Conference Series on Aging in the Americas
Report from the Third and Fourth Conferences on Aging in the Americas

# Hispanic Health and Aging in the 21st Century

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# Preface

**Adolph P. Falcón, M.P.P.**
Senior *Vice President for Science and Policy*
National Alliance for Hispanic Health

The Conference Series on Aging in the Americas (CAA) was established in 2001 to promote interdisciplinary collaboration by bringing together in a single fourm a broad array of researchers in the fields of Hispanic health, health care policy, and behavioral and social aspects of aging. The conference series research agenda is unique in its focus on the aging population in the United States and Mexico and has important implications for the health and well-being of older Hispanic adults and their families.

The Third Conference on Aging in the Americas was held from September 15-17, 2009, at the Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin with the theme of Biobehavioral Underpinnings and Social Interaction on Hispanic Health. The Fourth Conference on Aging in the Americas was held from September 15-17, 2010, at the Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin with the theme of Issues of Disability, Caregiving, and Long-term Care Policy.

This volume presents an overview paper on Hispanic aging from the Conference Series on Aging in the Americas co-organizers. The volume also includes a summary of the Third and Fourth Conferences on Aging in the Americas as well as abstracts of invited speaker presentations and and abstracts of posters presented by graduate and post-doctoral students participating in the CAA.

While a wide variety of issues and opinions were covered at the Third and Fourth Conferences on Aging in the Americas, three themes stand out: (1) there is an Hispanic aging boom driven in large part by the fact that Hispanics live longer than non-Hispanic whites, (2) longer years of life for Hispanics do not translate into healthier years of life, and (3) for many Hispanic populations, particularly those residents of the U.S.-Mexico border, aging must be understood in a bi-national context.

## The Hispanic Aging Boom

The focus of CAA on the Hispanic aging experience comes at a time of growing recognition of the influence of Hispanic communities. Of course, this "discovery" of Hispanics by the media and policymakers comes despite the fact that those of Spanish origin were exploring the continental United States 125 years before the Pilgrims landed on Plymouth Rock.

Hispanics now represent 54.1 million persons in the United States, including the Commonwealth of Puerto Rico. Today, Hispanics make up

approximately 16% of the U.S. population and are projected to represent at least 30% of the population in the year 2050. The papers presented at the most recent Conferences on Aging in the Americas demonstrate that population growth is found not only in younger population segments, but that the size of the Hispanic older adult population will more than double over the next two decades.

Key to this growth is that the mortality rates for Hispanic populations are generally lower than those for non-Hispanic whites. Despite having less access to health care, less education, and less income, Hispanics live longer than non-Hispanic whites.

The research demonstrates the positive role of connectedness to their culture and community offering important lessons for all on the positive role of connectedness and family, faith, and culture in the Hispanic aging boom. In addition, the conference papers highlight the importance of research to understand the role of biological, behavioral and social factors in Hispanic healthful aging to build a more robust understanding of healthy aging in the Americas.

## More Years of Life, Not Healthier Years of Life

The papers presented at the Third and Fourth Conferences on Aging in the Americas lay out a foundation for understanding a key characteristic of aging in Hispanic communities. While Hispanics live longer lives, they are not healthier lives. Chronic illness and disease define aging for many Hispanics. Despite living longer, Hispanics tend to have higher disability rates, more functional impairments, and higher rates of such chronic diseases as diabetes. At the same time, the lack of access to health insurance and health services means that Hispanics are less able to take advantage of health services to prevent complications and manage and treat chronic illnesses that limit healthy aging for Hispanic communities.

The evidence presented at these conferences points to a lack of cultural proficiency in the health system as a key access barrier to services that would support Hispanic communities management of the impact of chronic disease. Evidence was presented indicating that services that paid attention to cultural characteristics were well utilized by Hispanic communities and had a measurable positive impact on prevention and disease management.

## Aging in the Americas

Given its Texas setting, the Conference Series on Aging in the Americas addresses the unique relationship of Mexico and the United States with a significant number of papers presented focusing on the Mexican American aging experience. The location of this conference series highlighted one of the organizing themes for the gatherings; to understand aging for most Hispanic communities, aging needs to be understood in the context of the Americas.

There was an impressive body of trans-

disciplinary research presented at the Third and Fourth Conferences on Aging in the Americas. The research demonstrated the importance of environmental and cultural factors in the biological, physiological and physical aspects of health and productive aging in older people of Mexican origin and descent in the U.S. and Mexico. An outlook that takes into account the unique experiences and multicultural lives of Hispanic communities must be incorporated into aging services to meet the challenges of the next aging boom.

Just as Hispanics have come to define much of popular youth culture, the longevity of Hispanics means that aging in America will be redefined by Hispanic cultures and values. As the data presented at the Third and Fourth Conferences on Aging in the Americas showed, a longer life may very well be found in connectedness to culture, family, faith, and community. These lessons are important to understand not only for aging in Hispanic communities, but also for healthier lives for all communities.

## Hispanic and Mexican American Health and Aging in the 21st Century

# An Overview


**Jacqueline L. Angel, Ph.D.**
**Lisa Yarnell, M.A.**
*The University of Texas at Austin*

**Fernando Torres-Gil, Ph.D.**
*University of California, Los Angeles*

**Keith E. Whitfield, Ph.D.**
*Duke University*

**Kyriakos S. Markides, Ph.D.**
*University of Texas Medical Branch at Galveston*



Correspondence:
LBJ School of Public Affairs
The University of Texas at Austin
P.O. Box, Austin Texas, 78713
jangel@austin.utexas.edu



*Portions of this work appear in the chapter: Angel, J. L., & Torres-Gil, F. (2010). Hispanic aging and social policy. In J. C. Cavanaugh & C. K. Cavanaugh (Eds.), Aging in America (pp. 1-19). Santa Barbara, CA: Praeger.*

# The Hispanic Aging Boom: Demography of Hispanic Aging

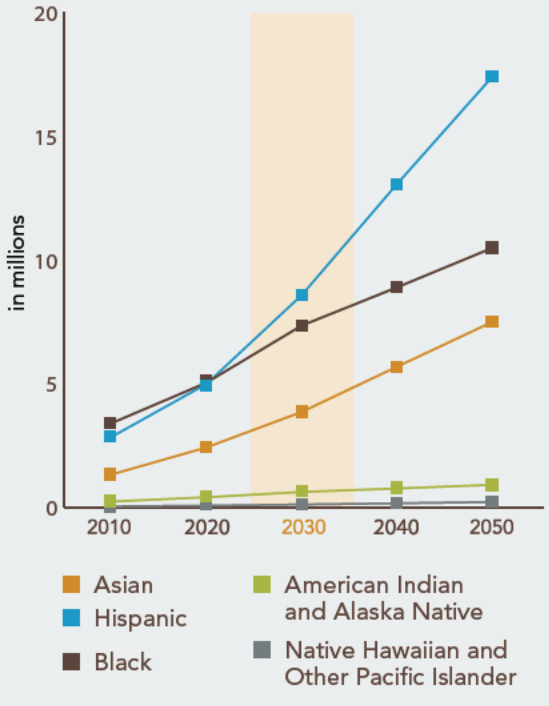
The U.S. population will age rapidly well into the 21st century. This is true of most nations as well. During the coming decades we can anticipate an "aging boom" as an increasing proportion of the population is reaching age 65 and beyond (U.S. Census Bureau, 2004-2011). In 1960, there were 16.6 million persons ages 65 and over, but today, there are an estimated 37 million elderly people in the U.S.

According to Census Bureau projections, by the year 2020, the number of older persons may well increase to 55 million and by 2050, to almost 89 million. As baby boomers gray during the coming decades, the number of Americans ages 65 and older is expected to more than double. Clearly, we are entering a new era in human history in which aging will have a greater impact on health systems, finances, family life, and society in both developed and developing nations.

Yet, the relative size of the older population is not the only, and perhaps not even the most important, factor that has significant implications for all aspects of social policy in the near future. Because of longer life expectancy, higher fertility rates and differential immigration patterns among certain groups, an ever larger fraction of the older population consists of individuals who are members of racial and ethnic minority groups (Torres-Gil, 2005). The number of ethnic minority elderly will grow more swiftly than the number of non-Hispanic white elderly over the next 40 years.

By the middle of this century almost one in three elderly persons will be from a racial or ethnic group other than non-Hispanic white. As Figure 1 shows, of the elderly populations projected in 2050, 17.5 million will be Hispanic, 10.9 million will be black, and 8.5 million will be persons of other races (Vincent & Velkoff, 2010). Hispanic, Black, Asian, American Indian and Alaska Native, Native Hawaiian and Other Pacific Islanders, and other groups, will become an ever larger and more important component of the aging of America.

Figure 1. Growth of Minority Elderly (Age 65+) Population (2010–2050)




Source: Vincent & Velkoff, 2010

The reality could be even more dramatic if life expectancy among Hispanics improves more sharply than current projections assume (Elo & Preston, 1997). Indeed the life expectancy of Hispanics, from data released by the Centers for Disease Control and Prevention (CDC), was 80.6 years according the data released in 2010 (CDC, 2010) and had risen to 81.3 years according to data released in January of 2012 (Murphy et. al., 2012). As Figure 2 shows, for all groups the life expectancy for women is greater than for men and the life expectancy for Hispanics is 2.3 years greater than for non-Hispanic whites and 6.2 years greater than for non-Hispanic blacks.

The growing statistical importance of the elderly in general and of the Hispanic aged population in particular is illustrated by their recent rapid growth rates. The anticipated rise in the number of Hispanic elderly is dramatic. The number increased sharply in the last decade from 1.9 million in 2000 to 2.9 million in 2010. The almost 3 million Hispanics who are now elderly will grow to 5 million by 2020. Under the assumption of the middle-series projections, in 2030, the number of Hispanic elderly is projected to exceed the number of elderly black Americans by 1 million people (8.6 million versus 7.6 million).

The oldest old—those ages 85 or older—are the fastest growing segment of the elderly Hispanic population (Wetle, 2008). Hispanics age 85 or older are projected to reach 2.9 million in 2050. Furthermore, the population of Mexican Americans over the age of 65 will more than double its present size, increasing from 1.5 million to 3 million in 2025 (Angel & Angel, 2009).

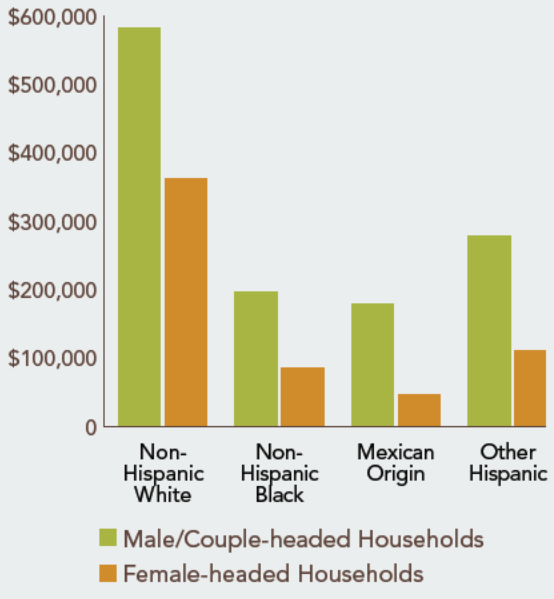
In this paper, we discuss the important policy implications of such compositional shifts for the health, health care needs, and social support mechanisms for elderly Hispanics, including older immigrants. The problems they may face include economic difficulties, lack of health insurance, lack of access to medical care, and limited options for elder care and living arrangements. These factors will affect the anticipated need for health care, old-age financial assistance, and long-term care. They also have substantial implications for the broader health and social policy issues arising from the age grading of the U.S. population and the emerging Hispanic population.

Table 1. US Life Expectancy (in years) by Racial and Ethnic Group

| | All | Males | Females |
|---|---|---|---|
| Hispanic | 81.3 | 78.8 | 83.8 |
| Non-Hispanic white | 79.0 | 76.4 | 81.8 |
| Non-Hispanic black | 75.1 | 71.4 | 77.7 |

For example, Hispanics on the cusp of retirement, especially in female-headed Mexican American households, report fewer financial assets than non-Hispanics of the same age group (Figure 2). These differences no doubt persist into elder years; 19.3 percent of Hispanics ages 65 and older live with incomes below the poverty line, compared to 7.6 percent of non-Hispanic whites in 2008 (Administration on Aging, 2010). In the U.S., Hispanic communities have historically suffered serious disadvantages in the labor market and, as a consequence, are at high risk of lacking retirement and health benefits. To be sure, elderly Hispanics face financial risks even though the U.S. has a social welfare safety net for elderly people. For many, a lifetime of low and modest income fails to build the financial resources necessary to support aging Hispanics' health care needs.

Figure 2. Racial and Ethnic Group Differences in Wealth among Pre-Retirement Age Individuals (15-61 years of age)




Source: Health and Retirement Study (HRS), 2008

Furthermore, survey research conducted under the Health and Retirement Study with Mexican American populations suggests that older Mexican immigrants in the U.S., particularly those who migrated in middle age or late adulthood, experience serious financial hardship and may lack the time needed to contribute to the Social Security System (Angel, Angel, Lee, & Markides, 1999).

Foreign-born Mexican Americans ages 65 and over, consequently, depend heavily on their family for financial support (Angel & Angel, 1997). Fewer older Mexican-origin immigrants report receiving Social Security and private retirement than the retired population at large. (Angel, 2003). Prior to welfare reform, elderly immigrants reported an annual income of $5,958 (roughly $497 per month), almost 95 percent of which was directly from the Supplemental Security Income (SSI), the federal cash assistance program for the aged, blind, and disabled. While much federal public assistance covered the needs of the elderly population before welfare reform in 1996, welfare reform established a five-year waiting period before receiving federal benefits for all legal immigrants who entered the U.S. after 1996, and created an unmet financial need for many elderly Mexican immigrants (Angel, 2003).

# Health among Older Hispanics and Mexican Americans

Census data show that Hispanics have a longer life span than non-Hispanics. Also, the life spans of older Mexican-origin men and women in the U.S. have increased along with those of the population at large. Despite longer years of life they are not healthy years of life. Elderly Mexican Americans suffer disproportionately from a number of medical conditions that can seriously compromise health and result in disability (Markides & Eschbach, 2005). The situation is particularly salient for individuals who have worked in harsh, dangerous conditions (Jasso & Rosenzweig, 1990). Some of these workers have been exposed to environmental health hazards caused by water and air pollution from manufacturing and other industries (Williams, 1996).

These inequities in health and health care in midlife can widen health disparities between non-Hispanic whites and Hispanics in later life. Older Hispanics have higher disability rates than older non-Hispanic whites, but slightly lower rates than black Americans (U.S. Census Bureau, 2008a). Also, older Hispanics are at higher risk for developing Type 2 diabetes than non-Hispanic whites (Schoenborn CA, Heyman KM, 2009). One in ten Hispanics (10.4%) over age 20 are diagnosed with diabetes compared to 6.6% of non-Hispanic whites (Centers for Disease Control and Prevention, 2008). Older Mexican Americans with diabetes have a higher risk of circulation and foot problems (Black, Ray, & Markides, 1999). A number of conditions are exacerbated by obesity, which is more common among individuals of Mexican descent than non-Hispanic whites (Centers for Disease Control, 2004).

Older Hispanics have higher disability rates than older non-Hispanic whites.

In addition, elevated rates of diabetes and related chronic conditions, including depression, translate into higher rates of disability among older individuals of Mexican descent (Markides, Eschbach, Ray, & Peek, 2007). Employing data from the Hispanic Established Populations for the Epidemiologic Studies of the Elderly (Hispanic EPESE), Markides and his colleagues discovered a great deal of co-occurring depression among older Mexican-origin diabetics.

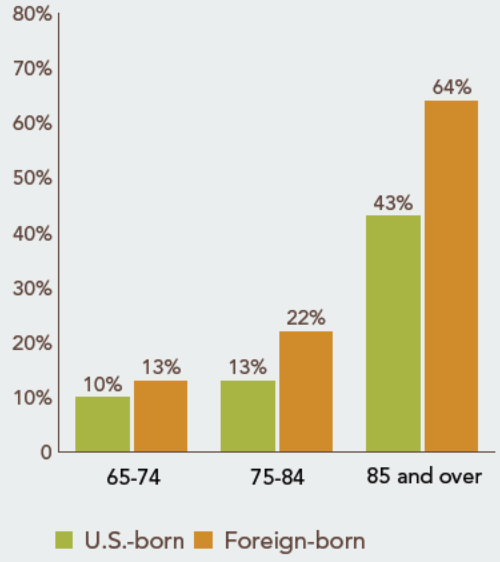
Relative risks of specific health conditions are, of course, not identical for all elderly Mexican-origin individuals. Differences align with other characteristics, such as nativity (Abraído-Lanza, Armbrister, Flórez, & Aguirre, 2006; Peek et al., 2010). For many conditions, including the risk of death and dementia resulting from Type 2 diabetes, the foreign-born have lower mortality rates than the native-born (Haan et al., 2003). Adopting westernized lifestyles is often

associated with the high-fat diets, unwanted daily stressors, and insufficient exercise routines that can be responsible for higher rates of diabetes.

On the other hand, compared with their native born peers, foreign-born Mexican Americans report a higher need for assistance with basic activities of daily life like bathing and toileting. Figure 3 highlights how the aging process itself more than quadruples the risk of functioning deficits among elderly Mexican American immigrants located in Texas.

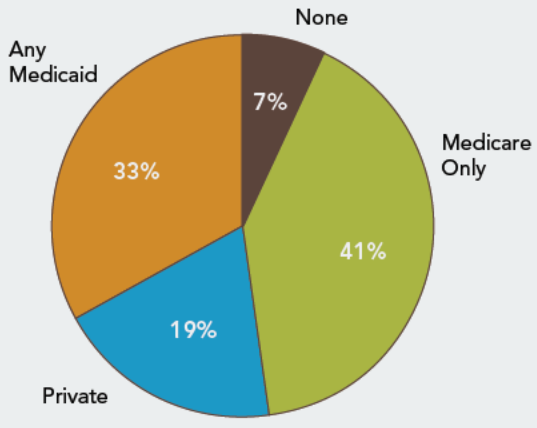
Individuals of Mexican origin have limited access to health care. Individuals of Mexican origin are disproportionately represented among those who suffer labor market disadvantages, a fact that has serious negative consequences for their material well-being and health care access throughout their life course. Mexican American children and adults have the lowest rates of health insurance coverage of any group in the nation. Even after age 65 when they become eligible for Medicare, an estimated 7 percent of elderly Mexican Americans do not participate in the program.

Figure 3. Elderly Mexican American Texans with Activities of Daily Living (ADL) Disability by Age and Nativity




Source: 1993-94 H-EPESE

Figure 4. Health Insurance Coverage for Older Mexican Americans in the Southwestern U.S.




