# Cancer in Mexican American Women

## INTRODUCTION

Cultural adaptation and acculturation through the years have had a profound influence on the values, attitudes, and behaviors of today's Mexican American women. Although the Mexican American population is diverse, there are unifying threads of values and customs. Individuals may respond differently to these cultural influences, depending in large part on socioeconomic factors that include levels of education and income, occupation, religious affiliation, and the number of years and generations in the United States. A brief historical account offers insight into cultural and social influences relevant to modern Mexican American life, such as a prevailing racism that has largely excluded Mexican Americans from mainstream U.S. culture and perpetuated cultural stereotypes.

### Historical Perspectives

The history of Mexican Americans began with migration from Asia to the Americas as early as 40,000 B.C. (see Table 1). The settlement of bands of hunters and gatherers in Central Mesoamerica eventually culminated in the political dominance of the Aztec in the region. The Aztec, or Mexica, was an advanced civilization with egalitarian attitudes toward women.

In Aztec culture, women were held in high regard. They participated in important religious ceremonies, contributed to economic production, were educated, and were afforded equal legal treatment with regard to marriage, divorce, and property rights (Clendinnen, 1991; Mirande and Enriquez, 1979; Cotera, 1976; O'Neil, 1984). The Mexican woman's domestic roles as mother and wife were deemed important to the well-being of the community (Cotera, 1976). Pregnancy and childbirth were accompanied by "important social and religious ceremonies" in which the priestess/midwife, or *partera,* performed official rites (Cotera, 1976, p. 17). In sum, the life of the Mexica woman was marked by high status, egalitarian laws, and participation across the social spectrum.

*Spanish Colonial Period (1521-1821).* The downfall of Mexica civilization occurred with the razing of Tenochtitlan in 1521 by the Spaniard, Hernan Cortes. It is then that Mexica women lost their high social standing. The conquest "created a displacement of the [Mexica] social structure, religion, and educational system" and was characterized by humiliation, abuse, and slavery (Cotera, 1976, p. 24).

1

A strict Spanish caste system replaced the collective society of the Mexica.  In the new culture, the *peninsular* (those born in Spain) enjoyed the highest social positions.  The *criolla* (of Spanish ancestry, born in Mexico) followed next in prestige, with the *mestiza* (those of mixed Spanish and Indian ancestry) a notch above the Indian, who held the lowest social positions (Mirande and Enriquez, 1979; Blea, 1992).

During the colonial period, all women were excluded from participation in the public sphere.  Their universal function was to "serve in the home as procreators, housekeepers, wives, and mothers" (Mirande and Enriquez, 1979, p. 37).  Several authors share the opinion that the colonial period did not contribute to the development of women, regardless of social position (Blea, 1992; Cotera, 1976; Mirande and Enriquez, 1979).

Convent life was a viable alternative for women who wanted an education and did not want to marry (Cotera, 1976; Mirande and Enriquez, 1979).  Convent life was largely restricted to those of the aristocracy, but a few convents accepted upper-class Indian women (Cotera, 1976).  Mirande and Enriquez (1979) maintain that the practice of exclusion reinforced the oppressive class structure.

In the religious realm, women no longer held important roles. (Mirande and Enriquez, 1979).  However, Mexica religion found expression in Catholicism.  Several of the Mexican pantheon of goddesses were integrated into the new religion.  The goddess *Teteo Innen,* a manifestation of the Earth Mother, was in many ways analogous to the Virgin Mary.  As the Virgin, she became *La Virgen de Guadalupe,* who stood as a national emblem of Mexico by the time of the war for independence from Spain (Lafaye, 1976).  By the 17th century, the Mexican Indians had created a new version of Catholicism as "a blend of pre-Hispanic religion, European Catholicism, and symbolic representations of colonial society" (Ingham, 1986, p. 9).  This blending is also the foundation of *curanderismo*, or the Mexican healing arts (Trotter and Chavira, 1981).

*Spanish Colonization of the Southwestern United States (1600s-1821).* The first permanent Spanish colony in the Southwestern United States was Santa Fe, New Mexico, in 1598.  From the late 1600s through the 1700s, permanent settlements were established in Texas and California.  Frontier life was harsh, both geographically and economically.  The strict sexual division of labor was difficult to maintain under such conditions, so women enjoyed a higher status and more freedom on the frontier (Cotera, 1976; Blea, 1992).  Women contributed to the family's income, took jobs in the towns, cared for grazing animals, and sometimes herded livestock (Cotera, 1976).  In addition, many women provided medical care by specializing in the healing arts and midwifery (Blea, 1992).

Intermarriage soon changed the racial background of the Southwest from Indian to *mestizo* and brought changes to the cultural aspects of language, religion, and social relationships (Blea, 1992).  The strict caste system remained intact, whereby the Spanish elite were privileged to receive large land grants. These formed the *haciendas*, which were operated in feudal fashion, with the Indian and *mestizo* toiling the land, keeping only what was necessary for their subsistence.  The revolution for independence from Spain resulted partly from these social conditions.

*Mexican Independence.*  Mexican independence came in 1821.  This also marked the era of American expansion into the northern regions of Mexico.  Several misconceptions and cultural stereotypes about Mexican Americans are rooted in this era.  Many have persisted as expressions of prejudice; for example, that Mexican Americans are "lazy, ignorant, bigoted, superstitious . . ." (Weber, 1988, p. 153).  These stereotypes have served to justify assimilation efforts in the Southwest as well as to rationalize the exploitation and mistreatment of Mexican and Mexican American workers ". . . [in] the border region [of the Southwest]" (Weber, 1988, p. 166).

*Mexican Americans.*  With the signing of the Treaty of Guadalupe Hidalgo in 1848, the United States absorbed the northern regions of Mexico, which included the states of California, New Mexico, and Arizona and parts of Nevada, Colorado, Utah, and Wyoming.  Texas was admitted into the Union in 1845.  By "choosing to stay in their homes," at least 80,000 Mexicans were forced to become American citizens (Blea, 1992). The Treaty of Guadalupe Hidalgo included provisions to guarantee these new U.S. citizens their civil rights, landholding rights, and the right to religious and cultural autonomy.  These rights were often ignored and violated by Anglo citizens, especially in Texas.  Severe civil rights violations—frequent lynchings, beatings, and rapes—occurred due to racism (Blea, 1992).

From the 1880s to the present, the Mexican American population has played a major role in the development of the Western United States, despite racial and cultural conflicts.  In the 1960s, the Hispanic population, which includes Mexican Americans, became the second largest minority group in the United States (Rosales, 1993).  By the year 2000, Hispanics were expected to be the largest ethnic minority (U.S. Department of Health and Human Services [USDHHS], 1993).  Indeed, newly released census data indicate that all Hispanics outnumber African Americans as the largest minority group (35.3 million Hispanics versus 34.7 million African Americans) (U.S. Census Bureau, 2001).

