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**Poverty and Health Outcomes
Among Hispanics in Massachusetts**

Christopher Christian

RUNNING HEAD: POVERTY AND HEALTH AMONG HISPANICS

The Hispanic^a population of Massachusetts is now close to becoming the largest ethnic minority group in the state.^b The 1990 statewide Census count found that the Hispanic population doubled in the past ten years and now comprises 4.8% of the total state population (287,349 residents) as compared to 2.5% in 1980.^c

Growth in the Hispanic population has not been coupled with advancements in health status. Hispanic residents are disproportionately affected by many adverse health outcomes, such as high infant mortality, a high incidence of substance abuse, sexually transmitted diseases, homicides, AIDS, and other chronic illnesses. This paper highlights some of the major health disparities that exist between Hispanics and white, non-hispanic residents of the state, and discusses the socioeconomic factors that may contribute to these health inequities.

^a A standard terminology for referring to people of Latin American origin has not been established. Terms such as "Latino" or "Latin American" have been presented as suitable alternatives to the term Hispanic (Hayes-Batista & Capa, 1986). However, in this chapter, the term Hispanic is used because it was the ethnic identifier used on Massachusetts Department of Public Health data collection forms.

^b If the current trends continue, by the year 1995 the Hispanic population will comprise the largest minority group in the state. This projection is based on a linear trend between 1980 and 1990 Census data for Massachusetts. The estimate was calculated by incrementing each racial/ethnic group's 1990 population count by the amount of annual growth each group experienced between 1980 and 1990.

^c Black residents comprise 5% of the total population of Massachusetts, Asian/Pacific Islanders account for an additional 2.4%; and white residents account for 89.9%

Methodology

This paper is divided into three major sections: Section I. Indicators of Health, Section II. Indicators of Socioeconomic Status, and Section III. A Research Framework. Section I examines the health status of the Hispanic population in four major areas: maternal and infant health, substance abuse, injuries, sexually transmitted diseases, and AIDS. Hispanic health in each of these areas is characterized by the incidence in morbidity and/or mortality. The figures presented in this section were compiled from existing Massachusetts Public Health data sources (i.e., Registry of Vital Records and Statistics, the Massachusetts Health Interview Survey). Although the figures provide an overall view of Hispanic health, the numbers underestimate the true magnitude of the disparities in health status between Hispanics and white, non-Hispanics in the state because of gaps in reporting and nonspecific race and ethnicity data. Moreover, mortality data in many cases only represents an end-point to a series of illnesses. It is estimated that for every injury-related death, for example, there are 16 injuries that merit hospitalization and 381 injuries that require ambulatory care. Thus mortality data is clearly limited as a measure of health status. Where possible other measures of poor health, such as incidence data, are discussed.

Section II of this paper examines the socioeconomic makeup of the Hispanic population. This section discusses socioeconomic status as determined by a composite of educational attainment, occupation and income.

Section III of the report discusses a research framework for assessing and addressing Hispanic health. Socioeconomic status is discussed as a health risk factor. By targeting the underlying characteristics of socioeconomic position in a framework of demands and resources, policy makers have a viable means for improving Hispanic health in the state.

Section I. Indicators of Health

Infant Mortality

Infant mortality, or deaths occurring to infants before age one, is recognized as a sensitive indicator of social conditions.^{1,2} It is one of the most widely used measures of health in a population. Disparities in the rate of infant mortality among population groups reflect differences in access to adequate health care, education, proper nutrition, and occupational and living conditions.³ Although the infant mortality rate (IMR) of the Commonwealth is one of the lowest in the United States, disparities in IMRs exist between Hispanic and white, non-Hispanic residents. In 1989, the infant mortality rate among Hispanics (9 per 1,000 births) was 28% higher than that white, non-Hispanics (7 per 1,000).