Source: H-EPESE

In addition, those who do are less likely than other groups to own supplemental Medigap plans to cover the costs of what Medicare will not pay (Figure 4).

Health care coverage appears to be associated with immigrant status among the Mexican-origin elderly. Foreign-born Mexican Americans have lower levels of private employer-sponsored coverage than native born or non-Hispanics. Those who immigrated in mature adulthood are at particularly elevated risk of having inadequate insurance coverage (Angel & Angel, 2005) as depicted in Table 2.

Reasons for the low rates of health insurance coverage among Mexican Americans are multifold. Regional concentration, labor market differences, poverty, transportation, immigration status, limited English proficiency, and other social and cultural barriers can increase the risk of inadequate health coverage (Angel & Angel, 1996). Financial means is a key determinant of access to health care, although structural and cultural factors are also important barriers to individuals seeking medical treatment. Low-wage jobs in service industry and other service sectors often do not offer health insurance, or even if they do, the premiums an employee must pay for family coverage make it an unrealistic luxury. While Mexican American adults are overrepresented among those who cook our food, clean our offices and homes, and care for our children and gardens, they most likely receive minimum pay and no benefits. Because of life-long labor force disadvantages, retirement-age Mexican Americans have far less wealth than non-Hispanic whites with which to buy health care services or long-term care.

Table 2. Type of Health Insurance Coverage by Nativity and Age at Migration For Elderly Mexican Americans: 1993-94 *(weighted percent; unweighted n's in parentheses)*

| Age at Migration | No Insurance | Medicare Only | Any Medicaid | Private[1] |
|---|---|---|---|---|
| Late-Life Migration | 29.8 | 30.6 | 34.5 | 5.2 |
| Middle-Age Migration | 6.1 | 46.6 | 31.6 | 15.8 |
| Childhood Migration | 6.7 | 40.3 | 33.0 | 20.1 |
| Native Born | 3.2 | 38.7 | 26.5 | 31.6 |
| Sample Size | (137) | (1,205) | (958) | (634) |

[1] Includes military health care, i.e., CHAMPUS (Comprehensive Health and Medical Plan for Uniformed Services), CHAMPVA (Civilian Health and Medical Program of the Department of Veteran's Affairs).
Source: H-EPESE

The consequences of these life-long disadvantages in health care coverage place Mexican Americans at elevated risk of having preventable health problems and a diminished quality of life. A critical question for public policy today is whether health insurance reform signed into law in 2010, with most health insurance coverage expansions to occur in 2014, will adequately cover currently uninsured Hispanics. Such coverage holds the promise of fostering prevention and management of disease earlier in adulthood to support healthier years of life as Hispanics age.

# Immigration and Hispanic Healthful Aging

## Is there a mortality advantage for Mexican-American immigrants?

Even though Hispanics are less likely than non-Hispanic whites to graduate from high school or college, have health insurance, and more likely to have limited incomes, Mexican Americans have lower mortality rates than other Hispanic groups and non-Hispanic whites in almost every age bracket (Markides & Eschbach, 2005). Several studies attribute the Hispanic mortality advantage to social, cultural, and health care system factors (Jasso et al., 2004), with immigrants having the most positive health profiles of Hispanics (Hummer, Rogers, Nam, & LeClere, 1999; Vega et al., 1998). For example, researchers found a higher risk of death and dementia due to Type 2 diabetes among native-born than foreign-born Mexican-origin elders (Haan, Mungas, González, et al., 2003).

## Do Mexican Americans lose their health and mortality advantage over time?

The mortality advantage of foreign-born Mexican Americans depends on at least two main factors related to immigration processes: when they arrived in the U.S. during their life time and how long they have spent in the U.S. (e.g., Angel, Buckley, & Sakamoto, 2001). For example, Mexican American immigrants who come to the United States as children and who become more acculturated do better in terms of emotional well-being than those who migrate later in life (Angel & Angel, 1992). Other research shows that elderly Mexican American immigrant women report more problems with instrumental activities of daily living (Angel et al., 1996) and a greater need for family assistance than their native-born counterparts (Angel et al., 1999; Wilmoth, 2001).

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Migration, defined in terms of moving from one's culture of origin, in middle and later life, entails significant life events and numerous chronic strains that can undermine an older Mexican immigrant's general health and psychological well-being (e.g., Angel & Angel, 1992). The Health and Retirement Study (HRS) data show that middle-aged Mexican Americans are more likely to be disabled and for longer time periods compared to their non-Hispanic white peers (Angel et al., 2001; Hayward & Heron, 1999).

# La Familia and Elder Care

Older Hispanics are the least likely to reside in a U.S. nursing home, compared to their peers in other racial groups (Fennell, Feng, Clark, & Mor, 2010). Among nursing home residents aged 65 and over in 2005, 6.4% were Hispanic, 11.2% were African American, and 79.4% were non-Hispanic White. A host of cultural, demographic, and economic factors explain this pattern in long-term care. For Mexican Americans, nativity status often means a traditional cultural orientation versus a less traditional, more "American" orientation. Cultural groups with higher fertility, such as Mexican Americans, have a greater number of family members available to help care for infirm parents. In addition, adult children may feel obliged to care for their aging parents because of culturally-based norms associated with Hispanic ethnicity (Herrera, Lee, Palos, & Torres-Vigil, 2008).

This may explain, in part, the lower use of nursing homes by older Hispanics. Whenever possible, Mexican American children keep their elderly parents out of nursing facilities because they do not view nursing homes as a culturally viable alternative, but rather as a place of last resort (Angel & Angel, 1997). Put simply, Mexican American elderly are more likely to remain in the community than to enter a nursing home because the family prefers it that way.

Elderly Mexican Americans have a stronger desire than their native born peers to live within an extended family household in the event of diminished capacity (Angel et al., 1996). Foreign-born Mexican-origin elderly tend to have poor health when they arrive in the U.S. and thus co-reside with adult children (Angel & Angel, 1997). Besides the role that culture plays in accounting for the lower rates of nursing home use, there are other reasons for the higher rates of family caregiving among Mexican Americans. Elderly Hispanics are more likely to be poor, and consequently, unable to pay for nursing home care. There is a lack of available nursing homes geographically built within Mexican American communities (Reed & Andes, 2001), and the nursing homes that elderly Hispanics do reside in tend to be poorer in quality (Fennell et al., 2010).

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# Implications

As a result of growing acute and long-term care needs, the health and well-being of older Hispanics is a critical public policy concern (Angel & Hogan, 2004). Barriers to achieving full participation in American social, health, and economic life has far-reaching implications as Hispanics age in the U.S.

If as young persons, Hispanic communities start out with relatively low levels of health access, income, and education, they are more likely to become older persons with lower levels of retirement coverage and chronic conditions requiring treatment and managment (Halliwell & Wilbur, 2006). What this implies is that to the extent we fail to address health and well-being for younger Hispanics, we will have a much larger proportion of elder Hispanics in the future at disadvantage for healthy years of life. The bottom line is that Hispanics (Mexican Americans, Puerto Ricans, Cuban Americans, and Central Americans) experience a cumulative disadvantage in economic and health access terms. Despite this, Hispanics live longer than non-Hispanics of all other races (U.S. Census Bureau, 2008b), yet are less likely to have retirement income adequate to those years of life. What does this mean for the U.S.? If the country hopes to rely on the increased number of Hispanic workers for future U.S. labor force participation and economic productivity, attention must be paid to improving health and well-being along the lifespan.

Hispanic baby boomers form the bridge between the aging of baby boomers and the emerging Hispanic population. An estimated 77 million baby boomers are juxtaposed with approximately 52 million Hispanics. Hispanic baby boomers comprise 10 percent of the boomer cohort making them 8 million soon-to-be-older persons (U.S. Census Bureau, 2006). They will be the next generation of elderly Hispanics, but surprisingly there is a dearth of research about this group. A recent study provided a first glimpse of what faces this group as it ages: Hispanic wealth and income averages, as well as income replacement rates, fall below those of the general population, and poverty rates for Hispanic boomers appear to be slightly above those for boomers in general. Hispanic members of the oldest segment of the boomer cohort are less likely to be thinking about retirement than their non-Hispanic white counterparts (Gassoumis, Wilbur, & Torres-Gil, 2008). The relevance to social policy and Mexican American aging lies with what we do not know about differences and similarities of the current generation of elderly Hispanics, and the next generation to come. Will Hispanic baby boomers, for instance, and the next generation of Hispanic elderly, have the same needs and preferences in old age as their parents and grandparents? Will their health and long-term care needs resemble those of previous generations? Would Hispanic baby boomers utilize the health clinics and senior citizen centers currently used by their elders? Might we be planning for the next generation of Hispanic elders based on what we know about today's Hispanic seniors and find that these do not apply to Hispanic baby boomers? These and other questions remain unanswered, highlighting

the need to do research and policy analysis on Hispanic baby boomers in order to avoid incongruencies in our planning for the next generation of Mexican American and Hispanic elders.

Hispanics are reshaping the demographic composition of the U.S. After years of research, investigators have extended their grasp of complex social and behavioral factors associated with the health of aging Hispanics. That knowledge and experience can inform the development of new institutional arrangements to deal with these health disparities. It can also help to implement new innovative strategies and concrete solutions to protect and improve the health and social welfare of the older Hispanic population.

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# Third Conference on Aging in the Americas Report

# Conference Highlights

The following presentations were made at the third installment of the International Conference Series on Aging in the Americas (CAA), focusing on important trans-disciplinary work and the integration of biological, behavioral, and social factors that contribute to health and productive aging in older people of Mexican origin in the U.S. and Mexico. The term "biobehavioral" is quickly becoming a popular manner of characterizing this broad area of research encompassing biological underpinnings of behavior or behavioral implications for biological phenotypes. This broad conceptualization reflects the interest in providing a deeper level of understanding of how a complex phenomenon like aging can be understood in an ecologically valid, multivariate fashion. Biobehavioral inquiries are now a widely accepted approach used to improve understanding of age-related changes in health and disease in late life. How these relationships occur in the Hispanic population, unique caveats, and the impact of language, culture, and immigration to known biobehavioral relationships have not been well studied. More specifically, while many have described the health of older Hispanics in the U.S., few have examined the complex relationship between biology, culture and behavior in the older Mexican-origin population. The presentations provided unique insights about situational and cultural factors that interact to impact the biological, physiological, and physical aspects of health in older people of Mexican origin or descent.

The 2009 International Conference on Aging in the Americas (CAA) began with a reception and dinner at the LBJ Library on Tuesday, September 15, 2009. In his after dinner speech, **Ronald Angel** covered a number of critical areas of biology and behavior by addressing vital concerns about where genetics is in respect to scientific contributions to behavior. From his viewpoint, the real challenge was posed as a core question: To what extent do individual Hispanics control their lives and their health, and to what extent are their lives and their health affected by factors outside their control, including genetic factors? The question takes on particular salience when one's ability to control one's life is constrained by social class factors related to historical disadvantages based on race and ethnicity. It is clear that the health problems of Hispanic subgroups must be addressed from multiple levels of analysis and intervention, and hopefully this conference can help illuminate the various possibilities. Approaches that focus solely on the individual or biological levels run the risk of failing to understand or deal with the impact of macro structural factors that determine group-specific educational and occupational opportunities and disadvantages, as well as the living and work conditions that expose individuals and communities to occupational and environmental pathogens. On the other hand, approaches that ignore biology fail to take advantage of opportunities to refine individual risk profiles. The new interest in genetics is fueled to a large extent by the fact that using standard survey-based self reports of health behavior, illness conditions, and

health outcomes has failed to comprehensively address the problem. At the appropriate level of analysis, an understanding of the interaction of genes and environment offers great promise, especially in more accurate identification and understanding of risk. We know that Mexican-origin individuals are, as a group, at elevated risk of diabetes and its complications. Yet, like all human populations, the Mexican-origin population is highly outbred, and the ethnic label itself represents more of a political label than a meaningful genetic or medical category. The promising contribution of genetics is in allowing us to more accurately identify those individuals at highest risk of specific diseases and their complications. It might also make more targeted and effective interventions possible. For example, if someone identifies him or herself as a Mexican or Mexican American, a physician tests glucose levels and perhaps looks for other markers, such as glycosylated hemoglobin. A better understanding of genetics holds out hope for better prevention and treatment of disease. More studies are needed to address the question of how knowledge of group membership can be combined with biological and social factors to help understand the unique health risks of older Hispanics.

On the second day of the conference (Mexican Independence Day), in his Keynote Lecture, **Mark Hayward** presented an engaging lecture that provided useful information on the developmental origins of healthful aging among Hispanics. Dr. Hayward raised important issues concerning the Hispanic paradox and other similar mortality studies, particularly on the precautions of the problems in interpreting mortality information. He strongly encouraged interdisciplinary work with biologists to create a complete picture and ended with a call for action to investigators in the social sciences to partner with those of us in the biological sciences given that work can be enhanced through collaboration.

Two of the papers addressed the subject of international differences in obesity. This is of great interest to researchers in Hispanic aging and other special populations. **Anthony Comuzzie** examined genetics and cultural influences on obesity in Hispanic Americans. His talk focused on purely genetic issues and provided useful examples to the neophyte social scientist interested in genetic issues. His findings show that the prevalence of obesity in Mexican Americans increases with age and also results from the increased prevalence of coronary vascular disease and Type 2 diabetes. T2DM obesity represents a complex condition with multiple associated phenotypes; however, the patterns of observed variation in these traits result from both environmental (e.g., quantity and quality of food, reduced physical activity) and psychological stress factors, as well as genes. Multipoint linkage analysis has been utilized to search for quantitative trait loci (QTLs) which impact the expression of numerous obesity-related traits in adult Mexican American populations. This is an important scientific discovery as this sort of analysis of positional candidate genes for several of these QTLs have identified several SNP biomarkers with significant associations.

**Eileen Crimmins,** in her analysis of the Mexican Family Life Study, reached a similar conclusion. She examined the linkages between social circumstances and bio-behavioral health in Mexicans. Her results reveal the complex and nuanced problems with the measurement of acculturation/assimilation in the Mexican population, particularly how it relates to high levels of physiological dysregulation in weight and hypertension across the adult life cycle. Obesity and overweight are the strongest predictors of hypertension. The researchers also identified a substantial group of undiagnosed people. Future research needs to investigate the mechanisms explaining the lack of diagnosis, such as system-level factors. The results also point to elaboration of the model using biomarker data, such as dried blood spot screening, to estimate cardiometabolic risk.

Employing the Sacramento Longitudinal Study of Hispanic Health (SALSA), **Hector González** and colleagues presented new evidence for support of the Latino health paradox. This theory posits that despite economic and social position disadvantages, key indicators of population health in Hispanics, and more specifically in people of Mexican-origin, suggest they are generally as healthy as non-Hispanic whites, and in better health than African Americans. But, does the health of Mexican-origin immigrants erode disproportionately with aging and increased exposure to the U.S. experience? The results show positive acculturation among older Mexican Americans ages 60 and over was associated with better health defined in terms of biomarkers of the metabolic syndrome (waist circumference, hypertension, hyperglycemia, hypertriglyceridemia, and low-high density lipoprotein). The Latino Health Paradox is explained by better access to care (e.g., Medicare) and other socioeconomic conditions. Furthermore, the relationship between acculturation and health may not have a continuously negative trajectory as the acculturative stress hypothesis would predict and may be nonlinear over the life course. The acculturation-health hypothesis will explain the relationship between acculturation and health over the life course.

**Sylvia Mejia Arango** provided much needed, new information from the Mexican Health and Aging Study (MHAS) on the prevalence and incidence rates of cognitive impairment in the Mexican population ages 60 and over. With an increasing older population worldwide, particularly in the western hemisphere and in countries such as Mexico, Canada, and the U.S., mild and severe cognitive impairment represents a major public health problem. Physical comorbidities increased the overall risk of dementia (5.7 percent and 29 percent for cognitive impairment without functional limitations). The major factors associated with decreased cognitive performance in the older Mexicans include: age, exercise (mental and physical), vascular diseases, such as diabetes and hypertension, and related vascular risk factors such as hypercholesterolemia and APOE genotype.

On Thursday, September 17, the last day of the conference, **Carlos Mendes de Leon** presented new descriptive data on late-life Hispanic health in the rapidly growing number of older Hispanics in the Midwestern U.S. This is the first study to document geographic variation in disability across the U.S. The results show that elderly Hispanics in the Midwest display more diverse backgrounds than in the Southwest, and this has important implications for aging. He recommends that future studies go beyond description to focus on causal mechanisms of modifiable risk factors. The collection of more systematic information on health risks and disparities in older Hispanics in the Midwest could translate into interventions that focus on important differences within subgroup populations across different regions.

**Maria Aranda** used triangulation to examine frailty in Mexican Americans ages 75 and older. Using the fifth and sixth waves of the H-EPESE, she documented the protective effects of Mexican-origin communities in the Southwestern U.S. on disabling illness (i.e., physical frailty). In addition, her lecture on cognitive frailty in Mexican American populations focused on the qualitative nature of declining health in older Hispanic Americans. This study discerns richly textured elements in clinical interviews of elderly Mexican Americans suffering from clinical depression. The results underscore how this approach yields valuable information about cultural influences on mental illness. Structured questionnaires used are inappropriate, given the nature of the response task for detecting depression, anxiety and related mental disorders in elderly Mexican Americans. Dr. Aranda offered a compelling argument for new investigations, addressing the cultural dimensions of mental health among Hispanic subgroups.

**Kyriakos Markides** provided an overview of the Hispanic-EPESE, highlighting new longitudinal findings of Mexican Americans ages 75 and over in five Southwestern states: Arizona, California, Colorado, New Mexico, and Texas. The major trends suggest that over time, aging is associated with a higher prevalence of hypertension, Type 2 diabetes, ADL-disability, and cognitive impairment. The rates of disability and death due to stroke, cancer, and hip fracture may dissipate, however, among Hispanics living in more ethnically cohesive neighborhoods.

**Veronica Montes de Oca** examined the migrant experience among Mexican migrants. This work is groundbreaking because it is truly "bi-national" and covers the life course model in a systematic way. Also, it was comparative because it covered the effect of Mexican migration on health of older immigrants in both countries (U.S. and Mexico). Her qualitative data consisted of 18 interviews with Mexican migrants who returned to Guanajuato, Mexico (16 men and 2 women) after living in the U.S. These richly textured data demonstrate the complex ways in which isolation in labor camps often leads to depression, alcoholism, and loneliness. These events become part of the accumulated life course of the aging migrant and intersect with childhood experiences, community of origin and destination, social

networks, and labor activities, all of which influence the perception of health in old age.

