food program (27%), TANF (12%), and Food Stamps

(15%), which is consistent with what other researchers found (Hayslip & Kaminski, 2005; Simmons & Dye, 2003). About one third of grandparents either agreed or strongly agreed with the statement, "Sometimes I run out of food before the end of the month," which underscores the need for food assistance for these families.

The results of the survey show that more than half of the grandparents had at least one health condition. Half felt they were overweight, and almost half felt stressed very often. A program to assist grandparents to improve their diet, physical activity level, and especially reduce stress, would be beneficial and might delay the onset of some chronic diseases associated with aging (Kicklighter et al., 2007).

Almost two-thirds of the grandparents in this survey had access to computers and the Internet; one-third were interested in an online educational program; and about two-thirds of grandparents read the quarterly newsletter for grandparents raising grandchildren. Therefore, program delivery by mail and by computer and Internet are other approaches that can be used to design Extension programs for this audience. The survey results highlights the value of including grandparents in program planning to provide assistance to families of grandparents raising grandchildren, and helps Extension to rise to the challenges of an aging America.

Implications for Extension

This study has identified areas of need and opportunities for Extension programming, and has shown that Extension programs are needed to help grandparents raising grandchildren make healthier lifestyle choice. However, the traditional program delivery in a group setting may not always be appropriate for this hard-to-reach audience, and time and money for transportation may present barriers to their participation. Extension professionals need to explore other methods of program delivery for this audience. The response rate for this study was only 14%, and therefore it would not be appropriate to make any generalization. However, the grandparents who responded to this survey probably represent those who have a strong interest in grandparent resources and support services, and would most likely participate in Extension programs.

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Retirement Asset Withdrawals That Last a Lifetime: Research and Resources for Extension Educators

Barbara O'Neill

One of the greatest fears of retirees is that they will outlive their assets and be unable to generate a sustainable stream of retirement income. No one wants to either run out of money prematurely or unnecessarily restrict their lifestyle. This article discusses the results of research on the need to carefully plan retirement asset withdrawals. Retirement planning tools such as Monte Carlo simulations and online calculators are described, and key "talking points" for Extension educators are presented.

Introduction

One of the greatest fears of retirees is that they will outlive their assets and be unable to generate a sustainable stream of retirement income throughout their lifetime (NEFE, 2008). Creating a retirement "paycheck" from invested assets is a key financial planning task in later life because no one wants to run out of money prematurely, or unnecessarily restrict their lifestyle. Research indicates outliving assets is a fear frequently cited by retirees, and there is a delicate balance between current consumption and end of life financial security.

In January, 2008, the oldest baby boomer started collecting Social Security, and over the next two decades, approximately 78 million more boomers will retire and face financial challenges associated with later life: long-term care planning, required minimum withdrawals from tax-deferred retirement savings plans, and communicating about financial and estate planning issues with heirs. Perhaps the most difficult issue is to develop an asset withdrawal strategy (drawdown) that covers living expenses throughout one's lifetime.

Retirees' fears are grounded in several realities: Americans' average life expectancy at birth has increased dramatically from 47.3 years in 1900 to 77.8 years in 2004 (National Center for Health Statistics, 2006). A woman retiring at 65 today has a 1 in 3 chance of living to age 90 and odds will be better for future retirees (Regnier, 2006). With a decrease in defined benefit pensions (plans that pay specified benefits based on a worker's income and years of service), more Americans are "on their own" to implement retirement income strategies with assets in defined contribution plans such as 401(k)s.

In addition, future retirees can expect to pay more for health care as employer-sponsored benefits are reduced or eliminated. An Employee Benefit Research Institute (EBRI) study found a couple retiring today would need \$295,000 to cover premiums for health insurance and out-of-pocket expenses during retirement (Fronstin, 2006).

This figure assumed a life expectancy of 82 for men, 85 for women, and that retirees had access to health benefits, but paid the full premium. If a couple lives to age 95, they could need as much as \$550,000. These estimates do not include the cost of long-term care or health care costs for early retirees under age 65.

Purpose

This article describes the key financial concern of determining how much money one can safely withdraw from retirement savings each year to avoid outliving his/her assets. With so many retirees on the horizon, it discusses the need to carefully plan retirement asset withdrawals, available research on retirement planning, tools such as Monte Carlo simulations, online calculators, and key "talking points" to share with clients.

Overview

"Safe" Retirement Asset Withdrawals

The term "safe withdrawal" refers to the amount a retiree can withdraw from retirement assets without running out of money during a specified period of time (e.g., 30 years). Key factors in determining a safe withdrawal amount are the amount of accumulated assets, the number of years that assets are desired to last, and the asset allocation (i.e., the percentage of savings in stocks, bonds, real estate, and cash assets) of a retiree's investment portfolio. Several factors are unknown, the specific length of a person's retirement and the actual return on investments.

In recent years, retirement withdrawal scenarios have been studied using a technique called Monte Carlo Simulation. Monte Carlo techniques have been used by scientists for over 50 years, including work on the atomic bomb during World War II. Advances in computer science make it possible to quickly and inexpensively compute the probability (not certain outcomes) of various outcomes, i.e. the odds of having retirement assets last a specified number of years. Monte Carlo simulations can calculate probabilities for thousands of possible scenarios using data of past performances of assets such

as stocks and bonds. Computerized simulations are widely used by financial services firms to advise clients on safe withdrawal rates. The results depend upon the accuracy of the data and the underlying assumptions of a particular software program.

More recently, Monte Carlo calculators have become available for consumer use online. Monte Carlo calculators may be accessed by typing “Monte Carlo calculator” into an Internet search engine such as Google®. Most online analyses provide a short description of the probability of “success;” i.e., not running out of money; and “Success Rate that the investments will last 30 years.” Some calculators provide details on the average length of time that a portfolio will last, and probabilities that savings would last over a range of time (e.g., between 25 and 30 years). Graphical output often includes bars and graphs with blue lines indicating successful simulation scenarios, and red lines indicating failure—running out of money prematurely.

A sample Monte Carlo calculator output for a financial services firm is available at <http://fc.standardandpoors.com/srl/amp/calculator.jsp?toolid=000621>. The standard financial advice for someone planning for 30 years of retirement is to withdraw 4% of retirement savings in the first year of retirement (e.g., 4% of \$500,000 is \$20,000), and increase the withdrawal amount by 3% annually to keep pace with inflation. Using the Monte Carlo calculator, someone retires \$1.5 million in retirement assets (portfolio consists of 50% stocks, 30% bonds, and 20% cash) can withdraw 4% (\$60,000) in the first year of retirement and expect then savings to last 34.12 years, with a 95% probability of lasting between 28.42-39.82 years. An annual withdrawal of 5% (\$75,000), is projected to last an average of 32.03 years with a much wider range of between 21.74 and 42.33 years for 95% of the time.

The failure rate is higher when the percentage of assets withdrawn from a retiree’s investment portfolio increases. A high failure rate (particularly when several online calculators yield similar results) is a wake-up call. Retirement “catch-up strategies” may be needed: increasing contributions to retirement savings plans, delaying retirement, working after retirement, or moving to a less expensive home to reduce living costs. A description of retirement catch-up strategies may be download from the *Guidebook to Help Late Savers Prepare for Retirement* on the National Endowment for Financial Education Web site at: <http://www.smartaboutmoney.org>.

Research Findings

There has been an increase in research on sustainable retirement asset withdrawals during the past 15 years. Academics and financial services firms used Monte Carlo simulations to conduct studies about how much money retirees can safely withdraw. One of the earliest and frequently cited studies of retirement asset withdrawals by Bengen (1994) determined that an initial withdrawal rate of 4%, followed by subsequent inflation-adjusted withdrawals, should be “safe”—a low probability of running out of money. According to Bengen, “An initial 5% withdrawal rate is risky; 6% is gambling.” (p. 179). He demonstrated that safe rates of withdrawal vary with asset allocation, and the best starting portfolio for retirees is between 50% and 75% in equities (e.g., stocks and stock mutual funds). Cooley, Hubbard, and Waltz (1999) found portfolios of 75% stock are able to sustain 4% to 5% inflation-adjusted withdrawals. Retirees who expect long payout periods, and those who plan to make annual inflation adjustments, should have at least 50% stock and a lower withdrawal rate than those who expect shorter payout periods of 15 to 20 years.