During the 20th century, community organizations emerged for the social betterment of Mexican Americans, culminating in a politicized force in the 1960s and 1970s that demanded civil rights (Cotera, 1976).  The political strides made by Mexican Americans have resulted in increased visibility of both males and females in all sectors of society; nevertheless, many problems remain.  An understanding of Mexican

American culture is important for tackling the severe and persistent problems of disparity in education, income, and health.

**Cultural Considerations**

Although the culture is changing for Mexican Americans, strong cultural values have remained constant throughout their history. Adaptation to adverse social conditions has had little effect on traditional cultural values, especially with regard to the family (Williams, 1990).

The Mexican American population is part of the larger Hispanic American community, which includes Mexicans, Cubans, Puerto Ricans, Central Americans, South Americans, and persons of Spanish ancestry. The designation of all these groups as "Hispanic" occurred in part due to politics, which made it possible to target civil rights efforts and affirmative action more broadly (North American Association of Central Cancer Registries, 1996). There are similarities in cultural practices among the various population groups, each of which is affected by historical, proximal, and temporal factors, as well as socioeconomic levels and the level of acculturation into the larger U.S. society. Yet, within the general culture, specific practices among the Hispanic groups vary widely (Modiano et al., 1995).

The traditional patriarchal family that plays a central role in Mexican American life is often misunderstood. The cultural stereotype of male dominance, expressed as *machismo*, has perpetuated the stereotype of women in the culture as submissive and abused. However, contrary to the myths, studies indicate that the Mexican American family is characterized by egalitarian distributions of power (Blea, 1992; Baca-Zinn, 1980; Chilman, 1993). The value of *familismo* is exemplified by feelings of "loyalty, reciprocity, and solidarity among family members" (Marin and Marin, 1991, p. 13). These factors have led to an emphasis on community. Within that community, interpersonal relationships are regulated through the dynamics of *simpatía* (Marin and Marin, 1991).

The extended family is an important feature of Mexican American culture. Characterized by blood and marriage ties as well as kin relationships through the *compadrazgo* system, the extended family is undergoing some modification. The traditional relationship formed with *compadres*, or co-parents, at baptism is tied to expectations that the godparents will provide economic and spiritual support for the godchild in time of need. This is no longer expected, but the co-parenting relationship still provides for long-lasting friendships (Williams, 1990).

*Simpatía* is characterized by cooperation and the avoidance of conflict through an emphasis on positive social behaviors (Marin and Marin, 1991). Positive behaviors in communicating *simpatía* include proximity (Mexican American culture is a "contact culture" where physical closeness is not seen as an invasion of

4

personal space) and temporal considerations (for instance, taking time for small talk as an expression of quality in a relationship) (Marin and Marin, 1991).

Related to *simpatía* is *respeto* (respect), which governs behaviors individuals exhibit toward one another. Interpersonal respectful behaviors are based on "age, sex, social position, economic status, and position of authority" (National Coalition of Hispanic Health and Human Services Organizations, 1988, p. 73). *Respeto* toward individuals is acknowledged and reciprocated through the establishment of "rapport [and] decency" between the parties involved in communication (National Coalition of Hispanic Health and Human Services Organizations, 1988, p. 73).

Religion is important in Mexican tradition, and religious affiliation is overwhelmingly Catholic. Within the religious realm, *curanderismo*—a Mexican cultural tradition that involves the use of herbs and prayer— provides healing on the emotional, spiritual, and physical levels (Blea, 1992). Within this realm, women are given authority (Macklin, 1980). The *curandera*, as well as the *partera*, form a "historically and culturally important system of health care," especially in South Texas (Trotter and Chavira, 1981, p. 1). Health care services are not always available or affordable to Mexican Americans, nor are they always adequate to the needs of patients. Thus, people continue seeking the help of the *curandera*, thereby helping to preserve the system. Now with the integration of *curanderismo* and modern medicine (Trotter and Chavira, 1981), studies show that fewer than 4 percent of the Hispanic population utilize the services provided by *curanderas* (National Coalition of Hispanic Health and Human Services Organizations, 1988).

**DEMOGRAPHICS**

The Hispanic population is the fastest-growing population in the United States. The number of Hispanics nearly doubled in the 1980s, from 14.6 million persons in 1980 to more than 22 million in 1990 (U.S. Census Bureau, 1992a). According to new data from the year 2000 Census, Hispanics living in the United States number 35.3 million, and make up approximately 12.5 percent of the total U.S. population (U.S. Census Bureau, 2001). By 2050, Hispanics are expected to represent between 19 and 24 percent of the population (U.S. Census Bureau, 1992a).

Mexican Americans represent more than half (about 60 percent) of the Hispanic population in the United States, with almost 13.5 million persons in 1990 and as many as 21.2 million in 2000. Mexican American women, who number an estimated 10.6 million, have continually increased their rate of births over time, more so than other Hispanic groups (Matthews et al., 1998). The majority of Mexican Americans live in the States of California, Texas, Illinois, Arizona, New Mexico, and Colorado (see Table 2). They constitute slightly more than 20 percent of the population in Texas, New Mexico, and California (22.9 percent, 21.7

percent, and 20.6 percent, respectively).  The Mexican American population is expected to continue growing at rates similar to the overall Hispanic population (U.S. Census Bureau, 1992a).  The states most populated by Mexican Americans were among the fastest-growing states during the last decade of the 20th century, and the population in the Mexican border area rose 21 percent during that time.  In addition, three of the fastest growing large cities (Houston, San Antonio, and Phoenix) have large Mexican American populations (U.S. Census Bureau, 2001).

The median age for Mexican American females is 8 years younger than the median age for all females in the United States (26.1 versus 34.1).  Mexican American adult women are less likely to be married than their non-Hispanic White contemporaries and U.S. Hispanics generally (56.0 percent of Mexican Americans, compared with 61.9 percent of non-Hispanic Whites and 62.4 percent of U.S. Hispanics).  The divorce rate for Mexican American females (8.0 percent) is lower than the percentage rate for all females in the United States (9.3 percent).

**Education and Income**

The percentage of all U.S. females 25 years old and older in 1990 who had completed high school was 79.2 percent.  Hispanics and Mexican American females had high school graduation rates of 49.9 and 51.5 percent, respectively, compared with a rate of 80.7 percent for non-Hispanic White females and 68.2 percent for non-Hispanic Black females.  Table 3 shows educational attainment by number of years for 1988 and 1991.  Mexican American females have a median of 10.6 years of school completed, while all other listed groups have completed 12 or more years of schooling. Few Mexican American women attend college; only 6.0 percent have completed studies for a bachelor's degree, compared with 21.4 percent for the total population and 19.3 percent for non-Hispanic White females.  Data also show low rates of enrollment at the college level for the health professions.  According to Treviño (1993), rates of enrollment of Hispanics in medical, dental, and nursing schools were 5.6, 7.6, and 2.7 percent, respectively.

