Aging Texas Well

A Health Perspective

Purpose:

- ***To provide Texans with vital information that will assist them plan and assume more responsibility for their health as they age.***
- ***To assist the state in developing health policy blueprints to address the health issues relevant to the aging population in the next millennium.***

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Foreword

Aging Texas Well: A Health Perspective, is a collaborative achievement by Texas Department of Health personnel and programs concerned with the health issues of older adults. In partnership with the Texas Department on Aging and as a member of the Aging Policy Council, the Texas Department of Health prepared this report to identify and address major health policy issues as directed by the 75th Legislature in Senate Concurrent Resolution 36. Its purpose is to give Texas citizens objective information to help them prepare for retirement and aging.

The Texas Department of Health believes that this document will be valuable for citizens as they prepare for better and more productive lives in their senior years. The Texas Department of Health is committed to its leadership role in assisting the state and the people of Texas to prepare for the health dynamics of the 21st Century.

Aging Texas Well

A Health Perspective

I. Introduction

On New Year's Day 2011, Texas will wake to a demographic and cultural milestone. That year marks the official beginning of the baby boomer generation's entry into retirement age. The "pig-in-the-python" bulge of children born between 1946 and 1964, which has shifted American social policies and practices from birth to adulthood by its sheer numbers alone, will start swelling the portion of the population age 65 and older. How will this generation, with its education, privilege, culture, and its lifetime of habits, change the way we perceive aging and how our social institutions and markets respond to it? Will Texas be prepared to meet the challenges that an aging population's needs and expectations will present? Are Texans preparing themselves now for the best possible health outcomes as they age?

Aging is a biological fact and a normal part of the life cycle. As a natural physiological process, it inevitably involves a decline in function of the body. The effects of these conditions are amplified when the aging person is poor, living alone, lacking social support, does not have adequate housing, or is one major illness away from being disabled. The realities that age imposes on an individual's health, and the concomitant challenges it presents to functional independence, cannot be ignored. At the same time, the debilitating conditions associated with aging are neither universal nor inevitable. We are beginning to appreciate that a number of factors that make the difference between wellness and ill health are within our control. As the segment of the Texas population beyond age 65 grows, these realities make it imperative that the issues of healthy aging be elevated in the public health policy arena.

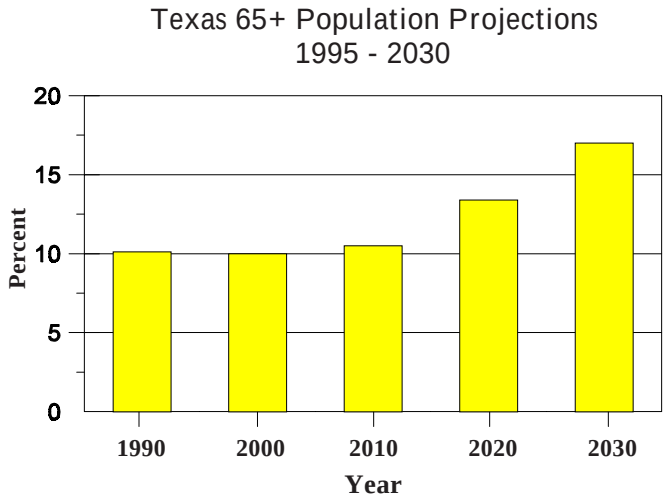
Like most states in the industrialized world, Texas has benefitted from advancements in the medical sciences and public health campaigns over the years. Both factors

have contributed immensely to increasing life expectancy: Texans are living longer. Furthermore, the state's socioeconomic level and its temperate climate attract retiring seniors from all parts of the nation. Even so, the most significant impact of an older population is yet to come. By 2020, as the middle of the baby boom cohort reaches retirement age, the proportion of the Texas population age 65 and over is projected to rise from the 1990s level of approximately ten percent to over 13 percent, reaching approximately 17 percent by 2030 (Murdock, 1997)(Figure 1). An early start in generating strategies to address the health planning and policy challenges of an aging Texas could save the state much time and resources.

The health care needs of the elderly can be very expensive, considerably exceeding the needs of persons under 60. Assessing the projected aging of Texas along with projected patterns of disease and disability, state demographer Steve Murdock concludes: "Aging of the Texas population will substantially increase the need for services for the elderly and the costs of elderly care in the coming decades." (Murdock, 1997). Without proper planning, the health demands of an elderly population could soon overtax the state's health care network and outstrip our ability to mobilize necessary public health responses.

A key to meeting the challenges of the future requires proactive and preventive decisions by Texans now. The actions taken by today's baby boomers can reduce, postpone, or even prevent the health conditions that are most debilitating and life-shortening in the elder years, such as heart disease, some cancers, stroke, emphysema and Type II diabetes. The entire state population can benefit from

Figure 1



Source: Murdock, Steve, *The Texas Challenge*,1997.

adopting healthier lifestyles and promoting health policies that support a better quality of life for the aged.

Promoting and maintaining wellness as our state population ages will require readiness in the health sector to provide preventive and curative care, but our preparation cannot stop there.

> Many express concern that our aging population will become a burden and imply that, with increased dependency, older adults will demand greater support. This is an unfortunate message. Fortunately, we are in a position to create positive messages and a positive reality. (Falck, 1998)

A fundamental part of that message must come from the social perspective the state embraces. To what extent is Texas prepared to recognize older adults' role as citizens and community members whose experience is valued as social capital? The wellness of an aging population also depends on whether an older person is seen as a valuable resource who can provide intergenerational learning, bind family ties and bring a sense of connection to the community. How a society perceives its aging population is an indication of the degree to which it will achieve optimal health.

Knowledge of options for preparing for the future will better equip Texans to begin appropriate preparations now. Emphasis should be placed on finding innovative approaches which consider the characteristics of the state's aging population, including their needs, as well as the role of the individual, society, and government for assuring good health in old age.

Providing young and aging citizens with appropriate information to encourage better personal health practices offers one approach. Mobilization of our state resources to prepare for managing the inevitable health status challenges of an aging population can yield the greatest potential health cost savings in the next century. The concerns of an aging population will push into the center of the public policy arena as the state enters the 21st Century. Perhaps our biggest challenge and our greatest opportunity lies in exploring how the social fabric of the communities of Texas, our attitudes, and

the quality of our inter-generational relationships can be brought together to support longer, healthier, and more productive lives. Our discussion of strategies to achieve wellness in our aging population is still in its infancy; however, Texas is well-positioned to pursue active development of innovative approaches for successful aging.