Since 2000, researchers have focused on “tweaking” the 4% withdrawal rate “rule” by modeling scenarios where retirees can withdraw more money upfront for consumption and still have funds after 30+ years. Ameriks, Veres, and Warshawsky (2001) found a 4.5% withdrawal rate can be sustained with more certainty for longer time periods by adding an immediate annuity to a retirement portfolio to hedge longevity risk. The rationale being annuities are structured to make monthly payments for life. Tezel (2004) found with quarterly portfolio balancing the odds of running out of money is less than 8%, and annual withdrawals of 4.5%, 5.5%, and 6.5% are sustainable over 30, 20, and 10 years, respectively.

Guyton (2004) modeled safe withdrawal rates as high as 5.8% to 6.2%, depending on the amount held in equities. Guyton and Klinger (2007) found withdrawals as high as 5.2% to 5.6% are sustainable for portfolios with at least 65% in equities and strict adherence to “decision rules.” These rules, “financial guardrails,” require diligent ongoing portfolio management, most likely by a financial advisor. Spitzer, Strieter, and Singh (2007) found withdrawal rates as high as 5.5% to 6% can be achieved with stock asset allocations of 75% to 100%, but with a 25% to 30% chance of running out of money. Conversely, a 4.4% withdrawal rate with a 50/50 stock/bond allocation has a 10% chance of running out of money.

The 4% withdrawal “rule” has been revisited as a result of the recession and bear market that has significantly reduced the portfolios of many retirees and those close to retirement. Research by the investment firm T. Rowe Price, used Monte Carlo probability analyses with historical returns to modeled alternative strategies for retirees who suffered a 30% decline in their portfolios during the first year of retirement (Fahlund, 2009). The study assumed a static portfolio of 55% stocks and 45% bonds, found retirees increased their chance of not outliving their assets within 30 years by holding withdrawals constant for the next five years. By making a slight adjustment (i.e., forgoing the inflation adjustment), the odds of not running out of money are 87%. Investors who switch to 100% bonds in year 2 will have only a 7% probability of success of having their money last three decades, or 29% if no annual inflation adjustments are made. Even holding withdrawals constant for five years, they stand a 70% chance of running out of money by investing solely in bonds (Fahlund, 2009).

Implications for Extension Educators

While a 4% to 4.5% retirement asset withdrawal rate has become an “industry standard,” studies indicate many people are not aware of these recommendations. One survey asked what percentage of retirement savings could be safely withdrawn and only 10% of respondents chose “less than 5%.” Forty percent said they didn’t know, and 29% chose “10% or more” (Clueless Withdrawal, 2006). What should Extension educators emphasize when asked questions about retirement asset withdrawals?:

1. Investors need to strike a balance between risk and reward. Monte Carlo simulations show portfolios with high stock allocations have a higher probability of sustaining withdrawals over a longer period of time than portfolios with less stock. The higher weighting of a portfolio in stock, the higher the investment risk and volatility.
2. Modest amounts of earned income in retirement can extend the longevity of retirement savings by reducing the need for asset withdrawals. A part-time job earning \$10,000 a year is the equivalent to having an additional \$250,000 of savings ($\$250,000 \times .04 = \$10,000$).
3. Retirees should consider suspending annual inflation adjustments during severe bear markets. It is dangerous to spend too much money early in retirement, especially during market downturns. Assuming at least 50% of the portfolio is in stock, conservative investors will need to withdraw less from savings

(about 3% of assets). Conventional wisdom (based on research) is to withdraw about 4% of assets in the first year of retirement and increase withdrawals by 3% annually for inflation.

4. It may be wise to annuitize a portion of one’s portfolio to reduce longevity risk and provide guaranteed income for life. Investors should look for annuities with low expenses and a “period certain” option to provide payment to heirs in the event of the owner’s death shortly after purchase. Adding fixed annuities to a portfolio may also encourage investing more of the unannuitized portion in stock and increase the potential for growth in value.
5. Retirement withdrawal rates remain a major concern among people planning for retirement. Monte Carlo simulation results vary depending upon data and assumptions, adding a depth to analysis that is not possible with calculations based on average rates of return. Monte Carlo simulations during market ups and downs enable investors to determine the probability of success—not outliving one’s assets.

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Older Extension Personnel Learn to Work Virtually

Cynthia B. Torppa, Myra L. Moss, Jerold R. Thomas, and Niki Nestor-McNeely

Virtual and distributed working arrangements are the wave of the future. Some scholars suggest older workers may have difficulty transitioning to virtual working arrangements due to a lack of ability or willingness to adapt to new communication technologies. This study examined the impact of working virtually and the need to learn and use new technologies and applications on older Extension workers. Findings indicated older workers adapted easily and quickly to new technologies and the virtual working arrangement was both successful and appreciated.

Introduction

The U.S. national economic system transitioned from predominantly agrarian to industrial in the twentieth century and into a knowledge-based economy in the twenty-first century (Torppa & Thomas, 2008). This change is triggering major accommodations in the way organizations are structured and personnel perform their duties (Grantham, Ware, & Williamson, 2007). In an agrarian economy, work was performed during daylight hours on the farm; in an industrial economy, work had to be performed during prescribed hours where the machines were located. In the knowledge economy, large proportions of tasks are completed using information technologies, and are performed anywhere and transmitted to colleagues or customers in either “real” or “virtual” time.

As these changes unfold, Family and Consumer Science professionals are often asked to provide programs to help individuals, families, organizations, and communities make the transition to new ways of working. In some cases, Extension, independently or in collaboration with community partners, offer programs on “work force preparation” to help people acquire the skills needed to find a new job or remain a valuable employee in a current position. In other cases, Extension programs help employees find new ways to create work-life balance for the benefit of both the organization and its personnel (Peters, 2003; Harvard Business Review, 2000). As changes in the nature of work become increasingly important, Extension professionals need to understand how it impacts our clientele.

These changes will alter the programming offered to our external audiences and have internal impacts on

Extension organizations. Extension professionals are under increased pressures to accomplish more with fewer resources. One method of adapting to these changes is to learn, use, and teach new communication technologies. The cost of traveling to off-site locations to deliver educational programs is prohibitive for many Extension educators and the groups they serve. Similarly, the expense of traveling to a centralized location for professional development trainings may also limit opportunities to educators’ to keep abreast of cutting-edge developments in their areas of specialization. A serious unintended consequence of these changes is a reduction in informal networking that limits the casual conversations that spark programming ideas to address emerging issues.

As the shift to a knowledge based economy grows, the need for expertise in the use of information technologies accelerates. Research studies and common wisdom tout communication technologies, such as e-mail, Internet access, and their applications, as being the key to helping us balance our work and family lives (Ashby & Pell, 2008; Harvard Business Review, 2000). One benefit is a reduced requirement for employees to travel to the worksite, and the increased possibility for “virtual” or “distributed” working arrangements. Virtual work can be done from multiple locations, traditional offices, sites where clientele are located, and workers’ homes.

“Distributed work,” from multiple locations, is a systematic arrangement for virtual workers to collaborate in various projects or systems. As new technologies and virtual work become more common, old employees are required to learn new ways of conducting business, and the remedy itself sometimes becomes a problem.

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Advantages of virtual working arrangements have been documented for both organizations and individual workers. Employers benefit from reduced operational costs with savings of up to 40% (<http://www.telework.gov>); enjoy an average increase of 15% or more in employee productivity (Nilles, 1998); and improved employee commitment and satisfaction (<http://www.telework.gov>). Employee benefits include higher quality of life, reduced stress, better work and family balance, and reduced expenses (Kaplan-Leiserson, 2005; Thormahlen, 2001).

Many privately held corporations, and federal and state government offices, are trying new working arrangements. The Sloan Work and Family Research Network of Boston College described 16 corporations and governmental entities that experimented successfully with flexible working arrangements (<http://wfnetwork.bc.edu/template.php?name=casestudy>). Consistent with this trend, a survey conducted by the Economist Intelligence Unit for AT&T predicted the number of organizations supporting virtual workers will increase rapidly. The survey found 80% of the companies expected to have employees teleworking by 2005, up from 54% in 2003. In 2001, more than 15% of employed persons worked from home at least once a week (U.S. Census Bureau, 2003).

The “digital divide” between younger and older adults suggests the transition to virtual and distributed working arrangements may pose a problem for older workers. The digital divide refers to a gap between groups, such as older and younger adults, rural versus urban populations, differing socio-economic status; and access to and the skills to use information technologies (Servon, 2002). Unequal access and ability to use information technologies can segregate groups, limit communication, and restrict participation in activities ranging from work teams to political processes (Shelley, Thrane, & Shulman, 2006). Findings show age is sometimes a barrier to Internet use, and smaller percentages of older adults have access to and/or using the Internet (AARP, 2005; Lenhart et al., 2003; Pew Internet and American Life Project, 2003). Older Americans have also been found to be less comfortable with information technologies and to have fewer information technology skills (AARP, 2003; Loges & Jung, 2001).