**Julio Frenk's** cyber presentation on human security and health at the border underscored the implications of the effect of Mexican migration on health. He gave a thoughtful, well-delivered talk on the policy of health security among Mexicans and Mexican Americans on both sides of the U.S./Mexico border. It was not a scientific talk, but a plea for health security and human rights. It included some "personal" political comments and views, with rhetorical linkages to the current administration bill on health care. The external reviewer commented that the topic of border health security, while contentious, might be an exciting topic for a forthcoming conference, which is planned for 2010, on social, psychological, and biological factors that impact the acute and chronic health care needs, especially long-term services, of Hispanic elders.

In his Closing Keynote Lecture, **Luis Miguel Gutierrez,** director of the Mexican Institute of Geriatrics, National Institutes of Health, Mexico City, Mexico stated that the growth of the elderly population in the U.S. and Mexico presents a new challenge to health systems and family support networks in light of high rates of poverty, and profound inequity in access to services. He argued that future research needs to build upon and add to the biomedical model of disease and illness to include a broader definition of "ecological health" that would consist of a more comprehensive and useful approach to promote Hispanic healthful aging. Promising avenues include empirical and clinical studies focusing on institutional and structural factors that prevent and postpone the onset of chronic disease. He underscored that adopting a life course perspective is critical for understanding ways to address disparities in physical and cognitive frailty, regulation of the metabolic syndrome (e.g., dyslipidemia, hypertension, glucose intolerance), and senile dementia of the Alzheimer's type in the Mexican-origin population. He called for urgency in recognizing the growing importance of the "dual burden" of disease (acute and chronic) in Mexico for geriatric care, particularly primary care, which requires better coordination, and more appropriate patient-centered care to achieve diabetes control, cancer screening, and weight management. The Institute's ultimate goal is to become a global leader in designing a fully integrated health and long-term care infrastructure for older adults. To facilitate these efforts, new opportunities will be created for networking across basic, clinical and social scientific research settings in Mexico and with countries worldwide.

## New Directions

The conference ended with a consensus building session with a discussion of issues of agreement and areas for future inquiry. Table 3 provides a list of several new directions for research. First, it is clear that a growing need exists for a *multidisciplinary approach* to study the *unique experience and healthful aging of subgroups of the Hispanic population in the U.S.* Demography is not destiny, but demographic

| Table 3. New Directions in Hispanic Healthful Aging |
| --- |
| • unique experience and healthful aging of subgroups of Hispanic people in the United States and Mexico<br>• influences of the immigrant family experience on healthful aging (e.g., parents not knowing the status of their children, immigrants as a source of caregivers, etc.)<br>• effect of negative child health behaviors on increased risk of later-life Mexican-origin obesity |
| • dynamics of immigration processes, including emigration from and reimmigration to Mexico when examining late-life health problems<br>• effects of immigrant selection, including lower rates of immigration among the elderly |
| • multidisciplinary approach (i.e., multiple social criteria, the environment, and biomarkers/genes at different points in the adult life course and over time) |

differences in population diversity are important considerations. The Hispanic population is becoming the largest U.S. subpopulation, rapidly increasing in size. As life expectancy increases, the burden of diabetes on society significantly increases.

Second, Hispanics should not be considered a monolithic group. For example, Puerto Rican immigrants tend to be more disabled than other immigrants, and their immigration experience is different from that of Central Americans. Third, within-group racism, a social stratification based on multiple social criteria, can also explain unequal access to health and social services in the older Mexican-origin population.

*The effect of child health behaviors on subsequent risk of obesity.* Health-related behaviors combined with increased exposure to stress in childhood leads to obesity for people of Mexican-origin in late life. Recent Mexican immigration can be considered a serious social stressor on mental health in late-life migrants in the U.S.

*Understanding the influence of the immigrant family experience on healthful aging.* Audience members mentioned various aspects of the immigrant experience: worksite raids, establishment of detention centers, parents not knowing the status of their children, hatred against immigrants, adapting one's understanding of health to that of a new country, immigrants as a cheap source of caregiving, etc. All of these factors have a profound important impact on stress. Health problems may be declining in Mexico because of emigration, and rates of return to Mexico should also be taken into account. Researchers studying immigrant health should consider influences of immigrant selection, including lower rates of immigration among the elderly.

# Invited Speaker Abstracts

## Agency versus Structure: Genetics and a New Twist on an Old Debate

Ronald J. Angel

The decoding of the human genome and advances in genetic medicine promise great advances in the prevention and treatment of disease. A more sophisticated understanding of gene/ environment interactions promises to greatly improve disease risk profiles. These powerful methodologies, though, raise serious intellectual and practical questions, especially when they are employed in explanations of complex higher-order behavioral and social outcomes. For many social critics of genetic or genomic approaches raise serious ethical as well as theoretical questions that must be continually addressed. There can be little doubt that all human behaviors reflect complex gene/environment interactions, but isolating the unique contributions of genes and environment in the explanation of highly overdetermined behavioral and social outcomes may not represent a fruitful theoretical or practical undertaking. For many, if not most, outcomes of interest to behavioral and social scientists, attempting to find a single or even a limited number of polymorphisms related to complex social outcomes probably makes no sense. When dealing with groups that differ significantly in histories of discrimination and exclusion biological explanations must be employed with caution even as they promise great strides in dealing with specific diseases.

## Predictors of Frailty at 2-year Follow-Up in an Old-Old Mexican American Population

María P. Aranda, Laura A. Ray, Soham Al Snih, and Kyriakos S. Markides

Prevalent with increasing age, frailty is associated with elevated risk for deleterious health outcomes such as poor quality of life, falls, hospitalization, institutionalization and mortality. The definition of frailty, which as received considerable attention in the last decade, can be characterized as an accumulation of deficits on one side, to a distinct clinical syndrome on the other. More recent notions underscore that the psychological aspects of frailty have received little attention, yet are fruitful for scientific inquiry. Although a large number of frailty predictors have been proposed, more recent notions regarding the influence of psychosocial and environmental factors have been proposed. Taken together, determinants of frailty span clinical, pathophysiological, psychosocial, and environmental factors underscoring a biopsychosocial approach to the study of frailty in late-life. A particular focus of this study is to identify potential psychosocial

and environmental factors such as psychological affect, social support and neighborhood context, specifically neighborhoods with high density Mexican Americans. In this study, we seek to understand the relative contribution of demographic (age, gender, education, financial strain), clinical (cognitive functioning, medical comorbidity, functional impairment, positive affect), environmental (neighborhood percentage Mexican American), and informal support (perceived emotional and instrumental support).

Based on a modified version of the Cardiovascular Health Study frailty index, we examined three-year follow up, population-based data to ascertain the rates and determinants of frailty along a continuum (none, pre-frailty, and frailty status) among 2,069 Mexican American adults 75+ years of age. Data are from the Hispanic Established Population for the Epidemiological Study of the Elderly (EPESE), a longitudinal study of Mexican Americans aged 65 and older residing in Texas, New Mexico, Colorado, Arizona, and California. The sample and its characteristics have been described elsewhere. The original probability-based sample was representative of approximately 500,000 older Mexicans Americans living in the Southwest in the mid-1990s. Six waves of data have been collected with the present study using data obtained at the fifth and sixth waves (2004/2005 to 2007/2008) with predictor variables and the frailty index ascertained at the fifth and sixth wave, respectively. At the end of follow-up, 1447 subjects were re-interviewed in person, 275 were confirmed dead through the National Death Index, the Social Security Death Index and reports from relatives, 164 were lost to follow-up, and 97 refused to be re-interviewed. The final sample consisted of 1,116 subjects who had complete information on the predictor variables or covariates at the fifth wave, and who were reinterviewed during the follow-up period and who were not missing the frailty index at the sixth wave. Subjects with three or more components present were considered frail, subjects with one or two components were considered pre-frail, and those with no components were considered not frail.

Our weighted results indicate the following distribution across frailty status: not frail (n = 132, 11.83%), pre-frail (n = 352, 31.54%), and frail (n = 632, 56.63%); in sum, 88% (n = 984) of the sample were considered pre-frail or frail at follow-up. Using (SAS Survey logistic procedure), we found that frailty was predicted by a combination of demographic, clinical, and environmental factors. Specifically, older age ($p = < .0008$), female gender ($p = < .0001$), higher level of medical comorbidity ($p = < .0001$), higher functional impairment ($p = < .0021$), lower positive affect ($p = < .0001$), and lower percentage of Mexican Americans living in the neighborhood, ($p = < .0204$).

Personal as well as neighborhood characteristics confer protective effects on individual health in a representative sample of Mexican Americans over the age of 75. The implications that a barrio advantage persists in terms of frailty in later life will be discussed as well as the biopsychosocial assessment of determinants of frailty in this ethnic minority population.

# Cognitive Impairment in Mexican Population: Prevalence and Incidence Rates of Dementia and Mild Cognitive Impairment

Silvia Mejia Arango

The unprecedented declines in mortality and fertility have resulted in a rapid population aging process in most developing countries. As a consequence, dementia has emerged as a public health problem as it is one of the most common diseases in the elderly and a major cause of disability and mortality. An explosive increment of the geriatric population is expected in Mexico. However, little is known about the mental health status of the Mexican elders from a public health view. The existence of 5 to 7 hundred thousand individuals with dementia has been reported on a clinical basis. Only a local study in Mexico City reports a prevalence of dementia of 4.7% (Gutiérrez, et al 2001). On the other side, the major causes of mortality in the Mexican elders are heart disease (14.9%), diabetes mellitus (13.3%), stroke (8.6%), pulmonary disease (6.2%) and hypertension (3.5%; INEGI, 2000). The strong relation between some of these conditions and the probability of cognitive impairment and dementia in the elders requires to be considered in the Mexican population. However, there are no nationally representative studies that report on the prevalence and incidence of cognitive impairment and it's relation with comorbidities. This study reports prevalence data and incidence estimates of cognitive impairment and dementia in older Mexican people from a population-based longitudinal perspective. The effects of some demographic and health variables on the risk of developing the disease are reported. A sample of 7000 elders, 60 years and older representing approximately 8 million individuals in all Mexico were interviewed by the Mexican Health and Aging Study (MHAS) in 2001 and follow-up in 2003. Based on their cognitive and functional assessment, subjects were classified in four groups: Normal (without cognitive impairment and without functional impairment); CIND (with cognitive impairment and without functional impairment); Dementia (with cognitive impairment and with functional impairment); and FINCI (without cognitive impairment and with functional impairment). The overall prevalence for Dementia was 5.7% and 29% for CIND. At follow-up 331 new cases of dementia were registered. They came from subjects with different conditions at baseline: normal subjects (165), CIND subjects (107) and FINCI subjects (59). CIND new cases (2073) were estimated from normal subjects (1974) and from FINCI subjects (64) at baseline. Risk factors included increasing age, decreasing education, hypertension, diabetes, cerebrovascular disease and depression. Specific analysis for prevalence and incidence rates is presented.

## Genetic and Cultural Influences on Obesity among Mexican Americans

Anthony Comuzzie

Obesity has emerged as one of the world's foremost health problems as it has clearly been shown to be a major risk factor for the development of a variety of metabolic diseases such as heart disease and Type 2 diabetes. Obesity now ranks second to smoking in the causes of preventable death in the United States (Allison et al., 1999; Daniels 2005; Kushner 2002). Sixty-five percent of adult Americans are classified as overweight or obese, and in excess of $90 billion is spent annually on healthcare related directly to obesity in America. While obesity has reached epidemic proportions in the US population as a whole, the prevalence of obesity is even greater among various minority populations. This disparity in the rates of obesity is particularly notable in the Mexican American community, where it also coincides with higher rates of a number of other metabolic diseases including Type 2 diabetes. There are several factors contributing to this disparity, including genetic influences as well as their interactions with various environmental factors. This presentation will focus on insights gained over approximately the last two decades from work conducted in the San Antonio Family Heart Study (a large multi-generational genetic study of heart disease and its associated comorbidities in Mexican American families) and the Viva la Familia Study (a large family based study focused on the genetics of obesity and diabetes in Hispanic children in Houston). To date both studies have identified a number of genes with potential influence on an individual's risk for developing obesity, diabetes, and other associated metabolic conditions.

## Links Between Social Circumstances and Biobehavioral Health in the Mexican Population

Eileen Crimmins

Mexico is a country undergoing rapid change. Demographic and epidemiological transitions are being accompanied by rapid physiological transitions, indicated by increasing weight and blood pressure. Using the variability in life circumstances within Mexico, we show how variability in diet, weight and hypertension characterizes the Mexican experience. This project uses data from The Mexican Family Life Survey (MxFLS), which is a large, nationally representative longitudinal survey of the social, economic, demographic and health characteristics of individuals and households in Mexico. Data from the first wave, collected in 2002, included approximately 35,000 individuals from 8,440 households in 150 communities in Mexico.

## Human Security in Health: The Case of the Mexico-US Border

Julio Frenk

In order to take advantage of the opportunities offered by the growing hierarchy of health in the global agenda and the increasing amount of resources for health, we need to develop new forms of international cooperation. The new forms of cooperation should aim at attaining what has been called human security in health. In this presentation, the three dimensions of security in health will be discussed, using the Mexico-US border as a reference. The first dimension is financial security, which refers to protection against the economic consequences of disease, especially against the risk of catastrophic or impoverishing expenditures that result from paying for care. The second dimension is health-care security, related to safety from iatrogenic harm, effectiveness and, very importantly, responsiveness that safeguards the dignity of patients. And third, the more conventional form of health security, epidemiological security, which refers to the protection against specific risks of disease or injury through biological and chemical agents.

## The Metabolic Syndrome, Biomarkers and the Acculturation-Health Relationship among Older Mexican Americans

Hector M. González, Wassim Tarraf, and Mary Haan

A component of the Latino Health Paradox is that more acculturation is related to poorer health (i.e., acculturative stress hypothesis). We have argued that acculturative stress, that is, a continuously negative acculturation-health trajectory, is unsustainable and may be mitigated by increased socioeconomic position. We used cross-sectional data to examine the acculturation-health relationship between acculturation and biomarkers of the metabolic syndrome. Participants were 1,789 Mexican Americans (60 years and older) from northern California. Biomarkers (waist circumference, hypertension, hyperglycemia, hypertriglyceridemia and low high-density lipoprotein) were used to construct metabolic syndrome criteria (MSC) indicators, the outcome variables. The primary predictor was acculturation, measured with Acculturation Rating Scale for Mexican Americans-II scores categorized by tertiles. Results showed that more acculturated groups had significantly lower risk for MSC in age and sex adjusted models. Factors associated with better health care access mediated the mediated the MSC acculturation relationship. We presented evidence that there is a positive acculturation-health relationship among older Mexican Americans, which was largely explained by that enable better access to care and other socioeconomic factors. This suggests that the prevailing acculturative stress hypothesis may not be sustained into old age when health care needs generally increase. Our findings suggest any negative effects of acculturation found in younger adults may yield to different health needs that develop in later adulthood.

## The Mexican Institute of Geriatrics and Hispanic Health: An Opportunity for Networking and Synergic Action

Luis Guiterrez

I will start by summarizing the aims and scope of the brand new Mexican Institute of Geriatrics (promoting the healthy and active aging of the Mexican population). Then I will review the concept of successful aging and whether it is achievable to our population in the present situation discussing the obstacles and opportunities. Much has been said about the cultural differences between Mexican and North Americans and their impact on health and health related behavior, I will review these concepts and identify the myths and underline the realities. Then I will present an overview of the already known determinants of these differences (biologic, social and behavioral) from a life course perspective. Several hot issues on Hispanic health will be briefly discussed: frailty, the metabolic syndrome, dementia and violence, abuse and neglect showing comparisons between available information in Mexico and across the border. I will focus the discussion on prevention and health promotion aspects. Then I will briefly show what is already being done in the National Institutes of Health in Mexico on the subject of aging and health, what the Institute of Geriatrics is bringing into the research arena and I will focus on opportunities for networking, collaborations and specific actions reviewing what is already being done by means of the Latin American Academy for the medicine of aging (ALMA), REALCE and PAHO, among other working groups. I will conclude by saying that, as it has already been underlined in the previous conferences, greater understanding of the Hispanic aging experience, and application of that knowledge as well in the USA and across the southern border, will improve health and well being of the elderly throughout the Americas.

## Developmental Origins of Healthful Aging among Hispanics: Toward a Transdisciplinary Conceptual Framework

Mark Hayward

There is widespread consensus that efforts to advance health and reduce social disparities will be greatly benefited by a transdisciplinary conceptual framework that integrates the "fundamental social causes of disease" with biological models of "under the skin" processes by which social causes ultimately lead to disease and functional problems. This unique perspective is important for understanding the linkages between social processes and biological processes across the life course that impact the study of human aging. It also is important for understanding the origins and development of chronic disease and functional loss and how these processes operate differently across important population groups leading to health disparities. This presentation will provide an overview of the state-of-the-art theories and methods for integrating biological, behavioral, and social environment factors that contribute to health and productive aging, particularly in the Mexican-origin population.

# Cumulative Effects of Sociocultural Status on Disability in Aging Mexican Americans: Findings from the San Antonio Longitudinal Study of Aging

Helen P. Hazuda

Sociocultural factors (i.e., socioeconomic status (SES), acculturation, and assimilation), which provide the context of daily living for Mexican Americans as they age, may have a substantial effect on disability over time, which may be larger than the effect of disease (e.g., diabetes). Therefore, we examined the relative contribution of sociocultural and disease factors to disability (i.e., difficulty in performing one's social role activities) at two time points approximately seven years apart.

Subjects were Mexican American participants in the San Antonio Longitudinal Study of Aging (SALSA), a community-based study of the disablement process in Mexican Americans (MAs) and European Americans (EAs), 65+ years old at baseline and examined again approximately seven years later. Disability in Basic Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADL) were assessed using a standardized performance-based measure. Indicators of SES were years of formal education and household income. The Hazuda Scales assessed two dimensions of acculturation — Value placed on Preserving Mexican Cultural Origins (Cultural Value) and Attitude toward Traditional Family Structure and Sex-Role Organization (Family Attitude), and structural assimilation (Functional Integration into the broader society). Diabetes was classified based on ADA criteria. Hierarchical regression modeling was used to determine the proportion of variance explained by a given variable net of other variables in the model based on changes in the adjusted R2. Disability at baseline and follow-up were regressed on baseline age, sex, SES, assimilation, acculturation, and diabetes.

At baseline, diabetes net of age explained 4.1% of the variance in ADL disability and 6.5% in IADL disability. In contrast, SES net of age explained 13.7% of the variance in ADL and 19.0% in IADL disability, about three times more than explained by diabetes. Functional Integration net of age explained 13.4% and 12.5% of the variance in ADL and IADL disability, respectively, two to three times more than explained by diabetes. Both acculturation scales, however, explained less variance in disability than explained by diabetes. For follow-up disability, the net variance explained by diabetes in ADL disability was negligible (0.1%), and the explained variance in IADL disability decreased to 4.7%. In contrast, although the net variance in follow-up ADL disability explained by baseline SES and Functional Integration decreased somewhat, the variance in follow-up IADL disability explained by SES almost doubled to 24.4% and that explained by Functional Integration almost tripled to 31.5%. Variance in follow-up disability explained by the acculturation scales was less than or similar to that explained by diabetes. Sex was not significantly associated with disability at baseline or follow-up.