Education levels are a key factor affecting income.  Nearly half of Mexican American females (45.7 percent) live below the federal poverty level.  The median annual income of Mexican American women in the years 1992 to 1994 ($9,264) was well below the median for all females ($12,876) and non-Hispanic Whites ($13,397) (see Table 4).  Approximately 90 percent of Mexican American women earn less than $25,000, compared with 80 percent of the non-Hispanic female population (U.S. Census Bureau, 1991).

Female participation in the labor force is more than 50 percent for all groups, with Mexican American females' participation at 51.6 percent, compared with  58.0 percent for non-Hispanic White females (see Table 4).  According to the National Institutes of Health (NIH) (1993), Hispanics (both male and female) constituted only 1.6 percent of the Institutes' work force, compared with a rate of 71.3 percent for

nonminority groups. There also are low percentages of Hispanics in various health professions, a direct reflection of educational attainment among Hispanics. The relatively large percentage of dental assistants (10.6 percent) who are Hispanic, in comparison with the low percentage of dentists (1.8 percent), suggests educational barriers to higher level professions. (These data were available for Hispanics only; Mexican American delineation was not available.) Of females eligible for labor force participation from 1992 to 1994, the unemployment rate for Mexican American women was higher (10.5 percent) than the rate for all women (6.5 percent) and the rate for non-Hispanic White women (5.4 percent) (see Table 4).

Although 60 percent of Mexican American and 55 percent of non-Hispanic households consist of married-couple families, females are increasingly acting as heads of households (U.S. Census Bureau, 1991). In 1990, 17.9 percent of Mexican American females were heads of households. This percentage is higher than that for non-Hispanic White females (8.7) but less than for other Hispanic females (19.8) (see Table 4). Mexican American families (30.1 percent) are more than three times as likely as non-Hispanic families (9.5 percent) to consist of five or more persons, and approximately 25 percent of Mexican American families lived in poverty in 1990 (U.S. Census Bureau, 1991).

**Access to Health Care**

The pattern of disparities found in education and income is also seen in access to health care. A high percentage of Mexican Americans (35.4 percent) do not have any type of health insurance (see Table 5) compared with 10.2 percent of non-Hispanic Whites and 19.7 percent of non-Hispanic Blacks. When Mexican Americans do have health insurance, it is more likely to be private insurance (53.7 percent) than Medicare (3.0 percent) or Medicaid (6.3 percent). The similarity of Medicaid utilization rates for Mexican Americans (6.3 percent) and non-Hispanic Whites (5.0 percent) suggests an underutilization of the service by eligible Mexican American women, because a higher percentage of Mexican American females have incomes below the poverty level.

Compared with White and Black women, Mexican American women are the least likely to have a source of regular health care (Fox and Stein, 1991; Zambrana et al., 1999). According to Solis and colleagues (1990), nearly 21 percent of Mexican American women have never received a routine physical, approximately 11 percent have never had an eye examination, and 6 percent have never had a dental checkup. These findings point out serious problems in health care access for Mexican American women. Contributing factors include lack of financial resources as well as cultural issues, knowledge, and attitudes that may influence health behavior.

**Health Status**

Table 6 shows prevalence rates for selected health status indicators for Mexican American women.  The diabetes prevalence rate for Mexican American women aged 45 to 74 is higher than the rates for non-Hispanic White and non-Hispanic Black women (15.2 percent for Mexican Americans, 5.8 percent for non-Hispanic Whites, and 11.4 percent for non-Hispanic Blacks).  Mexican American and non-Hispanic Black women aged 20 to 74 are more likely to be overweight than White females of the same age group (41.6 percent of Mexican Americans, 44.4 percent of Hispanic Black women, and 23.9 percent of non-Hispanic White women).  Hypertension rates for Mexican American females (20.3 percent) are lower than for non-Hispanic White females (25.1 percent), and Mexican American females also have lower rates of high serum cholesterol (20.0 percent) than non-Hispanic Black females (25.0 percent) and non-Hispanic White females (28.3 percent).  Among Hispanic subgroups, Mexican Americans fare better than Puerto Ricans , but more poorly than Cuban Americans, on some health indicators (Hajat et al., 2000).

Although no specific information is available for Mexican American women, Surveillance, Epidemiology, and End Results (SEER) data on  leading causes of death for  Hispanic American women shed some light on health indicators of Mexican women  (see Table 7).  From 1993 to 1998, the two leading causes of death for Hispanic American women were heart disease (27 percent of deaths) and cancer (21 percent of deaths).  Data from the two periods 1993 to 1995 and 1996 to 1998 show a slight increase in the percentage of cancer-related deaths, while the percentage of deaths caused by heart disease remained constant.

In summary, a Mexican American female is more likely to be younger, less educated, living in poverty, unemployed, a female head of household, uninsured, diabetic, and overweight than a comparable White female.  Moreover, there are limitations to the availability of health data for Hispanic subgroups that hamper the development of targeted public health policies (Zambrana and Carter-Pokras, 2001).

**CANCER STATISTICS**

**Data Sources**

Most published studies of cancer incidence and mortality patterns in Mexican American women through the late 1990s have been derived from the Surveillance, Epidemiology, and End Results Program in the state of New Mexico.  Cancer incidence, mortality, and survival data from the SEER registry of New Mexico are presented here, but are supplemented with information on Mexican Americans from published cancer registry reports issued by the states of California, Texas, Illinois, and Colorado (Perkins et al., 1993; Texas Cancer Registry, 1996; Ferre et al., 1989; Karp et al., 1991).  These states were selected because their Hispanic populations had the highest proportion of Mexican Americans.  Considerable debate exists on the representativeness of the New Mexico population with respect to other U.S. Hispanic

ethnic groups. However, an examination of cancer patterns from New Mexico showed general agreement with data on Mexican Americans from other sources.

Age-adjusted survival rate information about Mexican Americans is available only from the SEER registry in New Mexico. In the review of cancer risk factor prevalence in Mexican Americans, care was taken to ensure that only studies of Mexican Americans, or of populations that are predominantly Mexican American, were cited.

In April 2000, the National Cancer Institute (NCI) released SEER data for the years 1992 to 1997 that included expanded racial/ethnic categories, thus making it possible to examine patterns of cancer cases for subgroups (including Mexican Americans) from all 11 SEER registries (NCI/SEER, 2000). However, this data source does not include age-adjusted incidence, mortality, and survival rates, due to the lack of age group denominator data for Hispanic ethnic subgroups in most of the SEER registries.