In 2004, an opportunity to examine the ability of older personnel to adapt to a virtual working arrangement was created during a restructure of some aspects of Ohio State University Extension (OSUE) organization. The closing of some offices resulted in eight Extension Specialists being assigned to offices many miles from their homes. Rather than force the hardship of a multi-hour daily

commute onto these personnel, OSUE instituted a virtual working arrangement for them. All of the individuals involved were over 50 years old, and had experience with the Internet and e-mail. They needed to learn how to use many new communication and work flow management tools such as instant messaging, Basecamp, WebEx, Skype, and similar technologies and applications. This change of working arrangements presented an opportunity to examine whether older Extension workers could successfully adapt to a new way of working; to become savvy in the use of unknown and unpracticed information technologies.

Contemporary businesses, organizations, and extension are struggling to accomplish more with fewer resources. Virtual workers and distributed offices may provide a way to reduce costs, increase productivity, simultaneously reduce worker turnover, and increase the quality of life for personnel. Past research suggests extension personnel want more opportunities for virtual or distributed work (Marshall & Goddard, 2006), and many extension personnel are unofficially working virtually already (Ray, 2007).

Purpose

It is not clear whether all workers will be able to learn and use the technologies and applications that are available and developing. The purpose of this study is to examine the impact of these changes on older workers in The Ohio State University Extension system.

Methods

After three years of the virtual working arrangement at OSUE, an evaluation was conducted to see how well virtual personnel, managers, and support staff were adapting to the change. Focus group-like interviews were conducted in three separate groups of supervisors, support staff, and the virtual workers.

Seventeen OSUE staff were interviewed: 8 virtual office workers, 6 support staff, and 3 supervisors. The participants represented Family and Consumer Sciences, Community Development, 4-H Youth Development, and Agriculture and Natural Resources. Support staff and supervisors were located in various regions of the state and on the OSU. All but one of the virtual office workers were Extension Specialists; all had many years of experience delivering educational programs in the state, all had at least two years of experience working in a virtual arrangement.

The issues addressed in the three discussion groups included:

- a) advantages and disadvantages of a virtual work setting,

- b) impacts of a virtual work arrangement,
- c) how others who do not work virtually view the work arrangement,
- d) kinds of support needed to make this virtual office arrangement a success, and
- e) advice about benefits to others who might consider a virtual work arrangement.

A moderator guided the discussion during each group interview, and a note-taker recorded the ideas expressed. Each interview was recorded and the moderator and note-taker transcribed and summarized the ideas and concerns of the participants.

Findings

Overall, the virtual workers were satisfied with their working arrangements and reported the advantages of working in a virtual arrangement far outweighed the challenges. Similarly, supervisors were satisfied with the arrangement and support staff adapted to the change fairly easily. Important to the purpose of this study: (a) the virtual workers spontaneously discussed the central role information technologies played in making the working arrangement a success; (b) no virtual worker expressed a concern about using information technologies or an inability to learn to use the needed technologies; (c) all virtual workers highly valued the flexibility and improved quality of life that their distributed working arrangement provided; (d) workers reported greater productivity due to fewer distractions and increased efficiencies that information technologies created; and (e) one virtual worker stated, “*I spend less time per day in my car, so I have more time to work,*” and another said, “*People can get to me right away because of my cell [phone] and my laptop.*”

Information technologies was the central focus in the discussion of advice that would be of benefit to others attempting to institute a virtual office arrangement. All virtual workers, supervisors, and support staff talked about the importance of technologies to maintain connectivity and communications to sustain teams and complete projects, supervise personnel, and keep support staff informed. Particular methods discussed for using information technologies were:

- a) Establishing concrete, timely, and routine strategies to connect with co-workers, support staff, and supervisors for everyday conversations, idea generation, sharing projects, programs, progress, challenges, and successes.
- b) Scheduling periodic phone meetings between personnel and supervisors to keep supervisors up-to-date on workers’ activities.

- c) Having the ability to transfer calls from the office to virtual workers’ cell phones, and to publicize workers’ cell phone numbers to co-workers and the public (e.g., on business cards).
- d) Instant messaging to maintain the informal “water cooler” conversations to generate ideas and teams.
- e) Teleconferencing, using a free conference call service or a more sophisticated program such as WebEx for project management (Basecamp, a password protected, Web-based “home” for a team’s documents and messages, is another virtual “space” for interacting with peers).
- f) Maintaining the “high-touch” aspect of communication by making time for routine, regularly scheduled, face-to-face meetings during which personnel can share projects with one another, updating on administrative changes, and enjoying personal conversation and networking.

Summary and Implications for Extension

People who are 50-something probably remember the wonder years when television, magazines, and perhaps even *Weekly Reader* stories talked about how computers (they filled entire floors of university buildings) were going to change the way we work, play, and even think in the 21st Century. As we move into a knowledge based economy, benefits such as reduced costs for businesses, organizations, and individual employees are realized because information technologies allow us to work from anywhere, at any time. Businesses and organizations benefit from increased productivity, and workers benefit from a higher quality of life that result from reduced stress and better work-life balance.

Scholars who study the digital divide, fear that older adults’ maybe unwilling or unable to adapt to changing technologies which might prohibit them from participating in newer, non-traditional working arrangements such as virtual or distributed offices. This study with a small group of Extension professionals does not support this concern. All the 50-something Extension workers who were offered an opportunity to work virtually learned the needed technologies easily and used them to successfully adapt to a non-traditional working environment.

The easy adaptation of older Extension workers in this study may have occurred because the digital divide is not as wide in this particular group. Fewer older Americans take advantage of the benefits of information technologies than the young do (AARP, 2003; 2005), but those who do, sometimes make greater use than younger groups (Czaja, Sharit, Charness, Fisk, & Rogers, 2001).

National expectations of older workers may be shifting since the highest growth rate in the U.S. workforce between 2000 and 2015 will be among workers aged 55 to 64 (Montenegro, Fisher, & Remez, 2002; p. 5). Expectations about older workers' information technology skills seem to be changing, too. Arizona Health Care Cost Containment System (AHCCCS) organization's decision to transition 120 employees (10% of its workforce) to full time "from-home" workers, was to encourage older workers who were eligible for retirement to remain on the job. AHCCCS chose to create a plan to retain older workers because they were recognized as having extensive knowledge and expertise the organization needed to successfully accomplish its mission.

In contrast to digital divide assumptions that older workers do not use information technologies, AHCCCS included "from-home" working arrangements as an incentive to retain older workers. Clearly, the older workers in the Extension sample easily and quickly adapted to a virtual working environment. Given all the benefits to organizations and workers, and the time of \$4.00 per gallon gasoline, we anticipate that more organizations, including extension organizations, will give virtual work a try, and enjoy the benefits and successes Ohio State University Extension experienced.

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Food Safety and Nutrition Education Needs of Individuals Who Serve Food to Elders at Risk

Mary L. Blackburn, Christine M. Bruhn, and Gloria J. Barrett

Make Food Safe for Seniors assessed baseline nutrition education and training needs of seniors and caregivers/providers (n=390) in ten counties who prepared/served food to the elderly, provided training to these seniors and caregivers/providers, and evaluated safe food handling knowledge gained via pre/post tests. The goal was to improve the safety and quality of food served to elders in community and home settings. Pretest scores of incorrect responses of 63-73% in some areas reinforced the need for food safety education/training. Posttest scores showed a 16% increase in correct responses from 60% to 76%. Positive food/nutrition behaviors and disease prevention practices reported can be used to enhance the effectiveness of nutrition education services/curricula for the elderly.

Introduction

California's population is aging rapidly and the rate is accelerated with the coming of age of the Baby Boomers. The major concern of public health professionals is the training of the workforce – it is not adequately prepared for a myriad of demands and emerging needs of America's aging population (Krisberg, 2005). At least 80 percent of America's seniors have one chronic condition, and 50 percent have at least two. In California, at least 53.5% have high blood pressure, > 51% arthritis, 23.7% suffer from heart disease, 17.3 % have been diagnosed with cancer, 14.8% diabetes, and 10.3% asthma. Figure 1 illustrates the distribution of the top five major disease conditions in the state show they vary significantly by ethnic group (Wallace, Pourat, Enriquez-Haas, & Sripiatana, 2003).