II. Texas' Aging Population

Demographic Profile

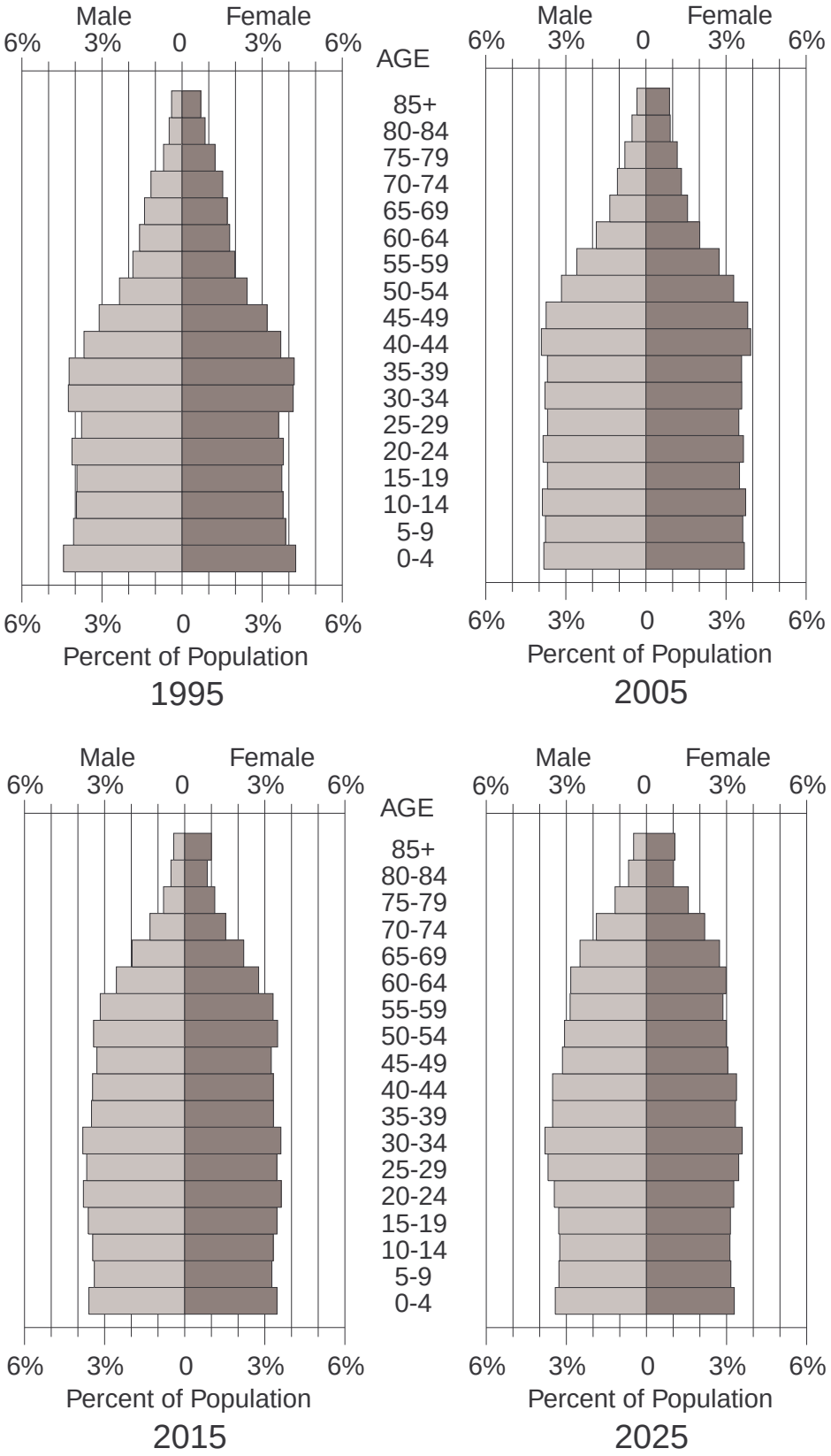
Texas is still a relatively young state. In 1990, ten percent of the state population was age 65 and older, compared to 12.5 percent in the nation as a whole. Our median age of 30.8 years in 1990 made Texas the third youngest state in the nation (Murdock, 1997). While Texas' population may currently be referred to demographically as middle-aged, the numbers are changing. By 2020 the number of those age 65 and older is projected to double (3.8 million) from a 1996 baseline (1.9 million), and by 2030 they will constitute 17 percent (approximately 5.75 million) of the state's population. Within the population segment age 65 and over, those age 75 and over form the fastest growing subgroup. From 1990 to 1999, their number is projected to grow by 81 percent (Murdock, 1996).

Figure 2 gives a very vivid picture of how the population of Texas will be aging from 1995 to 2025 as a proportion of the population as a whole. During this time the population will become more evenly distributed by age with the baby boom age bulge moving up the pyramid from ages 31 to 49 in 1995 to ages 61 to 79 in year 2025.

While most of Texas' elderly are not poor, 14 percent fall below the poverty line and 15.5 percent have incomes of no more than 25 percent above the poverty level (Texas Department on Aging, 1998). Therefore, as Texas' aged population grows, so will the need for financially accessible services that support health.

Figure 2

Texas Population Distribution by Age

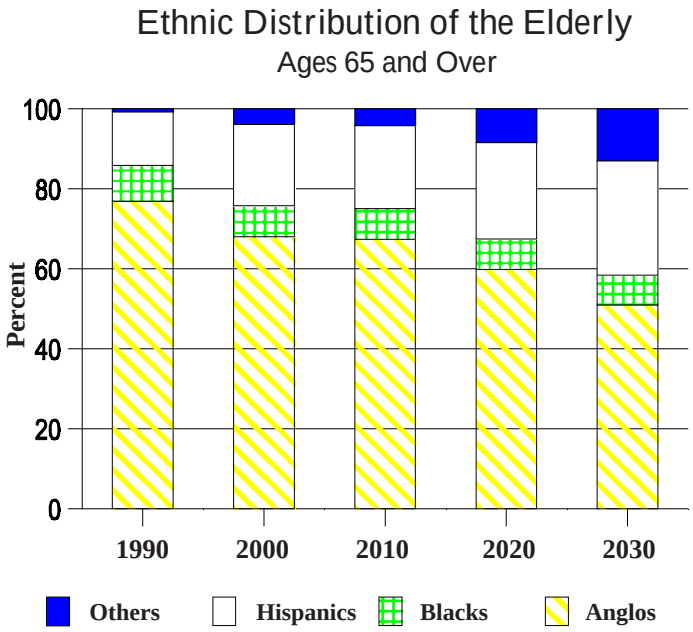


Source: Murdock, Steve, *The Texas Challenge*,1997.

Growing Diversity

From 1990 to 2030 the proportion of the population that is age 65 and older is expected to double within each ethnic group, except the category of *Others* (including Native Americans, Asians, and South Pacific Islanders) which is projected to grow by more than seven times, according to the state demographer (Murdock, 1997). Although most older Texans now are Anglo, by 2030 the population 65 years and older will be more racially and ethnically balanced (Figure 3). Furthermore, the four standard racial and ethnic groupings do not reflect the full diversity of cultures among our citizens. For example, from July 1996 to June 1997, over 3,700 refugees came to Texas from 40 different countries, including Bosnia, Cuba, Iraq, Somalia, Vietnam, Russia, and Ethiopia, among many others (Hugg, 1997). Although these immigrants all fall into the four standard demographic racial and ethnic categories, their cultural and social diversity presents an additional layer of challenges when planning for the health needs of the elderly.

Figure 3



Source: Murdock, Steve, *The Texas Challenge,* 1997.

The socioeconomic difficulties of old age tend to be more pronounced in the minority elderly since they generally enter that age group with relatively lower than average financial resources (U.S. Bureau of the Census, 1996). As a result, the minority elderly in Texas are more likely to have greater difficulty accessing medical services and are more likely to have less than adequate housing and transportation than elderly Anglos (Texas Department on Aging, 1998). Elderly minorities also have a greater tendency to manifest functional limitations in three or more activities of daily living (Texas Department on Aging, 1998). As minority groups begin to make up greater proportions of the elderly population, the unique health conditions of each group

(such as a higher prevalence for diabetes in Hispanics) will also become more prominent. At the same time, a greater depth of cultural understanding will be needed to properly frame the issues and develop solutions that will help all Texans meet the challenges of aging.