Low birthweight births. Low birthweight is a strong determinant of infant mortality. Low birthweight babies are almost 40 times more likely than other infants to die in the first month of life and five times more likely to die before the end of the first year.⁶ In 1989, approximately 7% of Hispanic births in Massachusetts were low birthweight births, compared to 5% of all white, non-Hispanic births.²

Factors, such as adequacy of prenatal care, mother's age at delivery, site of prenatal care and payment source for prenatal care, interact to influence perinatal outcomes.

Adequate Prenatal Care. Adequate prenatal care is among the most important determinants of birth outcomes, second only to socioeconomic status.⁴ Women who receive inadequate prenatal care are at increased risk for delivering babies who are low birthweight, or die before age one. For purposes of this paper, adequacy of prenatal care was based on the number of prenatal care visits and the trimester in which the visits began. During 1989, a smaller percentage of Hispanic (62%) women received adequate prenatal care as compared to white, non-Hispanic women (84%).

Payment Source. The proportion of mothers who receive adequate prenatal care differs by source of prenatal care payment. In 1989, women who were privately

insured were more likely to receive adequate prenatal care (86%) as compared to women who had public insurance (54%).² Hispanics (29%) were the least likely of all racial and ethnic groups in Massachusetts to have private insurance. Twenty-nine percent of Hispanic women had private insurance to cover prenatal care costs in comparison to 81% of white, non-Hispanic women.

Teenage Births. The age at which mothers give birth may constitute a risk factor for poor perinatal outcomes. Pregnant women under age 20 are at higher risk for complications of delivery than women 20 to 35 years old.⁵ Infants of teenage mothers are at increased risk of being born prematurely, of low birthweight, and of dying before the age of one. In Massachusetts, Hispanic mothers were the most likely of all racial and ethnic groups to be under the age of 20. In 1989, 20% of Hispanic mothers were under age 20 as compared to only 6% of all white, non-Hispanic mothers.

Substance Abuse

The abuse of alcohol and other drugs produces major detrimental health outcomes. In Massachusetts, an estimated 11% of all deaths are directly related to substance abuse. Hispanic residents of the state bear the brunt of these fatalities.

During 1989, 2,009 deaths were related to the abuse of alcohol or other drugs.⁴ The proportion of deaths directly related to substance abuse among Hispanics was 10% as compared to only four percent among white, non-Hispanic residents.^a These deaths included conditions such as opiate and cocaine poisoning, cirrhosis, alcohol dependency, and alcohol-related hepatitis. Cocaine poisoning and opiate poisoning were more common among Hispanic residents than among any other racial and ethnic group in the state. The proportion of substance abuse-related deaths due to opiate and cocaine poisoning (49%) among Hispanics was nearly four times that of white, non-Hispanics (13%).

The admission rate of Hispanic clients into publicly-funded substance abuse treatment programs (16 to 27 per 1,000 population) is one to two times that of white, non-Hispanic clients (14 per 1,000). Hispanics (30%) are nearly three times more likely than white, non-Hispanics (11%) to report intravenous drug use during the thirty days prior to admission.

^a Number of deaths with causes or mentioned conditions related to alcohol or drug use as listed on the death certificate. Alcohol and drug-related deaths were identified using 238 substance use diagnoses (ICD-9 codes). The deaths reported here do not include intentional injuries, such as suicides and homicides, in which alcohol use is implicated nearly half of the time. Also, it does not include unintentional injuries such as drowning, the third leading cause of unintentional deaths in the United States, where alcohol is involved in 69% of the cases.

Injuries

Injuries are a leading cause of death in Massachusetts. During 1989, injuries comprised approximately 5% of all deaths in the state.