SES and Functional Integration are major contributors to both ADL and IADL disability in older MAs, and, when compared with diabetes,

account for a substantially greater proportion of the variance in disability. Particularly for IADLs, there appears to be a cumulative effect of SES and Functional Integration with the burden of lower SES and Functional Integration increasing over time as MAs age.

## Aging and Health in the Mexican American Population: Selected Findings from the Hispanic EPESE

Kyriakos Markides

The Hispanic Established Population for the Epidemiological Study of the Elderly (EPESE) is an on-going longitudinal study of the health of older Mexican Americans from the Southwestern United States. It was originally funded by the National Institute on Aging (NIA) in 1992. It was modeled after the previous EPESE studies conducted earlier in East Boston, New Haven, Connecticut, rural Iowa, and North Carolina. The EPESE studies were designed to provide basic epidemiological information on the health and health care needs of older Americans. None of the previous EPESE included a significant number of older Hispanics, a rapidly rising component of the older population. The Duke EPESE included a large subsample of African Americans so we modeled the Hispanic EPESE especially after that study. Baseline interviews were conducted with 3,050 Mexican Americans aged 65 and over during 1993-1994. The subjects were selected using area probability sampling procedures and were representative of approximately 500,000 people living in Texas, New Mexico, Colorado, Arizona and California. These subjects were followed up in 1995-1996 (N = 2438), 1998-1999 (N = 1980), 2000-2001 (N = 1683), and in 2004-2005 (N = 1167) when they were aged 75 and older. An additional representative sample of 902 Mexican Americans also aged 75 and older from the same region was added in 2004-2005. This combined sample of 2069 Mexican Americans aged 75 and over was followed up approximately two and a half to three years later during 2007. A total of 1541 subjects now aged approximately 78 and over were re-interviewed in person or by proxy. As of this writing, plans were to follow-up this sample during 2009-2010 when approximately 1000 survivors aged 80 and over were to be re-interviewed. At the same time there were plans to also contact and interview in person with a close family member, most likely an adult child, who would be the best source of information on the respondent's health care needs as well as family and financial situations. To date, the study has generated over 180 publications and has provided important information on medical conditions, disability, mortality, emotional and cognitive function, formal and informal health care utilization and related issues. Below we provide a review of selected findings in five general areas:

- The influence of the community context on health status
- Health and health care behaviors of older couples
- Health insurance, living arrangements and health
- The influence of religion on health
- Medical conditions and disability

The summaries are followed by a conclusion/ discussion that outlines implications for future research and policy.

## Hispanic Aging in the Midwest: Health Status of Older Hispanics who Live in the Midwest Region of the U.S.

Carlos F. Mendes de Leon, Karl A. Eschbach, Michael P. Gerardo, and Kyriakos S. Markides

Hispanics now form the fastest growing segment of older people in the US, when their number is expected to increase to 18 million by 2050, or 25% of all older adults. Hispanics from Mexican origin are by far the largest Latino sub-population in the US, although an increasing number of Central and South Americans are now migrating to the US. Another important demographic shift is the rapidly growing number of Hispanics who are settling in urban and rural places in the Midwest, where they work, retire and age in place. For example, Hispanics now constitute one-third of the total population in Chicago. There is little information on the overall health and well-being of older Hispanics in Midwestern states. The purpose of the presentation is to provide a general profile of aging-related health of the older Hispanic population living in the Midwest, and compare this profile with that of the Hispanic population in the Southwestern border states. The analysis will focus on global self-reported ratings of five domains of disability, including sensory, physical, mental, self-care and mobility disability. The data for this analysis are derived from the Public Use Micro Data Sample (PUMS) of the 2000 U.S. Census. Data will be summarized for the total Hispanic population, as well as the Mexican American sub-population, and compare health differences among foreign-born versus US-born Hispanics. The findings are expected to provide a framework for a better understanding of aging-related processes that will affect future generations of older Hispanics in the Midwest.

## The Migration Experience among Mexican Migrants: A Comparative Study Concerning Health in Later Life

Rogelio Sáenz and Verónica Montes de Oca Zavala

Migration is a phenomenon that has an impact on individuals throughout the life course. Particularly interesting is the case of the elderly where we see lifetime accumulations of migration effects, especially in the area of health. However, the effects of migration on health outcomes depend on a variety of factors, e.g., occupation, stable employment, citizenship status, transnational networks, family formation, and so forth. The life course perspective helps us understand how such factors impact the health of elderly women and men migrants in the United States and Mexico. Data from two sources will be used to examine the relationships between a variety of factors associated with the life course and health status. The first data source involves the development of quantitative models based on data from the Hispanic Established Populations for Epidemiologic Studies of the Elderly (Hispanic EPESE) and the Ageing Mexican. The second data source is based on the collection of qualitative data from interviews with Mexican migrants living in the selected locations in the United States and Mexico. Data from the intensive interviews are used to more fully illustrate the links between life course conditions and health outcomes.

# Emerging Scholar Abstracts

## In-Home Observation of Caregiving Dyads and the Realities of Managing Diabetes by Mexican-Origin Elders and their Caregivers

Monica Ayala-Rivera

Families can play an important role in a Mexican-origin elder's diabetes care. However we know little about how elders and their families manage the disease in the home. This study qualitatively examined the pattern and range of assistance that family caregivers provided to Mexican-origin elders with Type 2 diabetes. We conducted in-home observations of five dyads living in the greater East Los Angeles area. We conducted an initial interview separately with each dyad member on cultural beliefs about caregiving and diabetes, and subsequently visited each dyad in their home 10-15 times over 3-4 months. Observations were recorded retrospectively after each visit. The transcribed interviews and written notes were examined for patterns across dyads, using Atlas.ti software. Each dyad was related through blood or marriage, and shared a household. The mean ages of caregivers and elders were 48 and 79, respectively. All elders were functionally independent. We found that the care provided by caregivers was primarily intangible support rather than direct care and that the elders greatly valued this type of support. Three of five dyads had structured routines for taking medicines—for two of these dyads, caregivers were in charge of the medicines. All caregivers were solely responsible for meal preparation. Common foods consumed by elders included oatmeal, vegetables and fruits. Other common foods higher in fat and carbohydrates included tamales, cheese, enchiladas, tortillas, and refried beans. While we observed various diabetes care practices in most dyads, only one dyad engaged consistently in several practices, namely glucose monitoring, foot care, and medication management. Only other one dyad performed regular physical exercise as part of their daily regimen. Our results suggest involving caregivers is a promising strategy for better glucose control—however, both caregivers and elders would benefit from more education and training in diabetes management skills.

## Trends in Diabetes Prevalence and Diabetes-related Complications in Older Mexican Americans from 1993/1994 to 2004/2005

Holly A. Beard, Rafael Samper-Tement, Kerstin Gerst, and Kyriakos Markides

Evidence has shown that Mexican Americans have a higher prevalence of diabetes and a greater risk for diabetes-related complications than non-Hispanic whites. However, no studies have described the changes in prevalence among older Mexican Americans. The purpose of this study is to expand on the current literature by examining the trends in diabetes prevalence and diabetes-related complications in Mexican Americans aged 75 and older from 1993-94 to 2004-05. The prevalence of self-reported diabetes and diabetes-related complications were estimated in the original cohort (1993-94) and the new cohort (2004-05) of the Hispanic Established Population for the Epidemiologic Study of the Elderly (Hispanic EPESE) and were compared across the two surveys. The prevalence of diabetes among Mexican Americans aged 75 years and older has nearly doubled between 1993-94 and 2004-05 from 20.3% to 37.2%, respectively ($p < .001$). The increase in the prevalence of diabetes was similar across all sociodemographic factors. Diabetes complications did not change significantly between the two cohorts. However, the prevalence of having any lower extremity function disability did increase between the two cohorts. The prevalence of diabetes in older Mexican Americans has increased dramatically. At the same time there has been no improvement in diabetes-related complications as has been found in the general older population. This heightens the urgency for more effective public health interventions targeted to this population. As diabetes and obesity become more prevalent in older adults, physicians should encourage appropriate management in older patients, including early detection and glycemic control.

## Sex Differences in Mortality among Older Frail Mexican Americans

Ivonne-Marie Berges

**Objective:** To examine the association between frailty and 10-year mortality among older men and women of Mexican American Origin. Design and Methods. Data were collected from 1995/1996 – 2004/2005 among community-dwelling Mexican Americans 65 years and older as part of the Hispanic Established Population for the Epidemiologic Study of the Elderly. A standardized frailty measure based on weight loss, exhaustion, grip strength, walking speed, and physical activity was computed. Data were collected on sociodemographics and health characteristics, comorbidities, and performance-based functional measure. Results. The sample was 59% female and mean baseline age was 74.5 years of (SD = 6.06) at baseline. Hazard ratios

(HR) indicated an increased mortality risk in frail men (HR = 3.04, 95% CI 2.16, 4.28) compared to frail women (HR = 1.92, 95% CI 1.39, 2.65). Conclusion. Frailty is an independent predictor of mortality among older men and women of Mexican American origin. This association was found to be stronger among men.

## A Longitudinal Assessment of Health Insurance Stability among Older Mexican Americans

Kate Chambers

The uninsured and underinsured in the United States is central to the conversation surrounding the aging baby-boomers who will become dependent on the nation's Medicare and Medicaid systems. However, while Medicare and Medicaid offer limited medical coverage to older Americans, employer-sponsored health insurance continues to be the foundation of health coverage for many middle class workers whose insurance benefits carry over into retirement. For those who worked in low-productivity and service sector occupations, this is typically not the case. Minorities, and in particular, Mexican Americans, are more likely to occupy jobs in areas that do not offer health insurance benefits that carry over into retirement. In addition, the prevalence of later-life immigration affects their ability to accumulate asset wealth, which is essential in affording health insurance privately in retirement. While prior research has addressed health insurance coverage stability, the recent release of additional longitudinal data and policy changes related to the Medicare prescription program in 2006 presents a unique opportunity to analyze longitudinally the transitions in health insurance of Mexican-origin elderly. The present study employs the Hispanic Established Populations for Epidemiologic Study of the Elderly to assess changes in the relationship between immigration factors and health insurance coverage among 3,050 Mexican-origin individuals ages 65 and older between 1993 and 2006. The primary analysis variable indicates whether and what type of health insurance coverage the respondent receives and is recorded at time 1, time 2, time 5, and time 6 of the study. Regression models were used to assess the stability of coverage between the waves. Preliminary results suggest that longer duration of residence improves health insurance stability and access to private coverage among older Mexican immigrants in the United States. This research highlights factors that must be addressed in any discussion about proposed changes to universal and elderly health care.

## Strength of Cultural Affiliation Scale and Mexican American Elders

Janice D. Crist

Acculturation is defined as changes in attitudes, behaviors, beliefs, and values of minority individuals coming into continuous first-hand contact with a dominant cultural group. Acculturated people integrate a bicultural orientation with identification and comfort with both groups (Cuellar, Arnold, & Maldonado, 1995, p. 278). Studies show Hispanic, non-Mexican American elders and Euro-American minorities and their family caregivers who are willing to use services are more acculturated. Level of Acculturation affects other minorities' use of healthcare services; for example, Chinese-American older women with more Chinese culture affiliation were less likely to have a mammogram in the last two years (Yu & Mood, 2002). Therefore, for our study with under-use of home care services by Mexican American elders and their family caregivers, it was hypothesized that MA elders' and their family caregivers' degree of Acculturation will positively affect Confidence in HCS. We have traditionally used the Acculturation Rating Scale for Mexican Americans-II (ARMSA-II) (Cuellar et al., 1995). However, we decided to also measure Mexican American elders and their caregivers' Strength of Cultural Affiliation Scale (SCAS) (Yu, Wu, & Mood, 2005) as a pilot. It asks respondents to self-identify their cultural group affiliation, and then asks a series of questions regarding the extent to which their day-to-day behavior is influenced by that affiliation. The authors of this scale see it as the opposite of acculturation because most instruments designed to measure those concepts convey a feeling that maintaining traditions is a negative while giving them up to behave more like the majority culture is good. 140 elders and 140 caregivers responded to the ARSMA-II, which did have significant results; 20 elders and caregivers also responded to the SCAS. Although the, the pilot of the SCAS did not have significant results, its use with Latino populations should be explored further.

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## High Depressive Symptomatology among Older Community-Dwelling Mexican Americans: The Impact of Immigration

Kerstin Gerst

**Objectives:** This analysis explores nativity differences in depressive symptoms among very old (75+) community-dwelling Mexican Americans.

**Design:** Cross sectional analysis using the fifth wave (2004-2005) of the Hispanic Established Population for the Epidemiological Study of the Elderly (Hispanic-EPESE). Participants: The sample consisted of 1,699 non-institutionalized Mexican American men and women aged 75 and over. Depressive symptoms were measured by the Center for Epidemiological Studies Depression Scale (CES-D). Logistic regression was used to predict high depressive symptoms (CES-D score 16 or higher) and multinomial logistic regression was used to predict sub-threshold, moderate and high depressive symptoms.

**Results:** Results showed that elders born in Mexico had higher odds of more depressive symptoms compared to otherwise similar Mexican Americans born in the United States. Age of arrival, gender and other covariates did not modify that risk. Conclusion: The findings suggest that older Mexican American immigrants are at higher risk of depressive symptomatology compared to persons born in the US, which has significant implications for research, policy and clinical practice.

## Late Life Obesity and Malnourishment in Mexico: The Impact of Early Childhood Conditions

Kerstin Gerst, Holly A. Beard, and Rebeca Wong

Childhood conditions such as socioeconomic status (SES) and poor health may affect early nutrition, physical growth and development as well as physiological and metabolic processes. These effects can be cumulative and can impact the likelihood of obesity or malnourishment in later life. Extant literature on early childhood conditions affecting health outcomes in later life generally focus on developed countries and relatively few researchers have specifically examined this association among older Mexicans. Using the 2003 Mexican Health and Aging Study (MHAS), this study examines 3,336 Mexicans aged 65 or older. Using logistic regression, this study predicts late life obesity or being underweight. The outcome was measured using Body Mass Index (BMI). Early childhood characteristics were measured by 1) whether respondent lived with a grandparent before age ten 2) variables capturing childhood SES and 3) variables measuring childhood health. Chi-square analyses indicated significant relationships between several early childhood variables and late life BMI. Logistic regression analyses indicate that only living with a grandparent ($p < .10$), having a toilet in the home ($p < .10$) and going to bed hungry ($p < .05$) were significant childhood variables predicting obesity in old age after controlling for socio-demographic variables and health conditions (e.g. diabetes ). None of the early childhood conditions were significant in a model predicting being underweight in old age. Findings suggest that some early childhood conditions impact obesity in later life though they do not impact the odds of being underweight. These findings have clinical as well as policy implications for poor or underserved populations.

## Mortality Risk in Older Adults in Mexico: The Role of Communicable and Non-Communicable Diseases

Cesar González

In Mexico, non-communicable chronic diseases are the most common causes of death in the older adult population. Diabetes mellitus, malignant tumors, and ischemic heart disease account for more than 50% of deaths in this population. However, an additional burden of disease due to communicable conditions, like tuberculosis, still remains.

**Objectives:** The purpose of this study is to establish the extent to which coexistence of communicable and non-communicable diseases increases the risk of mortality in older adults. Methods: Using data from the Mexican Health and Aging Study (MHAS) for adults aged 60 an older, logistic regression were performed to estimate the risk of mortality between 2001 and 2003 due to communicable, non-communicable diseases, and a combination of both. Communicable diseases were examined as follows: hypertension and arthritis were analyzed

individually; heart attack, stroke, cancer and lung disease were grouped in a composite score referred as HASCL. Communicable diseases were also analyzed as a composite that included: liver or kidney infection, tuberculosis and pneumonia. Covariates included in the analysis were sex, age, education level, marital status, and location size.

**Results:** Incidence of HASCL increases the risk of two-year mortality by 22%. The presence of non-communicable diseases in 2001 and 2003 increased the same risk by 7%. Persons with incidence of at least one of the HASCL groups that also had at least one communicable disease in 2001 and 2003 had a risk of mortality of 52%. Presence of at least one non-communicable disease in 2001 increased mortality risk by 12%, while presence of a newly diagnosed non-communicable disease between 2001 and 2003 increased the risk by 48%. Education level, location size, hypertension and arthritis were not significantly related to higher risk of mortality.

**Conclusion:** A higher mortality risk was associated with new conditions that were diagnosed between 2001 and 2003. Communicable diseases contributed noticeably beyond non-communicable diseases towards the risk of mortality in older Mexican adults. The results provide evidence of the mixed epidemiological regime that still prevails in Mexico, and points toward the design of old-age health interventions that are tailored accordingly.

## Nativity, Childhood Socioeconomic Status and Late Life Health: A Comparison of Cognitive Performance in the Mexican Health and Aging Study (MHAS) and the Sacramento Area Latino Study on Aging (SALSA)

Adina Zeki al Hazzouri

Growing evidence suggests that childhood socioeconomic status (SES) influences late-life cognition. Migration and nativity may influence the association between childhood SES and late life cognition.

**Methods:** This analysis compares the cross sectional association between childhood SES measured as mothers or father's education and performance on a standardized scale of the delayed wordlist recall (DELREC) in the MHAS and the SALSA studies. Participants education was tested as a mediator for the association between childhood SES and cognitive performance. Nativity (birth in Mexico or the US) and migration (migration to the US) was evaluated as an effect modifier of those associations. 5253 MHAS participants and 1789 SALSA participants aged 60+ were included in a combined analysis. Nativity was coded as: Mexican resident, Mexican immigrant to the US and Mexican American born in the US.

**Results:** Lower father's education was associated with lower performance on the DELREC as some elementary school (2% lower) or no school (19% lower) compared to more than elementary school. Adjustment for the respondent's own SES reduced the associations by 115% and 74% respectively. Lower mother's education (none

or some elementary school was also associated with lower DELREC scores. Nativity modified the association between father's education and DELREC such that among Mexican residents, those whose father had no education had significantly lower DELREC scores than US born MAs whose fathers had no education. A similar pattern existed for mother's education. Respondent's education mediated the association between childhood SES and DELREC score.

**Conclusions:** Lower parental education as a marker of childhood SES may be associated with lower performance on a word recall memory test. One's education includes important exposures experienced at different life course stages and whose interplay with childhood SES influences late-life cognition.