III. Health Status of an Aging Population

As people age, their health status is the result of a number of factors. Physiological aging leads to degeneration of the body. A lifetime accumulation of health behaviors exerts its influence. At the same time, external factors such as housing conditions and social cohesion or isolation influence the quality of life and wellness, and could make the elderly more susceptible to psychological problems such as depression and self-neglect (Texas Department on Aging, 1998). On the other hand, the deadly and debilitating conditions associated with the aging process are neither universal nor inevitable. Most, if not all, time-related diseases prevalent among the elderly can be prevented, or at least postponed. Rowe and Kahn in their book, *Successful Aging*, report that the physiological process of aging can be slowed by 1) avoidance of disease and disability (prevention); 2) maintaining mental and physical function (lifestyle); and 3) continuing engagement with life (social contact and productivity) (Rowe and Kahn, 1998).

Knowledge and understanding of the potential problems of aging can forearm us to better prepare for healthier and more productive elderly years. Such knowledge can also provide the fuel to promote policies and programs that will help the aging and elderly maintain optimal levels of wellness and achieve a more rewarding and productive quality of life. "By working with others who can help us succeed, we can develop long range plans for societal changes to meet the demands for disease prevention at all ages." (Falck, 1998)

The Health Effects of Aging

The physiological process that we currently recognize as aging is characterized by decreases in physical activity, increased incidence of disease, and gradual

degeneration of cognitive, neurological, psychomotor, and circulatory functions. There is a gradual and progressive loss of bone mass, the joints become stiffer and less flexible, and fluid in the joints decreases resulting in cartilage rubbing against the bone. Additionally, muscle tissues change and, in combination with normal aging of the nervous system, there is a reduction in muscle tone and contractility. The typical progression of these changes is toward gradual inflammation of the joints (arthritis) and decreases in muscular strength, flexibility, and range of motion. Neuromuscular degeneration – coupled with hormonal changes in postmenopausal women – contributes to a loss of bone density (osteoporosis).

A loss of brain cell function, degeneration of the neurological and circulatory systems, and strokes can result in symptoms of senile dementia associated with the group age 65 and older. Other forms of sensory dysfunction can also occur as a result of physiological aging. By age 65 most people experience difficulty focusing on near objects. Others may develop cataracts or glaucoma. Hearing impairments can include degenerative loss of hearing, otosclerosis and tinnitus (ringing in the ears). Taste, smell and balance also become impaired and reduced sensitivity to temperature change can result in health problems when inability to detect a decrease in temperature results in hypothermia.

As noted before, the health status of aging adults is the product of complex interactions between the physical aging processes, a lifetime of behavioral habits, health history, and social changes. For example, nutritional status can be both a cause and effect of poor health in older adults: poverty, isolation, malnutrition, poor oral health, and altered ability to taste and smell can all contribute to decreased food intake and involuntary weight loss. Increased morbidity and mortality may follow the decreased food intake due to nutritional deficiencies. Fracture rates increase when Vitamin D and Calcium absorption levels are low, and deficiencies in vitamins B-12, B-6 and folate, along with insufficient intake of vitamin C and riboflavin, may contribute to poor memory (Warren, 1994).

The complexity of these interactions presents challenges to how we define optimal health in an aging population. Advances in our understanding of any of the categories of factors – physical, behavioral, or social – will allow us to refine our indicators of health status, and to better develop our expectations of the level of health that can be maintained in an aging population.

Measures of Health in an Aging Population

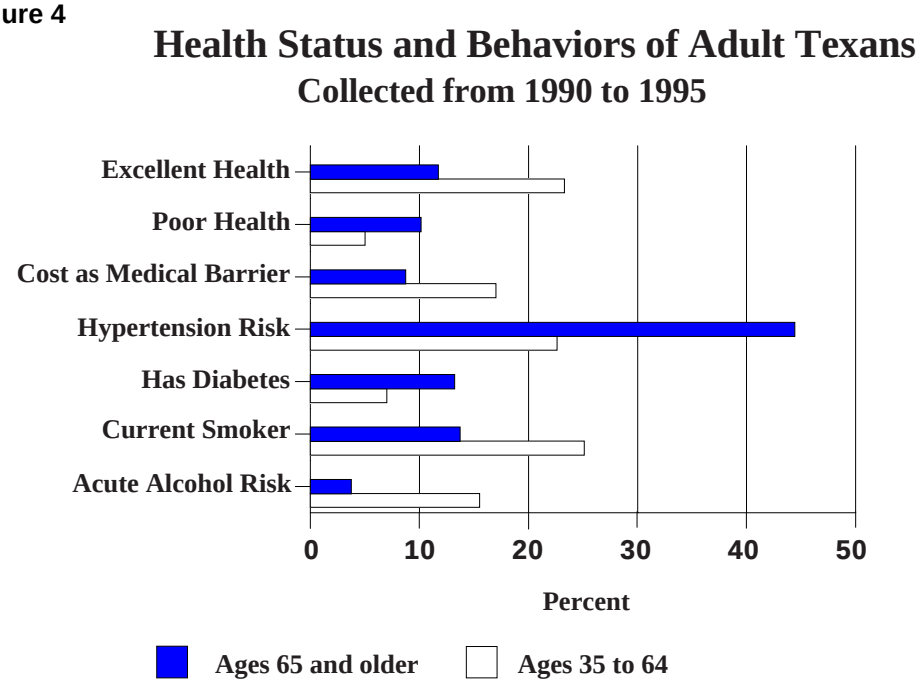
Though our measures of health status may be imperfect, some data exist to describe the current health status of the aging population in Texas. These include statistics on health conditions, health behaviors, and mortality.

Generally speaking, the elderly in Texas are less healthy than younger persons. The latest unpublished results of the Texas Behavioral Risk Factor Surveillance System (a statistical sample-based telephone survey of Texans conducted annually) shows that about half of Texans age 65 and older, as compared with those who are ages 35 to 64, report being in excellent health (Figure 4). The corollary is that twice the percent of older Texans report being in poor health as do their younger cohort. Older Texans also report having twice the incidence rate of diabetes and twice the risk of hypertension. However, in this survey, older Texans are half as likely to be a current smoker, one quarter as likely to be an acute alcohol risk, and about as likely to have a sedentary lifestyle as the younger group (Texas Behavioral Risk Factor Surveillance System, 1998).

Some other measures of how frequently diseases and debilities occur in the aging population exist as well.

- Arthritis, a term used to describe over 100 different types of inflammatory and degenerative conditions that damage the joints, is the most common self-reported chronic condition among women. It is the number one cause of disability in America, limiting everyday activities such as dressing, climbing stairs, and getting in and out of bed, for about seven million people (Centers for Disease Control, 1997).
- In Texas more than 265,000 people have Alzheimer's disease. One in ten persons over 65 have this disease, and nearly half of Texans over the age of 85 are afflicted with Alzheimer's disease or a related dementia (National Alzheimer's Disease and Related Disorders Association Inc., 1998).

