A Review of Available Data on the Health of the Latino Population in North Carolina

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Abstract

Objective: *To portray major health problems and conditions in the Latino population of North Carolina.*
Study Design: *Presentation of descriptive information from North Carolina data sets on Latino health issues, with whites and African Americans as comparison groups.*
Data Sources/Study Setting: *Statewide data on the health of the Latino population are provided from the following data sets: North Carolina Behavioral Risk Factor Surveillance System (BRFSS), death certificates, North Carolina Office of the Chief Medical Examiner records, sexually transmitted disease reports, reported pregnancies, certificates of live birth, North Carolina Pregnancy Risk Assessment Monitoring System (PRAMS), and North Carolina Birth Defects Monitoring Program (BDMP) cases.*
Data Collection Methods: *Review of existing data systems.*
Principal Findings: *Latinos in North Carolina have high death rates from motor vehicle injuries and homicide. Latinos who die from unintentional injuries, homicide, and suicide are much more likely than whites or African Americans to have a high blood alcohol level. Latinos are less likely than other groups to have health insurance. Latinas have much higher pregnancy rates, both for teens and older women, and are more likely to begin prenatal care late or have no prenatal care. Rates of sexually transmitted disease are higher than those for whites but lower than those for African Americans. Latinas are more likely to initiate breastfeeding. Latinos have a higher rate of neural tube defects compared to the other groups, while being less likely to take folic acid every day before pregnancy. Despite lower family incomes, later entry into prenatal care, and higher rates of certain birth defects, Latinos had the lowest rates of low birth weight and infant mortality. Lower rates of smoking during pregnancy among Latinas may partially account for the better birth outcomes.*
Conclusions: *Many of the health issues among Latinos in North Carolina are consistent with the fact that they are a very young, mainly recently-arrived, immigrant population with more males than females.*
Relevance: *These findings may provide a basis for designing more effective health improvement programs for the Latino population of North Carolina.*

NORTH CAROLINA'S LATINO population increased dramatically during the past decade, from an estimated 76,700 in 1990 to nearly 379,000 in 2000. During the 1990s the percentage growth in the Latino population in North Carolina was the highest of any state in the nation. The number of live births to Latinas increased from 1,752 in 1990 to 14,522 in 2001. The population of Latinos in North Carolina is very young, with a median age of 24, compared to 35 for the total state population. Nearly two-thirds of the Latinos in North Carolina are foreign-born, with the majority of these being born in Mexico. About 60% of Latinos in North Carolina are male and 40% are female.

The purpose of this report is to present current data on the health of this growing Latino population of North Carolina. Documenting some of the major health problems in this population will provide a basis for designing more effective health improvement programs.

Methods

The data presented in this report were assembled from a variety of sources. In general, whites and African Americans are used as comparison groups for the Latino health measures presented here. It should be emphasized that Hispanic/Latino is an ethnic classification, while white and

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African American are racial groups. Latinos may be of any race, though most Latinos in North Carolina report their race as white. For some of the data sources, the comparison groups of white/non-Latino and African American/non-Latino could be easily constructed. For other data sources, the comparison groups used are white and African American (each racial group including a small proportion of Latinos).

The Behavioral Risk Factor Surveillance System (BRFSS) is a random-digit-dialed telephone survey of the adult population of North Carolina. The survey is sponsored by the Centers for Disease Control and Prevention (CDC) and has a standardized core set of questions administered in all US states. The North Carolina BRFSS data for 1997-2001 are used to portray selected health conditions and risk factors in the adult Latino population of the state. Five years of data were combined to give enough Latino surveys (435) to compile statistically meaningful results. During 1997-2001, the BRFSS surveys were conducted only in English, so the results presented here are may not be representative of health issues in the Spanish-speaking Latino population of North Carolina. Beginning in 2002, the BRFSS surveys in North Carolina were conducted in both English and Spanish. Selected 2002 BRFSS data for Latinos are included in this paper.

Death certificate data for 1999 and 2000 were combined to compute age-adjusted death rates[1] for the Latino population, for selected causes of death. These death rates are expressed as deaths per 100,000 population. The 2000 census population for Latinos (multiplied by 2) was used for the denominators of the 1999-2000 age-adjusted death rates. Good population estimates for Latinos are not available for non-census years. The 2000 United States population was used as the standard for age adjustment. The Latino ethnicity indicator on the death certificate does not completely account for all Latino deaths. In an attempt to improve the ascertainment of Latino deaths, we matched the surnames on the death certificates to a list from the United States Census Bureau of the 639 most frequently occurring heavily Latino surnames, to identify additional Latino deaths. This matching process increased the number of deaths identified as Latino by more than 50%. While there are some inaccuracies in this matching approach, we felt that overall it would produce a more complete picture of mortality in the Latino population of North Carolina.