The frail and physically impaired, seniors with diminished mental capacity, taking multiple medicines, and weakened immune systems, are less able to fight pathogens i.e. Salmonella, E Coli 0157:H7, Listeria, and more. Researchers estimate the proportion of seniors suffering from memory loss or lapse in memory range from 19% at age 60-74 and up to 40% over age 85. Loss of memory may account for unsafe food handling, mixing up medicine, and other high risk behaviors. The frail elderly often receive supportive services from agency and/or kinship in-home caregivers who cook and/or serve food. California's In-home Supportive Services (IHSS) reported an average monthly case load in January 2009 of over 432,869 (IHSS, 2009). Also, the lack of basic food safety training requirements for non-commercial food handlers adds to the risk of unsafe food being served to elders.

How seniors handle food is very important since many who receive home delivered meals may leave food out to eat later (Penner, 2002). Some elders eat at group sites and take food home with them for later. Food availability and hunger may lead to reluctance to discard unsafe food items and hoarding food is a natural instinct in times of limited food resources. The current economic condition in the state (unemployment April 2009 11.2%) is expected to exacerbate the financial concerns of fixed income elders while 10.5% or 388,616 of the 3.7 million Californians over 65 already live in poverty (U.S. Census, 2006).

Primary factors contributing to food-borne illness (food poisoning) are improper temperature, inadequate cooking, contaminated equipment, eating food from unsafe sources, and one out of four Americans yearly, is costly, and one person in a thousand requires hospitalization. Food-borne illness cases over a five year period--1996 to 2001--increased by 27.8% annually (Palumbo, 2004). In Table 1, factors contributing to increased rates include: eating more foods prepared away from the home; emerging food-borne pathogens; improper handling of foods during preparation, cooking, serving, and storage; and the aging population being more susceptible to food-borne illness. Significantly higher incidences of at least six pathogens were reported in California than those found in a ten state average (CDC, 2008).

About 26% of food-borne illnesses in California are associated with food prepared in community locations: potluck dinners 46%; in restaurants 19%; in-home 6%; and schools 6% (Wang, 2000). California's data is consistent with national outbreak patterns previously reported (Bean, Goulding, Daniels, & Angulo, 1997).

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Almanza, Namkung, Ismail, and Nelson (2007) studied the average time between food delivery and meal consumption and found 63% of the seniors ate their meals as soon as delivered, 29% stored them in the refrigerator, and 16% in the freezer. About 35% reported leftovers, but only 12% ate the leftovers within two hours of delivery. Another assessment of home delivered meals (n=179) also found 58% stored all or some of the food and of those who kept it, 30% left it on the counter (Yensan, English, Ash, Wallace, & Museler, 2001).

A national representative Web-based survey (n=2,060) was conducted on refrigeration temperatures and use of thermometers. They found one half of those surveyed cleaned their refrigerator in the prior month, but only 11% had a refrigerator thermometer (Kosa, Cates, Karns,

Godwin, & Chambers, 2007) Among adults 60 and over, 77.5% were more likely to have their refrigerator at the right temperature compared to 70.4% of the <60 population (p <0.01). However, older unmarried adults who lived alone were less likely to have a thermometer, or their refrigerator at 40 degrees Fahrenheit or below (p<0.05). Focus groups held in senior centers (n=74) found elders who prepared more than five meals at home per week used a greater number of inappropriate food handling practices (Getting & Kiernan, 2001).

Purpose and Objectives

Make Food Safe for Seniors (MFSFS) responded to the emerging food safety needs of increasing numbers of poor and frail elders at risk who eat in group settings,

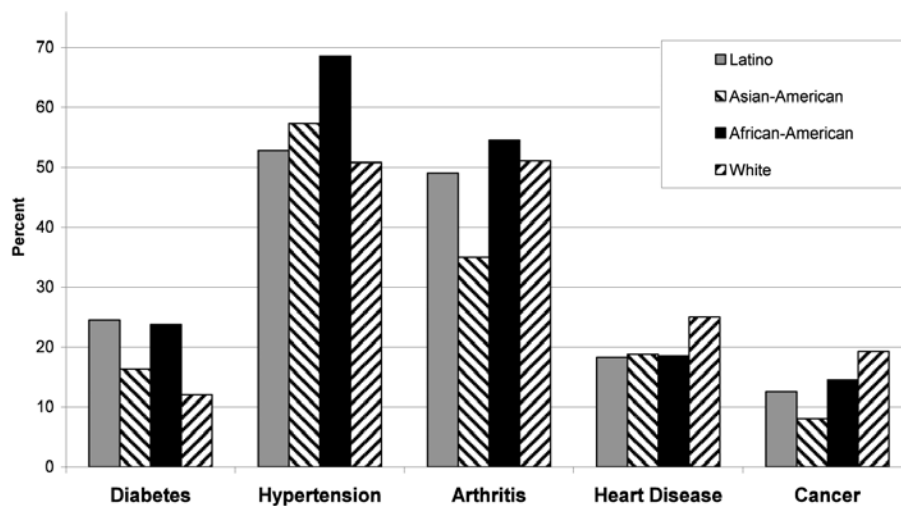


Figure 1. Chronic disease by ethnicity. Source: Wallace, S. P., Poura, N., Enriquez-Haass, V., & Sripipatana, A. (October, 2003). *Health of Older Californians: County Data Book*. UCLA Center for Health Policy Research, Los Angeles, CA. Permission to use graph granted.

Table 1. Incidence of cases of bacterial infection under surveillance in the Food-borne Disease Active 10 State Surveillance Network FoodNet (MMWR, April 11, 2008)

| Pathogen | California | Overall |
|-------------------------------|------------|---------|
| <i>Campylobacter</i> * | 28.6 | 12.79 |
| <i>Escherichia coli</i> O157* | 0.8 | 1.20 |
| <i>Listeria</i> ** | 4.7 | 0.27 |
| <i>Salmonella</i> * | 14.8 | 14.2 |
| <i>Shigella</i> * | 7.0 | 6.26 |
| <i>Vibrio</i> ** | 8.1 | 0.24 |
| <i>Yersinia</i> ** | 7.8 | 0.36 |
| <i>Cryptosporidium</i> | - | 2.7 |

* Per 100,000 persons ** Per 1 million persons

Source: CDC Morbidity and Mortality Weekly Report. (2008). *Preliminary Food Net data on the incidence of infection with pathogens transmitted commonly through food—10 States*, 57(14), 366-370.

home-delivered meals, or food prepared/served by in-home caregivers. The objectives were: a) determine the nutrition education and food safety training needs of seniors and providers/caregivers; b) update food safety knowledge of the participants in the study group; and c) work to enhance the safety and quality of food served to elders at risk in home and community settings.

Intervention Methodology

Two statewide University of California Agriculture and Natural Resources (UC-ANR) workgroups (Aging Californians in Rural and Urban Settings and Food Safety) developed, conducted, and evaluated Phase One of the MFSFS initiative from March of 2007 through 2008. This multidisciplinary campus and county research, education, and demonstration team included an Agriculture Extension Station (AES) Scientist, Cooperative Extension (CE) Specialists and Advisors, and community collaborators. The team reviewed the results of a University of California Aging Workgroup survey of aging programs in local counties, and needs assessments in two participating counties relevant to the MFSFS program:

- Research and demonstration efforts by Barrett, Swanson, and Song (2004) in Sacramento County documented a basic lack of training for food safety among in-home caregivers (n=482) as well as the need for standardized food safety, nutrition, and wellness education curricula.
- An Alameda County needs assessment of limited income seniors (n=377) at 22 senior services sites showed all seniors had one condition and 40% had multiple chronic disease conditions. Chronic conditions listed in Figure 2 were: arthritis (40%), high blood pressure (38%), overweight (32%), high blood cholesterol (21%), stress (32%), heart disease/hardening of the arteries (19%), gout (15%), diabetes (13%), food allergies (12%), special diets (33%), and at least 88% wanted nutrition, wellness, and lifestyle education (Blackburn, in press).

disease/hardening of the arteries (19%), gout (15%), diabetes (13%), food allergies (12%), special diets (33%), and at least 88% wanted nutrition, wellness, and lifestyle education (Blackburn, in press).

- An Aging Workgroup survey (2005) of 27 NFCS advisors and CE county directors found few offered senior programs, yet 86% said aging programs were needed. The main barriers were lack of staff (65%); lack of funding (61%); need for packaged programs (52%); agency linkages (22%); technical assistance/training (22 %); and teaching materials (5%).

Process and Practices

The MFSFS team developed research protocol and evaluation tools approved by University of California Davis, Office of Research Institution Review Board; adapted a University of California approved Make it Safe Keep it Safe curriculum to reflect the unique needs of the elderly; reviewed approaches and practices used to train senior food handlers and caregivers; and recruited, assessed, trained, and evaluated seniors, food handlers, and caregivers.