## Civic Engagement as a Tool for Enhancing Emotional Health in Older Mexican-origin Immigrants

Angelica Herrera

**Background:** Depression disproportionately affects low-income, Mexican-origin older adults; a population projected to triple by the year 2050. Civic engagement (volunteerism) has been associated with fewer depressive symptoms, particularly when characterized by participation in social and productive activities. Civic engagement may provide a cost-effective, asset-based approach to improving emotional health and preventing milder forms of depression, while offering greater individual appeal, social accessibility, and less stigma than comparable strategies. Studies confirm that emotional health is a reliable measure of subjective successful aging. However, research on successful aging among older Mexican-origin elderly is scant.

**Objectives**: This study explores Mexican-origin older adults' attitudes toward and involvement in civic engagement, as mediated by financial security and migration history. Specifically, we identify older adults' (a) perceived benefit of civic engagement toward successful aging, (b) preferred type and range of mood-enhancing volunteer activities; and (c) individual-, community-, and system-level motivators and deterrents to civic engagement. Methods: We employ an exploratory qualitative research design using 6 focus group interviews (n = 60) with low-income, Mexican-origin adults age 55 and older moderated by skilled bilingual/bicultural investigators. A local volunteer registry is used to identify formal volunteers, while informal and non-volunteers are recruited from social service agencies and senior recreation centers near the U.S.-Mexico border in San Diego, Calif.

**Analyses:** Two investigators review transcripts independently and cross-reference interpretation for agreement using Krueger's 7 criteria framework for coding, assisted by NVivo v8. Principles of Grounded Theory guide coding schemes and identify common themes by their meaning, dimension, and inter-relationship.

**Public Health Relevance:** This study identifies culturally tailored civic activities associated with positive moods that can be incorporated in settings readily accessed by older Mexican immigrants. Results may also guide volunteer agencies' approach toward reducing barriers to civic engagement and develop a culturally relevant campaign to motivate participation.

## Comparing Stigma Across Four Ethnicities and its Effects on Mental Health Service Utilization

Daniel Jimenez

**Background:** Disparities exist in accessing and receiving mental health treatment between older ethnic minority adults and older non-Latino Whites. Differences persist even after controlling for barriers (e.g. insurance coverage, availability of services), thus indicating the presence of other, psychological barriers such as stigma. Stigma toward mental illness appears to be greater among ethnic minority populations than among non-Latino Whites. Most of the research focusing on stigma has focused on younger adults. This study compares stigmatizing beliefs about mental illness among older non-Latino Whites, Latinos, Asians, and African-Americans. The relationship between stigma and engagement in mental health treatment is also examined.

**Method:** Baseline data were collected from participants who completed the SAMHSA Mental Health and Alcohol Abuse Stigma Assessment and the Cornell Health Care Utilization and Receipt of Informal Care as part of the battery of the Primary Care Research in Substance Abuse and Mental Health for the Elderly, a multisite randomized trial for older adults (65+) with depression, anxiety, or at-risk alcohol consumption. The sample consisted of 1257 non-Latino Whites, 536 African-Americans, 112 Asian-Americans, and 303 Latinos.

**Results:** No differences were observed in levels of stigma between non-Latino Whites (the referent) and the other ethnic minority groups. Stigma was not correlated with service use.

**Conclusions:** The lack of significant findings indicates that stigma does not vary between cultures nor is it preventing older adults from engaging in mental health treatment. It is important to identify those factors that may help explain why there are significant disparities in the rates of formal mental health service use among ethnic minority elderly as compared with their non-Latino White counterparts. Given the dearth of research on ethnic minority mental health, this study may help researchers in the development programs and educational materials tailored to the specific needs of a growing population.

## Interactions between Medication Prescribed During Hospital Stay of the Elderly Population in a Second Assistance Level

Teresa Juarez-Cedillo

**Introduction:** Medication interaction (drug-drug interaction) manifests more frequently and with more severity in elderly patients. This study was focused on the estimation of medication interaction incidence, assessing its clinical relevance in hospitalized elderly patients who are in the second assistance level, at the Mexican Institute of Social Security (IMSS). Material and

**Methods:** 505 files of elderly patients admitted to a second level assistance of the IMSS during 2006 were reviewed. Through the Micromedex® DrugReax® System potential interactions were identified; Hansten and Horn proposal to classify interactions according to clinical relevance was used. Results. 45.1% of the population were women. Cardiovascular diseases were the most frequent as first admittance diagnosis (33.7%), followed by gastrointestinal diseases (15.2%). 75.02% of the patients were given more than three medications per hospitalization day. 39.42% of the hospitalized patients presented at least, one interaction during the first 6 stay-days. 20.9% were severe or class 3 interactions; a 39.3% showed moderate or class 2 interaction. No light or class 1 interaction was found. The most frequent class 3 interactions involved oral anticoagulants and heparin, while class 2 involved the use of ASA and IECA diuretics.

**Conclusions:** Incidence of medication interactions among elderly was high, which reflects the fact that iatrogenic disorders are still frequently present in geriatrics, specially those resulting from administering drugs. Thus, medication prescription should be assessed periodically, supervising adherence, efficiency and tolerance, in order to adjust dosage and interrupt treatment, if necessary.

## How Gender, Race and Ethnicity Shape Transition to Retirement among the Baby Boom Generation

Stipica Mudrazija

This paper investigates the transitional process from later career years to retirement among the baby boomers by modeling the determinants of their labor force participation and the retirement expectations. The emphasis is on the role of possible gender and racial/ethnic differences that have been documented in the literature, but have not been examined for the baby boom generation, which is at the heart of many discussions with respect to their transition to retirement, pension benefit adequacy and the increased burden for the society in terms of Social Security benefits and other public intergenerational transfers. Data for the analysis come from the 2006 wave of the Health and Retirement Study. The results show women to be less likely to have full time

employment and more likely to be in other, on average less lucrative, labor force statuses compared to men, even in the later stage of their career. They are also more likely to retire earlier. Racial and ethnic differences in the labor force status and retirement decision making between whites and major minority groups do exist, but are largely accounted for by different demographic, socio-economic and other factors in the case of Hispanics, whereas blacks exhibit more complex dynamics, in particular black women. Further investigation accounting for the time variant character of the labor force participation and retirement decision making, and consequently their inter-temporal dynamics is warranted.

## Living Arrangements of Mexican-Origin Elderly in the United States

Mercedes Rubio and Rogelio Saenz

Persons of Mexican-origin have long been associated with extended-family living arrangements. This is particularly the case among persons with limited resources, namely the poor, immigrants, and elderly. We use a framework based on the age at which Mexican immigrants entered the United States to examine variations in extended-family living arrangements among five groupings of foreign-born Mexican elderly (those arriving before 15 years of age; those arriving at 15-24; those arriving at 25-44; those arriving at 45-64; and those arriving at 65 years of age or older) and native-born Mexican Americans. Data from the 2007 American Community Survey (ACS) are used to conduct the analysis. The results show variations in the extended-family living arrangements of the six groups of Mexican-origin elderly, with immigrants arriving at older stages in the life course being most likely to live in the households of relatives, most often with an adult son or daughter. The paper concludes with a discussion of the policy implications of the results.

## Contextualizing the Burden of Diabetes: Chronic Disease, Disability and 2-Year Mortality Risk in Older Mexicans

Jennifer Salinas

It is said that diabetes has become a modern day epidemic facing the international community. This surge in prevalence has been attributed to westernized lifestyles characterized by convenience, low physical activity, and diets higher in fat and carbohydrates. In the developing world, the devastation from diabetes has been profound. For example, in Mexico, diabetes is the leading cause of death for women and the second leading cause of death for men. In order to understand the disease burden of diabetes in the context of Mexico, this study has three research objectives. First, to examine the prevalence of chronic conditions among older Mexicans with diabetes compared to their counterparts without the disease. Second, to determine the incidence of

newly diagnosed chronic conditions at follow-up by diabetes status. Third, to determine the risk of functional limitations and mortality by diabetes status in older Mexicans. This study makes use of the Mexican Health and Aging Survey (MHAS) to conduct bivariate and multivariate logistic regression in order to address the research objectives of this study. Analysis indicates that approximately 15 percent of this nationally representative Mexican sample reported having been diagnosed with diabetes. Demographic risk factors for diabetes in Mexicans included older age, less years of education and being females. In this study, older Mexicans with diabetes disproportionately had health problems and disabling conditions. For example, subjects with diabetes were 8.25 (95% CI = [3.86, 18.0]) times more likely to rate their health as "poor", 3.52 (95% CI = [2.15, 5.75]) more likely to miss more than one month of work in the previous year, and, 2.26 (95% CI = [1.33, 3.82]) more likely to have had a stroke in their lifetime. At two-year follow-up subjects were more likely to assess their health as much worse than at baseline (O.R. = 2.47, 95% CI [1.66, 3.67]) and were more likely to have had a heart attack (O.R. = 2.62, 95% CI = [1.29, 5.30]) or stroke (O.R.= 3.55, 95% CI = [1.28, 9.84]) since baseline. Finally, subjects with diabetes had a much higher likelihood of mortality by follow-up (O.R. = 3.36, 95% CI = [2.09, 5.39]) and a significantly higher odds of having any functional limitations (O.R. = 3.24, 95% CI = [2.01, 5.25]. Subjects in this study with diabetes had a greater disease burden than their counterparts. Despite unusually favorable health and mortality profiles of Mexican Americans in the United States, in the context of Mexico, diabetes has the potential to cause great devastation as incidence increases, if measures are not taken for prevention and better management of this disease.

## Mexican Older Adults in a Mixed Epidemiological Regime

Rafael Samper-Ternent

Mexico is undergoing an epidemiological transition. Advances in medicine have improved life expectancy rapidly alike other developing countries. Chronic non-communicable diseases affect a large percentage of older adults. Yet, there is still a considerable percentage of adults exposed to infectious agents that cause communicable diseases. How this mixed regime of diseases affect the health and wellbeing of older Mexican adults is not well understood. Data comes from the Mexican Health and Aging Study 2001 (MHAS), a national sample of adults aged 50 and older. A total sample of 12,479 was included for the analysis. Spearman correlation coefficients between self-reported health, graded with a five point scale ranging from poor to excellent, and communicable (hypertension, diabetes, cancer, lung disease, heart attack, stroke and arthritis) and non-communicable (tuberculosis, pneumonia and liver/kidney disease) diseases were calculated. Results showed that more than 16% of adults self-reported poor health. Twelve percent of adults had at least one communicable disease and 58.3% had at least one non-communicable disease. The overall correlation between communicable diseases and global health was 16.4% and it doubled for non-communicable diseases (32.6%). Correlations varied by sex and age group, whereas non-communicable diseases were more highly correlated with global health in women between 50-59, followed by men in the same age group. Communicable diseases, however, were more

highly correlated with self-reported health in women between 50-59, but were followed by women between 60-69. Conclusions were that while the epidemiological transition has advanced in Mexico, a mixed regime of diseases still affects quality of health in the older population, and it appears to impact various socio-demographic groups differently. This research contributes to the literature by showing how interactions between communicable and non-communicable diseases affect quality of health in a rapidly-aging developing country, and why interventions to improve old-age well-being must be tailored accordingly.

## Relationship between Early Palliative Care and Caregiver Satisfaction and Bereavement of Older Cancer Patients in Hospice

Sandra Sanchez-Reilly

**Background:** The increasing incidence of cancer in the elderly creates a burden on family caregivers (FCG), especially as patients approach the end-of-life. FCG provide care to terminally-ill elders with little psychological support, often leading to negative consequences. Early palliative care (PC) intervention throughout the duration of a chronic illness, such as cancer, may assist FCG transitioning to the terminal stages of cancer when their elderly loved ones are placed under hospice care. However, there has been little research that documents the effectiveness of PC services as early end-of-life intervention.

**Objective:** To evaluate if early PC preceding hospice improve outcomes in older advanced cancer patients and FCG when compared to subjects and FCG with no previous PC exposure.

**Methods:** Prospective study of FCG of hospice-enrolled elders with two arms: previous exposure to PC vs. not. All FCG cared for subjects > 65 with primary diagnosis of advanced, terminal cancer. Validated instruments assessed caregiver quality-of-life (QOL), overall satisfaction with patient care, and risk for complicated bereavement. FCG were followed for 2 weeks. Results: 26 caregivers surveyed, 8 (31%) exposed to a PC consultation prior to hospice and 18 (69%) with hospice care only. The mean age was 76.2 years; FCG was 56.9 years. 88% FCG were female. FCG reported higher QOL than FCG who didn't have PC (6.9 vs. 5.3, highest is 10; $p = 0.05$). The bereavement risk index correlated significantly with age ($p = .01$).

**Conclusions:** This study demonstrated significant difference in QOL between caregivers of elders who had exposure to PC prior to hospice and caregivers with hospice care only. While the results are limited by small sample size, significant findings suggest that caregivers are impacted when elders receive PC prior to hospice. Future multi-site and larger sample studies are needed to evaluate the impact of early PC in caregivers of terminally-ill older adults.

## Capturing the Experience of Disablement: Issues in Using the Life History Calendar

Tiffany Scott

Researchers use life history calendars (LHC) to gather life course histories focusing on specific events and broad transitions. Although a family of related tools has emerged as effective methods for gathering data from participants on various phenomena, we chose the LHC to capture the process of disablement among Mexican American and White women with disabilities. The purpose of this poster is to portray the uses of the LHC in qualitative and mixed-method research as well its benefits and limitations. Data from three women with permanent disabilities will be presented as case studies to illustrate the use, pros and cons of the LHC. We posit that the LHC is a useful method, but is most useful when approached from an interpretive paradigm, when trying to gather data from women of varied ethnic and socio-economic strata. This study was funded by a grant from the National Institutes of Health, National Institute of Nursing Research, Health Disparities Among Mexican American Women with Disabilities, R01 NR010360.

## Resource Centers for Minority Aging Research: Building Capacity to Address Health Disparities of Older Adults

Steven P. Wallace

Health disparities are a pervasive problem in the United States. Disparities exist between virtually every minority group and the white population and they persist throughout the life cycle. While fairly carefully described in the literature, science has not approached some of the root causes which include interventions, the health care workforce and the scientific workforce. The Resource Centers for Minority Aging Research (RCMARs), first funded 11 years ago, are a crosscutting national initiative and a model program that works to build research infrastructure for minority aging research. The RCMARs are jointly funded by the National Institute on Aging and the National Center for Minority Health and Health Disparities. Both are divisions of the National Institutes of Health. A survey of previous RCMAR scholars documents the importance of this model in career development of minority researchers (Wallace, 2005). Team science is an underlying current of the entire NIH Roadmap effort. Such new approaches to research call for increased flexibility and innovative modes of scientific collaboration. The RCMAR model facilitates the creation and success of cross-center teams that make collaborative research possible. In particular, each RCMAR site brings variety in both specific research foci; disciplinary training, including clinical researchers, social/behavioral scientists, and mentoring and training models. This presentation will focus on RCMAR structure, productivity and resources.

## Weighing In: The Relationship between Domestic Migration in Mexico and High-Risk Body Mass Index and Waist-to-Hip Ratio in Later Life

Felicia Wheaton

Older Mexicans have been highly mobile within Mexico and domestic migration has had consequences for body mass index (BMI) and waist-to-hip ratio (WHR) in later life. These have been shown to be useful measures of cardiovascular risk and important predictors of diabetes mellitus. Yet most studies have focused solely on rural/urban differences or on international migration to the United States. Data from the first wave of the Mexican Family Life Survey (MXFLS), collected in 2002, indicate that nearly 40% of Mexicans 50+ have migrated for a period of at least one year (N = 3,667). Respondents were categorized according to migration history and whether they lived in a rural or urban area at age 12 and in 2002, resulting in six groups. Overall, approximately 70% of respondents were overweight (BMI 25+), 31% were obese (BMI 30+), and 48% had a high-risk WHR (women: 0.85+, men: 1.0+). Logistic regression results show that the risk of being overweight is significantly higher for all groups ($p < 0.05$) except rural-rural migrants, compared to rural non-migrants. Obesity risk was greater for all groups relative to rural non-migrants, with the exception of urban-urban migrants who had no greater risk. For both indicators, urban non-migrants had the highest risk, followed by urban-rural migrants. The findings for BMI (an indicator of general body fat) are in sharp contrast with logistic regression results for high-risk WHR (a central body fat measure). Surprisingly, only urban-urban migrants were significantly different from rural non-migrants ($p < 0.001$) and they had approximately 50% lower odds of high-risk WHR. Thus, it is clear that high-risk BMI and WHR among older Mexicans are associated not only with current rural or urban residence, but also with past migratory experience.

# Fourth Conference on Aging in the Americas Report

# Conference Highlights

The 2010 International Conference on Aging in the Americas (ICAA) was convened at the University of Texas at Austin, September 15-17, 2010. The fourth installment of the CAA, the bicentennial celebration of Mexico's Independence Day, provided not only an opportunity to recognize the contributions of Hispanic Americans but also a chance to review the status of Latinos and contemplate what awaits them as they grow old.

The primary goal of the CAA is to address critical issues confronting the aging population in the Americas. The field of Hispanic health and aging is urgently calling for research from an interdisciplinary and comparative perspective to inform specific public health interventions related to disease prevention and identify improvements to public health systems that will protect the health of this understudied group.

For this reason, this installment of the CAA focuses on critical issues in Hispanic health and long-term care policy with a special emphasis on people of Mexican ancestry in the United States and Mexico. Although Mexico remains young as the result of high fertility the population over the age of 60 is growing rapidly. Thus, an important objective of the event this year is to begin an interdisciplinary discussion of the trajectory of disability and long-term care for older people of Mexican-origin from a bi-national perspective. Improved nutrition and living conditions have increased life expectancies at all ages in both countries. Given the interconnectedness of the populations of Latin America and the United States, understanding how aging processes in Latin America influence social policy there and how the aging of older immigrants in the U.S. influences social delivery here is critically important. (U.S. Census Bureau, 2004.)

Our ultimate objective, then, is to develop a consensus of healthful aging for Hispanics, with a particular focus on Mexican Americans and the bi-national influences on healthy aging in Mexico and the U.S. The consensus objective of the Series will inform the NIH Healthy People 2010 initiative to implement national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats.

To support this objective, the 2010 ICAA supported work and presentations of emerging scholars. This work is presented here to further the objective of ICAA to develop our emerging understanding of aging in the Americas.