**Incidence Rates**

Table 8 provides summary statistics for cancer incidence and mortality rates from 1992 to 1998 and survival rates from 1988 to 1997 on selected cancer sites for Hispanic and non-Hispanic White women. Although not specific to Mexican American women, this information can be used to approximate incidence rates for the Mexican American population. After adjusting for age, the total incidence of all cancers among Hispanic American women is significantly lower than that of the non-Hispanic White women (237.7 versus 368.0 per 100,000 women, respectively). Stomach and cervical cancers are among those for which Hispanic women have higher incidence rates. Hispanic women have lower incidence rates of many other forms of cancer, including those of the digestive system, lung, breast, uterus, ovary, and bladder, as well as for non-Hodgkin's lymphoma and leukemia.

For selected primary cancers, incidence trends from 1992 to 1998 for Hispanic and non-Hispanic White women show declining incidence of most cancers in Hispanic women. Two exceptions were cancers of the uterus and breast and melanoma. Overall cancer incidence decreased significantly for Hispanic women (-1 percent), whereas the trend showed increases for non-Hispanic White women (0.6 percent) (see Table 9).

For all sites combined, Mexican American women have lower cancer incidence rates than non-Hispanic White women in four of the five states covered (see Table 10 ). The lower overall incidence rate is primarily due to low rates of lung, colorectal, breast, bladder, and uterine cancers. Mexican American women have the lowest lung cancer incidence rates of any ethnic group in the country, with rates almost 50 percent less than those for other non-Hispanic Whites. An examination of cancer incidence rates in

New Mexico, Texas, and California reveals that Mexican American women have consistently higher rates of cervical, stomach, liver, and gallbladder cancers than non-Hispanic White females (see Table 10).  In Texas, California, and Illinois, cervical cancer incidence is at least twice as high for Mexican American women as for non-Hispanic White women.  However, incidence rates of multiple myeloma, leukemia, and ovarian, thyroid, and kidney cancers in Mexican American women are generally similar to incidence rates for non-Hispanic White women.

Combined data from the 11 SEER registries for 1992 to 1997 show that the most common cancers for Mexican American women are cervical, breast, and digestive cancers (see Table 11).  Cervical cancer accounts for a higher percentage of all cancers among Mexican Americans than it does among Whites (25.9 percent of cases versus 9.8 percent of cases); however, breast, lung, and colorectal cancers represent a smaller proportion of cancers in Mexican American women than in Whites (Canto and Chu, 2000; NCI/SEER, 2000).  In addition, Mexican American women are about twice as likely to have a cancer diagnosed while they are young (37.6 percent of cancers in Mexican Americans diagnosed before age 44, versus 18.5 percent in White women) (see Table 12).

**Mortality Rates**

Cancer mortality rates, like incidence rates, are generally lower in Mexican American women than in non-Hispanic White women (see Table 13).  Cancer mortality rates for cancers of the oral cavity, esophagus, colon, rectum, lung, breast, corpus uteri, ovary, bladder, and central nervous system are lower for Mexican American women than for non-Hispanic White women.  As with cancer incidence, cancer sites for which Mexican American women are at a higher risk of dying include cervix, stomach, liver, and gallbladder, but Mexican Americans seem to be at a relatively equal risk for dying from cancers of the pancreas and kidney as non-Hispanic White women.

Recent mortality data available from 1992 to 1998 show that cancer mortality rates for the digestive system, lung, and breast are significantly higher among non-Hispanic women compared to Hispanic White women (see Table 8).  However, the overall cancer mortality rates for women are lower in the Hispanic population when compared to the non-Hispanic White population (84.3 versus 140.8 per 100,000).

**Survival Rates**

Available data on cancer survival rates for Mexican American women are from the SEER registry in New Mexico.  Table 14 shows 5-year survival data derived from New Mexico SEER data for the years 1975 to 1984.   With few exceptions, survival rates among Mexican American women are comparable with survival rates for non-Hispanic White women.  However, survival is worse among Mexican American women than among non-Hispanic White women for cancers of the corpus uteri, bladder, and kidney, and for non-

Hodgkin's lymphoma.  The Mexican American women's 5-year survival rate for bladder cancer is 37.3 percent compared with 68.3 percent in non-Hispanic White women.  The relatively good survival rate of Mexican American women with cervical cancer in New Mexico may be an anomaly.  Data from Texas and California showed cervical cancer mortality is excessive for Mexican American women compared with non-Hispanic White women.

Data on national survival rates for Hispanic women from 1988-97 show a similar pattern for Mexican American women. The 5-year survival rate for all cancers is comparable for Hispanic and non-Hispanic women. However, survival rates are relatively lower for Hispanic women for liver cancer (17.7 percent versus 49.3 percent for non-Hispanic White women).  Survival rates for cancers of the digestive system, colon, breast, uterus, and bladder and for melanomas are lower for Hispanic women than for non-Hispanic White women.

Through the late 1980s, Mexican American women tended to be diagnosed at later stages of breast and cervical cancers than were non-Hispanic White women (Suarez et al., 1991; Caplan et al., 1992).  Fifty percent of cervical cancer cases were diagnosed in situ in Mexican Americans, compared with 68 percent in non-Hispanic Whites in Texas (Suarez et al., 1991).  Unpublished data from the Northern California Cancer Center show that 45 percent of the breast cancer cases in the state's Mexican American women are late stage (regional and distant), compared with 35 percent in non-Hispanic White women.  Data from the 11 SEER registries suggest  that this disparity may be decreasing somewhat, with 40.5 percent of cancers in Mexican American women diagnosed in a regional or distant stage, compared with 36.9 percent in Whites (NCI/SEER, 2000) (see Table 15).

The higher risk of dying from cervical cancer that is seen among Hispanic women is clearly related to the late-stage diagnosis of this disease.  Screening programs toward earlier diagnosis of cervical cancer should reduce the death rate.  However, more studies of the etiology of cervical cancer among Mexican American women are needed.

**MAJOR RISKS AND EXPOSURES**

**Risks Factors, Generally**

*Tobacco Use.*  Studies have documented a lower rate of cigarette smoking among Mexican American women than among other U.S. women (Marcus and Crane, 1985; Humble et al., 1985; Rogers and Crank, 1988; Texas Department of Health, 1991; Burns and Pierce, 1992; King et al., 1997).  Up to 1991, estimates from various studies in different states and regions showed smoking rates between 12.7 percent

and 23.8 percent for Mexican American women.  Data from 1993 to 1996 on women aged 45 to 75 who were participating in the Multiethnic Cohort Study in California showed a smoking rate of 13.6 percent for Latina women (Kolonel et al., 2000).  However, studies indicate that as Mexican American women acculturate into American society, their level of cigarette smoking increases (Haynes et al., 1990; King et al., 1997).

