

1995

Life Expectancy: Social Work with Centenarians

Nancy P. Kropf

Georgia State University, nkropf@gsu.edu

Katherine L. Pugh

Follow this and additional works at: https://scholarworks.gsu.edu/ssw_facpub

 Part of the [Social Work Commons](#)

Recommended Citation

Kropf, Nancy P. and Pugh, Katherine L., "Life Expectancy: Social Work with Centenarians" (1995). *Social Work Faculty Publications*. 18.

https://scholarworks.gsu.edu/ssw_facpub/18

This Article is brought to you for free and open access by the School of Social Work at ScholarWorks @ Georgia State University. It has been accepted for inclusion in Social Work Faculty Publications by an authorized administrator of ScholarWorks @ Georgia State University. For more information, please contact scholarworks@gsu.edu.

Beyond Life Expectancy: Social Work with Centenarians

Nancy P. Kropf, PhD
Katherine L. Pugh

ABSTRACT. Although the older population as a whole is increasing faster than any other age group, the most dramatic growth is in the oldest old. Centenarians, those individuals who have survived 100 or more years, have increased ten times in size over the past forty years. This population trajectory is expected to accelerate even more into the next century. Unfortunately, social work with the older population rarely includes practice issues related to work with these older adults who have survived well past the average life expectancy. This article provides a description of the current cohort of centenarians from a biopsychosocial framework and presents an agenda for social work practice, policy and research.

Mrs. M is one hundred and three years old. She lives with her seventy-eight year-old son and his wife in their home. Her bedroom has a large sitting area with a bay window where she spends most of her day, reading and writing letters to friends and family. She is able to walk with the assistance of a walker, and she prepares her own lunches when her son and daughter-in-law are out for the day. Visitors from church occasionally stop by to visit, and she shares stories with them of her childhood in the 1890s and early 1900s. Usually, someone takes her to a mid-week church service. She often says, "I have had a wonderful life and I can't think of a happier ending for it than I am experiencing now."

Dr. Kropf is Assistant Director of the Gerontology Center, and Ms. Pugh is Research Assistant in the Gerontology Center and graduate student in the School of Social Work at the University of Georgia.

Journal of Gerontological Social Work, Vol. 23(3/4) 1995

© 1995 by The Haworth Press, Inc. All rights reserved.

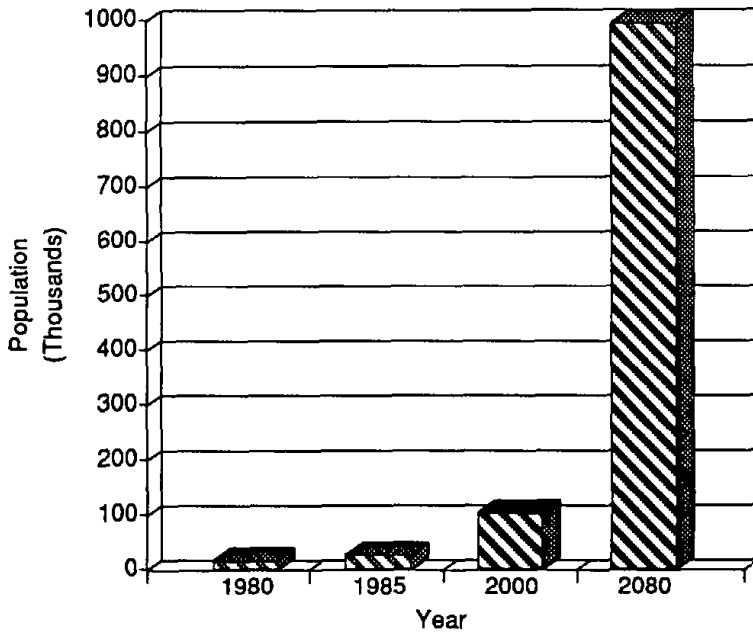
121

This is the story of one in a growing number of centenarians—people who have reached their one hundredth birthdays. Centenarians are the “success stories” of aging, for they are individuals who have lived well beyond the average life expectancy. While it is widely recognized that the population over 65 is growing rapidly, only recently has the importance of distinguishing the “young-old” from the “old-old” been emphasized (Neugarten, 1982). The age of 85 is often used to define the “oldest-old” (Longino, 1988; Suzman & Riley, 1985), and declines in mortality have contributed to this group’s high rates of growth (Rosenwaike & Dolinsky, 1987).