*For conference highlights: http://www.utexas.edu/lbj/caa/2010/highlights_10_angel.pdf*

# Invited Speaker Abstracts

## Latinos Aging in Place: Issues and Potential Solutions

William Vega, Ph.D., University of Southern California

Current practices in public health and health care are inadequate in promoting and sustaining optimal functioning for aging Latino elders in low income communities given the challenges posed by social and economic barriers, declining support for human services, increasing needs of family support systems, and the high levels of undertreated chronic diseases and disabilities. The implications are far reaching and this presentation will discuss and identify key issues in translating science for low-income minority older adults into programs across related topical areas bearing on successful "aging in place." As the number of vulnerable aging older Latinos increases dramatically in coming decades, it is important to examine family and community determinants to successful aging in an effort to mitigate negative trends, increase quality of life, and expand the viability of "aging in place" for more low income Latinos in their own communities. Current studies strongly suggest that medical care and human services, as currently delivered in health care settings, are not successful in adequately assisting aging minority elders in managing their chronic medical conditions effectively, despite marginal improvements in quality of care indicators. Moreover, the ability of minority elders, and their families, to manage their mental health and medical needs is underdeveloped and inadequately linked to service systems. Improving the accessibility and effectiveness of basic public health services and interventions, and reshaping the role of health care providers serving low-income communities will increase their effectiveness in optimizing the functioning of aging Latinos.

## Major Contextual and Individual Predictors of Functional Decline and Rates of Disability in Older Mexican Americans: Results from the Sacramento Area Latino Study on Aging (SALSA)

Mary N. Haan, University of California, San Francisco, CA; Adina Zeki Al-Hazzouri, University of Michigan, Ann Arbor; Allison Aiello, University of Michigan, Ann Arbor

**Background.** Decline in functional status and development of disability over time is a common feature of aging populations. Trajectories of change may vary by race or ethnicity and be related to environmental-level measures of socioeconomic and cultural neighborhood factors.

**Methods.** This analysis examines major individual and contextual predictors of change over time in IADLs (instrumental activities of daily living) and ADLs (activities of daily

living). SALSA is a cohort (N = 1789) of older Mexican Americans (MA) who were followed every 12-15 months from 1998-2008. IADLs and ADLS were measured annually by interview and categorized. Neighborhood context was measured by geocoding addresses to the 2000 US Census and linked to individual study data. Two measures were created: (a) an 'ethnicity' scale and (b) a socioeconomic scale. Trajectories of change in IADLs and ADLs were modeled with mixed models. Neighborhood effects were assessed using HLM statistical procedures.

**Results.** Increases in IADLs and ADLs were greater in men than in women (Ð M vs. F = 0.74, p < 0.0001) and did not differ by nativity (ns). Lower education was associated with more rapid increases in IADLs (β for 1 year of education = 0.07, p < 0.0001) and ADLs (β for 1 year of education = -0.01, p < 0.0001). The effect of education on ADLs and IADLs declined with time (P interaction time*education = 0.05). Participants living in neighborhoods with a high (more Mexican) ethnicity score declined less on functional measures than those in more Anglo contexts, even after consideration of personal SES.

**Conclusions.** Socioeconomic factors at the individual and environmental level influence decline in functional status over time. Exploration of specific neighborhood characteristics could suggest interventions with a wider impact than the individual.

## Does the Latino Paradox in Mortality Extend to Disability? A Comparison of Older Mexicans in the United States and Mexico

Mark D. Hayward, University of Texas at Austin; Rebeca Wong, University of Texas Medical Branch, Galveston; Chi-Tsun Chiu, University of Texas at Austin; César González , Instituto de Geriatria, Mexican Institute of Geriatric

Studies consistently document a Latino paradox in adult mortality, although debate surrounds this pattern with questions about "salmon bias," health selection processes, and negative acculturation. Here, we inform this debate in several ways. First, we assess whether the paradox extends to disability, especially among foreign-born Mexican Americans. Potentially, health selection processes advantage foreign-born Mexican Americans in terms of both mortality and disability. Second, we assess whether the paradox extends to native-born Mexican Americans whose health presumably is influenced by negative acculturation processes. Last, we assess how Mexican Americans' mortality and disability patterns compare to Mexican nationals to refine our investigation of the role of health selection, salmon bias, and negative acculturation processes. Results based on the HRS and MHAS document the presence of a Latino paradox in mortality for foreign-born Mexican Americans. Preliminary evidence from MHAS suggests that this is not an artifact of salmon bias. Evidence of negative acculturation, however, characterizes the mortality and disability experiences of native-born Mexican American men. Foreign-born Mexican Americans' low mortality rates are not matched by low disability rates. These rates are substantially higher than those for all other US racial/ethnic groups as well as Mexicans nationals, including Mexicans who had lived in the US. Exposure to adverse conditions over a lengthy

period for foreign-born Mexican Americans appears to play a heavy hand in influencing their very high rates of disability. Health selection as well as exposure to adverse conditions may account for the paradox within foreign-born Mexican Americans – a long life accompanied by a long duration of disability.

## Nativity, Immigration, and the Cognitive Functioning Trajectories of Older Mexican Americans

Terrence D. Hill, Ph.D., Florida State University; Jacqueline L. Angel, Ph.D. and Ronald J. Angel, Ph.D., The University of Texas at Austin; Kelly S. Balistreri, Ph.D., Bowling Green State University

**Background.** Although research shows that immigrants to the Unites States tend to be healthier than their native-born counterpart, it is unclear whether the "healthy migrant" effect extends to indicators of cognitive aging. Building on previous research, we test whether the cognitive functioning trajectories of older Mexican Americans vary according to nativity and migration status.

**Methods.** Using six waves of data collected from the original cohort of the Latino Established Populations for the Epidemiologic Study of the Elderly (H-EPESE), we estimate a series of linear growth curve models to assess variations in cognitive functioning trajectories. We measure cognitive functioning with the Mini-Mental State Examination.

**Results.** Our analyses suggest that the cognitive functioning trajectories of early (before age 20) and late migrants (50 and older) are similar to those of the US-born. We also find that those who migrated between the ages of 20 and 49 tend to exhibit a slower rate of cognitive decline than the US-born; moreover, this pattern is especially pronounced for men.

**Conclusions.** Although our results suggest that the health advantage of Mexican migrants extends to cognitive aging, additional research is needed to explore selection processes that are specific to age at migration.

## Transitions in Disability in Mexico and US: Does Physical Activity Matter?

Kerstin Gerst, University of Georgia; Alejandra Michaels-Obregon and Rebeca Wong, University of Texas Medical Branch at Galveston

Researchers cite lifestyle differences as one of the contributors to health inequalities in populations. There is evidence that transitions among older adults towards healthy lifestyle habits, such as avoiding tobacco and binge alcohol drinking, or exercising, appear to be underway in the US but not yet in Mexico. Little is known about how lifestyle risk factors such as lack of physical exercise can impact functional limitations in societies with very different demographic and epidemiological profiles. We postulate the hypothesis that the beneficial effect of physical exercise on old-age disability must be larger in Mexico than in the US because of the natural

selection of the population of survivors in Mexico. We argue that the current cohorts of older adults in Mexico are more selected than in the US; more of the sicker individuals have died before reaching old age.

This paper therefore explores the impact of physical activity on disability transitions among older adults in Mexico compared to the US. We use data from two waves of the Mexican Health and Aging Survey (MHAS: 2001 and 2003) and the Health and Retirement Study (HRS: 2000 and 2002) to examine disability transitions across Mexico and the US. We begin by comparing prevalence of physical activity among older adults across the two countries. We then examine the impact of self-reported physical activity on the predicted probabilities of moving, two years later, from no disability at baseline to one ADL limitation, several ADL limitations or mortality.

Findings indicate that physical activity is more common in the US than in Mexico, and that the impact on transitions to disability varies across the two countries. In general, there is a beneficial effect of exercise against onset of disability or death at follow-up in both countries. However, contrary to our initial expectations, the protective effect of physical activity is stronger in the US than in Mexico. Age and gender differences in the impact of exercise on disability also differ across the two countries. Implications of the findings will be discussed.

## National Health and Aging Trends Study and its Implications for Harmonization and Comparative Research in Latin America

Emily Agree, Ph.D., John Hopkins University

The National Health and Aging Trends Study (NHATS) will provide a new resource for the scientific study of functioning in late life. Supported by the U.S. National Institute on Aging, NHATS is being designed to measure on an annual basis a wide range of aspects of physical functioning, as well as the precursors and consequences of late-life disability. Priorities are placed on the development of better measures of the full range of capabilities, from underlying capacity to social participation.

The overarching goal of NHATS is to provide data that can be used to guide efforts to reduce disability, maximize health and independent functioning, and enhance quality of life at older ages. This includes measurement of new forms of long term care and caregiving. The survey will undertake oversampling by race/ethnicity including both persons of Hispanic origin and non-Hispanic Blacks yielding sufficient samples to examine differences in disability trends.

Comparative research on disability and long term care involves attention not only to the operationalization of health and functioning, but also good measurement of the physical and social context in which individuals live and function. This presentation reviews the concepts and models developed for use in the survey with special attention to measures of the environment. We discuss the implications of these models for comparative research across the Americas.

# Demographic, Socio-economic and Health Interactions between the Mexican-Origin Population in the United States and the Population in Mexico

Roberto Ham-Chande; El Colegio de la Frontera Norte

There are strong interactions between the population of Mexico and the Mexican-origin population in the United States (MOP). A main purpose is the identification of relationships from the demographic, economic and social perspectives as inputs for projections and scenarios for planning and policies design. The dynamics of lower mortality and decreasing fertility is leading Mexico and the MOP to a rapid and unavoidable population aging. Because of lower birthrates, this group's demographic dependency ratio is declining, following the scheme known as "demographic window." The relevance of the aging process in socioeconomic opportunities and challenges is outlined by its expected impacts, since it will affect occupation, employment and income; change patterns of consumption, productivity and saving capacity; exercise a big pressure on social security and health systems; and modify social structures and family strategies. But the third demographic component is also playing a remarkable part since a substantial portion of migration to the United States involves young persons in their productive and reproductive ages. The linked concepts of "demographic dividends" provide channels to seek targets and policy making. The "first dividend" is to make use of the favorably low dependency ratio, while it lasts, to save and invest resources to build social and economic infrastructure. If this allows a long-term sustainable economic and social system, the "second dividend" is achieved. Demographic and actuarial projections expect serious problems in retirement pensions and medical care for the elderly, for both Mexico and the MOP. But current concerns and discussions are almost restricted to actuarial balance and financial stability. The high cost of pensions and medical care are an issue in social security system where pensioners/contributors ratios are increasing rapidly. This is an obstacle for the construction of the first dividend, due to increases in the ratio benefits/contributions. As part of further analysis of prospective social security, health systems and demographic dividends it is proposed to evaluate the interaction between Mexico and the MOP. The mostly young and adult men that migrate to the United States are significantly altering demographic structures and economic opportunities in Mexico. It means a smaller and shorter demographic window, although they are reducing unemployment rates in Mexico and sending home substantial remittances. A significant fact is that one-third of the migrant workforce in the United States was born in Mexico. Questions are: Does migration mean a demographic decrease to build the first dividend in Mexico? Is it an input for the demographic window and the first dividend of the MOP? To what extent is it contributing to the first dividend in Mexico through remittances? What are the impacts for social security in Mexico? Which will be the likely impact of economic and financial crisis in Mexico and the United States?

## Cumulative Effects of Sociocultural Status on Disability in Aging Mexican Americans: Findings from the San Antonio Longitudinal Study of Aging

Helen P. Hazuda, Ph.D., University of Texas Health Science Center at San Antonio

**Background:** Sociocultural factors (i.e., socioeconomic status, acculturation, and assimilation), which provide the context of daily living for Mexican Americans as they age, may have a substantial effect on disability over time, and may have a larger effect than disease (e.g., diabetes). Therefore, we examined the relative contribution of sociocultural and disease factors to disability (i.e., difficulty in performing one's social role activities) at two time points approximately seven years apart.

**Method:** Subjects were Mexican American participants in the San Antonio Longitudinal Study of Aging (SALSA), a community-based study of the disablement process in Mexican Americans (MAs) and European Americans (EAs), 65+ years old at baseline and examined again approximately 7 years later. Disability in Basic Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADL) were assessed using a standardized performance-based measure. Indicators of SES were years of formal education and household income. The Hazuda Scales assessed two dimensions of acculturation: Value placed on Preserving Mexican Cultural Origins (Cultural Value) and Attitude toward Traditional Family Structure and Sex-Role Organization (Family Attitude), and structural assimilation (Functional Integration into the broader society). Diabetes was classified based on ADA criteria. Hierarchical regression modeling was used to determine the proportion of variance explained by a given variable net of other variables in the model based on changes in the adjusted $R^2$. Disability at baseline and follow-up were regressed on baseline age, sex, SES, assimilation, acculturation, and diabetes.

**Results:** At baseline, diabetes net of age explained 4.1% of the variance in ADL disability and 6.5% in IADL disability. In contrast, SES net of age explained 13.7% of the variance in ADL and 19.0% in IADL disability, about three times more than explained by diabetes. Functional Integration net of age explained 13.4% and 12.5% of the variance in ADL and IADL disability, respectively, two to three times more than explained by diabetes. Both acculturation scales, however, explained less variance in disability than explained by diabetes. For follow-up disability, the net variance explained by diabetes in ADL disability was negligible (0.1%), and the explained variance in IADL disability decreased to 4.7%. In contrast, although the net variance in follow-up ADL disability explained by baseline SES and Functional Integration decreased somewhat, the variance in follow-up IADL disability explained by SES almost doubled to 24.4% and that explained by Functional Integration almost tripled to 31.5%. Variance in follow-up disability explained by the acculturation scales was less than or similar to that explained by diabetes. Sex was not significantly associated with disability at baseline or follow-up.

**Conclusion:** SES and Functional Integration are major contributors to both ADL and IADL disability in older MAs, and, when compared with diabetes, account for a substantially greater proportion of the variance in disability. Particularly for IADLs, there appears to be a cumulative effect of SES and Functional Integration with the burden of lower SES and Functional Integration increasing over time as MAs age.

## Migration Selection, Protection, and Acculturation: A Bi-national Perspective on Older Adults

Fernando Riosmena, University of Colorado, Boulder; Rebeca Wong, University of Texas Medical Branch, Galveston; Alberto Palloni, University of Wisconsin, Madison

In this paper we use test for four mechanisms that explain the Latino immigrant health advantage: the salmon bias, emigration selection, socio-cultural protection, and international differences in epidemiological regimes. We use comparable health data from Central-Western Mexico--the heartland of US migration--from the Mexican Health and Aging Study, and from the US from the National Health Interview Survey, which includes Mexican-born individuals with and without previous US migration experience. With this data, we examine self-reported height, hypertension, obesity, diabetes, and self-rated global health among men ages 50+. While we only find evidence of a strong immigrant advantage in hypertension, we find evidence consistent with emigration and return selection mechanisms in height and self-rated health as well. Moreover, we find that the advantage in hypertension is not exclusively an immigrant advantage but also one partially due to differences in the Mexican and American epidemiological regimes. Although we do not find conclusive evidence consistent with socio-cultural protection mechanisms, we do find that the association between US experience and health is not monotonically negative, suggesting protection may be at play. Furthermore, we illustrate how ignoring return migrants in calculations of the association between US experience and health exaggerates the long-term effects of acculturation on health.

## Access to Vaccines for Latin American and Caribbean Older Adults with Disability

Carlos A. Reyes-Ortiz, M.D., Ph.D., University of Texas, Health Science Center

Background: There is limited information on how disability is correlated with access to vaccines among Latin American and Caribbean older adults. Unmet needs for influenza and tetanus vaccines access according to health insurance coverage were assessed among older adults with disabilities.

**Methods:** A cross-sectional study, 8,682 men and women aged 60 and older from six cities of the Health, Well-Being and Aging in Latin

America and the Caribbean Study (SABE; 1999-2000). Regression models adjusted for relevant demographic and health variables were used to estimate the associations between reported vaccines access and disability by health insurance status.

**Results:** In multivariate analyses of the combined sample of cities, compared to those being disabled and insured, being uninsured and with any functional difficulty on instrumental activities of daily living (IADL) or activities of daily living (ADL) showed an association with the lack of influenza vaccine within the last year (OR 4.21 95% CI 2.77-6.41), and tetanus vaccine within the last 10 years (OR 2.80 95% CI 1.90-4.11). Also, compared to those being disabled and insured, being uninsured and with any report of fair/poor vision or hearing was associated with lack of influenza vaccine (OR 2.38 95% CI 1.77-3.19) and tetanus vaccine (OR 1.85 95% CI 1.43-2.41).

**Conclusion:** Being uninsured was significantly associated with unmet needs for influenza and tetanus vaccines among functional- or sensory-disabled Latin American and Caribbean older adults.

## Diabetes and Employment Productivity: Does Diabetes Management Matter?

Shelton Brown, Ph.D., The University of Texas Health Science Center at Houston; Adriana Peréz, Ph.D., The University of Texas Health Science Center at Houston; Lisa Yarnell, M.A., The University of Texas at Austin; Jose A. Pagán, Ph.D., University of Texas Health Science Center at Forth Worth; Craig Hanis, Ph.D., University of Texas Health Science Center at Houston; Susan P. Fisher-Hoch, Ph.D., University of Texas Health Science Center at Houston; Joseph McCormick, Ph.D., University of Texas Health Science Center at Houston

Diabetes has been shown to have a detrimental impact on employment and labor market productivity. However, it is not known whether labor market effects are the result of diabetes per se or whether they depend on the degree to which diabetes is controlled through management of blood sugar levels. From a policy or public health perspective, if we can avoid the productivity effects by controlling diabetes rather than preventing diabetes, scarce resources can be concentrated on the smaller group that already has diabetes. This study utilizes data from a recently completed survey of households in Brownsville, Texas, a largely Mexican American city with a high prevalence of diabetes located on the Texas-Mexico Border. Diabetes management or control is measured by blood sugar levels, glycosylated hemoglobin levels (Hba1c), and interaction terms. Methods used are probit and Heckman regression. Results show that the management of diabetes does not appear to have a discernible impact on labor market outcomes in the short-run. However, diabetes does negatively affect males, particularly in work propensity.

# Trends in Racial Composition of Nursing Home Residents: 2000-2007

Mary Fennell, Ph.D., Brown University; Zhanlian Feng, Ph.D., Brown University; Vincent Mor, Ph.D., Brown University; Denise Tyler,Ph.D., Brown University; Melissa Clark, Ph.D., Brown University

**Research Objective:** Research on racial/ethnic differences in nursing home (NH) use has been limited, despite rapid growth of older minority populations and potential rise in their long-term care (LTC) needs. Changing demographics call for a renewed understanding of these differences in the context of today's rapidly evolving LTC markets. The objective of this paper is two-fold: (1) to describe the national trends in the racial composition of NH residents over the period 2000 to 2007, and (2) to understand the demographic forces driving the shifts in the racial composition of NH residents among population subgroups at the Metropolitan Statistical Area (MSA) level.