*Alcohol Use.* Alcohol use may be a contributing risk factor to liver cancer and esophageal cancer. In general, Mexican American women have low rates of alcohol use (Markides et al., 1990).  As with cigarette smoking, increased acculturation is associated with increased alcohol consumption (Markides et al., 1990; Marks et al., 1990; Black and Markides, 1993).  In the Multiethnic Cohort Study, 13.7 percent of Latina females reported consuming alcohol (Kolonel et al., 2000).  In a study of Mexican American females in San Antonio, the highest quantity of consumption was among moderately acculturated women compared with either non-Hispanic Black or non-Hispanic White women (Neff and Hoppe, 1992).  These studies suggest that traditional Mexican values do not encourage alcohol consumption by women, but with assimilation, Mexican Americans adopt mainstream alcohol use.  The incidence rate of liver cancer among Mexican American women in Texas and California has been shown to be nearly twice that of non-Hispanic White females, though the reasons for this are unclear (see Table 10).

*Obesity and Diet.* Obesity is a major health problem among Mexican American women, but is considered to be a more significant risk factor for diabetes and heart disease than for cancer (Hazuda, 1986).  Nearly a third of Hispanics in Texas are overweight, measured as greater than the 85th percentile for body mass index based on self-reported height and weight (Texas Department of Health, 1991).  Data from the Hispanic Health and Nutrition Examination Survey (HHANES) indicated that in the late 1980s, 39 percent of Mexican American women aged 20 to 74 were overweight, and that 16 percent were severely overweight, higher than for Puerto Ricans or Cuban Americans (Najjar and Kuczmarski, 1989).  Mexican American women in San Antonio are more obese than non-Hispanic White women, regardless of age (Hazuda et al., 1988).  However, the Hazuda study indicated that as socioeconomic status and acculturation increased, obesity decreased among Mexican American women, suggesting that women of low socioeconomic status were more likely to be obese. Among Latina females aged 45 to 75 in the Multiethnic Cohort Study, 29.5 percent were obese when defined as a body mass index greater than 30 (Kolonel et al., 2000).  Though it is a possible risk factor for breast and colorectal cancers, obesity does not yet appear to be playing a significant role in cancer development in Mexican American women because they are at a lower risk for breast cancer than other groups.

Studies in the 1980s that were based on 24-hour recalls showed that Mexican American females consume more calories than White females generally, with a greater percentage of intake from carbohydrates than

from total fat (Knapp et al., 1985; Newell et al., 1988).  In the San Antonio Heart Study, results showed that Mexican American women consumed less calcium and less vitamin A and vitamin C than non-Hispanic White women (Knapp et al., 1985).  The traditional Mexican diet is high in fiber; median daily intakes of fiber by Mexican American females are higher than those by non-Hispanic White or Black women (NCI, 1989).  However, in the Multiethnic Cohort Study of the 1990s, Latina females in California had among the highest caloric and fat intakes of all ethnic groups.  They had a high intake of red meat, but also of fruit and vegetables (Kolonel et al., 2000).  The traditional Mexican diet is consistent with the lower observed risk of diet-related cancers, such as colorectal and breast cancers.  The possible healthy role of the Mexican American diet in the prevention of the most common cancers should be studied, although changes in diet may be manifest in higher rates of some diet-related cancers if the findings of the Multiethnic Cohort Study are generalizable.  Cancer control programs should encourage maintenance of healthy diets that are part of the Mexican culture.

*Extent of Physical Activity.* The percent of Mexican American women who are inactive is much higher than for White women (Crespo, Keteyian, Heath, and Sempos, 1996; Crespo, Smit, Andersen, Carter-Pokras, & Ainsworth, 2000; USDHHS 1996).   Using the NHANES III data, the percentage of Mexican American women who are inactive during their leisure time ranges from 43.8 percent to 45.7 percent, compared with 23.1 percent to 23.5 percent of White women.  Other sources that have not isolated Mexican Americans from other Hispanics had similar findings—Hispanic women are not as active (USDHHS, 1996).  The prevalence of inactivity for Hispanic women ranges from 37.4 percent to 39 percent (USDHHS, 1996). The percentage of women who accumulate 30 minutes of moderate-intensity physical activity ranges from 16.5 percent to 18.9 percent for Hispanics and from 19.8 percent to 21.5 percent for Whites (USDHHS, 1996). Women who do 20 minutes of moderate- to vigorous-intensity activities ranged from 11.4 percent to 11.7 percent for Hispanics and from 15.9 percent and 17.1 percent for White women (USDHHS, 1996). Finally, only about 22.7 percent of Hispanic women meet the Surgeon General's physical activity recommendations, compared with 31 percent of White women (Jones et al., 1998).

**Risk Factors for Specific Cancers**

*Occupational Exposures and Liver Cancer.*   Primary liver cancer rates for Mexican American females are two to three times higher than for non-Hispanic White females (Suarez and Martin, 1987).  This risk increases to four-fold for older Mexican American females.  In the United States, most liver cancer occurs in association with cirrhosis, but because alcohol consumption is low among Mexican American women, environmental and occupational exposures should be studied as risk factors.  Possible factors include exposure to chronic hepatitis B infection, aflatoxin, and occupational pesticides.  Prevalence of hepatitis B and exposure rates to aflatoxin among Mexican Americans are unknown; however, Mexican diets tend to

include corn and bean products, which may contain aflatoxin.  One risk for liver cancer may be directly related to occupational exposures to pesticides, as Mexican Americans are more likely to be exposed to pesticides than other Americans because they constitute the majority of farm workers.  Geographical analyses of primary liver cancer show the highest rates in counties along the U.S.-Mexican border, primarily an agricultural region.  However, Suarez and colleagues (1989) were not able to show a significant relationship between farm work and possible exposure to agricultural chemicals and liver cancer.  Further research is needed to assess the role of etiological factors, such as hepatitis B infection and agricultural exposures, and to understand the high risk of primary liver cancer in Mexican American women.

*Cervical Cancer Risk Factors*.  Risk factors for the development of cervical cancer are well documented; they include early onset of sexual activity, multiple sex partners, promiscuity of a partner, exposure to sexually transmitted agents, socioeconomic factors, and cigarette smoking (Reeves et al., 1989; Franco, 1991).  Recent studies also have indicated a causal role for human papillomavirus (HPV) (Bosch and Munoz, 1989; Koutsky et al., 1992).  Although Mexican American women marry early, engage in sexual intercourse at an earlier age, and have a lower economic status, they have fewer sex partners and smoke less.  Zunzunegui and colleagues (1986) identified the number of sex partners of the husband as a significant risk for Mexican American women.  There were no studies of the prevalence of HPV in Mexican American women (Franco, 1991) until recently (Giuliano et al., 1999).  A study of risk factors for HPV infection among 971 Mexican American women in Arizona found that women born in Mexico were significantly more likely to have an HPV infection compared to U.S.-born persons, despite being significantly older, having had fewer sexual partners, and having been older at first intercourse (Giuliano et al., 1999).  More research is needed on possible unmeasured risk factors, such as the sexual behavior of male partners, that may contribute to the high rates of HPV and cervical cancer in Mexican American women.