Figure 4

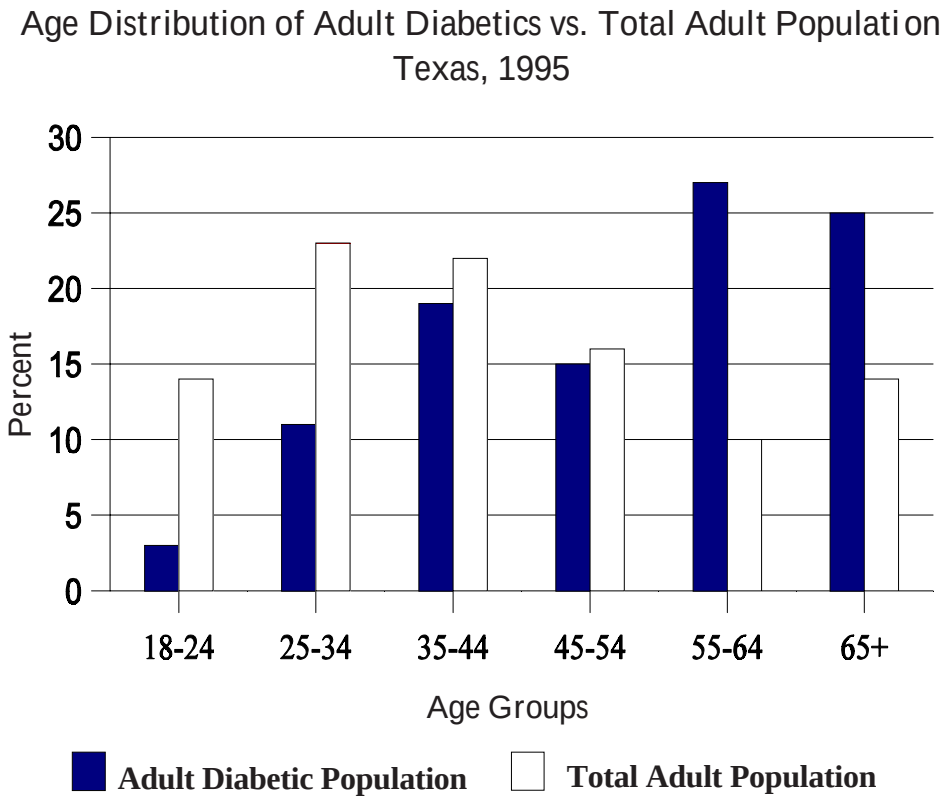


Source: Texas Behavioral Risk Factor Surveillance System, unpublished, 1998.

- Although aging Texans as a group have a relatively low disability rate as compared to aging residents of Florida, California and New York, roughly 30 percent of the state's aging population have functional limitations in more than three activities of daily living such as bathing, dressing, or getting in and out of bed (Texas Department on Aging, 1998).
- Falls are the leading cause of nonfatal injuries and unintentional injury deaths in older persons in the United States (U.S. Preventive Services Task Force, 1994). Approximately 30 percent of all community-dwelling elderly age 65+ fall each year with an estimated three to five percent of these falls resulting in fractures (Campbell, 1989). In Texas in 1995, there were 829 Medicare hospital discharges due to hip fractures per 100,000 persons in the 65+ population (Health Care Financing Administration, 1996).
- The prevalence of diabetes in Texas appears to be much higher in older age groups. In 1995 while only about 14 percent of the adult population was age 65 and older, 25 percent of the BRFSS respondents who stated that they were diabetics were age 65 and older. Over half of the self-identified diabetics were age 55 or older (see Figure 5).

The six leading causes of death for Texans over 65 in 1997 were heart disease, cancer, chronic obstructive pulmonary disease (COPD), cerebrovascular disease, diabetes, pneumonia, and influenza. Lung cancer is the most common specific

Figure 5



Source: Texas Department of Health, *1995 Behavioral Risk Factor Surveillance System.*

cancer causing death among both men and women. Prostate cancer is the second most common cancer in Texas, killing older men in 1997 at a rate of 211 per 100,000. Breast cancer is the second most common specific cancer in Texas causing death among women in this age group at a rate of 111 per 100,000 (Texas Department of Health, Epigram program , 1999). In fact, cancer and heart disease accounted for 63 percent of all deaths for Texans from 65 to 74 years of age (Texas Department of Health, *Leading Causes...*, 1997). The leading causes of death of the elderly in Texas are listed in Figure 6.

While heart disease and cancer account for the highest number of deaths among older Texans, the death rates from COPD are climbing (American Lung Association, 1998). This is the only lung disease that disproportionately affects Anglos more than Blacks. In all ethnic groups, the death rate for men is more than double that for women, reflecting the difference between the sexes in smoking over the years (American Lung Association, 1998).

These medical issues describe the health problems our current elderly population experiences, and suggest what is reasonable to expect as our population ages. Remembering that the 65+ population in Texas is expected to double from 1996 to 2020, a simple projection of these disease occurrences implies a doubling of persons with these conditions – unless the incidence rates can be reduced through changed individual behaviors and public policy decisions.

Figure 6

Mortality Rates for the Elderly
Texas, 1997

- **The death rate due to heart disease was 1826 per 100,000.**
- **The death rate due to all cancers was 1120 per 100,000.**
- **The death rate due to stroke was 448.4 per 100,000.**
- **The death rate due to COPD was 291.8 per 100,000.**
- **The death rate due to diabetes was 175.8 per 100,000.**
- **The death rate due to pneumonia and influenza was 203.3 per 100,000.**
- **The death rate due to injury and poisoning was 95.5 per 100,000.**
- **Alzheimer's Disease was responsible for a 1997 death rate 84.8 per 100,000 for Texans age 65 and over. However, the extent of this disease may not be reflected since it is frequently listed as a contributing or secondary cause on death certificates.**

Source: Texas Department of Health, Epigram program, 1999.

Opportunities for Prevention and Intervention

Building a healthy lifestyle helps prevent illnesses and injuries that cause early death or disability in later years. A healthy lifestyle can include adopting healthy behaviors such as avoiding tobacco, eating properly, and engaging in physical activity. Another category of prevention involves appropriate use of clinical strategies such as check-ups, immunizations, and diagnostic screenings. A third type of prevention is use of environmental approaches, for example, ensuring safer home environments, removal of lead or asbestos from homes, enacting seat belt legislation, and engineering safer roadways.

For Americans, the narrow concept of health as just the absence of disease no longer exists. Health has a broader definition that encompasses quality of life issues. This is a shift away from the belief that was prevalent until the 1980s: that being healthy was mostly a matter of luck. Today, this passive approach to health is being supplanted by an emphasis on actively creating good health. This trend is built on several values that Americans have come to embrace in recent years:

- Individuals can influence their own health through behavioral and lifestyle changes.
- These changes should be linked to disease and illness prevention strategies such as check-ups, immunizations and diagnostic screenings.
- One's own health and well-being includes numerous quality of life factors, such as family safety, and the quality of our environment that impacts everyone in the community (Lantz, 1998).

Preventive measures are conventionally categorized at three levels – primary, secondary and tertiary – depending on when they occur in the disease continuum. Primary prevention strategies target a disease or injury through the reduction of risk factors, before the health condition develops. Secondary prevention focuses on early detection and treatment of diseases. Tertiary prevention involves providing appropriate supportive rehabilitative services to minimize existing disease or injury and to maximize quality of life (U.S. Preventive Health Services Task Force, 1994). Since the primary prevention strategies are targeted at avoiding the disease or injury entirely, they are the most preferred.

Using a definition of health that goes beyond the mere presence or absence of disease gives rise to potential pre-primary prevention strategies to get to the root causes of ill health, be they physical, social, economic, or spiritual. With this in mind, building optimal health status for an aging population is a lifelong process that calls upon the responsibility of individuals and society.

Primary prevention for all ages

Some preventive measures stand out as having higher potential for reducing disease, premature death, and debility. Recognizing that some disease risk factors are genetically predetermined, the risk can be reduced, or the severity of the condition reduced, by individual behaviors during one's lifetime. The best opportunity for assuring optimal health in an aged population is to develop healthy behaviors as early as possible in life.