Data Collection

Twelve pretest questions about food safety knowledge and practices were collected on trainees (n=390) prior to 2-3 hours of food safety training. Baseline USDA Food Stamp Program Food Behavior Checklist (FBC) data (n=202) included twenty-one questions about: meal planning, food buying, and food safety practices; healthy food choices; food preparation practices i.e. reducing salt and fat; intakes of selected foods i.e. fruits, vegetables, and whole wheat bread; food availability/security; eating out and eating breakfast. Exit evaluations measured the trainee's perception of quality and usefulness of the training.

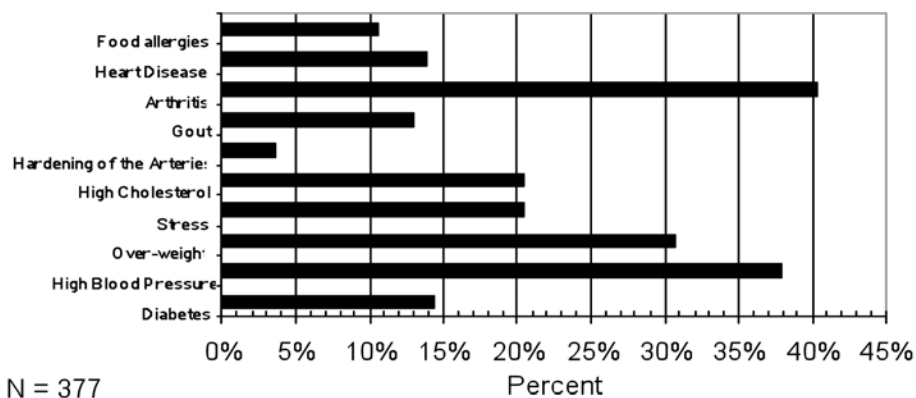


Figure 2. Prevalence of chronic diseases among seniors attending CE Quality of Life Education forums. Source: Blackburn, M. (in press). Quality of life education needs of limited income seniors. University of California Agriculture and Natural Resources, Oakland, California.

Data Analysis

Post test (using the same questions as the pretest) and exit evaluations were completed after the training. The gain in food safety knowledge was determined by comparing the number of pre and post correct responses (each one = 1) and derived an individual and group score. FBC data were analyzed by the USDA End of Year Report Summary data base. Exit evaluations used a rating scale from a low of “0” to a high of “5”.

Findings

Trainees were from senior centers, clubs, food programs, and about 49% were family caregivers and/or from in-home supportive services. The overall ethnic composition was 63% White non Hispanics, 13% Asian/Pacific Islanders, and 13% African American.

- Pretest data showed a significant need for basic food safety knowledge. Key areas of incorrect responses were washing raw meat or poultry before preparation (73%); using the same unwashed plate for holding raw and cooked meat (70%); not knowing that fresh produce can be a source of harmful bacteria (home-grown: 63%, organic: 63%, commercial: 53%, and insects: (46%); using taste/odor/appearances to determine if food is safe to eat (41%); and 40% of respondents thawed food at room temperature.
- Baseline FBC data identified areas for nutrition education interventions.
- Post test data showed a knowledge increase from a pretest score of 60% correct answers to a post test score of 76%. Pre/post test scores for caregivers only were about the same as the total group: 58% vs. 75%. Exit evaluations showed all trainees rated the quality of the training very highly and all said they learned something they can use for themselves and in their work/volunteer activities. The Sacramento County IHSS 2008 Annual Report (2009) rated the MFSFS program very highly and all the trainees surveyed said they would recommend the program to others (IHSS, 2009 March).

Discussion

MFSFS participants were limited to a self-selected convenience sample of providers, seniors, and caregivers in ten California Counties who prepared/served food to seniors. Results may not reflect the needs and practices of the entire population of seniors and caregivers in general. Program objectives were to a) determine the nutrition education and food safety training needs of seniors and caregivers; b) update food safety knowledge and practices of the study group; c) enhance the safety and quality of food served to the elderly; and d) work to

prevent food-borne illness among elders in community and home settings. Pretest scores of incorrect responses as high as 63-73% in some areas reinforced the need for food safety education for people who serve/care for the elderly.

The food safety practices found by MFSFS were similar to those found in focus groups with adults over age 65 (Boone et al., 2005). Seniors had general knowledge of safe food handling but some did not refrigerate food properly, or use thermometers; and many were concerned about the cleanliness of food prepared outside the home or by someone else. Also, food safety education can improve safe food handling practices among low-income elders in congregate meal and home-delivered meal programs (Dutram, Cook, Bagnulo, & Lincoln, 2002).

MFSFS trainings improved the immediate safe food knowledge of trainees by 16% and found some positive food behaviors to use in curricula and teachable moments to reinforce safe food and healthy behaviors of caregivers and elders. A preliminary examination of relationships of several food behaviors—reading nutrition facts and low fat intake; and healthy food choices and fruit intake—showed positive association. These food behavior relationships will be explored further in 2009 Phase II. The long-term retention of knowledge gained will also be assessed among caregivers and seniors by a six/twelve month follow-up using the same pretest questions.

Implications for Extension

The magnitude of a myriad of emerging issues and needs including food safety associated with Americans living longer lives, and food safety problems in the general population has nationwide significance and broad implications for CE. MFSFS demonstrated a multi-disciplinary framework for CE academics to work as a team to be a part of crafting solutions. MFSFS will target in-home caregivers in 2009, develop CE curriculum for caregivers; outreach to heighten awareness of nutrition/food safety needs of Americas’ elders; assess and train caregivers; disseminate senior-friendly food safety and nutrition information via University Websites, links to national Websites; share outcomes and impacts via UC Delivers stories; and local, state, and national meetings. Food safety and nutrition education needs of the poor, frail, and low literate elders presents opportunities and challenges for family and consumer sciences educators in California and elsewhere in the U.S.

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A Feasibility Study of FRIDGE – An Intergenerational Nutrition Education Program

Matthew Kaplan, Frances Alloway, and Wendy Middlemiss

FRIDGE, a multigenerational educational program, with 16-20 hours of hands-on activities, brought members of 4-8 families together to learn about and discuss food and nutrition issues, establish family plans, and adopt more healthful eating practices. This pilot study of the curriculum demonstrated that adult and youth participants enjoyed discussing food, improved family communication, developed plans for broader family participation in meal planning, and they reported improved eating practices.

Introduction

Healthy and unhealthy nutrition and lifestyle behaviors are learned and reinforced in both family and community. The importance of family influence in shaping how children select and consume food has been documented to show parents are effective models of appropriate and inappropriate eating behaviors (Birch, 1998; Fisher & Mitchell, 2002; Golan & Weizman, 2001); and parenting styles have a strong influence on how their children eat (Birch, Davison, & Fisher, 2003; Forthun, 2008; Satter, 1998).

Nutrition scientists and educators are aware of the importance of family communication dynamics in shaping how children think and behave towards food. Most family outreach education programs are crafted to reach only mono-generational audiences without the active participation of other generations. Segregated age-specific groups do not provide opportunities for promoting cooperation between family members of different generations. There is an inherent limitation of a mono-generational approach for influencing family patterns of food selection. A study of school children choosing fruits and vegetables found children were limited in their ability to make better choices at home because parents made decisions about what food was purchased (Domel, Thompson, Davis, Baranowski, Leonard, & Baranowski, 1996).

FRIDGE (Food-Related Intergenerational Discussion Group Experiences) was developed by a team of human development specialists and nutrition educators at Penn State University to help family members communicate more effectively and constructively to adopt more healthful eating practices. The program is designed to be adaptable for a variety of audiences, time configurations

and settings, and is intended to be conducted weekly on three separate days/evenings, a consecutive 3-day program, or as a series of 1 to 1-1/2 hour sessions. FRIDGE can be a distinct stand-alone program, as was this pilot study, or portions of the program can be integrated into other programs.

Intergenerational Engagement

FRIDGE was conceived to be “intergenerational” and “multi-generational.” “Multi-generational” implies the goal is to deliver educational content/activities to a multi-age group of participants (all members of a family), and “intergenerational” deals with communication and relationships between individuals of different generations (Kaplan, Henkin, and Kusano, 2002). FRIDGE activities are designed to promote intergenerational discussion, convivial learning (from each other), and joint planning to apply what is learned to the food selection and preparation behaviors at home. The program offers participants structured opportunities to discuss, debate, jointly apply, and adapt materials learned in accordance with individual and family needs.