## USE OF CANCER CONTROL SERVICES

### Use of Prevention Services

Several studies in the 1980s and early 1990s documented the low levels of use of preventive health services by Mexican Americans.  In a study by Treviño and Moss (1983), Mexican Americans averaged fewer visits to a physician than Whites or Blacks, whereas Puerto Ricans and Cuban Americans averaged more visits.  The proportion of Mexican American women without health insurance or Medicaid is large, with national estimates ranging from 35 to 40 percent (Treviño et al., 1991).  Population surveys of Mexican American women age 40 and older living in Corpus Christi and El Paso, Texas, show proportions of 32 and 45 percent, respectively, as uninsured (Suarez et al., 1993a; Suarez, 1994).  Mexican American

women are less likely than other ethnic groups or non-Hispanic Whites to receive routine physical examinations or have a regular source of health care (Treviño et al., 1991). This is especially important because access factors may be more important than language and ethnic factors in determining use of cancer screening services (Estrada et al., 1990; Marks et al., 1987; Zambrana et al., 1999).

As several studies have shown, a variety of factors influence Mexican Americans' use of health care services. Cost and transportation, language, and cultural barriers are the reasons most often cited (Estrada et al., 1990). To improve access to care, health care providers must address issues of cost, transportation, and hours of operation. Cultural barriers are meaningful issues that must be addressed, "as they relate more to satisfaction with care, compliance with treatment, [and] continuation in treatment" (Estrada et al., 1990, p. 31).

Physicians and other health care workers should be sensitized to the cultural identities of their patients. There must be effective communication and understanding between patients and providers to have optimal care, treatment, and compliance. Several studies support the contention that it is necessary to train health care workers to communicate with patients of varied ethnic backgrounds (Crisp and Edwards, 1989; Fox and Stein, 1991; Murphy and Clark, 1993).

**Cancer Screening Practices**

Of the three major ethnic and racial groups in the United States (non-Hispanic Whites, non-Hispanic Blacks, and Hispanics), Hispanic women are historically the least likely to utilize Pap tests and mammograms (NCI, 1989; Harlan et al., 1991; Fox and Stein, 1991). Nationally, among women aged 40 and older, fewer Mexican American women than Black women or non-Hispanic White women had annual screening mammograms (11 percent of Mexican Americans, compared with 14 percent for Black women and 17 percent for non-Hispanic White women) (National Center for Health Statistics, 1990). In Texas, the percentages of Mexican American and non-Hispanic White women aged 50 and older who had a mammogram in 1989 were 29 percent and 41 percent, respectively (Texas Department of Health, 1991). In a study in El Paso, the 2-year prevalence of Pap test screening in older Mexican American women was 46 percent, and for mammogram use it was 20 percent (Suarez, 1994).

Most early studies that included the Mexican American population show that lower rates of cancer screening were primarily associated with lower education levels, lack of insurance coverage, and lower income levels (Harlan et al., 1991; Fox and Stein, 1991; Solis et al., 1990; Treviño et al., 1991). Some early studies suggest that apart from these socioeconomic factors, acculturation and assimilation levels of Mexican American women are barriers to more frequent use of cancer screening tests (Harlan et al., 1991; Solis et al., 1990; Hunt et al., 1998).

Published studies examining factors other than socioeconomic considerations have shown that strong use of the English language is associated with greater participation in Pap test and mammographic screening (Harlan et al., 1991; Solis et al., 1990; Marks et al., 1987). The association with language use appears to be related to socioeconomic status and access to care more than to cultural attitudes (Suarez, 1994; Solis et al., 1990). A recent study has shown that strong traditional Mexican attitudes toward family, or the role of *familismo*, have a positive influence on cancer screening among older Mexican American women (Suarez, 1994). Mexican American women who participate in cervical and breast cancer screening tend to have strong social support networks (Suarez et al., 1994). New findings underscore the notion that among Hispanic subgroups of women, social networks and social integration appear to have the strongest effects on Mexican American women, especially on their use of Pap tests (Suarez et al., 2000).

Recent survey data on the cancer screening practices of Hispanic women reported on separate Hispanic subgroups and showed that Mexican Americans are among the lowest users of mammograms, but are relatively high users of Pap testing and clinical breast exams (Zambrana et al., 1999; Ramirez et al., 2000a,b). Mammography use among Mexican Americans appears to have increased with vigorous outreach (Kaplan et al., 1996) but remains about 10 to 15 percent lower than for non-Hispanic White women (Gilliland et al., 2000).

**Knowledge and Attitudes**

Mexican American women have less knowledge, more misconceptions, and more fatalistic attitudes about cancer than do other women (Ramirez et al., 2000a). In a 1992 study, nearly 30 percent of Mexican American women aged 50 to 64 had never heard of mammograms (Caplan et al., 1992). In a more recent study of misconceptions about cancer among Hispanic women in California (56 percent Mexican American), more Latinas than Anglos thought that sugar substitutes, bruises, microwave ovens, spicy foods, breast-feeding, and antibodies caused cancer (Pérez-Stable et al., 1992). In a Texas study, Mexican American women had more fear of cancer and more fatalistic attitudes about a diagnosis of cancer than Black women (Suarez et al., 1993a).

**Primordial Prevention**

Along with economic and educational advances and the loss of positive cultural attributes, Mexican American women tend to adopt the more negative health practices of the non-Hispanic White mainstream society (Ramirez, 1992). Resulting changes can be viewed as an epidemiological transition. Thus, Mexican American females are at an intermediate stage of transition in which cancer and other noncommunicable diseases have begun to increase, with the adoption of negative health practices such as smoking. Currently, the more affluent and educated of the U.S. population are moving through late

stages of transition, increasingly adopting positive health practices while rejecting unhealthy behaviors, thus reducing the risk for noncommunicable (chronic) diseases. However, as chronic diseases have not yet fully emerged in the Mexican American population, there is an opportunity to introduce and encourage primordial prevention.

"Primordial prevention" entails actions that prevent at-risk populations from adopting lifestyle practices that increase rates for chronic diseases (Ramirez, 1992). By discouraging the adoption of negative lifestyle practices and encouraging the continuance of established positive cultural health practices, primordial prevention can help Mexican American women avoid the higher morbidity associated with the intermediate stage of epidemiological transition.


**PRIMARY AND SECONDARY PREVENTION PROGRAMS**

Mexican American women are at increased risk for cervical, stomach, liver, and gallbladder cancers and are more likely than non-Hispanic White women to die from these cancers. The burden of breast cancer is high among Mexican Americans, as it is for all women, but Mexican Americans do not experience disproportionately high rates. Generally, Mexican American women are diagnosed with cancer at relatively younger ages than White women, so there may be a more negative impact on life expectancy and on the lives of their families.