Suicide. Suicides, fatalities that result from intentional self-destructive acts, are the second leading cause of injury deaths in Massachusetts. During 1989, 523 residents died from suicides. A large number of these (150 deaths) occurred among adolescents and young adults, making suicide the second leading cause of death among residents between the ages of 15 and 29. Overall, white, non-Hispanic residents are more likely to die from suicide than Hispanic residents. However, among males, Hispanics had a suicide rate (17 to 20 per 100,000 population) that was up to two times that of black males (10 per 100,000) and up to 75% higher than that of white males (15 per 100,000) in the state. It is estimated that for every suicide death among males there are three suicide attempts.⁶

Homicide. Homicide is the second leading cause of intentional injuries in the state. During 1989, there were 228 homicides in Massachusetts. Hispanic residents accounted for a disproportionately high number of these deaths. The homicide death rate among Hispanic residents (12 to 20 per 100,000) was 6 to 10 times higher than that of white, non-Hispanic residents (2 per 100,000 population).

Males had the highest homicide rate. Hispanic males had a rate (18 to 31 per 100,000 population) that was six to ten times that of white, non-Hispanic males (3 per 100,000). Hispanic females had a homicide rate (6 to 10 per 100,000 population) that was up to 10 times higher than that of white, non-Hispanic females (1 per 100,000).

Sexually Transmitted Diseases

The most serious long term consequences of STDs are pelvic inflammatory disease, infertility, ectopic pregnancy, blindness, cancer, infant death, birth defects, mental retardation, and, in some cases, death.^a Hispanics account for a higher rate of clients diagnosed with syphilis at STD clinics than white, non-Hispanics.

Syphilis. In 1989, Hispanics accounted for 14% of all visits to sexually transmitted disease clinics. Syphilis accounted for the highest disparity in sexually transmitted diseases between Hispanic and white, non-Hispanic clients.

In 1989, the reported rate of syphilis among Hispanic males between the ages of 15 and 54 (149 to 254 per 100,000 population) ranged from 16 to 28 times that of white, non-Hispanic males (9 per 100,000 population). Hispanic females had a rate (103 to 176 per 100,000 population) that ranged from 13 to 22 times that of white, non-Hispanic females (8 per 100,000 population).

Several studies have shown a high positive correlation between sexually transmitted diseases, particularly syphilis, and HIV infection.^{6,7,8,9} Previous contraction of syphilis, and genital herpes, may cause microscopical cervical ulcerations that increase the risk of acquiring or transmitting HIV infection sexually.¹⁰ The number of syphilis cases may act as an indicator of high risk sexual behaviors among clients and as a health sentinel for future AIDS cases.

^a The data reported in this section may contain reporting biases. Hispanic residents, for example, may be more likely than white residents to seek services from publicly-funded clinics, where reporting of STDs is thought to be more complete than in private clinics.

Hispanic clients also had a higher rate of gonorrhea, chlamydia, and pelvic inflammatory diseases, in comparison to white, non-Hispanic clients.

Some behaviors constitute risk factors for contracting and spreading AIDS and other sexually transmissible diseases. Risk behaviors such as unprotected sex and substance abuse¹¹ are more prevalent among adolescents and young adults than among older age groups. Thus, Hispanic residents, who constitute a younger age group than white, non-Hispanic residents, are more likely to experience a higher prevalence of risk factors for STD infections. The STD Control Program reports that among clients who sought testing for sexually transmitted diseases during 1989, 78% of Hispanic clients and 57% of white, non-Hispanic clients reported never using condoms.^a

^a It must be noted, however, that data on the prevalence of using condoms are limited and potentially biased. These data are collected through STD programs that serve self-selected high risk groups and, thus, may not represent the frequency of condom use in the general population.

HIV Infection and AIDS

Human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS) disproportionately affect the Hispanic population of Massachusetts in comparison to the white, non-Hispanic population. As of May, 1990, there have been approximately 3,098 diagnoses of AIDS in the Commonwealth,^a and more than half of the people diagnosed (61%) have died.¹² Hispanic residents account for an inordinate number of these cases.