**Study Population:** Annual population of NH residents, by race/ethnicity, estimated from the national repository of Minimum Data Set (MDS) resident assessments, 2000-2007. Population demographics are from the US census (2000) and annual population estimates (2001-2007) aggregated to the national and MSA levels.

**Study Design:** Each annual snapshot of the estimated NH population includes all residents 65+ who are residing in a NH on the first Thursday of April, identified from a residential history file tracking each person's location of care setting at a given point of time. Racial composition of NH residents is measured by both the absolute number and proportion of each racial/ethnic group, separately for Whites, Blacks, Latinos, and Asian/Pacific Islanders. Descriptive analysis is performed to track trends and examine the association between annual changes in the racial composition of NH residents and corresponding changes in the older population per MSA.

**Principal Findings:** Nationally, the total NH population declined slightly from 2000 to 2007, by an average -0.3% per year; this trend is primarily driven by declining White residents, at -0.8% per year. In contrast, NH residents who are Blacks, Latinos or Asians increased steadily, by an annualized rate of 1.6%, 5.3%, and 5.4%, respectively. Accordingly, the proportion of NH residents who are Whites decreased each year (from 86.2% in 2000 to 83.2% in 2007), accompanied by a continuous rise in the proportion of Blacks (9.9% to 11.3%), Latinos (2.5% to 3.7%), and Asians (1.0% to 1.5%). Across MSAs, the proportion of minority NH residents correlates with the proportion of minority older population in the MSA (Spearman Correlation = 0.58, 0.28 and 0.35 for Blacks, Latinos and Asians, respectively), whereas there is little correlation for Whites (-0.04). More importantly, minority NH residents grow more rapidly over the study period in MSAs, which have experienced a faster growth in the respective minority older population, compared to MSAs experiencing a slower growth.

**Conclusions:** A significant shift occurs in the racial composition of NH residents in recent years, as marked by increasing numbers of older Blacks, Latinos and Asians, coupled with a continuing decline of White residents in NHs. This shift has been driven in part by changing demographics, especially the rapid growth of older population among minority groups.

**Implications:** If the current demographic trends

persist, the increasing use of NHs among minority elders is likely to continue in the near future. As a result, the NH population will become more diverse and increasingly mirror the racial/ethnic makeup of the aging population in the US.

**Research Objective:** Research on racial/ethnic differences in nursing home (NH) use has been limited, despite rapid growth of older minority populations and potential rise in their long-term care (LTC) needs. Changing demographics call for a renewed understanding of these differences in the context of today's rapidly evolving LTC markets. The objective of this paper is two-fold: (1) to describe the national trends in the racial composition of NH residents over the period 2000 to 2007, and (2) to understand the demographic forces driving the shifts in the racial composition of NH residents among population subgroups at the Metropolitan Statistical Area (MSA) level.

**Study Population:** Annual population of NH residents, by race/ethnicity, estimated from the national repository of Minimum Data Set (MDS) resident assessments, 2000-2007. Population demographics are from the US census (2000) and annual population estimates (2001-2007) aggregated to the national and MSA levels.

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## Latino and Non-Latino Elderly in Los Angeles County: Demographic Trends for Disability and Long-Term Care

David E. Hayes-Bautista University of California, Los Angeles

Analysis of Census data for Los Angeles for the 1990-2008 period shows two important trends in the 65+ population: a rapidly growing presence of Latino elderly and a rapidly shrinking presence of Non-Latino White (NHW) elderly. This means that throughout the twenty-first century, the disability and long-term care profile of the elderly in Los Angeles County will increasingly be influenced by the growing Latino presence in this age group. American Community Survey (ACS) data for 2008 are used to compare and contrast the disability profile of Latino and NHW in the following categories: vision/hearing, ambulatory, cognitive, self care and independent living. Generally, Latino elderly report higher percentages of disability in nearly all categories.

Data from the 2008 California Hospital Discharge Summary show marked differences between Latino and NHW elderly in terms of post-hospitalization disposition to long-term care. NHW are far more likely than Latino to be discharged to Skilled Nursing/Intermediate Care, Residential Care and Home Health Service. The Hospital Discharge data also show markedly different insurance coverage patterns (Expected Payment source). NHW are nearly universally covered by Medicare or private insurance, while Latino patients are far more likely to be covered by Medicaid, Other Government or Self Pay.

Policy implications of these differential profiles will be presented.

## The Role of Sociocultural Factors in Latino Family Dementia Caregiving: Lessons from Qualitative and Quantitative Research

Ladson Hinton M.D., University of California, Davis

The number of Latino elderly with dementia is projected to increase significantly over the next decade. This presentation will review findings from research the author has conducted with caregivers of cognitively impaired elderly who were participants in the Sacramento Area Latino Study of Aging (SALSA) as well as a comparative cross-ethnic qualitative study of dementia caregiving conducted as part of a National Institute on Aging-funded study at Harvard. Findings from the SALSA study will highlight the high levels of behavioral problems in older Mexican Americans with cognitive impairment and their adverse impact on both the caregiver and the person with cognitive impairment. Generational differences in the caregiver experience will also be presented. Quantitative findings will be amplified through the use of qualitative data from both SALSA as well as a cross-ethnic study of dementia caregiving conducted in Boston, Massachusetts. Together, these findings will highlight both cultural and socioeconomic factors that influence how Latino family caregivers interpret and respond to behavioral symptoms, including patterns of help-seeking.

## Aging and Long-term Care in Mexican-American Families

Jacqueline L. Angel, Ph.D., The University of Texas at Austin

**Background.** During the next two decades elderly Hispanics will constitute an ever growing fraction of the older population in the United States. This demographic trend has important consequences for options in long-term care, especially as frailty and disability becomes more common among the elderly in coming decades.

**Objective.** In this paper we examine key aspects of this growth for the needs of elderly Hispanics and for Mexican-origin individuals in particular. These include economic difficulties, lack of health insurance and access to medical care, all of which may result in compromised health and different preferences and needs for elder care.

**Methods.** Using data from the H-EPESE, a longitudinal study of the health of 3,050 Mexican Americans 65 and older in the Southwestern United States, we examine the influence of cultural factors and declining health on the basic probability that one prefers to live with family or in some other arrangement.

**Results.** The analyses reveal that while more than one-half of older Mexican Americans expect to live with their children in the event they became too ill to care for themselves, nativity, gender, and disability status affect their desire to do so.

**Conclusion.** The paper ends with a discussion of the significance of the findings as they relate to long-term care and, specifically the role of the family in providing care to elderly Hispanics in years to come. They inform policy development on whether any changes in feelings of obligation by adult children to care for their elderly parents will influence the demand for long-term care by elderly Mexican Americans in the future.

# Aging Policy and Implications for Preventive Long-Termcare Mexican-Origin

Fernando Torres-Gil, The University of California, Los Angeles

This presentation provides a policy overview of the issues and legislative developments that will influence our ability to address the pending long-term care challenges facing the Latino and Mexico communities in the U.S. and throughout Latin America. Longevity alongside changing family structures and traditions will conspire to integrate long-term care into the personal longevity planning of middle aged and younger Latino populations. Recent legislative developments in the United States provide a public framework for filling the void when families are no longer able or willing to provide traditional home care and personal comprehensive services. The recently passed health reform measure provides important benefits and opportunities to establish an infrastructure of home and community based programs and services to Latino families and elders, in particular the CLASS Act, a publicly fund long-term care insurance program. In addition, as the Latino population ages, they will face increasing likelihood of disabilities and chronic conditions. These demographic trends—aging, care-giving and disability—may lend themselves to potential coalitions among younger disabled, older persons and Latino families. The crux of these diverging issues will be seen with the aging of 8 million Latino Baby Boomers who transcend the aging of the Hispanic population and the aging of the overall US cohort of baby boomers. Lessons, insights and policy prescriptions flow from this analysis.

# Emerging Scholar Abstracts

## How will Older Minority Women Fare After Health Care Reform?

Kate Chambers, The University of Texas at Austin

**Background:** In 2008, close to 18 million women lacked health insurance coverage in the United States. Often this lack of coverage comes later in life when serious health problems become common. As written, the passage of the Patient Protection and Affordable Care Act promises to improve the situation for many of these minority women who will now be able to purchase subsidized coverage though the new health insurance exchanges, and the poorest will qualify for Medicaid, which in 2014 will be extended to all adults in households with incomes below 133% of poverty.

**Method:** We employ the 2008 American Community Survey to estimate the number of uninsured women aged 55–64 years by race and Mexican-origin ethnicity and marital status. The ultimate goal is to determine the extent to which Medicaid expansion and the new insurance exchanges will increase coverage and reduce the total number of uninsured women in this age bracket.

**Results:** Preliminary results reveal that a disproportionate fraction of uninsured women are minorities. In 2008, 33.2% of Mexican-origin women aged 55-64 years old were uninsured, compared to 8.7% of non-Hispanic white women and 15.3% of African-American women in this age bracket. In addition, 50% of all Mexican-origin women aged 55-64 years old who were uninsured lived below 133% of the poverty line, a much higher rate than their non-Hispanic white and African-American counterparts (26.4% and 26.6%, respectively). Pre-retirement Mexican-origin women living above 133% of the poverty line are four times more likely than their non-Hispanic white counterparts to be uninsured.

**Conclusion:** The research has important implications of how numerous provisions enacted in the PPACA law will reduce the number of particularly vulnerable uninsured women. These findings also make it is clear that Medicaid expansion and insurance exchanges will vary across states, and consequently has potential benefits for low-income minority group women on the verge of becoming Medicare eligible.

## Caring for the Elderly: A Binational Task. International Migration, Ageing and Transnational Families. Implications in the Healthcare Support System

Veronica Montes de Oca, Nacional Autónoma de México; Rogelio Sáenz, Texas A&M University

Today the aging processes in the world are a concern given the large amounts of population entering this life stage, specially for the health and care issues these represent to the individuals and cares givers, being those families, communities or the public and private institutions dedicated to these matters. These issues complicate even further when the elder belong to transnational families then the concerns are for both nations. This is a widespread matter among the migrant families that transit between Mexico and the United States. The aim of this paper is to identify the strategies and mechanisms that the families of Mexican origin, develop in both sides of the border to tend the needs of their seniors. We focus especially on the physical and mental health issues. The methodology used in this paper is a mixed one, which uses: qualitative and quantitative techniques based upon data basis and interviews to the members of the transnational families. Some findings show a combination between local and transnational strategies in the members of families in México and United States. Some children characteristics determine the strategies for healthcare in the older parents: gender, age, place of residence, migration condition, socioeconomic status.

## "Me Siento Inutil:" Masculinity and Depression among Older Mexican Men

E. Carolina Apesoa-Varano, University of California, Davis

**Background:** Clinical depression in older men is associated with physical and psychological disability, increased health care costs, poor co-morbid management, and significantly higher rates of suicide. Older men of Mexican origin remain under-diagnosed and under-treated for depression in primary care settings, where they are likely to receive on-going care. Studies show that inadequate access is partly related to such disparity in diagnosis and treatment, while stereotypical conceptions of masculinity may also play a role. We know little about older Mexican men's experience and expression of depression. Having a better understanding of older Mexican men's explanatory model of depression and what idioms of distress they use may help reduce barriers to depression care.

**Methods:** Findings come from in-depth interviews with 25 Mexican men over 60 (both English and Spanish speakers) with clinical depression, treated and untreated (MeHAS, R01MH080067-03). Interviews were transcribed verbatim and translated into English. Thematic coding was done by independent coders using NVivo based on on-going analyses by the team, where emerging topics were identified and discussed in view of the study's conceptual framework.

**Discussion:** We found that Mexican older men experience depression as a loss of productivity and self-worth, typically triggered by physical disability due to catastrophic events, chronic illness, or aging. They perceive lost productivity as a threat to their masculinity given strongly held ideas of men as providers of the family. Further, older Mexican men do not express their depression in typical idioms of distress such as feeling down or sad. Instead, they speak about feeling "inutil"—feeling useless—in the context of physical decline and chronic socio-economic hardships. Thus health practitioners must elicit life and family changes, engage older Mexican men in discussions about their experiences, and expand their repertoire of "red flags" for depression for diagnosis and treatment.

## Old-Age Disability and Wealth among Return Mexican Migrants from the United States

Cesar Gonzalez, Mexican Institute of Geriatric

**Objective:** To examine the old-age consequences of international migration with a focus on disability and wealth from the perspective of the origin country. Methods: Analysis sample includes persons aged 60+ from the Mexican Health and Aging Study (MHAS), a national survey of older-adults in Mexico in 2001. Univariate methods are used to present a comparative profile of return migrants. Multivariate models are estimated for physical disability and wealth. Results: Gender differences are profound. Return migrant women are more likely to be disabled while men are wealthier than comparable older adults in Mexico. Discussion: Compared to current older adults, younger cohorts of Mexico-U.S. migrants increasingly include women, and more migrants seem likely to remain in the United States rather than return, thus more research will be needed on the old-age conditions of migrants in both countries.

## Life Course Socioeconomic Conditions and Depressive Symptoms among Older Mexican Americans: Results from the Sacramento Area Latino Study on Aging (SALSA)

Adina Zeki Al Hazzouri, University of Michigan

**Introduction:** The life-course model recognizes the importance of socioeconomic status (SES) measured at the different life stages on later-life health including depressive symptoms. In this analysis, we examine the association between various socioeconomic circumstances measured at each of childhood, early adulthood and midlife and the number of depressive episodes experienced by the participants.

**Methods:** Participants (N = 1789) are from SALSA, a longitudinal cohort of older Mexican Americans residing in Sacramento. Participants aged 60+ were recruited in 1998-1999 and

followed every 12-15 months through 2007. Nearly 51% of the participants are immigrants to the US. Depressive symptoms are measured using the CES-D scale (range: 0-60) and a cut-off of 16 is used to classify participants with a depressive episode (1) or no episode (0). The number of episodes experienced across the study period (baseline and six follow-ups) was derived (range: 0-7). Participants reported their parental education and occupation, own educational attainment and major lifetime occupation. Regression coefficients β and 95% CI are computed from negative binomial regressions using SAS v.9.2.

**Results:** Participants with low educational attainment have nearly 1.5 times as many depressive episodes as those with high educational attainment. Participants whose major lifetime occupation is manual have 1.3 times as many depressive episodes as those with a non-manual occupation. Participants whose mother had low education had nearly 1.2 times as many episodes as those whose mothers had high education. Father's education was not significant. Finally, Mexican-born participants have nearly 1.3 times as many depressive episodes as the U.S. born.

**Conclusion:** Depressive symptoms play important role on the pathway of several aging-related conditions including physical disability. Lower mother's education, one's education and occupation are important exposures experienced at different life course stages that influence late-life depressive symptoms. These findings are of importance among this fast growing minority group.

## Esther Has a Living Will and Other Fairy Tales for Adult Children: The Essential Preparedness Guide to Health Care for Child of Aging Parents

Brenda L. Barnes, MM, JD

Adult children are invisible in geriatric health care. If the patient is married, the spouse receives medical and treatment information that the adult child may be expected to implement without benefit of clear instructions from medical providers. Given the most recent tightening of patient privacy regulations with enactment of ARRA, HITECH, and PPACA and heightened patient autonomy, adult children are frequently outside the communication loop regarding health care for their aging parents. There are multiple issues for adult children of Mexican ancestry. US health care uses a patient- rather than familycentric decision-making model, medical error rates are higher for non-English speaking patients, triage is more difficult for 25% of the US population for whom English is not the first language, and concepts such as palliative care, hospice, organ donation, and caregiving are mistaken as religious rather than medical concepts.

Esther Has a Living Will and Other Fairy Tales for Adult Children provides information on 15 aspects of health care delivery to an aging population in language that is understood by a general population. Using 15 case studies gently recounted as fairy tales, concepts are explained to laymen. Conflict resolution and grievance information is included. A special section is devoted to adult children who succumb to self-neglect while acting as caregivers for aging parents. Resources, including the types of documents patients are likely to encounter in a hospital setting are included with notations of their availability in languages other than English. Spanish, Chinese, and Creole are the most readily-available translations. Adult children are provided with sufficient information to be prepared to assist their aging parents and navigate health care channels in 2010.

## Acculturation and Progression of Late-life Disability in Latinos

Jose Delgado, John Stroger Jr. Hospital of Cook County, Rush Institute for Healthy Aging

Late-life disability is an important health condition in older age. Older Latinos have a higher prevalence of disability than non-Latino whites. Acculturation is an important factor in chronic conditions such as obesity and diabetes, but little is known about the effect of acculturation in disability. The aim of the study was to examine the relationship between acculturation and the progression of late-life disability in Mexican Americans.

**Methods:** Data was obtained from the Latino Established Populations for the Epidemiological Study of the Elderly (H-EPESE). Interviews were performed in six consecutive waves between 1993 and 2007. Data included measures for disability (ADLs, IADLs, and a summary measure of performance based tests of physical function), acculturation and socioeconomic status (income, education). Longitudinal models were used to examine the association of acculturation with each disability outcome. Results: There were 3050 participants in the study. Higher acculturation was associatedwith lower ADL disability (coef = -0.1650, p = 0.004), lower IADL disability (coef = -0.2030, p < 0.001) and higher physical function level (coef = 0.3039, p = < 0.001) at baseline. Acculturation was not associated with change in either ADL or AIDL disability over time (p = 0.40 and p = 0.37 respectively). Higher acculturation was associated with less decline in physical function scores over time (coef = 0.0239 p = 0.03). This longitudinal association remained significant after adjustment for education and income (coef = 0.0265, p = 0.02). Conclusion: The findings from this longitudinal study suggest that higher acculturation has a protective effect on late-life disability and on the decline of basic physical function in older Latinos.

## Using the D-Index to Examine Latino Mortality Rates in Texas

Xiaodan Deng, Texas A&M University

Our project examines Latino mortality rates in the state of Texas using the dissimilarity index (D-Index) to uncover any associations Latino mortality rates may have with the similarity or dissimilarity of Latinos and other races, such as non-Latino Whites and non-Latino Blacks. We utilize Texas vital statistics and US Census 2000 data for our analysis, in addition to US Census Tiger files (shapefiles). Our level of analysis is first the county level and if necessary, the census tract level. Geographic Information Systems (GIS) software is also employed to provide descriptive maps of any patterns in the D-Index and further analyses test our hypothesis that there is indeed an association between Latino mortality rates and D-Index scores. We show support for expanding this research into other Southwestern states and ultimately, to implement our findings into public policy to reduce the health disparity between Latinos and the non-Latino White majority.