Empowerment Orientation

The FRIDGE activities provided opportunities to all family members to talk, be heard, and make a contribution to the families’ deliberations about how to eat healthfully. The orientation is consistent with “empowerment theory” articulated by Rappaport (1984) and Zimmerman (2000) who emphasize building skills and sense of competency, and enhancing effectiveness of actions taken to exert control over their lives. FRIDGE frames family decision-making about food as a collaborative process where all family members are seen as “partners” and “team members” in the quest to find ways to eat more healthfully.¹

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Purpose and Objectives

The purpose of this study was to evaluate the effectiveness of the FRIDGE intergenerational nutrition education program to help families communicate more effectively about food. This article reports the results of a demonstration program of the curriculum structure, procedures, and outcomes. The behavioral objectives were to:

- encourage participants to share their views and feelings about food with family members;
- increase participants' knowledge about food and nutrition;
- help participants establish family plans to adopt healthier food selection, preparation, and eating practices; and
- assess the feasibility of conducting FRIDGE in different settings and with a variety of partners.

Method

Curriculum Structure

The FRIDGE program is designed for groups of 4–8 families with one or more children age 10–15 years, their parents, and, if available, grandparents or other relatives in caregiving roles.

In Table 1 the 17 activity modules are grouped into three sections:

- 1) Enhancing family communication — To build family communication skills and encourage sharing about views and experiences related to food selection, preparation, and consumption.
- 2) Learning together — To provide information about nutrition, food portions, and healthy food preparation methods.
- 3) Working as a team — To encourage family members to use communication skills and nutrition knowledge learned to improve their family eating practices.

Table 1. Overall structure and list of activities of the FRIDGE curriculum

| Section | Section 1 – Enhancing Family Communication about food (How We Communicate about Food and Family) | Section 2 – Learning Together about Food and Nutrition (How We Learn Together about Food and Nutrition) | Section 3 – Developing a “family teamwork” orientation and establishing family plans to improve eating practices (How We Work Together to Eat Healthfully) |
|------------------------|--|---|--|
| Overall emphasis | Help family members gain communication skills to facilitate effective family communication about food-related issues. | Help family members to: (1) examine similarities and differences in eating habits and nutrition knowledge of the different generations represented in the family, and (2) use current nutrition recommendations to establish new shared family dietary behaviors. | Help family members establish family plans to adopt healthier food selection, preparation, and eating practices. |
| Activities | | | |
| “Ice-breaker” activity | Food Becomes You (Name and favorite food game) | Two Truths and a Could Be—About Food and Me | The Human Pretzel |
| Main activities: | <ol style="list-style-type: none"> 1. The “Think You Know Me?” Game 2. RECIPE for Good Communication (3 parts) 3. Coolish or Foolish — talking about peer pressure and food choices 4. Food Fight!! — Role Reversal — role playing game (Optional) 5. Sharing Visions about Food and Family — Part I (How We Communicate) | <ol style="list-style-type: none"> 1. Dietary Knowledge Timeline: How What We “Know” about Food and Health has Changed Over Time 2. Back to the Future: Food Time Capsule 3. Balancing the Sugar 4. Portion Distortion (Optional) 5. Baking Now and Then (Optional) 6. Internet Recipe Scavenger Hunt (Optional) 7. Sharing Visions about Food and Family—Part II (How We Learn Together about Food and Nutrition) | <ol style="list-style-type: none"> 1. Family Food Puzzle 2. Making Decisions About Food — From Me to We 3. “Dinnertime” — What Does it Mean to Eat Together? — A discussion starter 4. Sharing Visions about Food and Family—Part III (How We Work Together to Eat Healthfully) 5. Out with the Unhealthy and In with the Healthy |
| “Take out” activity | Using Your New Communication Skills at Home | The Family Meeting | Drawing up an “Official” Family Contract |

Site Selection and Program Structure

The FRIDGE program was piloted in five sites across Pennsylvania. Sites were selected based on: accessibility to the target audience (at least 50% low-income² and multigenerational clientele); geographic and cultural balance with sufficient proportion of the target audience; and diversity in the organizations piloting the program. Sites in urban, suburban, and rural areas included Cooperative Extension (3), YMCA (1 site), and a community hospital (1).

Facilitators helped plan and conduct program activities, and collected evaluation data from participants. In three of the sites, programs were facilitated by either a nutrition educator or a family strengths/relations educator and conducted by two facilitators in two sites—a nutrition educator and a family strengths/relations educator. Facilitators adapted the program format to fit their needs: four sites ran three half-day sessions for 1-3 weeks, and one conducted 60-90 minute sessions for 10 weeks.

Sample

Families at each of the pilot sites were recruited from former clients.³ Researchers sought families with members of at least two generations: a pre-teen child, a parent, and a grandparent.

A total of 23 families and 46 individual participated: 23 adults (4 males, 19 females), 23 children ages 11-14 (8 males, 15 females). Twelve (52%) of the families had children eligible for free or reduced price school lunches.

Procedures

Each adult and youth participant completed a pre and post questionnaire which took approximately 20-30 minutes.⁴ Project facilitators completed only post-project questionnaires which averaged about 15 minutes. The adult questionnaires included demographic questions about how family members were related, marital status, schooling completed, race/ethnicity, age, and eligibility to receive food stamps and Farmer's Market Nutrition coupons. The youth questionnaire (with modified/simplified language), asked whom in his/her family had the most influence, and whom they would like to have the most influence, over decisions made about meals and snacks at home, what foods are purchased, how meals are prepared, when and where family meals are eaten, and snacking habits.

To assess family involvement in food-related discussions and decision-making, respondents reported their level of participation and if all family members engaged in making grocery shopping lists, planning meals, and in food preparation. To evaluate changes in healthful eating practices, the post-project questionnaire asked participants

how often in the coming week they planned to eat healthy foods (2 or more fruits a day, 3 or more vegetables a day, and fried or high fat foods 2 or more times a day). Results were compared with pre-project responses reporting how frequently they engaged in these behaviors over the past week. To measure knowledge about food and nutrition, they rated their own understanding of the Nutrition Facts Labels and how well they could explain recent changes in the United States Food Guidance System (i.e., the Basic Four, MyPyramid). T-tests were calculated for all pre-post comparisons to determine level of significance.

Post-program questionnaires for facilitators asked how they assessed effectiveness of individual FRIDGE activities; the overall impact of the curriculum on how families discussed food, what they learned about food and nutrition, and the extent to which they made efforts (or expressed intentions) to apply what they learned to improve their family eating practices. Facilitators provided written and oral correspondence describing the extent to which the program met its objectives.

Results

Outcomes by Program Objectives

Objective 1: Encouraging participants to share their views and feelings about food with other family members. Most of the families realized the importance of communication and welcomed the opportunity to talk about food selection and family dynamics related to meals. Several post-project comments:

- “I really enjoyed hearing the young people talk about their food issues.” [Grandmother]
- “This helped families realize how little they knew about each other. Even just basic things like their favorite snacks and their favorite dinner. They (parents) are assuming that they know what the kids want, and kids are assuming that parents know what they want. It just shocks me, as it shocked them, how little they really talk about these things. And they didn't realize it was happening till you put it right in front of them.” [Program Facilitator]
- “(What I liked most was) coming together as a family and discussing our recipe plans.” [12-year old girl]

Objective 2: Increasing participants' knowledge about food and nutrition. Post-project comments suggest they gained knowledge about food and nutrition:

- “My daughter started reading food labels after attending the FRIDGE classes and requested that I purchase a healthier version of ice cream when we were grocery shopping.” [Mother]

- “My grandson asked me if we could prepare a stir fry recipe made in class instead of picking up take out food.” [Grandmother]

- I learned to listen when making decisions on what to eat and plan (for our) menus.” [Mother]
- “(I learned) “to let them (the children) make more decisions about our meals.” [Grandmother]