Although the number of deaths related to AIDS is highest among white, non-Hispanic residents of Massachusetts, the rate of deaths related to AIDS is higher among Hispanic residents of the state. The rate of AIDS deaths among Hispanic residents (6 to 10 per 100,000 population) is between 2 and 3 times higher than that of white, non-Hispanic residents (3 per 100,000 population).^b There have been 1,184 AIDS deaths among white, non-Hispanic residents and 154 AIDS deaths among Hispanic residents. In Massachusetts, male residents with AIDS outnumber female residents eight to one.

As of July 1, 1990, the cumulative incidence rate of reported AIDS cases for Hispanic males ages 15 or above (41 to 65 per 100,000 population) was 3 to 5 times that of white, non-Hispanic males (14 per 100,000 population). Among females, the racial and ethnic disproportion is even larger. The cumulative rate of

^a The relative risk of AIDS for Hispanics is estimated to be up to ten times higher in the Northeast than in any other part of the country (Gerardo, 1989).

^b An estimated range of rates is provided for Hispanics because there are no reliable statewide population estimates that allow for the calculation of specific rates. The population denominator for the range of rates was calculated by linear interpolation between the 1980 U.S. Census count for Hispanics in Massachusetts and the projected population ranges for 1990. The 1980 age and sex distribution for Hispanics in Massachusetts was used to calculate the age and sex distribution of the upper and lower bound of the projected ranges for each year. These rates must be interpreted with caution due to the potential imprecision of estimation procedures.

AIDS diagnosed cases for Hispanic females (7 to 12 per 100,000 population) was between 7 and 12 times that for white, non-Hispanic females (1 per 100,000 population).

HIV Infection. Among persons tested for HIV infection at Alternative Test Site programs between 1985 and 1990, Hispanic residents (14%) were two times more likely than white, non-Hispanic residents (6%) to test positive.⁶ The disproportionate rates of HIV infection by race and ethnicity indicate that disproportionate rates of AIDS cases by race and ethnicity are likely to ensue.

HIV Transmission Modes. Among white, non-Hispanics infected with HIV in Massachusetts, the most common transmission mode of HIV infection (78%) is homosexual/bisexual sexual contact. Intravenous drug use is the most common transmission mode among Hispanic HIV-infected residents (31%).¹³

Intravenous drug users represent the fastest-growing group of AIDS victims in the United States. There were an estimated 40,000 IV drug users in Massachusetts during 1988.¹⁴ Hispanic residents are more likely to report intravenous drug use or sexual contact with an intravenous drug user as the source of HIV infection than are white, non-Hispanic residents. In Massachusetts, intravenous drug use accounted for 46% of the reported AIDS cases among Hispanic residents and 8% among white, non-Hispanic residents from 1985 to 1989.¹⁵ Among individuals who do not report homosexual sex, sexual contact with an IV drug user is identified as the primary mode of transmission for 51% of those individuals diagnosed with AIDS and 80% of those who test positive for HIV infection.

The major source of HIV infection for children is perinatal transmission from an infected mother. In 81% of the cases of pediatric AIDS, the mother was contaminated through IV drug use or through sexual contact with an IV drug user.¹⁶ The rate^a of AIDS among Hispanic children (1 to 3 per 100,000 population) is 4 to 13 times that of white, non-Hispanic children (less than 1 per 100,000 population).