- Smoking contributes to heart disease, lung cancer, emphysema, stroke, COPD, and osteoporosis.
- Poor nutrition contributes to heart disease, cancer, diabetes, stroke, and osteoporosis.

- Lack of exercise contributes to heart disease, stroke and diabetes (U.S. Preventive Services Task Force, 1994).

Given that mortality data attributes most deaths in Texas to cancers and heart diseases (Texas Department of Health, 1995), the primary preventive interventions with the greatest potential to reduce morbidity and mortality include tobacco cessation, good nutrition habits, and physical activity.

Prevention in an aged population

While the effects of a lifetime of poor health habits cannot be erased, it is important to note that preventive measures can be effective even during the later years. Besides promoting good health habits, other important preventive interventions include immunization, screening, early detection, and early treatment (U.S. Preventive Services Task Force, 1994).

- Immunization against pneumococcal pneumonia and influenza is an effective prevention measure for adults. A study of vaccination in healthy adults found that those who got flu shots had 25 percent fewer upper respiratory illnesses than those who did not, and vaccination can prevent 80 percent of the deaths from flu complications. A pneumococcal vaccine provides a cost savings of about $140 per person per year. The projected cost of treating patients with pneumonia is 3.6 times higher than the cost of vaccination; but less than 3 in 10 of those at high risk, of which the elderly are a major part, receive the vaccine (Smith and McGhan, November, 1997).
- Promoting early detection through screening and responding to early warning signs can save many lives. Screening for high blood pressure has been credited with reducing deaths from stroke by 50 percent since 1972. Furthermore, the incidence of invasive cervical cancer has dropped dramatically, thanks to Pap smear programs. Widespread mammography has had similar success: 93 percent of women whose breast cancer is identified early and remains localized survive for five years or more as compared to only 18 percent of women whose cancer has had time to spread (Smith and McGhan, September, 1997). In addition, the cost of treatment is generally lower when illnesses are discovered in their early stages (Robinson, 1997).
- Nutritional well-being is integral to successful aging. Measures are available that, if implemented on a large scale, could effectively screen for and help alleviate dietary deficiencies in older populations. Combined with exercise and weight training, nutrition has been shown to improve the functional capacity of older adults to perform basic activities of daily living (Galanos, 1994; Campbell, 1994). The cost of providing a nutritious home-

delivered meal to one person for one year equals the cost of one in-hospital day (American Dietetic Association, 1995).

- Previously considered inevitable results of aging, falls and hip fractures are increasingly recognized as preventable. Interventions that combine exercise, behavioral risk reduction and home safety have been shown to enhance mobility and capacity to perform daily activities among community-based elderly. The rate of falls has been reduced by up to 40 percent among older community-living persons through careful assessment and targeting of such interventions (Tinetti, 1994).

The costs that will be incurred by not strengthening the health care system's orientation to prevention can be illustrated in projections for the management of chronic conditions, which will increase as the population ages. In the United States, chronic conditions trigger roughly two thirds of the physician visits and hospital admissions and over 80 percent of prescription drug use (Ault, 1997). In 1995 almost 65 percent of the direct medical costs in the United States for persons with chronic conditions ($470 billion, in 1990 dollars) were for hospital and physician services. Yet in spite of these expenditures, most hospital and physician care remains episodic, concentrated when the person with a chronic condition needs acute care. If the health care system's approach to chronic disease remains unchanged, by 2030 chronic care alone is projected to cost the United States $798 billion (in 1990) dollars in direct medical and nursing home costs (Robert Wood Johnson Foundation, 1996).

Although there is funding through Medicare and Medicaid for the treatment of disease and injury, coverage does not include all standard preventive screens recommended by the U.S. Preventive Services Task Force (U.S. Department of Health and Human Services, 1989). Although most of these measures for the elderly should be monitored by a health care provider, some can be done individually by active elders and baby boomers to prevent the later need for costly treatments after disease and injuries have taken their toll.

The benefits and cost of preventive interventions vary tremendously and analysis of these strategies has not been completed. However, a sufficient number of studies have been completed to understand that investments in prevention interventions will yield greater benefits in reduced expenses for medical treatment and hospitalization,

even though the actual dollar savings are not always known. A body of research on the cost-effectiveness and efficacy of prevention is emerging and some conclusions can be drawn. For example:

If more dollars were spent on:	***It could mean less money spent on:***
Screening, nutrition, and education subsequent to prevent heart disease.	*Emergency room treatment and care for a heart attack victim.*
Relatively inexpensive preventive care for a person with diabetes.	*Complications leading to amputation and lifelong disability.*
Breast cancer screening for early detection, when treatment is less expensive and more effective.	*Chemotherapy, radiation, and/or surgery.*
Modest cost of installing hand rails to prevent falls.	*Hip replacement surgery with rehab care.*
Adult day care	*Nursing home care*

(R.W. Johnson Foundation, 1998)

Social Isolation and Health Status

Though the relationships among all the factors are unclear, health status in the elderly seems to be strongly associated with social support. It appears that social networks can contribute to wellness and survival rates (see Bowling, 1991, for a review of the research). The life changes that occur in the sixth, seventh, and eighth decades of life – retirement, loss of a spouse or close friends, or changes in housing, for example – can lead to disruptions that increase the risk of social isolation. As a result, attempts to improve health status in an aging population must include the role of family, friends, living arrangements, and community services in preserving social support

networks. Patterns of intergenerational family and social support that exist in different racial and ethnic groups also come into play (Lockery, 1991; Johnson, 1991; and Purdy and Arguello, 1992). The social networks that best support wellness may be those that prevent social isolation and at the same time allow people to maintain non-dependent roles in their lives (Davis, 1997; Purdy and Arguello, 1992; and Public Health Service, 1990).

Figure 7

Average Payments for the Leading Causes of Hospitalization in the Medicare Population in Texas

Federal Fiscal Year 1995

*Clinical Classification (Principal Diagnosis)	Av. Medicare Payment ($) for a single Hospital Stay
Rehabilitation care, fitting of prostheses, and adjustment of devices	$11,070
Coronary atherosclerosis	$8,572
Acute myocardial infarction	$8,545
Fracture of neck of femur (hip fracture)	$8,296
Acute cerebrovascular disease	$6,301
Pneumonia (except that caused by TB and STDs)	$5,705
Chronic obstructive pulmonary disease and bronchiectasis	$4,994
Congestive heart failure, nonhypertensive	$4,663
Cardiac dysrhythmias	$4,654
Urinary tract infections	$3,662

Source: Fiscal Year 1995 Medicare Modified MEDPAR File, Health Care Financing Administration

IV. The Demand for Health Services

Use of Health Care in an Aged Population

The diseases and health conditions that occur in older adults shape the demand for health care. The elderly account for a disproportionately large share of the use of physicians' time, prescriptions, and acute hospital admissions (Texas Department of Health, 1991).

One example of the impact of a health condition of the elderly comes from fall-related fractures, which nationally are estimated to account for some $10 billion in annual medical costs (Sattin, 1992). In Texas there were 836 hospital discharges per 100,000 population in 1995 due to hip fractures in the 65+ population. A 1993 estimate of the mean charge for injuries due to falls among persons age 65 and older placed the cost at $11,800 per hospitalization (Covington, 1993). Extrapolation of these figures to the rate per

100,000 of the 65+ population results in an annual cost of almost $10 million, not including long-term institutionalization, or the intangible costs on the capacity to perform daily functions and maintain independence. When mentioning intangible costs, the emotional costs to family and caregivers must also be included. Furthermore, falls and the inability to get up after a fall are the most common reasons cited for long-term placement in a skilled nursing facility.