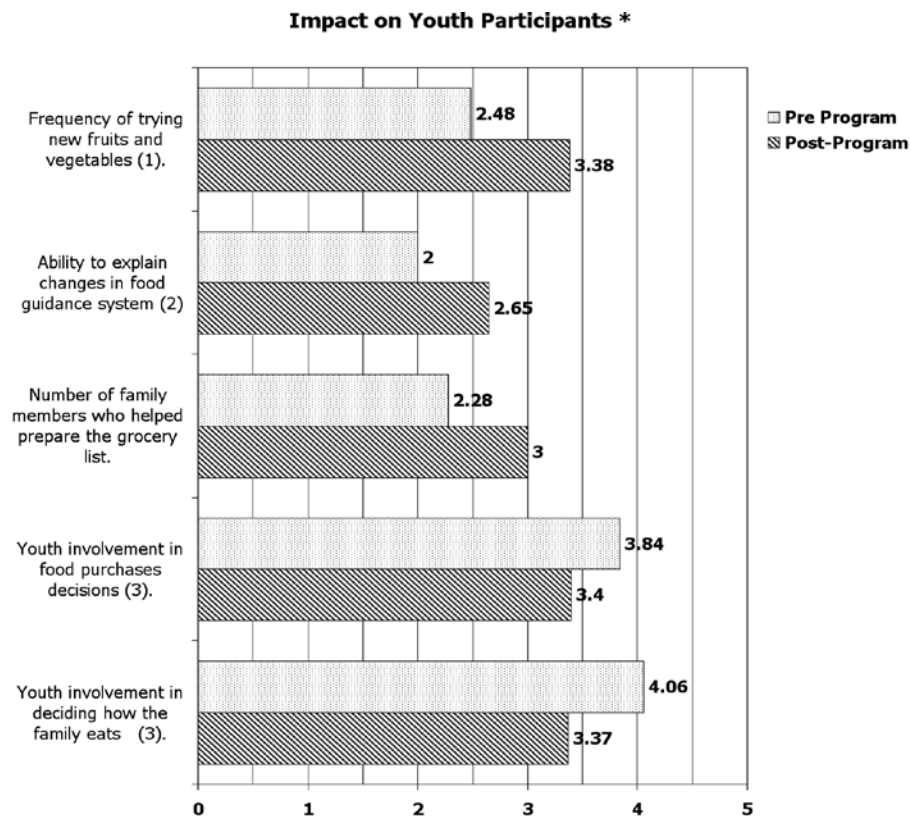
Figure 1 shows a significant pre/post increase in youth stated plans to try new fruits and vegetables ($t=2.98$, $p<.05$); and increase in their ability to explain changes in the food guidance system ($t=3.73$; $p<.05$). Figure 2 shows an increased likelihood for adults to engage in healthy eating behaviors such as eating more fruits and vegetables ($t=3.76$; $p<.05$), and a better understanding of the food guidance system ($t=2.45$; $p<.05$).

Objective 3: Helping participants establish family plans to adopt healthier food selection, preparation, and eating practices. Comments at the end of the program reflected a collaborative perspective about food-related decision-making:

- “I learned that my children can help more when it comes to planning and preparing food and meals.” [Mother]
- “We need to work together planning meals as a family so we eat less sugary foods.” [Grandmother]

An indication of changes in family involvement in food matters is noted in Figures 1 and 2 for both youth and adults. A significant pre/ post increase was seen in the number of family members who helped prepare grocery lists for the week. Youth show an average increase from 2.28 to 3.00 family members, and adults increased from 1.67 to 2.32 family members ($t=3.37$ and $t=2.67$, respectively; and both are significant at the .05 level). Adults also showed significant increase in the number of family members who help with meal planning (an average of 1.63 to 2.48 family members; $t=4.06$; $p<.05$).

Youth responded to whom in their families had the most influence on the foods purchased and how their families eat. On a five-point Likert scale, from (1) “children (with little listening to parents)” to (5) “parents (with little listening to children).” Their pre/post responses reflect changes from an emphasis on their parents’ decision-



* Level of significance for all reported pre-post test difference $\leq .05$ (1) Notes:
 (1) Indicates composite score for two different questions. 5 = every day/ often and 1 = never.
 (2) 4= very well and 1= not at all
 (3) Question addressed who has the most say in making food-related decisions. 1=Children with little listening (to parents), 2= Children with some listening (to parents), 3=children and parents together, 4=parents with some listening (to children), 5=parents with little listening (to children).

Figure 1. Impact on youth participants.

making power (#5) toward an emphasis on youth involvement (averages #3) or suggesting “children and parents made decision together.” This response pattern was interpreted as moving toward a more collaborative framework for making decisions about food. Youths’ responses about decision-making on purchasing foods declined from 3.84 to 3.4, and responses about how their families choose to eat declined from 4.06 to 3.37 ($t=2.65$ and $t=2.75$, respectively; both significant at the .05 level).

Feasibility of Conducting FRIDGE in a Variety of Settings and Formats

Study results confirm our assumption that FRIDGE can be:

- Implemented in community settings such as YMCA, Cooperative Extension field offices, and hospitals with outreach programs.
- Successfully delivered in a variety of formats like half-day sessions or 1-hour sessions.

Facilitators felt positive about the curriculum were willing to facilitate the program again, and recommend it to a colleague or co-worker. They said families needed

more time than was originally provided to fully explore relevant communication and relationship issues. Some facilitators cut out a few activities to keep within the time constraints. The curriculum publication was revised to allow a longer time estimate for several of the activities and the overall program is now listed as a 16-20 hour program.

There are more ways to use the program than what the curriculum development team originally envisioned. Areas of flexibility in delivering FRIDGE programs were incorporated into the FRIDGE curriculum publication (Kaplan et al., 2007). For example:

- At one site, the facilitator modified the order of the sections according to program emphasis and participants’ interests.
- Another site modified several of the core activities into “learn at home” activities for families to do on their own.
- One other site added two activities to complement the FRIDGE curriculum: “cooking dinner together” and “setting the table together”—a mini-class on proper etiquette at the table.

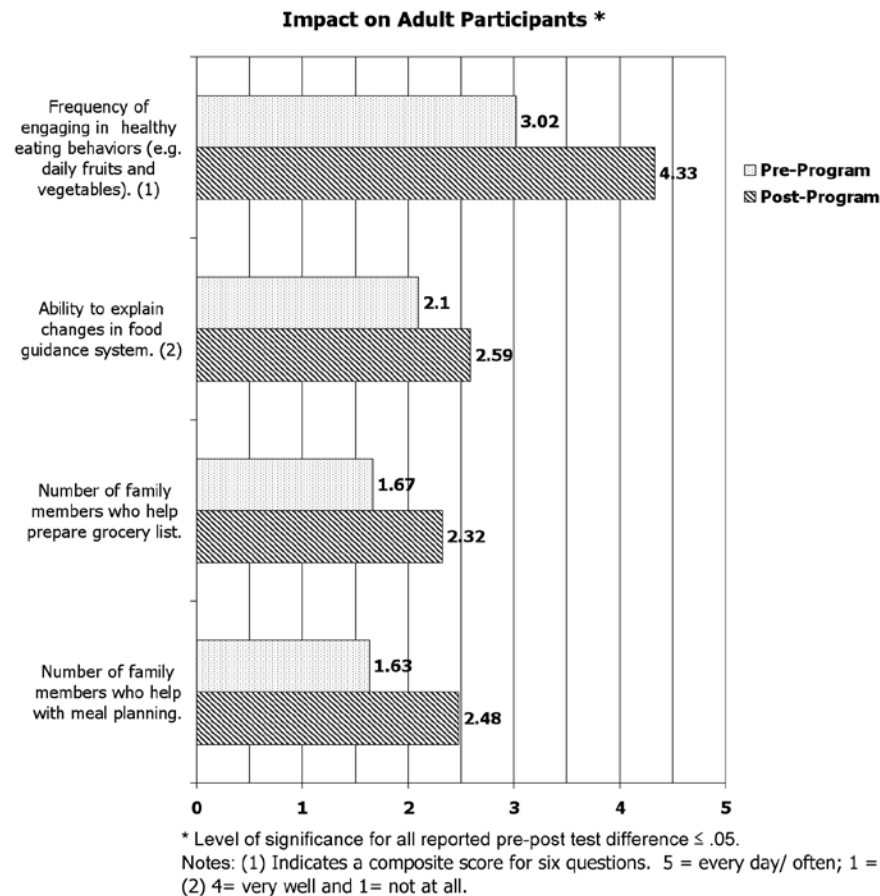


Figure 2. Impact on adult participants.

Other Findings

Some participants appreciated learning that they are not alone in their food-related challenges. An inter-family support dynamic was evident in discussions about lowering high fat foods.

Mother: Dairy Queen, I get a small cone. She (teenage daughter) gets 3,000 calorie desert (with brownies). Maybe I should stop going there.

Daughter: Looks down and sad.

Facilitator: How about figuring out a trip to DQ that's occasional?

Mother: My family is awful with food.

Other mother: It's *all* families.

Summary

FRIDGE functions as both a nutrition education and a family strengthening (communication enhancement) program. The hands-on activities appeal to both youth and adult. The program can be modified for delivery in different formats and different community settings. Participants enjoyed the experience of learning together and working with family members to improve their eating practices.