But is this oldest old distinction enough? While some point out the importance of recognizing the difference between a 65 year-old and an 85 year-old, it is equally important to note that many are living fifteen to twenty years beyond their eighty-fifth birthdays. Certainly, these centenarians are a unique group with a wealth of characteristics and experiences that differentiate them from other members of the older population. Data from the 1980 census reveal that while the 65 years old and over population has doubled since 1950, the group of the oldest old has increased fivefold (Bureau of the Census, 1987). Furthermore, centenarians, the oldest of the old, are the fastest growing age group, having increased ten times over the past forty years (Bureau of the Census, 1987). Population estimates suggest that this dramatic expansion will continue into the coming century (see Figure 1).

Given the dramatic demographic changes that lie ahead, the social work profession is unprepared to work with centenarians and their families. Even social workers with geriatric training may have more familiarity with older adults in their sixties, seventies, and eighties. Practice with centenarians, those who have lived an additional twenty or more years, may be qualitatively different. This paper will examine population demographics of the centenarians as a whole, and explore individual functioning, social relationships, and economic issues of living for over a century. An agenda for practice, policy, and research involving centenarians will be proposed so that social workers will be prepared to work with these “successful aged” and their support systems.

FIGURE 1. Growth in Centenarian Population



Source: Bureau of the Census, 1987.

THE CENTENARIAN POPULATION

To begin to examine the population of centenarians, it is necessary to determine if a profile exists for people 100 years and older. As a group, centenarians share certain characteristics with younger cohorts of the elderly, but dissimilarities exist as well. Demographic trends that begin in the 85 year old cohort continue on a trajectory with centenarians. While certain population characteristics seem to be the result of age, others may prove to be cohort effects as more longitudinal studies emerge.

Age Effects. With added years, individual and population changes occur. Ward (1984) characterizes "age effects" as those characteristics that are a result of developmental or maturational changes.

One of these population effects is in the ratio between men and women. The shorter life expectancy rates for males which begin earlier in life continue across into the 100th year. In the people over the age of 85 years, there are 44 men for every 100 women (Bureau of the Census, 1987). By the 100th year of life, the sex ratio widens slightly so that an estimated 31 men remain for every 100 women (Bureau of the Census, 1987).

A different pattern, however, emerges for race. The racial composition in the population during the latest years of life also changes with age. In the population of elderly, the population becomes more racially mixed between whites and African Americans by the 100th year of life. African Americans comprise 7.1% of the over 85 population (Longino, 1988), but increase to 14-21% of all centenarians (Bureau of the Census, 1987). African Americans exhibit extraordinary life expectancy in old age and comprise a greater proportion of their cohort group than their all-ages percentage, which is 12% (Bureau of the Census, 1987).

Cohort Effects. A cohort effect is defined as characteristics associated with a particular segment of the population that has lived during particular social eras (Ward, 1984). One cohort effect seen in centenarians is their overall educational level. The majority of centenarians in the 1980 census had less than a ninth grade education, including 5-10% with no schooling at all (Bureau of the Census, 1987). Educational trends, such as mandatory education and an emphasis on lifelong learning, are expected to increase educational levels for future centenarians.

A second cohort effect is in the area of religious beliefs and practices. For the current cohort of centenarians, religious coping mechanisms were used more frequently than any others to compensate for losses of late life (Courtenay, Poon, Martin, Clayton, & Johnson, 1992). It is suggested that religiosity is highest in the oldest groups of the elderly, especially in those people who had severe physical health problems (Courtenay et al., 1992). African American centenarians, in particular, attribute their survival to God (Segeberg, 1982). With social changes and religious practices, future generations of centenarians may not have the same degree of religiosity as the current cohort.