While the current patterns of health care use by older adults may in part be a function of health care coverage and reimbursement practices, a growing proportion of elderly in the population would be expected to lead to a growing incidence of illnesses and a growing demand for health care to treat and manage the illnesses. Murdock states:

> The aging of the population leads to faster rates of increase in the incidences of diseases and disorders in the future than the rates of population growth. Rates of increase will be largest in those categories of diseases and disorders associated with older ages, such as diseases of the male reproductive system, circulatory diseases, and diseases of the eye[1]... Physician visits and costs and hospital visits and costs will also increase with the population (Murdock 1997).

For example, while adults age 65 and older accounted for an estimated 17 percent of all physician contacts by adults age 18 and over in Texas in 1990, they are projected to account for almost 27 percent of all the physician contacts by adults in 2030 (Murdock, 1997; Table 1 and Table 2). In whole numbers, the number of physician contacts by the 65 and older population segment is projected to increase from 15,663,536 in 1990 to 52,555,931 in 2030 – an increase of 336 percent. Similarly, while the group age 65 and above, nationally, accounted for an estimated 23,923,274 days of hospital care in 1990 (or 76 percent of all hospital days by adults age 18 and older), they are projected to take 80,776,698 days of hospital care (or 84 percent of all hospital days by adults age 18 and older) in 2030 (Table 2).

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[1] Murdock specifically projects increases in incidence of 195 percent in diseases of the male reproductive system, 178 percent in diseases of the endocrine system, and 166 percent in diseases of the circulatory system from 1990 to 2030 (Murdock, 1997).

Table 1: Projected Number of Physician Contacts and Associated Costs* in Texas for Patients 65+

Age of Patients	Number of Contacts in 1990	Total Costs in 1990 dollars ($)
65-74	8,456,115	774,834.00
75+	7,207,421	660,416.00
Total	15,663,536	1,435,250.00
	Number of Contacts in 2000	**Total Costs in 1990 dollars ($)**
65-74	9,547,464	874,834.00
75+	9,202,474	843,223.00
Total	18,749,938	1,718,057.00
	Number of Contacts in 2030	**Total Costs in 1990 dollars ($)**
65-74	28,616,568	2,622,136.00
75+	23,939,363	2,193,564.00
Total	52,555,931	4,815,700.00

Source: Adapted from, Murdock, Steve, The Texas Challenge, 1997.

* Thousands of 1990 dollars

Table 2: Projected Days of Hospital Care and Associated Costs* in Texas for Patients 65+

Age of Patients	Days of Care in 1990	Total Costs in 1990 dollars ($)
65-74	21,006,48	13,255,088.00
75+	2,916,793	1,840,496.00
Total	23,923,274	15,095,584.00
	Days of Care in 2000	**Total Costs in 1990 dollars ($)**
65-74	23,717,584	14,965,795.00
75+	3,724,177	2,349,956.00
Total	27,441,761	17,315,751.00
	Days of Care in 2030	**Total Costs in 1990 dollars ($)**
65-74	71,088,604	44,856,906.00
75+	9,688,094	6,113,187.00
Total	80,776,698	50,970,093.00

Source: Adapted from, Murdock, Steve, The Texas Challenge, 1997.

* Thousands of 1990 dollars

Therefore, the projected increases in health care costs (based on 1990 dollars) due to these increases in demand from 1990 to 2030 show a rise of 336 percent in physician contact costs for the group age 65 and older, and a similar rise of 338 percent in hospital costs (Murdock 1997).

Long Term Care

Chronic physical or mental conditions that reduce a person's ability to function on his/her own produce an array of medical, nursing, social, therapeutic, and assisted living care concerns. An aging population can be expected to present a wide range of levels of independence in daily living, from complete self-sufficiency in the most robust to the need for complete institutional care for the very frail and sick elderly. As stated previously, about 30 percent of the aging population in Texas has functional limitations in more than three activities of daily living such as bathing, dressing, or getting in and out of bed (Texas Department on Aging, 1998), implying that the majority of the elderly have a relatively high degree of functional independence. Only about five percent of elderly Texans currently live in

institutional settings such as nursing homes (Texas Department on Aging, 1998). For the great majority of elderly Texans, their long-term care needs can be met in their own home or through community resources.

It is well established that institutionalization is usually not the first preference of most people. Ninety-five percent of older people with disabilities living at home preferred to stay out of a nursing home for as long as possible (Coleman, 1996). Seventy-two percent of middle-aged and older American preferred that their relatives with long-term care needs receive that care in the home from family and friends (Wiener and Hanley, 1992). But beyond personal preference there is also a set of fiscal implications tied to the options for long term care.

- Of all Texans living in nursing homes, 90 percent exhaust their financial resources and reach poverty within six months of admission (Texas Department on Aging, 1998).
- In 1987 annual per capita health care expenditures (in 1992 dollars) for the elderly living in the community were only $6,000[2] compared with about $29,000 annually for nursing home residents (Cohen, Carlson, and Potter, 1995).
- In 1997, Texas spent $1.34 billion in Medicaid dollars on nursing facilities as opposed to $1.83 billion spent on inpatient hospital expenditures (Figure 8).

Projections for the state of Texas (based on present patterns of use and projections of demographic change) predict increased use of nursing home beds and increased costs. Murdock states:

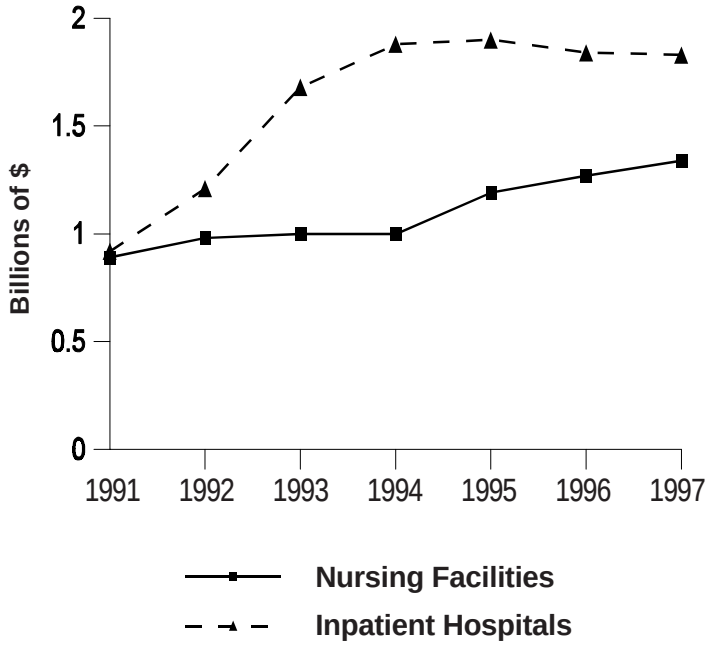
> ...The number of nursing home residents and the costs of their care would increase by 233.1 percent from 1990 to 2030, with the number of residents increasing from 100,732 in 1990 to 335,551 in 2030 and with costs increasing from $144.1 million in 1990 to $480.2 million in 2030. The number of residents and the costs of their care would thus increase by 2.33 times the level of overall population growth from 1990 to 2030 (Murdock, 1997).

[2] This low cost to the "system" may be due to the 100 percent caregivers who take on the burden of assisting family members. Some states are already beginning to provide funds for such persons (Falck, 1999).

Personal preferences and cost information may present a potentially strong motivation for young and aging people to adopt healthy habits and work to maintain wellness, and prevent, to whatever extent possible, the extreme disability that requires institutionalization. At the very least it signals the importance of policy formation that offers a wide variety of options for long term care and assisted living for the increasing elderly population.