Conclusion-Section I

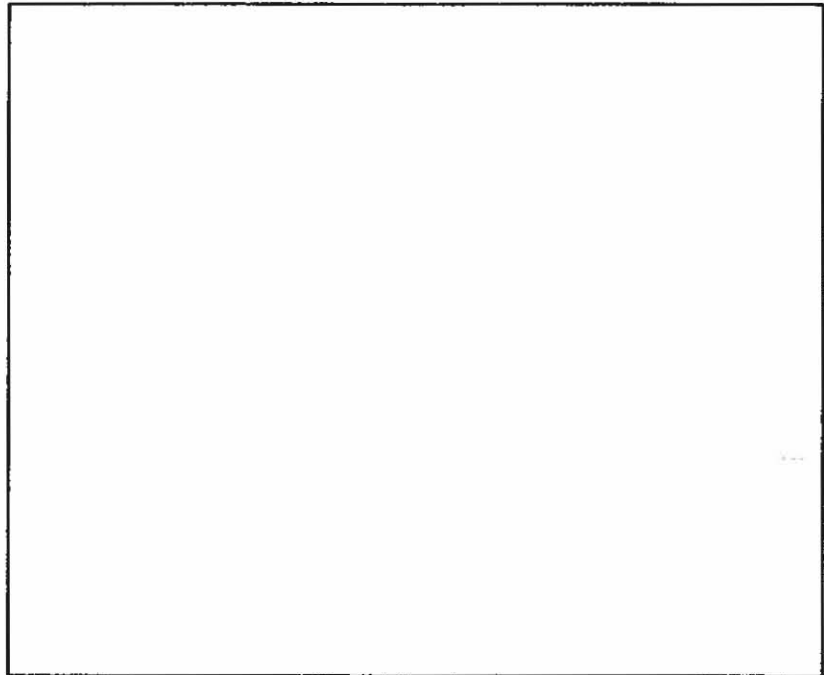
The data reviewed in this section illustrate the gap between the health status of Hispanic and white, non-Hispanic residents of Massachusetts. In all of the indicators examined, Hispanics consistently fared worse than their white, non-Hispanic counterparts. The cause of these disparities are complex and overlapping. Socioeconomic differences, particularly as defined by educational attainment, occupation, and income, have been identified as major determinants of these health inequities. Some of these socioeconomic factors are discussed below.

^a Age-specific rate calculated for people ages 15 and under using 1987 projections from 1980 U.S. Census data.

Section II. Indicators of Socioeconomic Status

Low socioeconomic status has been recognized as a generic risk factor for "virtually every disease of almost every organ system".¹⁷ The gradients of socioeconomic position correlate with the incidence and prevalence of detrimental health outcomes, such as infant mortality¹, lung cancer¹⁸, homicide,^{19,20,21} heart disease, and depression. When the effects of socioeconomic status are statistically controlled, the racial disparities in health outcomes decrease substantially.^{22,23} Limited access to adequate medical care, poor nutrition, and hazardous living circumstances all correlate with low socioeconomic status and have been offered as explanations of detrimental health outcomes. Socioeconomic status is determined by a composite of educational attainment, occupation and income. On all three of these indices, Hispanic residents fare worse than white, non-Hispanic residents.

Education. There are remarkable differences in the attainment of education between Hispanic and white, non-Hispanic residents of Massachusetts. The Massachusetts Health Interview Survey (MHIS)^a found that Hispanics were 5 times more likely than white, non-Hispanics to report eighth grade as the highest level of education



obtained. Conversely, white, non-Hispanics were two times more likely than Hispanics to have graduated from college.

The Massachusetts Board of Education²⁴ reports that Hispanic high school students in Massachusetts have the highest drop out rate in the state. During the 1989 school year, of 12,683 Hispanic students enrolled, 1,738 dropped out of high school. The percentage of Hispanic students who dropped out (14%) is more than three times that of white, non-Hispanic students (4%).^b The racial and ethnic differences in dropout rates decrease substantially in communities where socioeconomic characteristics are similar.²⁶

^a The Massachusetts Health Interview Survey (MHIS) is a statewide telephone interview that examines health conditions and behavioral risk factors among residents of the state. In 1988, 3,232 adults were surveyed. The sample was selected through a random digit dialing procedure. Black and Hispanic residents were over-sampled in an effort to obtain enough data to make meaningful comparisons with white residents.

^b Of 206,386 white, non-hispanic students enrolled in 1989, 8,200 (4%) dropped out of high school.

Occupation. Hispanic residents of Massachusetts are more likely to be employed in the service industry than any other industry in Massachusetts. Twenty-nine percent of Hispanics are employed in the service industry as compared to only 13% white, non-Hispanics. Persons employed in service occupations typically have higher unemployment rates and lower median income than the other leading occupations in Massachusetts.