## Functional Dependency and Falls in Elderly Living in Poverty Conditions in Mexico

Betty Manrique-Espinoza; Aaron Salinas-Rodríguez; Karla Moreno-Tamayo; Martha Téllez-Rojo, Instituto Nacional de Salud Pública de México

The ageing process deteriorates physic and cognitive functions; this may lead to worsened functional capacities. Functional dependency (FD) might be a consequence of the presence of some disease or degenerative process, which in some cases is serious and long enough to affect several body parts, modifying the normal function and therefore the capacity to maintain the daily life activities (DLA). Objective. To determine the prevalence of FD in DLA on Mexican elderly living in extreme poverty conditions and to estimate the association between falls and FD. Our study utilized a nationally representative sample based on a three-stage probabilistic selection survey, stratified by location (rural or urban). The sample consisted of individuals aged 70 or older who are beneficiaries from Programa Oportunidades.

**Results.** The statistic analysis was held on 1369 elderly. 30.9% of the elderly presented FD. FD increased with age: 25.5% for individuals between 70 and 79 years, 38.3% for individuals between 80 to 89 years, and 52% for individuals aged 90 and older (p-tendency < 0.001). 40% of the elderly reported having suffered at least one fall within the last two years (47.2% for women and 31.8% for men). The results of the gender stratified logistic regression model showed that, in the women's group, the Odds Ratio (OR) for the association between falls and FD was 2.13 (I.C:1.52-3.01); meanwhile the association was not statistically significant among men (OR = 1.47; I.C:0.97-2.22).

**Conclusions.** In this population of poor elderly its important to take into consideration the high prevalence on FD and falls when planning any kind of strategy to attend to their health.

## Ge/ic Concentration and Correlates of Nursing Home Closures: 1999-2008

Zhanlian Feng, Brown University

While demographic shifts project an increased need for long-term care for an aging population, hundreds of nursing home facilities close each year. It remains unknown whether nursing home closures disproportionately affect certain communities and population subgroups more than others.

**Objective:** To examine whether nursing home closures were geographically concentrated and related to local community characteristics such as the racial/ethnic population mix and poverty.

**Methods:** The study included all Medicare/Medicaid certified nursing homes from the Online Survey Certification and Reporting database, 1999-2008 (N = 18,192 unique facilities). Nursing home closure was defined as termination from the Medicare/Medicaid programs. Census 2000 zip-code level data on the proportion of minorities and poverty rate were matched to study facilities, to examine the likelihood of closure associated with each zip-code characteristic. The Gini coefficient was used to measure geographic concentration of closures. Spatial clustering patterns of closures were illustrated using GIS maps.

**Results:** Between 1999 and 2008, there were 2,894 closures or nearly 16% of all facilities. The relative risk of closure among facilities in the top quartile of zip codes by percent black was 1.64 (95% confidence interval [CI], 1.47-1.83) times greater than those in the bottom quartile. Similar results were observed by percent Latinos in a zip-code (relative risk = 1.52; 95% CI, 1.37-1.68) and poverty (relative risk = 1.95; 95% CI, 1.76-2.16). The Gini coefficient for closures was 0.65 across all Metropolitan Statistical Areas and 0.79 across all zip codes. Closures tended to be spatially clustered in minority-concentrated zip codes around the urban core, often in pockets of concentrated poverty.

**Conclusions:** Nursing home closures are geographically concentrated in minority and poor communities. Since minority elderly now use nursing homes more than whites, these findings suggest future access barriers.

## Emotional and Cognitive Health Correlates of Leisure Activities in Older Latino and Caucasian Women

Angelica P. Herrera, PH.D; Thomas W. Meeks, MD; Sharron E. Dawes, Ph.D.; Dominique M. Hernandez, MPH; Wesley K. Thompson, Ph.D.; David H. Sommerfeld, Ph.D.; Matthew A. Allison, MD; and Dilip V. Jeste, MD; University of California, San Diego

**Objectives:** This study examined differences in the frequency of leisure activity participation and relationships to depressive symptom burden and cognition in Latino and Caucasian women.

Methods: Cross-sectional data were obtained from a demographically matched subsample of Latino and Caucasian (N = 226; 113 each group) postmenopausal women (age ≥ 60), interviewed

in 2004-06 for a multi-ethnic cohort study of successful aging in San Diego County. Frequencies of engagement in 16 leisure activities and associations between objective cognitive performance and depressive symptom burden by ethnicity were identified using bivariate and linear regression, adjusted for physical functioning and demographic covariates. Results: Compared to Caucasian women, Latinas were significantly more likely to be caregivers and used computers less often. Engaging in organized social activity was associated with fewer depressive symptoms in both groups. Listening to the radio was positively correlated with lower depressive symptom burden for Latinas, and better cognitive functioning in Caucasians. Cognitive functioning was better in Latinas who read and did puzzles. Housework was negatively associated with Latinas' emotional health and Caucasians' cognitive functioning. Discussion: Latino and Caucasian women participate in different leisure activities. Additionally, ethnicity significantly affects the relationship between leisure activities and emotional health and cognitive performance.

## From Stigma to Empowerment: The Importance of Social Support and Advocacy for Latina Long-Term Breast Cancer Survivors

Gloria Martinez-Ramos, Texas State University-San Marcos

Breast cancer is the most common form of cancer among Latinas living in the United States. Much remains to be learned about the long-term impact of breast cancer diagnosis and the importance of ethnicity, family, and community in shaping the experiences of Latina breast cancer survivors. This research aims at giving voice to the experiences of Latinas long-term breast cancer survivors.

**Method:** Using qualitative methodology, 25 Latina long-term survivors (five years since diagnosis) between the ages of 28 and 83 years of age, primarily of Mexican origin living in California were interviewed. Interview narratives were analyzed using a constant comparative content analysis. Questions centered on understanding how Latinas' ethnic and gender identity shapes their perceptions of being a breast cancer survivor.

**Results:** Qualitative narratives describe what it means to be a Latina breast cancer survivor, specifically, the challenges they face as they cope with the stigma of breast cancer. Latinas stressed the importance of social support from other breast cancer survivors; specifically, Latina breast cancer survivors that are bilingual and bicultural play a key role in breaking down the barriers of silence and feelings of isolation. The findings show how Latinas in this sample negotiate their social roles and social identities within their families and the community that surrounds them.

They also shows the importance of relational social support helped them develop a sense of empowerment.

**Conclusion:** This study shows how ethnicity and gender socially and culturally shape Latina breast cancer survivors' identity. It contributes to our understanding of the role of ethnicity, social support, and advocacy in the formation of breast cancer survivors' identity and well-being.

## Ethics Consultation Can Identify Changes in Patient Preferences for Healthcare in the Aging, Latino, Cancer Patient: Opportunities for Physician Education

Jessica A. Moore, DHCE; Rahel Kahlert, Ph.D.; Colleen M. Gallagher, Ph.D., FACHE The University of Texas M.D. Anderson Cancer Center, Houston, Texas

The investigators conducted empirical research focused on improving the biomedical, psychosocial, and emotional well-being of older cancer patients, with an emphasis on the Latino patient population at our institution. We aimed to accomplish this through an improved understanding of the shifts in preferences and goals of care among cancer patients over 55 years of age as evidenced by the primary reason cited for making a request for ethics consultation.

This study required review of all ethics consultations for patients 55 years of age and older, reported in the ethics consultation database and hard-copy files of the Ethics Consultation Service in the Section of Integrated Ethics at The University of Texas M. D. Anderson Cancer Center, and the related patient medical records. Specifically, we utilized: demographic information; descriptive information regarding advance directives, primary and secondary medical diagnosis and complications, psycho-social issues and any conflicts that may have arisen prior to the ethics consultation; and the nature of the conflict leading to the request for ethics consultation, including any underlying issues for the period from January 1994–June 2010. In preliminary research there appears to be a pattern of shifting primary ethical concerns identified as the reason for requesting ethics consultation when data was categorized by age cohort. This research study aimed to discover if the pattern differs by ethnicity, with a specific focus on the Latino patient population as compared to other patient populations. Currently, the discovered differences in preferences with advancing age are not sufficiently addressed in the education of healthcare providers. With evidence of these differences, we assert that education regarding the differences in treatment preferences among patients of different ages and within different ethnic populations will increase physician sensitivity to these differences and affect the communication models used for shared decision-making.

## Access to Health Services among Undocumented Migrants in the US: The Case of Poblanos in New York

Nadia Santillanes, Universidad Iberoamericana

The poster seeks to present the results from a research project carried out during 2008-2009 period, among recent migrants from Puebla living in New York City. Following an anthropological theoretical and methodological approach, the aim of the study was to focus on identifying the difficulties undocumented migrants confront daily in having access to healthcare services in New York City. Moreover, an important part of the discussion attempted to explain the strategies

developed to treat their own health issues, based on the lack of healthcare access of this particular population. Among some resources, the importance of social networks, contacts with the communities of origin and traditional medicine, are utilized to treat such health issues. Among these aims, the project revealed certain matters that emerge from the health-illness process and oftentimes are obscured from the studies of health among the Hispanic community, that is, the consequences generated by the American health system of exclusion. This can be observed when we carefully analyze certain fundamental aspects of such healthcare system: a) access to healthcare insurance is only obtainable through employment and b) a public healthcare that does not contemplate the undocumented population because the right for health is not considered to be a universal human right; access is distinguished between citizens and non-citizens. Ultimately, a number of conclusions are revealed which, among other things, proposed the necessity to highlight the structural forces that undermine health, and studying illness as a product of social inequalities.

## Intergenerational Transfers: An Overview of the Literature

Stipica Mudrazija, University of Texas at Austin

With the emerging issue of population aging and related problems in developed and increasingly developing countries in recent decades, intergenerational transfers have come to the focus of a growing number of scholars, especially in the fields of economics and sociology. This paper offers both an overview and a critical assessment of the extensive literature on the subject. The focus is on the overview of the theories of private intergenerational transfers and their relationship with public intergenerational transfers as well as the assessment of the empirical studies on these topics that apply both micro- and macro-level analyses using US and international data. The review suggests that important theoretical advances in the understanding of the complexities of intergenerational transfers' motives have been made, but much empirical work remains to be done in order to establish the relative importance of each transfer motive as well as the character and the magnitude of the relationship between public and private intergenerational transfers.

## Latina Breast Cancer Survivors: Our Experiences

Diana Tisnado, University of California, Los Angeles

Research is urgently needed to understand the patterns of survivorship care and to identify areas in need of intervention, particularly for populations known to be at risk of disparities in cancer treatment and outcomes such as ethnic minorities. Partnered for Progress Latina Task Force and staff have partnered with academic researchers to conduct the study. The aims of this study are to examine experiences of access to and quality of care for Latinas with breast cancer entering the survivorship phase of care; barriers and facilitators of receiving high quality survivorship care; and to learn how Latinas conceptualize and experience being a breast cancer survivor. This work uses a qualitative approach with semi-structured focus group

discussions with Latinas 6 months–10 years post-breast cancer diagnosis. Participants were recruited through health events, Promotoras, the PFP newsletter, flyers at hospitals, and support groups. We completed 12 focus groups. Over 70 Latina survivors participated, 56% in Spanish and the rest in English. Participant ages ranged from 30-75 years, and breast cancer stage varied from Stage I to Stage IV. Qualitative analyses are in progress and include input from all study partners. Recurring issues emerging in preliminary analyses include: confusion over survivorship care plans and concerns over quality of care; issues of health insurance coverage such as being uninsured or underinsured, loss of coverage due to inability to work, and limited choices within many health plans; sources of support including family, faith/spirituality, cancer support groups, and activation for self-care; and challenges such as anxiety, fatigue, depression, cognitive aftereffects of treatment, and perceived stresses on children, marriage, and extended family. The results of this pilot study will provide invaluable information regarding needs in the community, which will be used to design and assess the acceptability of one or more interventions to help Latinas and other women with breast cancer, and future work evaluating culturally and linguistically appropriate interventions.

## Marginalization and Mortality Rates in Mexico, 2003-2007

Carlos Díaz Venegas, The University of Texas at Austin

The marginalization index calculated in 2005 for each municipality in Mexico confirms that this country is experiencing increasing inequality in the development process. Almost half of the municipalities have a high or very high degree of marginalization. Using this index as a tool to measure urbanization and based on data obtained from the Consejo Nacional de Población (CONAPO) and the Instituto Nacional de Estadística y Geografía (INEGI) this work first analyzes observed spatial patterns of the marginalization index. Next this paper analyzes the association between marginalization and mortality patterns inside Mexico. Overall, there is evidence of high marginalization linked to high mortality rates. Factors that might improve urbanization like geographic proximity to the nation's capital or the United States do not seem to influence the relationship between marginalization and mortality. On the other hand, factors like migration and indigenous population percentages show more relevance in proving an association between marginalization and mortality.

## Factors Associated with the Place of Death of Older Mexicans

Marylou Cardenas-Turanzas, The University of Texas, M. D. Anderson

**Purpose:** To evaluate the factors associated with the place of death of older Mexicans.

**Methods:** We conducted a retrospective analysis of data collected by the Mexican Health and Aging Study (MHAS). Included in our study were adults and their spouses or partners who participated in the 2001 MHAS interview and died before the 2003 MHAS follow-up. The main outcome was the place of death (hospital vs. home). The associations between socio-demographic, clinical, and economic factors and place of death were examined with logistic regression analysis.

**Results:** Four hundred and seventy-three of the deceased met our inclusion criteria. More than half (52.9%) died at home. The independent factors significantly associated with a hospital death were living in a city of 100,000 or more residents (odds ratio [OR] 2.30, 95% confidence interval [CI], 1.16–4.54), dying in a city other than the city of usual residence (OR 4.77, 95% CI 2.24–10.15), dying from stroke (OR 4.16, 95% CI 1.25-13.89), and not having paid for any hospital stays during the last year of life (OR 3.75, 95% CI 1.74–8.08). Factors associated with dying at home were older age (OR 0.97, 95% CI 0.94–0.99) and cancer as the cause of the death (OR 0.46, 95% CI 0.22–0.95).

**Conclusions:** Health policies to address the needs of persons dying at home in Mexico should consider the implementation of home-based palliative care programs. These programs should target older patients, residents of small cities, those diagnosed with cancer, or those who spent money on hospital stays during their last year of life.

## Aging Texas Well (ATW) Clearinghouse for Evidence-based Practices

Anne Rafal, Ph.D, LCSW, Department of Aging and Disability Services

This poster session will display the link (http://www.agingtexaswell.org/ebased/index.cfm) for the Aging Texas Well (ATW) Evidence-based Clearinghouse, a public resource database of national and state level evidence-based information, practices, and research developed to be used by program planners, researchers, and the public. The ATW Clearinghouse was created under authority of Executive Order RP 42 in 2005. The website also supports the activities of the Texas Healthy Lifestyles (TxHL) Administration on Aging grant demonstration projects and evidence-based programs throughout Texas. The information contained in the ATW Clearinghouse is used to support evidence-based practices as well as emerging evidence-based practices. Topics are organized around the 16 ATW life areas and include the areas of care giving, healthcare, social engagement, long term care and mental health. The standards for

research, interventions and programs adopted and promoted by the National Council on Aging (NCOA) are used to standardize the entries in the ATW Clearinghouse- with emphasis given to research published in peer reviewed journals. In 2009, Texas Department of Aging and Disability conducted an on-line survey of all 28 Texas Area Agencies on Aging to gather information on evidence-based programs throughout Texas and determined location by county and which programs were delivered in Spanish. Building on these findings, the poster will display particular evidence-based practices in order to focus on Chronic Disease Self-Management and Diabetes Self-Management programs both of which have Spanish materials and/or have been developed for use with Spanish speaking populations. In order to show possible needs for further evidence-based services in Texas, Geographic Information System (GIS) maps will be displayed on this poster to show both the density of the Hispanic population throughout Texas and the location by county of the evidence-based programs that are available to Spanish speakers and Hispanic populations.

## Differences of Pain Descriptors among Mexican American and Non-Hispanic White Women with Mobility Impairment

Janiece Walker, The University of Texas at Austin

**Purpose:** This exploratory descriptive study compared descriptors of pain among Mexican American and Non-Hispanic white women with mobility impairments using data from an on-going ethnographic study of disability.

**Methods:** Preliminary data from 80 women (Mexican American n = 46; Non-Hispanic White n = 34) with mobility impairments participating in an on-going study of disablement was used. Pain was measured in Spanish and English using the McGill Pain Index. Functional mobility impairment was measured with the Health Assessment Questionnaire. Data was analyzed using SPSS 18.0 with t-tests and descriptive frequencies.

**Findings:** A total of 80 women reported data for analysis. The women ranged in age from 55 to 75 years of age. They had 1 to 21 years of education, and 26% were currently employed. They began working at age 5 to 48 years; 88% spoke English. There were no significant differences in degree of mobility impairment. Pain intensity scores, however, were significantly lower among the Non-Hispanic white women, $t(70) = 2.15$, $p = .036$. The most frequently used pain descriptors among the Mexican American women were sharp (n = 21), shooting (n = 19), and hot (n = 16). The most frequently used pain descriptors among the Non-Hispanic white group were aching (n = 17), shooting (n = 15) and nagging (n = 15).

**Conclusions:** This study is limited due to the small convenience sample. Although both groups report similar levels of mobility impairment the Non-Hispanic White women ranked their associated pain as lower with different words to describe the quality of their pain. The way the women communicated their pain influenced the treatment they received for their pain management in clinical settings.

# Notes

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# Acknowledgements

The 2009 ICAA was held on September 15-17, 2009 and the 2010 ICAA on September 15-17, 2010 at the AT&T Executive Education and Conference Center located on The University of Texas at Austin campus.

We are grateful for the generous support of the following major sponsors:

- Office for Special Populations at the National Institute on Aging
- NIH/National Institute on Aging (R-13) Conference Grant Award
- Foundation for Insurance Regulatory Studies
- Population Research Center, University of Texas at Austin
- Policy Research Institute, LBJ School of Public Affairs, University of Texas at Austin
- Office of Graduate Studies, University of Texas at Austin
- George W. Jalonick, III and Dorothy Cockrell Jalonick Centennial Lectureship, University of Texas at Austin
- The University Co-op

We would also like to thank Kate Chambers, Berglind Thrastardottir, and Carlos Díaz for their valuable research assistance at the conference. For more information visit the CAA website at www.utexas.edu/lbj/caa.

NIA Grant R13- AG029767-01A2

Published by the National Alliance for Hispanic Health. The opinions expressed herein are solely those of the author and contributors and do not necessarily reflect the policy or position of the funding source, Board of Directors of the National Alliance for Hispanic Health, or the members of the National Alliance for Hispanic Health.



Printed in the United States of America

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National Alliance for Hispanic Health
Publications
1501 Sixteenth Street, N.W.
Washington, D.C. 20036-1401
(202) 387-5000


The University of Texas at Austin
P.O. Box Y
Austin, TX 78713-8925
**www.utexas.edu/lbj**


1501 16th Street, NW
Washington, DC 20036
**T** 202.387.5000
**www.hispanichealth.org**