Higher death rates from some cancers are due in part to the fact that Mexican American women's cancers are often diagnosed in the later stages. Cancer prevention programs that provide education about risk factors, encourage behavior changes, and include screening examinations should help to reduce the death rates for various types of cancers, especially cervical and breast cancers, in Mexican American females.

Intervention programs focus on primary and secondary prevention measures. Primary prevention measures seek to educate a target population about risk factors that an individual can improve, such as multiple-partner sexual exposure, diet, smoking, exercise, and alcohol consumption. Secondary prevention (early detection) is based on the fact that early detection followed by early intervention can help to decrease cancer mortality rates. For women, secondary prevention includes breast self-examinations, regular Pap tests, and mammograms.

There are a small but growing number of cancer prevention/intervention programs in Mexican American communities. The programs that are cancer-specific and target Mexican American women are located

mainly in geographical areas whose Hispanic population is mostly Mexican American (Texas, California, New Mexico, Colorado, and Illinois), although some of the programs target other Hispanic groups as well.

NCI has made great strides in supporting health promotion research in Hispanic and Mexican American communities in the past decade. The Hispanic Cancer Control Program, within NCI's (former) Division of Cancer Control and Prevention (now the Division of Cancer Control and Population Sciences), coordinated NIH research efforts in disease prevention for Hispanics. Most of the intervention/prevention programs described here have been funded by NCI or the Centers for Disease Control and Prevention. Table 16 provides brief descriptions of several large cancer control and intervention programs identified in the literature or through research abstracts provided by NCI or the programs' organizers.

**Risk Factor Interventions**

*Smoking.* Two smoking cessation programs include Mexican American women in their target audiences: *Programa Latino Para Dejar de Fumar*, based in San Francisco, and *Programa A Su Salud*, based in two Texas border cities, Eagle Pass and Del Rio.

The *Programa Latino Para Dejar de Fumar* is for Hispanics from all subgroups, and Mexican Americans constitute the largest proportion of the Hispanic population in the San Francisco Bay Area (Pérez-Stable et al., 1993). The program, funded by NCI, aims to decrease smoking prevalence, increase behaviors that lead to smoking cessation, and promote a nonsmoking environment. The program's media campaigns on Spanish-language radio and television relay the message about how and why to quit smoking and present the message in a culturally appropriate context. These messages consider important elements of Mexican American culture: *familismo* and *simpatía*. A self-help guide to smoking cessation is distributed throughout the community, and it is available in English and Spanish (Pérez-Stable et al., 1993).

*Programa A Su Salud* targets low-income Mexican Americans in southern Texas. It began in 1985 as a 5-year mass media-, community-based study to demonstrate how tobacco use, alcohol and drug abuse, and fat consumption could be reduced in the population and how physical activity and use of cancer screening could be increased. This unique program has used members of the community to act as role models for changing smoking behaviors. Within the first 2 years of implementation, *Programa A Su Salud* showed a greater than 10 percent cessation rate in smoking for the experimental group, compared with 3 percent for the control groups. Smoking cessation rates were measured through self-reports and verified by carbon monoxide analysis. Results support the efficacy of this community-based intervention model, which included reliance on volunteer members of the community to convey health messages (Ramirez and McAlister, 1988; McAlister et al., 1992).

*Nutrition.* Project *Salsa* targets all residents of San Ysidro, California.  It addresses the nutritional risk factors of several chronic diseases, including cancer.  The project uses social marketing, behavioral engineering, and community-based strategies to relay its health promotion messages.  The bilingual program, which publishes nutrition columns in a local newspaper, is based at the Center for Behavioral and Community Health Studies at San Diego State University.  Two Project *Salsa* interventions, risk factor screenings and school health programs, continue in operation (Elder et al., 1998).

**Multiple Risk Factors and Screening Promotion**

*Compañeros en la Salud* was a 3-year church-based intervention program that sought to reduce cancer risks in the Hispanic community in Phoenix.  Based at San Diego State University, the program recruited women in the community to act as *promotoras* (female health advisers) to promote healthy nutrition, breast self-examinations, Pap tests, clinical breast examinations, and mammograms.  *Compañeros en la Salud* examined the effects of acculturation on the health status and compliance rates of Mexican Americans (Castro et al., 1995).

*Por La Vida* has developed culturally appropriate health promotion materials that address changes in dietary habits, increase performance of breast self-examinations, and increase use of Pap tests and mammograms in the Mexican American female population in San Diego.  *Por La Vida* uses existing social networks and recruits women in the community to act as *consejeras* (female advisers), thus overcoming language and other cultural barriers.  The beneficial effects of this program are measured by changes in the proportion of women receiving Pap tests and mammograms, while dietary changes are measured with  questionnaires.  Preliminary results showed statistically significant increases in Pap test and mammography screening in the cancer prevention intervention group (Navarro et al., 1995).

*Programa A Su Salud* was implemented with funding from NCI from 1990 to 1995.  Its goals were expanded from a focus on smoking cessation to an emphasis on improved nutrition and increased breast and cervical cancer screening.  The community-based program utilized a mass-media message based on components of social cognitive theory (Bandura, 1986), and encouraged and reinforced self-efficacy among the target viewers.  Role models from the community worked to increase awareness and utilization of cancer screening services and to assist and support women through all stages of cancer screening.

A review of seven quarters of the *Programa A Su Salud* revealed that 156 role-model messages were delivered through mass-media and small-media channels.  These messages were reinforced by the community networkers for greater impact (Ramirez and McAlister, 1988).  Preliminary campaign results showed a trend toward greater Pap test use among younger women and a significant increase in

mammogram use for all age groups in the intervention group compared with the control group. The initial results supported the effectiveness of the campaign and its theoretical model for reaching low-income Mexican American women (McAlister et al., 1992).

The *En Acción* project of the National Hispanic Leadership Initiative on Cancer began as a 5-year study, from 1992 through 1997, and was extended for 2 more years. The program has been implemented in Texas, California, Florida, and New York. *En Acción* targets specific Hispanic populations: Mexican Americans, Puerto Ricans, Cuban Americans, and groups from Central America. In its first phase, the program surveyed Hispanics at each study site by telephone and with other qualitative methods, including focus groups and key informant surveys. Following this assessment was a 3-year intervention program emphasizing primordial prevention through community-based campaigns. Evaluation and findings from the study sites will be shared with groups that are interested in implementing the program in their communities. The last year of the program is devoted to assessment, analysis, and dissemination (Ramirez et al., in press).

A work site cancer screening program for Latinas (mostly Mexican American women) at a company in the Detroit area offered instruction in English and Spanish and provided a mobile mammography van at the workplace (Gelfand et al., 2000). About 65 percent of the 857 female employees participated in the program. Results indicated that participants increased their understanding of breast cancer and that 70 percent of age-eligible women had a mammogram at the van on site, suggesting that such a program for employees can be well received and effective.