INDIVIDUAL FUNCTIONING

I was employed from 17 until the age of 93. At age 24, I entered the family business, a brick manufacturing business started by my grandfather in 1824, from which I retired [8 years ago] in 1971. I served on the boards of a local bank and savings and loan association . . . From my young manhood, I have enjoyed cigars and pipes until my one hundredth birthday. I have always and still have enjoyed alcoholic drinks and beverages in moderation. With respect to my general health, I have an excellent appetite and enjoy my meals. I take a nap of one to two hours daily and sleep soundly throughout the night. I have been blessed with an even disposition and in times of stress or disappointment have been able to take them in stride without excessive worry.—Mr. W., 101 (U.S. Congress House Select Committee on Aging, 1979)

In this brief description of his life, Mr. W. provides some important insights into his successful longevity. Centenarians tend to practice strategies of moderation (not necessarily abstinence), have an optimistic attitude, and are able to manage stress and loss. In the following section, health status and psychological characteristics of centenarians will be explored.

Physical Status and Health Behaviors. In their physical health, centenarians face some physical declines but tend to view themselves as in relatively good shape. Over half of the centenarians in one study were unable to perform some tasks of daily living independently, such as bathing or dressing, and 98% were unable to drive (Sanders, Pittman & Montgomery, 1986). Over half had experienced vision and/or hearing losses. Well over a quarter of the sample had heart problems, arthritis, poor circulation, or incontinence (Sanders et al., 1986). The objective measures of health status indicate numerous health problems for centenarians, yet self-perceptions of their health are positive. When asked to rate their own health, one study of centenarians reported that the majority perceived their health as either excellent or very good (Segeberg, 1982).

The health behaviors of centenarians are examples of habit and heartiness as seen in both the exercise and nutritional practices of

centenarians. Most of the "oldest old" place a high value on exercise. In their study on people over age 85, Duffy and McDonald (1990) reported that this group of the elderly had the lowest ADL scores but the highest exercise scores. Amazingly, many of the oldest-old continue to engage in physical activity into the 100th year of life. The common exercise for centenarians appears to be walking (Beard, 1991), however low-impact aerobic exercises and stretching activities are also performed.

Nutritionally, centenarians have many diverse eating habits and food preferences. Four general eating patterns of centenarians have been described: a preference for simple or natural foods, a self-limitation of one serving and no snacks between meals, a variety of foods in the diet, and an enjoyment of dining and food choices (Beard, 1991). Centenarians' food choices vary in content and nutritional quality. When compared to persons in their sixties and eighties, they have been found to eat breakfast more regularly, avoid weight-loss diets, and consume more vegetables (Johnson, Brown, Poon, Martin, & Clayton, 1992). On the other hand, centenarians were less likely to consume diets low in fat and to follow nutritional guidelines aimed at reducing the risk of chronic disease (Johnson et al., 1992). A number of centenarians use alcohol in moderation, and a portion use tobacco products, as well (Beard, 1991; Heyman, 1990).

Psychological Characteristics. A common misperception of centenarians is that they have diminished intellectual capabilities or a faded memory, are passive, or have a depressed affect. Research on cognition and well-being in centenarians reports that this is not the case. In Segerberg's (1982) interviews with 1,200 centenarians, only one person could be defined as having dementia. An examination of the psychological abilities of centenarians reveals that they are quite competent in interacting with the world and do so with great vigor and persistence.

One important psychological characteristic, termed functional or social intelligence, is the ability to handle the problems of day-to-day life. While other areas of intelligence decline with age, this problem-solving ability does not diminish (Poon et al., 1992; Field & Millsap, 1991). Likewise, Beard (1961) has described this group of the elderly as flexible, creative, and inventive. Centenarians ap-

pear to be capable of facing the tasks of daily living, solving problems in a creative way, and can find alternative solutions and other possibilities when needed.