Implications for Extension

To deliver the FRIDGE program requires staff with family communication facilitation skills as well as nutrition education skills. Whether facilitated by one or two individuals, the facilitator plays a crucial role in stimulating and extending family dialogue. This “conversational” framework is woven throughout the curriculum. The facilitator may ask participants a series of provocative food and nutrition -related questions: What should be done to curtail harmful junk food? What is proper ‘family meal’ etiquette? What can individual family members do to make meal time easier for other members in their family? The facilitator is encouraged to generate discussion about social values—e.g., cooperating with and displaying civility toward family members; sense of stewardship over one’s own body; and one’s responsibility to his/her family, etc. These discussions were important components of the program and helped participants gain additional insight into the life perspectives and values of each other.

The FRIDGE program focuses on issues related to food and nutrition, but it is conceivable that a similar program format can be used for Extension programs on other health education related topics. The strategy would present health-related information to a multi-generational group of participants and provide structured opportunities to discuss, debate, and apply the material learned in accordance with family goals for living healthfully. For instance, a program designed to help family members talk

about musculoskeletal, reproductive, cardiovascular, and mental health issues, might include intensive sessions to introduce content materials. Participants could then share their experiences and perceptions related to the topics from their generational vantage points. The facilitator can help to clarify the multi-generational relevance of taking a lifespan perspective toward health and well-being and encourage participants to function as better “partners” or “team members” in their efforts to adopt a healthier way of living.

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Author Notes

The FRIDGE project is based on research funded by USDA/Food and Nutrition Service through the Pennsylvania Nutrition Education Program (PaNEP) as part of Food Stamp Nutrition Education. The third author was Associate Professor of Human Development and Family Studies at Pennsylvania State University – Shenango campus at the time of the study.

Endnotes

- i A “continuum of control” model for understanding the level of child involvement and empowerment in family, food-related decision-making is offered by Kaplan, Kiernan, & James (2006).
- ii In line with Pennsylvania Nutrition Education Program (now called Pa TRACKS) guidelines, more than 50 % of the participants needed to be of low income families (i.e., being Food Stamp eligible, with income <185% of poverty). Insofar as the study participants were recruited from the clientele of SNAP-Ed programs, which is largely low income, meeting this requirement (50%+ low income) posed no problem.
- iii The recruitment flyer noted that the program was part of a research project conducted in affiliation with Penn State University. The flyer also noted criteria for inclusion, described the purpose and procedures of the study, promised \$20 grocery store gift cards for each family, and provided name and contact information so they could sign up for the study or obtain more information.
- iv Before the pre-project questionnaires were distributed, adult participants signed consent forms, approved by the university’s human subjects review committee, for themselves and their children; youth were given the option of signing consent forms designed primarily for informational purposes. The presence of the site coordinator ensured that questionnaires were completed privately and without influence from other family members.

Selected 2008 Galaxy III/NEAFCS Annual Session Presentations

Compiled by Teresa Byington and Nancy Brooks, *JNEAFCS* Editorial Subcommittee

These are just some of the many presentations given by Extension professionals at the 2008 Galaxy Conference held in Indianapolis, IN. In the case of a team, only one contact name and e-mail address are identified. The complete list of presentations is available on the Galaxy Conference link on the NEAFCS website.

| | |
|---|--|
| FOOD SAFETY, NUTRITION, HEALTH & FITNESS | |
| Interactive Food Safety Exhibits for Consumer Venues | Sandra McCurdy (ID); smcurdy@uidaho.edu |
| Master Food Volunteer Program | Nelda Moore (KY); nmoore@uky.edu |
| From Parents to Professionals: Strategies for Preventing Childhood Obesity | Dr. Jennifer Bentlejewski, R.D. (MD); jthorn@umd.edu |
| Making Nutrition, Health, and Wellness FUN! | Mary Longo (OH); longo.6@cfaes.osu.edu |
| Love Your Heart Talks | Elaine Bowen (WV); epbowen@mail.wvu.edu |
| Health Motivator | Becky Mowbray (WV); Rebecca.Mowbray@mail.wvu.edu |
| Implementing Web Based Health and Fitness Programs in Rural Communities | Luann Boyer (CO); luann.boyer@colostate.edu |
| Fitness Indulgence | Carol Schwarz (NE); cschwarz1@unl.edu |
| PERSONAL FINANCIAL MANAGEMENT | |
| Focus on Financial Management | Cindy Barnett (IN); cbarnett@purdue.edu |
| Dames & Dollar\$ - and Spouses, Too! | Sue Church (TX); s-church@tamu.edu |
| The Money Mentoring Program in Action | Susan Holladay (OH); holladay.5@osu.edu |
| More for your Money Website | Evelyn Prasse (IL); eprasse@illinois.edu |
| Financial Emergency Preparedness | Julie Judy (MD); jjudy@umd.edu |
| Strengthening Family Stability with EIKISI (Earn It, Keep It, Save It) | Margie Memmott (UT); margie.memmott@usu.edu |
| Millennials & Money: What Does Research Say? | Rebecca Hagen-Jokela (MN); hagen022@umn.edu |
| Wind in your SAIL: Saving and Investing for Life | Jeanette Tucker (LA); jtucker@agcenter.lsu.edu |
| Stepping Incarcerated Women Toward Financial Success | Rebecca Travnichkek (MO); TravnichkekR@missouri.edu |
| FAMILY SCIENCE & HUMAN DEVELOPMENT | |
| Never CUT what can be UNTIED – Navigating the Family Through Divorce with Education and Mediation | Theresa Allan (TN); tallan@utk.edu |
| Grandmothers in Grandfamilies: A Conceptual Framework of Relationship Changes Over Time | Patty Merk (AZ); pmerk@cals.arizona.edu |
| The Family Tackle Box | Joyce Shriner (OH); shriner.3@osu.edu |
| Your Young Child: Managing Challenging Early Stages | Patti Faughn (IL); pfaughn@illinois.edu |
| Reducing the Risk of SIDS (Sudden Infant Death Syndrome) in Child Care | Teresa Byington (NV); byingtont@unce.unr.edu |
| Just in Time Parenting: Reaching Parents Online and On-time | Aaron Ebata (IL); ebata@illinois.edu |
| Splendid Seniors | Beth Gambel (LA); egambel@agcenter.lsu.edu |
| Wiring Infants and Toddlers for Success | Mary Nelson (NE); menelson@unlnotes.unl.edu |
| COMMUNITIES, DIVERSITY & FAMILY PREPAREDNESS | |
| Building Partnership to Enhance Healthy Lifestyles Throughout Northeast Georgia | Meredith Potter (GA); mpotter@uga.edu |
| Reaching Diverse Audiences through FCS Programs | Ruth Jackson (AZ); rjackson@ag.arizona.edu |
| Family Preparedness Certification Program – Are You Ready? | Carolyn Washburn (UT); Carolyn.washburn@usu.edu |

JOURNAL OF THE NATIONAL EXTENSION ASSOCIATION OF FAMILY & CONSUMER SCIENCES

Prepared by Dr. Rebecca J. Travnichek, AFC, *JNEAFCS* Editor

The Journal of the National Extension Association of Family & Consumer Sciences (JNEAFCS) is a peer-reviewed publication. JNEAFCS publishes research, applied research, and successful program articles with evaluation data. National award winners are also encouraged to submit their award-winning program or research paper.

Introduction

Marketing, reviewing, and publishing *JNEAFCS* is coordinated by the *Journal* Editorial Subcommittee lead by Editor, Dr. Rebecca J. Travnichek, Family Financial Education Specialist with University of Missouri Extension. Mary Lou Mueller, Assistant Editor and Co-chair, Utah State University Extension; Judith Kovach, Vice-President for Member Resources, University of Tennessee Extension; and members of the *JNEAFCS* Editorial Subcommittee all work together with Dr. Travnichek to ensure the journal is a professional publication of which NEAFCS members and administrations can be proud.

The theme for 2010 is *The Value of Collaborative Partnerships: Extending the Reach of Extension and Family and Consumer Sciences*. The theme for 2011 is *Social Marketing and Social Networking: Moving Extension FCS into the Future*.

Submission Guidelines

Submission Deadline

The submission deadline for the 2010 issue is January 1, 2010. Articles are considered at any time during the year. Manuscripts must be submitted electronically as an attached Microsoft Word document to *JNEAFCS* Editor, Dr. Rebecca Travnichek at TravnichekR@missouri.edu. The article should be read by several colleagues prior to submission. Articles not formatted correctly or found with grammatical and spelling errors will be returned to the author before any review takes place. If the article is not suitable, the author will receive notification. Authors must submit two (2) attached documents: one with the author information (see below) and a separate document without the author page or any reference to the author, state or institution in the text.

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The title of the article, author name, title (both extension and academic) county and/or university affiliation, postal and e-mail addresses, telephone and fax numbers should be provided on a separate author page. Should information about any author change, the editor should be notified immediately. Authors will be listed in the order they are submitted on the author page.

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