Income. The lower educational attainment level among Hispanics and the concentration of Hispanics lower paying occupations both contribute to a disparity in household income between Hispanics and white, non-Hispanics. In 1980, the Bureau of the Census reported that Hispanic residents of Massachusetts had the highest poverty rate of any

other racial and ethnic group in the state. Nearly 38% of Hispanic residents were under the poverty line as compared to 8% of white, non-Hispanic residents. More recent socio-demographic information is not yet available from the 1990 statewide Census count. The MHIS, however, indicates that the income level of Hispanics in Massachusetts is still significantly less than that of white, non-Hispanic residents of the state. The MHIS found that Hispanics were nearly 3 times more likely than white, non-Hispanics to have a yearly household income of \$10,000 or less. In contrast, white, non-Hispanics were nearly three times more likely than Hispanics to have a household income of \$35,000 or more.

Section III. A Research Framework

The pattern of differences in health status between Hispanics and white, non-Hispanics of Massachusetts reflect, to a large extent, the socioeconomic inequities that exist between these two groups in the state. Despite the steadfast relationship between poor health status and lower socioeconomic position, little attention has been given to socioeconomic position in health promotion and disease prevention. This lack of attention may be due to the perceived difficulties inherent in altering socioeconomic position.

Furthermore, disparities in health between racial and ethnic groups cannot be accounted solely by socioeconomic position. As Baldwin suggests a college education will not by itself give a black woman the same access to health care resources as a white woman and the same income will not buy the same level of living and safety of environment for whites as for blacks^{25(p.88)} Several studies have reported higher levels of low birthweight among black infants than among white, non-Hispanic infants even when controlling for socioeconomic status. It is important, thus, to understand that improvements in the socioeconomic position of Hispanics is likely to diminish but not entirely close the gap in health outcomes between Hispanic and white, non-Hispanic residents of the state. Other risk factors that account for the generalized vulnerability to diseases among racial and ethnic minorities must be examined.

Kaplan, Haan, Syme, Minkler, and Winkleby (1987) propose that a viable way of circumventing the difficulties and limitations of addressing socioeconomic status as a health risk factor is to examine the underlying characteristics of socioeconomic position in a framework of demands and resources.¹⁸ The basic premise of this approach is that people who are lower in the socioeconomic ladder have higher demands with fewer resources to meet them. These resources include system resources (money and access to care), interpersonal resources (social support) and personal resources (coping styles). Increasing specific resources that counteract high demands is an applied means for ultimately advancing a population's socioeconomic position while concurrently improving that population's overall health. A program underway in San Francisco,²⁶ for instance, is strengthening social ties among residents of a poor neighborhood as a way of diminishing neighborhood crime. "Bringing residents of these areas together to work on common problems has allowed them to develop social resources that have reduced some of the environmental demands in these locations."¹⁸ By studying differences in health outcomes among racial and ethnic groups in a culturally relevant framework of demands and resources, the policy maker and the health care provider have a more pragmatic approach for developing interventions to curtail health disparities.

It is important to note that the balance of demands and resources follow the gradients of socioeconomic position and differ within the Hispanic population. Hispanics constitute a heterogeneous ethnic group with significant cultural differences. Thus, the demands faced by Puerto Ricans and the resources available to this ethnic group differ from the demands and resources of Cuban-Americans. It is critical to differentiate between a diversity of ethnic influences and cross-cultural variations among Hispanics that affect the balance between demands and resources. Overlooking these differences among the Hispanic population results in ill-suited policies, inadequate identification of demands, and wasted resources. The most effective prevention programs are those that are targeted as specifically as possible to the culture and characteristics of the group at risk.

Structural changes may foster improvements in health outcomes in the Hispanic community. Issues of unemployment, poverty, disrupted families, crime, safety, inadequate housing, and substance abuse can be most adequately addressed when communities possess the resources to initiate strategies to meet the demands specific to their communities.

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