Figure 8

Texas Medicaid Nursing Facility and Inpatient Hospital Expenditures, 1991-1997



Source: Texas Health and Human Services Commission, 1998.

As most people prefer to remain independent in their own home for as long as possible, home care is usually the option of first choice. Home health care is the provision of a wide range of health and social services in an individual's home or independent living environment. Home health care is usually appropriate when a person is able to stay at home but needs ongoing care that cannot easily or effectively be provided solely by family and friends.

- Nearly six million persons nationwide used home health services in 1987 (Altman and Walden, 1993).
- The most frequently used home care services are home health aides and homemakers (State of California, 1998).
- Users of home care are twice as likely to be women than men. Persons aged 85 and older, widows, those living alone, and those having difficulties with basic daily activities were most likely to have home care visits (Altman and Walden, 1993; Short and Leon, 1990).

Alternative residential models recognize that people are often forced to enter a nursing home because they have no family to care for them at home, or do not have access to the type of housing that meets their needs. There are several models of care

that are being developed in Texas and nationally to meet the needs of people who require assistance with long-term care. These models include congregate housing, board and care homes, and assisted living facilities.

- *Congregate housing* generally refers to residential buildings with separate apartments and shared dining facilities and other community space. This type of residential setting usually offers supportive services, such as housekeeping, transportation and meals. Congregate housing does not usually provide protective oversight or personal care.
- *Board and care homes* are also called residential care homes or facilities, sheltered care facilities, personal care homes, or adult foster care. This type of residential care provides rooms, shared common areas, meals, protective oversight, and help with daily living tasks.
- One of the fastest growing models of housing for the elderly is *assisted living.* Assisted living is molded around an idea of care that stresses independence, privacy and choice. These facilities generally have private rooms and baths (often with kitchen facilities), or one-bedroom apartments, with common areas for dining activities. The key component of this model is that assistance and supervision are available on a 24-hour basis.

A hybrid housing model for the elderly is based on intergenerational living, to ensure that the elderly are not sequestered away from the rest of society. For example, Victoria Village in Barrie, Canada, is a housing project that includes long term care, retirement and independent living, child day care, adult day care, a seniors' activity center, commercial space, and a public health facility all on the same site (Victoria Village, 1998). Thus, the model provides for the long term care and housing needs of the elderly while attempting to prevent social isolation and its potential negative effects on health status.

A challenge for the state is how to provide its aging citizens with access to affordable and appropriate long-term care services while keeping state budgets within control. The state's dilemma is not new: the number of elder persons in need of long term care, particularly those aged 85 and over, has been increasing rapidly in recent years while state budgets have grown leaner (Wiener, et al., 1997). In looking to the future, it would be advantageous to consider what actions other states and other more rapidly

aging countries have taken to increase access to long-term care services, to ensure more efficient delivery of those services, and to control costs.

V. Financing Health Care

In the United States, the health care delivery system is expected to provide an array of services to the elderly that are accessible and available even when financing health care is not within the means of the individual. The tables below highlight partial medical costs of treating some illnesses and conditions associated with the elderly. They suggest the magnitude of the cost of treatment in the curative health care system (a cost which will increase as the elderly population increases), but they also suggest the burden such costs would place on individuals if they were paid out-of-pocket. Individual elderly citizens depend primarily on three options to cover their health care costs: Medicare, fee-for-service or managed care private insurance, and Medicaid. The three financing methods cover different kinds of care and may come into play at different points in a person's life.

Medicare

Medicare is a federal health insurance program for older Americans and certain persons with disabilities. It was enacted in 1966 as a provision of the Social Security Act and is currently the largest national health insurance program for the elderly. The program is not free, and enrollment is not automatic, but very few people over the age of 65 are denied entry into the program. Those who did not pay enough into social security may have to pay a program-determined monthly premium to participate. Deductibles are also assessed for certain medical services (Williams, 1995).

Medicare does not cover all health care costs. It is structured primarily in two parts: Medicare Part A covers hospitalization costs with a $768 deductible for a hospital stay of 1 to 60 days, up to 20 days of skilled nursing home care at no cost, as well as home health care, and hospice care under certain conditions. Part B covers 80 percent of approved doctor's fees, outpatient hospital services, diagnostic tests,

emergency medical transportation, and durable medical equipment. Medicare does not cover ongoing or longterm custodial home care and nursing home services, physical examinations, preventive care services except flu, pneumococcal and hepatitis B vaccinations (if you are at risk), PSA testing, Pap smears and mammography. Eligibility for social security qualifies one to participate in Medicare Part A, but Part B is voluntary, requiring a $45.50 (1999) monthly premium. Most people do participate under Part B (Williams, 1995).

Table 3: Medicare Inpatient Hospital Discharges (Texas)
Federal Fiscal Year 1995 (October 1, 1994 - September 30, 1995)

Hospital Discharges by Selected Principal Diagnosis			
Principal Diagnosis (ICD-9-CM)	**Number of Cases**	**Aver. Length of Stay**	**Aver. Amount Paid by Medicare**
Diseases of the Heart (390-398,402,404-429)	116,660	6.1 days	$6,843
Cerebrovascular diseases (430-438)	36,039	7.0	$5,647
Hip Fracture (820)	15,771	8.5	$8,264
Diabetes Mellitus (250)	9,425	7.4	$5,614

Table 4: Hospital Discharges by Selected Principal Procedures

Procedure (Principal or Secondary) (ICD-9-CM)	Number of Cases	Aver. Length of Stay	Aver. Amount Paid by Medicare
Mastectomy (85.4)	2,499	3.3 days	$3,072
Lumpectomy (85.21)	194	5.4 days	$4,340

Prepared by: Health Information Research Team, Data Development and Management Division, Bureau of State Health Data and Policy Analysis, Texas Department of Health, January 1998.
Source: FY95 Medicare Modified MEDPAR File, Health Care Financing Administration, 1996.

Private Insurance

Third party insurance offers health care coverage options for those who are not eligible for Medicare or who can afford additional supplemental coverage. An individual comprehensive health insurance policy runs about $1,800 per year. Such policies cover hospitalization, doctor fees, prescriptions, and tests with about a $1,000 deductible. An HMO plan covering the same services will be costlier, but may be easier to finance as it minimizes the amount of out-of-pocket expenses at the time services are rendered (Harris, 1997). Disease-specific policies, also known as

dread-disease insurance, are not as cost-beneficial as comprehensive health insurance because they are more of a financial risk. Medigap (supplementary insurance to cover costs not covered by Medicare) is available, as well as long-term care insurance.

Medicaid

Created in 1966 under Title XIX of the social security program, Medicaid is a joint program funded by federal and state governments. Medicaid is the most common source of financing for long-term care services for the elderly. In 1997 Medicaid was the main financing source for 68 percent of nursing home residents nationwide (Wiener, 1997).

The eligibility criteria for Medicaid is based mainly on low income. However, some people 65 and older qualify under a provision including the blind, disabled, or aged. Individuals planning to participate in the program while residing in nursing homes usually have to spend their resources down to allowable levels in order to be eligible. In Texas, an income of $1,452-$2,000 in nonhousing assets is the range for single individuals; for couples, the range is $2,904-$3,000. There is economic protection for a spouse left behind when one enters a nursing home. When one spouse enters a nursing home, the combined resources of both of them is evaluated to determine what can be reserved for the community living spouse's expenses. Protected resource amounts in Texas range from $15,804 to $79,020 (Texas Department on Aging, 1998).