Lawrence and colleagues (2000) reported on the development and testing of a cross-cultural, consumer-based decision aid for mammography screening that was tested with White and Mexican American women. The decision aid was developed in English and Spanish for women aged 50 to 70 with an average risk for breast cancer, and included information about logistics, risk and the probability of cancer, and the benefits of mammograms. The reliability of the decision aid was 100 percent, and validity was confirmed by the finding that 89 percent of participants changed their preferences (Lawrence et al., 2000).

**CANCER INTERVENTION RESEARCH AND DEMONSTRATION PROGRAMS**

The New Mexico Breast and Cervical Cancer Prevention and Control Program provides community-based intervention to improve access to screening examinations for underserved people in the state, a population that includes Mexican American women. It uses media messages in Spanish and recruits community members to act as *consejeras*.

The Breast and Cervical Cancer Screening Among Hispanic Women in Colorado Program seeks to increase compliance with screening guidelines among Hispanics.  Although this program does not specifically target Mexican American women, they constitute the majority of the Hispanics in Colorado.  The program, based on Diffusion of Innovations Theory (Rogers, 1983), uses existing social, medical, political, and educational structures found in the intervention communities.  It also uses a mass-media approach with community leaders and role models.  An evaluation of the Colorado program was designed to measure changes in breast self-examination practices and in attitudes and knowledge about breast and cervical cancer screening (Flores and Bakemeier, 1991).

In Texas, NCI funding received by the state health department has supported two studies to examine the transfer of the *A Su Salud* model to local health departments (Suarez et al., 1993a,b). The first study, *Su Vida, Su Salud*, used the *A Su Salud* model to increase breast and cervical cancer screening among older Mexican American women living in Corpus Christi.  The 5-year program, which ended in 1991, demonstrated the effectiveness of peer role models and community volunteers in increasing mammography screening (Suarez et al., 1993a).  The success of this intervention transfer to a small local health department was the basis of a second, larger health department program in El Paso.  The *Luces de Salud* program, which also targets low-income Mexican American women aged 40 and older, expanded the local health department's cancer screening activities to include a community-wide consortium aimed at improving access to services (Suarez et al., 1997).

Most of the intervention programs are community-based, and most utilize mass media to convey their cancer prevention messages.  Mass media, including Spanish-language radio, newspapers, and the Internet, can serve as effective channels when relevant messages and a credible communicator are involved (Huerta and Macario, 1999).  Several of the programs were only recently completed and final results are not yet available.  However, preliminary results appear to be encouraging.  Given the limited number of cancer prevention studies targeted specifically to Hispanics, the fastest-growing segment of the population, there is a critical need for continued evaluation research in cancer prevention and early detection.


**FUTURE DIRECTIONS**

The typical Mexican American woman is more likely than a non-Hispanic White woman to subsist on a low income and to live in poverty.  She is less likely to have medical insurance and to obtain medical care as needed.  When she does have coverage, she is less likely to utilize health services (Treviño and Moss,

21

1983).  This underutilization contributes to the greater likelihood, in comparison to non-Hispanic White women, of being diagnosed with late-stage cancers of the breast and cervix.

With the exception of an unusually high prevalence rate of cervical cancer, overall cancer rates for Mexican American women are lower than those for non-Hispanic White women.  Certain lifestyle, cultural, and dietary factors among Mexican Americans offer protection.  However, there are indications that as the Mexican American population acculturates into the larger U.S. culture, negative risk behaviors associated with cancer begin to increase (Ramirez, 1992).  Cancer prevention activities that can counteract adoption of negative behaviors and reinforce positive ones can save many lives.

Access to health care must be improved for Mexican Americans.  There is a need to expand health and medical insurance to cover the working poor and others who cannot afford or do not qualify for subsidized health insurance.  Vigorous efforts are needed to address improvement of health care in poor and underserved communities.  Community input should be invited to assess health care needs and the most effective approaches to health care.

Increased funding is needed for disseminating successful cancer control strategies, including screening examinations for breast and cervical cancer, which  are extremely important for early detection and early intervention efforts.  Health promotion and education programs can encourage positive changes in risk behaviors (e.g., improved dietary habits, smoking cessation, and screening examinations).  Several positive health behaviors, such as low smoking rates, are part of the Mexican American culture, but this population is increasingly targeted by the tobacco and fast-food industries.  The effect of heavy marketing will likely increase consumption of unhealthy products, so programs are needed to counteract advertisements that encourage smoking and unhealthy dietary habits in Mexican American women.

In addition, the recruitment of members of minority communities to health professional careers is vital.  The medical community needs to increase recruitment and retention of minorities in all health care professions.  Efforts also should be made to encourage physicians to serve in underserved areas, including rural and urban Mexican American and other Hispanic communities.  Members of minorities who work as health care providers serve as role models for the community, providing encouragement for positive change.

Increased surveillance and research are necessary to gain knowledge about cancer among this population.  Epidemiological research should contribute to understanding why certain types of cancer are more prevalent in the Mexican American population, and why other types are less prevalent.  Efforts need to be undertaken to reveal why the high incidence rates of cervical cancer exist among this population and

how best to approach prevention.  Clinical studies are needed to assess cancer treatment effectiveness in the Mexican American population and to address the effects of treatment on quality of life.  Data improvements are needed to better distinguish Mexican Americans from other Hispanic subgroups.

More studies on the cultural factors in Mexican American life and health behaviors are needed as well, to develop appropriate recruitment strategies for participation in clinical trials.  Efforts should be undertaken to increase knowledge about risk factors and how personal behavior can reduce susceptibility to cancer.  These efforts should include teaching males about sexual behaviors related to increased cervical cancer risk for women; emphasizing regular Pap tests and breast self-examinations for women; and educating the population to invalidate myths and misconceptions about cancer.  With regard to cultural considerations, it is important to investigate the differences among Hispanic subpopulations and to differentiate between these populations in the assessment and evaluation of health care programs, including intervention programs.

Finally, the medical community and physicians should be better educated about Mexican American culture.  Cultural knowledge about and sensitivity toward patients and their families can be expected to improve services and increase utilization of available health programs.

**CONCLUSIONS**

Changes in sociocultural and socioeconomic conditions have had both positive and negative consequences for Mexican American women.  Positive consequences include increased recognition and stature in the public sphere; negative consequences include the adoption of unhealthy practices, such as smoking, which contribute to increased risk of cancer and other diseases.  Acculturation also has its negative and positive aspects.  Increased acculturation serves to increase the adoption of risk behaviors that are related to cancer incidence rates, but acculturation also can increase the use of screening examinations and other positive health behaviors.

The negative aspects of acculturation can be offset by primary prevention.  Programs should be designed to discourage the adoption of unhealthy practices while emphasizing the continuation or adoption of positive practices. Existing health promotion and intervention programs for Hispanics and Mexican Americans support the use of community models, media-based messages, and community outreach as effective means to reach Mexican American women.