In addition to intelligence, personality attributes of centenarians have been investigated. While positive attributes have been bestowed upon them, centenarians have also been described as having characteristics that provoke negative connotations. This group of elders has been described as more suspicious, dominant, imaginative, aggressive, and less conforming than younger cohorts (Martin, Poon, Clayton, Lee, Fulks, & Johnson, 1992; Tobin, 1988).

A final psychological characteristic is satisfaction and overall well-being. Due to the losses and diminishing resources of old age, centenarians might be imagined as depressed, unhappy or "biding time." Studies of persons over eighty-five have found that life satisfaction does not decrease, but often increases with age (Field & Millsap, 1991). In fact, when all other confounding variables, such as gender, income, physical disability, cognitive impairment, and social support are taken into account, the oldest old suffer fewer depressive-related symptoms than all other age groups (Blazer, Burchett, Service, & George, 1991).

SOCIAL RELATIONSHIPS

I was born in Abbeville County in the State of South Carolina. I was raised in a Christian home where the bible was read, discussed, and used as a pattern to live by. I worked hard, raised our food, made our clothes and shoes, finished eighth grade at the age of 18. I learned how to read by the light of rich pine knots at an early age . . . I worked in the cotton mill until I was 65, and then they put me out with no money . . . The first time I was seen by a doctor was between 30 and 40 years old when I had measles and pneumonia. The first time I was in a hospital I was 100 years old . . . -Mrs. J., 102. (U.S. Congress House Select Committee on Aging, 1979)

Mrs. J., in her description of early life, portrays the importance of her family in her development. Family relationships are also an important source of support in late life, to meet both instrumental

and expressive needs. Intuitively, formal service providers would seem to play key roles in keeping centenarians as vital and functional as possible. However, not all individuals in this group are connected to formal service networks. At least for some centenarians, professionals (especially physicians) are distrusted as evidenced in this formula for longevity shared by one 106 year old woman, "Don't drink water. Stay away from doctors" (Heyman, 1990, p. 157).

Informal Support System. Proportionately more centenarians live with family than individuals in younger cohort groups of the elderly. At about age 85, elders prefer not to live with their adult children, and this sentiment has seen increasing prevalence in recent decades (Sanborn & Bould, 1991). In contrast, more centenarians are institutionalized or share homes than in the eighty-five age group: 45-55% live in institutions or group quarters and 29-42% live with their adult children (Bureau of the Census, 1987). Furthermore, centenarians perceive this living arrangement as acceptable (Bureau of the Census, 1987). Even when centenarians do not live with their children, they continue to maintain contact on a regular basis (Segerberg, 1982).

Family relationships also have social value for the centenarian and the importance of these relationships cannot be overstated. People over eighty-five experience an increase in commitment to their children and family and a decrease in commitment to outside activities (Field & Minkler, 1988). This high importance of family is found among centenarians, as well. In one study of social relationships of centenarians, the vast majority of people over one hundred cited family relationships as their greatest source of satisfaction (Beard, 1961). Additionally, the centenarians felt some reciprocity in their relationship to family members. Segerberg (1982) reported that 74% of centenarians felt important to others with families often turning to these elderly relatives for advice, memories, information, and even to perform helpful tasks around the house. Fortunately, an extensive study by Sanders et al. (1986) found that most caregivers to centenarians received satisfaction from their role. In this study, 89% of the caregivers rated their relationships with their centenarian family member as excellent or

very good. The majority did not provide assistance with basic daily living tasks, but rather provided social and emotional support.

In addition to their family-based relationships, many centenarians continue to maintain some relationship to non-family members. Studies of out-of-home activities, such as attending senior centers, clubs, and church functions have shown that participation increases up to eighty-five, after which declines are seen (Krout, Cutler, & Coward, 1990; Field & Minkler, 1988). Centenarians, however, remain active. Examples of centenarians who provide volunteer work, or are engaged in paid employment can be found (Beard, 1961). While people over 100 years may continue to have a desire to maintain these social connections, declines in participation may be caused by barriers associated with health status or transportation.