In 1994 Texas Medicaid spending for people age 65 and over amounted to approximately $2.5 billion, or 27 percent of the total Medicaid cost (Texas Comptroller of Public Accounts, 1997). In 1995 Texas also spent $2.2 billion on Medicaid long-term care for younger persons (50-65 years), plus persons with disabilities (Wiener, et al., 1997). From 1990 to 1995 Medicaid long-term expenditures for the elderly in Texas increased faster than the national average: 14 percent, compared with just under 11 percent for the nation (Wiener and Stevenson, 1997).

The Uninsured Elderly

While most elderly individuals qualify for Medicare coverage for routine curative care at age 65, the segment of younger aged adults who are not yet eligible for Medicare, but do not have private insurance, raises concerns. This group is entering the age of increased health problems, yet in 1996, 16 percent of people in the US age 62 to 64 had no insurance coverage at all (Smolka, et al., 1998). Of this group, about:

- Three in five were women;
- Two in five were single;
- Two in five were members of minority groups;
- Two in five worked full or part time; and
- One in four lived in households with incomes below the federal poverty level.

Common reasons for lack of insurance were current poor health status and high cost of premiums (Smolka, et al., 1998).

It is notable that the majority of these uninsured were out of the labor force before age 65. Previously some early retirees could expect continued employer-sponsored retiree health insurance until age 65, but lately employer coverage for them has fallen significantly due to businesses' concerns about future financial liability from such coverage (Alpha Center, 1998). Using data from the Health and Retirement Study sponsored by the National Institute on Aging, researchers learned that, "The older full-time workers who became uninsured when they retired in 1992-94 tended to be poorer, in worse health, from smaller firms, and less likely to have a pension than the older full-time workers who retained some type of health insurance after they retired" (Alpha Center, 1998). The number of aging Texans who will fall into this coverage gap will vary not only as a function of demographic growth, but also by socioeconomic employment trends including early retirement, layoff of older employees, dropping of retirement coverage by employers, and the retirement of employees from jobs that had never offered healthcare benefits at all.

Preparing the Health Care Workforce

As with any special needs group, geriatric patients often prefer and are best served by professionals who are trained and experienced in the needs of the elderly. In Texas the

numbers of health professionals with geriatric or gerontology certifications are shown in Table 5.

These numbers represent only those certified in the few categories of health professions that have certifications in geriatrics and do not include many more who have developed the skills and practices in caring for the elderly. Nevertheless, these numbers compared with the aging population of the baby boom generation suggest that there is a great and growing need in Texas for health care practitioners who specialize in geriatric needs and care.

Table 5: Health Professions Specialties in Geriatrics, Texas, 1998

Profession	Primary / Secondary Specialty in Geriatrics
Physicians, as of 9/98 *	29 / 66
Advanced Practice Nurses **	146
Physical Therapists ***	18

* Health Professions Resource Center, Bureau of State Health Data and Policy Analysis, Texas Department of Health, September 18, 1998.
** Texas Board of Nurse Examiners, April 23, 1998.
*** American Physical Therapy Association website, **http://www.apta.org**, November 12, 1998.

VI. End of Life Issues: Medical Choice and Decision Making

End of life issues are so clouded with emotional rhetoric in the public health arena that the importance of such questions is frequently masked. However, life ends at some point, regardless of health status, age, and the best interventions of medical practice. The older one gets, the greater the awareness that life does indeed end eventually. Thus the urgency of the need is to take care of health-related concerns while one is of sound mind and body and can make the proper choices and decisions on one's own (Lynn, 1996). Since aging increases the frequency of getting sick and contact with the health care system, this discussion emphasizes the issues that should be considered in advance.

Choice as a Medical Right

One of the strongest attributes of our society is the respect for individual autonomy and the right to choose (Marek, 1997). Formerly physicians reserved the right to make all medical decisions in the treatment of most of their patients. However, developments in our social structure and processes have given patients the right to know more about their health and to question suggested alternatives. The present medical establishment recognizes this need and encourages patients to participate in the diagnostic process and to choose from appropriate alternatives suggested for their care. Except when extremely incapacitated, one has the legal right to make decisions about the medical care for one's own body (Quill, 1991). It is also necessary to realize that physicians are technical professionals in the art of healing; their opinions should be seriously considered in such decisions.

Informed Consent

Informed consent empowers one to carefully evaluate and choose from the alternatives proposed for one's care. It presupposes a participatory framework throughout the diagnostic process when effective communication between the medical provider and patient results in a decision with which the patient is comfortable. When the nature of an illness limits the options available, the patient should be helped to understand in as clear language as is possible. If a patient's decision-making capacity is impaired, a surrogate should fulfill this function in their stead (Quill, 1991). The surrogate's role may be limited to the treatment in question only.

Decision-Making Capacity

To utilize informed consent beneficially, a patient must be capable of comprehending the treatment options before him or her and the risks/benefits of each option. If the court system has judged a person incompetent and pronounced him/her so, another person, such as a relative, can make his/her health care decisions by proxy. Other legal instruments that aging Texans may wish to have in place to protect their end-of-life preferences include advanced directives, living wills, guardianship choices, and life-sustainment options.

VII. Recommendations

The scan of issues provided here suggests that now is a critical time to begin developing a coordinated, comprehensive public health policy agenda for the aging population of the state. Our current status as a relatively young state gives Texas the opportunity to prepare for the demographic shift we know is coming.

As Texas moves into the 21st Century, the aging population of baby boomers will soon become the elder generation. Without appropriate measures, the health needs of this segment of the population could become a drain on the state's resources to an unprecedented degree. Many such measures will probably require major funding and governmental interventions. However, the alternative of societal delay or inaction will result in far more medical care and would be far more costly.

The following recommendations begin to set the stage for a healthier, happier and more productive generation of elder Texans. The national health goals, *Healthy People 2010,* include several additional recommendations for elderly and aging populations at the following web site, http://web.health.gov/Scripts/rptIndex.cfm.

1. Recommend that the Texas Department of Health create a single point of contact in the agency to coordinate with the Aging Policy Council, the Area Agencies on Aging and other organizations concerned with health issues of the aging.

2. Recommend that the Texas Health and Human Services Commission, with the commission agencies, support policies and funding to:

    - Increase public health promotion and outreach to educate all Texans, especially the middle-aged and their families, concerning healthy life-style changes and self-help.
    - Increase incentives for inter-generational, societal and family social support programs.

3. Recommend that Academic Health Centers examine their curricula and make revisions necessary to develop a health care workforce that works with communities and in partnership with federal and state governments to have the greatest impact on the health of Texas' citizens as they age.

4. Recommend that the Academic Health Centers examine their curricula and make revisions necessary to develop a health care workforce equipped to use education and prevention as the primary approach to helping all Texans achieve optimal health in their senior years.

5. Recommend that the Academic Health Centers survey their faculties and develop plans to increase health professions education in geriatric specializations for physicians; physical, occupational, respiratory and speech therapists; nurses; and home health aides.

6. Recommend that the Texas Department of Insurance and agencies of the Health and Human Service Commission explore mechanisms that encourage the insurance industry to provide greater emphasis on preventive care for all ages; including the administration of periodic health risk assessments (with special attention given to increased prevalence of certain diseases among elderly minority populations), counseling, education, and health maintenance programs for the identified risk(s) in order to improve both the frequency and consistency with which these services are delivered.

7. Recommend that the Aging Policy Council explore ways to insure that cost effective home health care is available for all senior citizens.

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