Use of Formal Supports. The health care system would seem to be an important source of support for the oldest old, yet health services are of questionable importance to the over 85 year old population. There appear to be fewer efforts to keep people over this age as functional and healthy as possible. People over 85 are less likely to participate in health promotion activities than younger cohorts of elders, and these campaigns are less likely to target the oldest old even though they have a greater need for this care (Durham et al., 1991; Lubben, Chi, & Weiler, 1989).

The oldest old also tend to under utilize other medical services. The over 85 year old group is less likely to visit their physician than when they were younger, even though they may still be as capable of accessing the office (Wolinsky, Arnold, & Nallapati, 1988). Many centenarians do not use the health care system because they believe that they do not need it. One study found 42% of its centenarians without any regular, ongoing contact with the health care system (Seegerberg, 1982). Many centenarians claim that doctors have done little to help them; this perception is partially explained by living during an era when physicians were not accessible and home remedies may have been as good as those the doctors had to offer (Beard, 1991). One man composed a poem for his one hundredth birthday which read, "While talking with a doctor about accidents and ills, he said I have lived longer because I have brushed aside his pills" (Seegerberg, 1982).

ECONOMIC STATUS

I was interviewing a centenarian in a small southern town when a home delivered meal program brought her a lunch. It was 10:30 AM on a hot summer day, and we were sitting on her porch talking since her house was not air conditioned. I told her that I would take her lunch inside, and she said, "Just set it on the radiator." I asked her what I should do with the half pint of milk that they sent. She said, "Just put it on the radiator too." I asked, "Don't you want me to put it in the refrigerator?" She said, "No just put it on the radiator and I'll get it in a little bit." When I went in, I realized she didn't even have a refrigerator.—Interviewer, Georgia Centenarian Study. (Baxter, 1991)

Income and financial resources can be important determinants of well-being. Although it is true that "money can't buy happiness," it can purchase medical services and medications, formal services, utilities, food, and other vital things. Most older adults experience a decline in income after retirement. It is foreseeable, then, that after decades without work, centenarians might be in dire economic circumstances.

The eighty-five and older population displays the effects of numerous years out of the labor force. The 1980 census found this population with a mean income of \$8,089, and that 16.2% of the group lived in households with incomes below the poverty threshold (Longino, 1988). To balance this loss of monetary income, two-thirds of these older adults were householders (Bureau of the Census, 1987), thus receiving security from this and other nonliquid assets.

This loss of income is especially evident among centenarians. In 1980, 83-90% of the population one hundred years of age and older had personal incomes of less than \$5,000, not including non-cash sources. Unlike the eighty-five year-old cohort, unfortunately, only 32-45% of centenarians still owned their homes (Bureau of the Census, 1987). It could be concluded that many of the oldest of the old are in dire financial circumstances.

Although by objective standards centenarians are an economically vulnerable group, their self perceptions are very different. Most

of them rate themselves as average or above average on social class and economic status, and very few consider themselves to be at the poverty level regardless of their actual income (Beard, 1991). One reason for this discrepancy could be non-cash resources that are provided to this group. Many centenarians may be beneficiaries of gifts-in-kind and services, both formal and informal, that fulfill many of their needs and help cushion the loss of income that they experience.

SOCIAL WORK WITH CENTENARIANS

Laine Price always eats her vegetables. She's never smoked cigarettes or drunk alcohol or coffee. But her longevity can't be due totally to a nutritious diet . . . When she turned 112 years old, she admitted to eating fried bologna and eggs every morning . . . (After living in the South), she moved to New York to live with her youngest son, a 72 year old she calls "my baby." These days, Mrs. Price spends her days watching soap operas and singing songs from her Baptist upbringing. Mrs. Price has used a wheelchair for about two years, but otherwise she is in relatively good health and full of life. (*Rochester Democrat & Chronicle*, 1993)

By the year 2080, one million in our population are expected to be 100 years or older. The changing demographics that our society is experiencing has important implications for the social work profession. In the practice realm, assessment practices and interventions with this population need to be structured to understand life patterns and personal characteristics as mechanisms to preserve continuity and self identity. Work with families of centenarians is crucial through support, education, and political reform. Additionally, research about the future cohorts of centenarians is critically needed.

Practice Issues. A major consideration in practice with centenarians is an assessment and understanding of their patterns and practices of living. For many people over 100 years of age, the continuity of self is through their established habits, routines, and rituals. Evidence of these patterns is found in the case summaries of cen-

tenarians, such as Mrs. M's letter writing, Mr. W's pipe and cigar smoking, and Mrs. P's choice for breakfast. Disruption in these long-standing routines can lead to a sense of discontinuity of self. Although some of these habits and rituals are not associated with a positive outcome on an individual, such as tobacco use, assessments need to consider the functionality of various lifestyle habits in self preservation.

In addition to lifestyle patterns and routines, issues of self identity are important in work with the oldest old. Studies on personality characteristics in this group have reported qualities of dominance, aggression and suspicion (Martin et al., 1992; Tobin, 1988). Clients of all ages who embody these characteristics are often labelled "hostile," "resistive," or "paranoid." While these traits can be viewed as negative characteristics, the associated behaviors can alternatively be seen as a means of avoiding increased passivity in old age. A combativeness in interactions is used to still "have a say" in decisions concerning one's own life. Practitioners who work with younger cohorts of the older population can reframe their interpretations of these characteristics and view them more as methods of survival and empowerment.

As preservation of personal behaviors and characteristics of centenarians is important in practice, so is the preservation of family ties. Centenarians have experienced many losses during their life, possibly including their adult children who often serve as caregivers to their parents. However, practitioners should not falsely assume that the most recent losses are the ones that are the most difficult for the centenarian. Even after several decades of life, "off time" losses may be the ones which are most acute, as reported by one researcher, "I spoke with a woman who was 109 . . . She lost her mother when she was 12. When I spoke with her about loss, the thing that she said affected her the most was the loss of her mother at such a young age. And this is 90 years later" (Baxter, 1991, p. 12). While centenarians may have accumulated more losses as a factor of living more years, the ones that are experienced as "on time" may be less difficult to assimilate even if it involves a close relationship such as a sibling or adult child.

Family consideration and ties are vital aspects of practice with the centenarian population. Caregiving to a centenarian involves

some different issues than caregiving to an older person of younger age. For caregivers of the current cohort of centenarians, there is an element of distinction in caring for a person who has been alive for over a century. Social workers can provide information and education to families about physiological, emotional, and social functioning of centenarians to best support their 100+ year old members.

The provision of care to a centenarian can be a strain on the resources of many families, however. Some centenarians are part of multi-generational elderly families, where adult children and even grandchildren can be in late life. This situation conjures many difficult issues such as nursing home placements for multiple family members, and the economic strains of having multiple generations living off fixed incomes. Family caregiving plans and support are necessary when multiple members require assistance and care. Interventions which can assist families of dual generations of elders include in-home support services (homemaker services, home-based nursing care), and also services which allow 60 and 70 year old care providers to have some flexibility in their own late life years such as respite care for their centenarian family members.

Policy Issues. While many older adults may have anticipated future crises and changes in lifestyle with the coming years, plans and preparations may be inadequate. In 1935 when Social Security was initiated, the current cohort of centenarians was about 40 years old. These individuals could only expect to live an average of 25 more years (Hansen, 1944-45), or until 1960! Many centenarians in the current cohort did little retirement planning, and had no reason to speculate that their lives would last 100 years. Additionally, many of the very old did not have skills to compete in a changing labor force that demanded increasing knowledge and abilities. This was the situation of Mrs. J., who was dismissed without benefits from her job in the cotton mill at age 65. Financial support to this group, including adequate and affordable support services such as medical care and in-home services are critically important since many in the oldest group of our population are economically vulnerable.

For future cohorts, financial planning is crucial. The typical retirement age, the Social Security system, Medicare/Medicaid, and

most pensions were not created with the possibility of a large group of centenarians in mind. Flexibility in the work force may allow older people to continue to work, if needed or desired. Even centenarians may choose to have some connection to the labor force, such as Mrs. S. who is a volunteer tour guide at 103 years of age (Baxter, 1991). At the policy level, developments can be directed to support older workers such as an adequate transportation system, tax incentives to business to employ older workers, and a flexible and creative structure to job positions including part-time opportunities.

Formal service use and needs of the very old must become part of the current political agenda. Centenarians are at risk of increased isolation and need of assistance, yet often they do not rely on any sources of social activity and support other than their families. The need for new formal programs and the effectiveness of existing programs is to be evaluated. For example, research suggests that centenarians are unlikely to participate in Senior Centers. Possible reasons for non-use can include a lack of interest to these adults, or problems of accessibility to these programs. Services that specifically appeal and target this segment of the aged community need to be constructed, and evaluations of relevance of existing programs to this age group also need to be completed.

Research. There is a dearth of literature on centenarians in many areas. One of these areas is the cultural differences in this population group. There is a higher percentage of African American centenarians than in the general population (Bureau of the Census, 1987), and many first generation immigrants can be found among the present centenarian population and future cohorts. The variance between ethnic groups of centenarians and within the individual ethnic groups cohorts is not well understood. These issues of cultural diversity should be the focus of centenarian research in the future.

While a great deal of information exists on the subject of at-home caregivers to older adults, little is available on centenarians' different caregivers or on centenarians in institutions. The diversity of primary caregivers to centenarians should be considered, as should the extent of helpers in addition to the primary caregiver. Caregiv-

ing for the oldest age group may be spread among relatives and generations.

Finally, an examination of the younger cohorts of older adults can provide a preview of the centenarians to come. For example, how will future centenarians, who were greatly affected by the institutionalization of medicine and immunizations, as well as the acceptance of the welfare state with the New Deal, differ in the health practices and utilization of the health care system? As of now, 11% of the Gross National Product is used for health care, and persons over sixty-five, which comprise only 11% of the U.S. population, use one-third of all health care dollars (Longino, 1988). Will this be dramatically altered as the oldest of the old grow in numbers? Such questions can lead to greater preparation for future centenarian cohorts.

SUMMARY

Centenarians are a rapidly growing group of people, but one that is not well understood by many social work professionals. A review of the literature reveals that, while they may have experienced some physical and mental declines and losses of friends and family, they are "survivors," having lived successfully using resourcefulness, lifelong patterns and habits, and sheer will. The task of social workers and other social service professionals working with centenarians is to increase practice knowledge to best support these survivors, investigate policy implications and services for the 100 plus clients and their social supports, and conduct additional research to better understand functioning and needs of the current and future cohorts of centenarians.

REFERENCES

- Baxter, M.J. (1991). 100 Plus. *The System*, 1(1), 20-25.
- Beard, B.B. (1991). *Centenarians, the new generation*. New York: Greenwood Press.
- Beard, B.B. (1961). *Social competence of centenarians*. Athens, GA: UGA Printing Department.

- Blazer, D.G., Burchett, B., Service, C., & George, L.K. (1991). The association of age and depression among the elderly: an epidemiologic exploration. *Journal of Gerontology*, *46*, 210-215.
- Bureau of the Census (1987). *America's centenarians: Data from the 1980 census*. Washington, D.C.: U.S. Department of Commerce, Bureau of the Census.
- Courtenay, B.C., Poon, L.W., Martin, P., Clayton, G.M. & Johnson, M.A. (1992). Religiosity and adaptation in the oldest old. *International Journal of Aging and Human Development*, *34*(1), 47-56.
- Duffy, M.E. & MacDonald, E. (1990). Determinants of functional health of older persons. *The Gerontologist*, *30*(4), 503-509.
- Durham, M.L., Beresford, S., Diehr, P., Grembowski, D., Hecht, J.A., & Patrick, D.L. (1991). Participation of high users in a randomized trial of Medicare reimbursement for preventive services. *The Gerontologist*, *31*, 603-610.
- Field, D. & Millsap, R.E. (1991). Personality in advanced old age: continuity or change? *Journal of Gerontology*, *46*, 299-308.
- Field, D. & Minkler, M. (1988). Continuity and change in social support between young-old and old-old or very-old age. *Journal of Gerontology*, *43*, 100-106.
- Hansen, M.H. (1944-45). *Statistical abstract of the United States, sixty-sixth number*. U.S. Department of Commerce, Bureau of the Census: U.S. Government Printing Office.
- Heyman, J. (1990). *One hundred over 100: Moments with one hundred North American centenarians*. Golden, CO: Fulcrum Publishing.
- Johnson, M., Brown, M., Poon, L., Martin, P. & Clayton, G. (1992). Nutritional patterns of centenarians. *International Journal of Aging and Human Development*, *34*, 57-76.
- Krout, J.A., Cutler, S.J. & Coward, R.T. (1990). Correlates of Senior Center participation: a national analysis. *The Gerontologist*, *30*, 72-79.
- Longino, C.F. (1988). Who are the oldest Americans? *The Gerontologist*, *28*, 515-23.
- Lubben, J.E., Chi, I. & Weiler, P.G. (1989). Differential health screening by gender and age: appropriate care or bias? *Journal of Applied Gerontology*, *8*, 335-354.
- Martin, P., Poon, L.W., Clayton, G.M., Lee, H.S., Fulks, J.S. & Johnson, M.A. (1992). Personality, life events, and coping in the oldest-old. *International Journal of Aging and Human Development*, *34*, 19-30.
- Neugarten, B.L. (1982). Policy for the 1980s: Age or need entitlement? *Age or Need in Public Policies for Older People?* Beverly Hills, CA: Sage.
- Poon, L.W., Martin, P., Clayton, G., Messner, S., Noble, C.A. & Johnson, M. (1992). Influences of cognitive resources on adaptation and old age. *International Journal of Aging and Human Development*, *34*, 31-46.
- Rochester Democrat & Chronicle* (1993). Local News, October 15.
- Rosenwaike, I. & Dolinsky, A. (1987). The changing demographic determinants of the growth of the extreme aged. *The Gerontologist*, *27*, 275-280.
- Sanborn, B. & Bould, S. (1991). Intergenerational caregivers of the oldest old. *Marriage and Family Review*, *16*, 125-142.

- Sanders, G.F., Pittman, J.F. & Montgomery, J.E. (1986). Family caregivers of centenarians: Support for the very old. *Journal of Applied Gerontology*, 5, 113-125.
- Seegerberg, O., Jr. (1982). *Living to be 100: 1,200 who did and how they did it*. New York: Charles Scribner's Sons.
- Suzman, R. & Riley, M.W. (1985). Introducing the "oldest-old." *Milbank Memorial Fund Quarterly*, 63, 177-185.
- Tobin, S.S. (1988). Preservation of the self in old age. *Social Casework*, 69, 550-55.
- U.S. Congress House Select Committee on Aging (1979). *Americans Over 100: Hearing before the Select Committee on Aging, House of Representatives, 96th Congress, first session, November 14, 1979*. Washington, D.C.: U.S. Government Printing Office.
- Ward, R.A. (1984). *The aging experience: An introduction to social gerontology*. (2nd ed.) New York: Harper & Row.
- Wolinsky, F.D., Arnold, C.L., & Nallapati, I.V. (1988). Explaining the declining rate of physician utilization among the oldest old. *Medical Care*, 26, 544-553.