The North Carolina Office of the Chief Medical Examiner maintains information on all deaths in the state from non-natural causes (injury, poisoning, and violence), as well as other selected categories of deaths. Data are compiled from investigative reports, autopsy results, toxicology tests, and other sources. For about 80% of the Medical Examiner cases, a blood alcohol test is performed. For deaths of persons age 15 and older where a blood alcohol test was done, we show the percentages by ethnicity and race with selected blood alcohol levels. The percentages with a blood alcohol level of .08% (the legal level for intoxication) or greater are also calculated. Data are presented for deaths from 1996 through 2000 due to motor vehicle and other unintentional injuries, suicide, and homicide.

The data on sexually transmitted diseases were obtained from the HIV/STD Prevention and Care Branch, North Carolina Division of Public Health. Rates are expressed as new cases per 100,000 population. Health care providers are required to report new cases of sexually transmitted and other communicable diseases to the State of North Carolina. There is probably some degree of underreporting of these diseases. The higher rates of sexually transmitted diseases among Latinos and African Americans may be due in part to their greater use of public clinics where reporting is more complete.

Pregnancy rates were calculated using reported pregnancies in the numerator and the 2000 census population in the denominator. These rates are expressed as pregnancies per 1,000 female population. Reported pregnancies include live births, induced abortions, and fetal deaths of 20 or more weeks of gestation. In 2000, there were approximately 120,000 live births, 27,000 induced abortions, and 940 fetal deaths reported for North Carolina residents. Fetal deaths less than 20 weeks of gestation (miscarriages) are not reported to the state of North Carolina. Therefore the pregnancy rates presented in this report somewhat understate the true pregnancy rates among Latinas, whites, and African Americans. The relative comparisons here will be affected only if the miscarriage rate is substantially different among the three groups.

Live birth and infant death certificate data are used to calculate several measures related to pregnancy, birth weight, and infant mortality. Country of birth, which is recorded on the birth certificate, was used to break out the Latino measures into three groups: US-born, Mexican-born, and born in another country. In calculating infant mortality rates (infant deaths per 1,000 live births), we used the matched live birth/infant death file[2] to tabulate the infant deaths by ethnicity and race. We used ethnicity and race as recorded on the birth certificate portion of these matched records, which are likely to be more accurate since they are usually reported by the mother at the time of delivery. Ethnicity and race on the infant death certificate are reported by a funeral director (with or without information from a family member) and sometimes disagree with what is recorded on the matching birth certificate. Use of ethnicity from the death certificate alone results in a substantial under-ascertainment of Latino infant deaths.

The Pregnancy Risk Assessment Monitoring System (PRAMS) is a survey of new mothers based on a random sample of birth certificates. This survey is sponsored by the Centers for Disease Control and Prevention (CDC) and has a standardized core set of questions administered in more than 30 states. PRAMS data are used extensively by state maternal and child health programs for defining health needs and problems and for tracking the effects of public health programs. In North Carolina, approximately 1,800 women

Table 1. Selected results from the North Carolina BRFSS by ethnicity and race, 1997-2001* (percent)

	Latino	*White, non-Latino*	*African American, non-Latino*
Health was fair or poor	11.3%	15.8%	20.9%
No health care coverage	25.6	11.3	17.6
Needed to see a doctor during the last 12 months but could not due to the cost	16.6	10.8	15.9
Did not visit a doctor for a routine checkup in the past 2 years (1997-2000)	15.3	14.7	9.0
Had one or more permanent teeth removed due to decay or gum disease (1999, 2001)	43.0	60.9	72.1
Current smoker	30.5	25.9	23.3
Overweight (Body Mass Index ≥25)	59.0	54.8	67.3
Ever told by a doctor that they had high blood pressure (1997, 1999, 2001)	18.9	23.6	32.3
Never had their blood cholesterol checked (1997, 1999, 2001)	38.1	19.7	30.2
Number of respondents (1997-2001)	N= 435	N = 13,174	N = 3,418

*Unless otherwise specified.

are interviewed each year. The overall response rate is about 73%. Written and telephone surveys are completed in English and in Spanish, at three to five months postpartum. Between July 1997 (when PRAMS began in North Carolina) and December 2000, 374 surveys were completed by Latinas. Of these 374 surveys, 258 were completed in Spanish. While it would be interesting to compare the responses of English- and Spanish-speaking Latinas, there were not enough surveys in the former group to produce statistically reliable measures. So the Latinas responding to the PRAMS survey are examined as one group.

The North Carolina Birth Defects Monitoring Program (BDMP) provides a comprehensive ascertainment of new cases of major birth defects using birth certificates, hospital discharge data, abstraction of medical data from hospitals by field staff, and other data sources. Rates of major birth defects from the North Carolina BDMP are presented here for 1995-1999 live births. These rates are expressed as birth defects per 10,000 live births.

This publication presents the results from these various data sources, emphasizing in the text areas where there were substantial differences between Latinos and whites or African Americans. Numbers of events as well as the rates are provided in, or can be derived from, the tables in this paper. Rates or percentages based on a numerator of less than 20 may be statistically unreliable and should be regarded with caution.[3]

Results

Health Conditions and Risk Factors: The BRFSS data show that a higher percentage of Latino adults in North Carolina currently smoke and never had their blood cholesterol checked (Table 1). A lower percentage of Latino adults reported that their health was fair or poor (11.3%), compared to whites (15.8%) and African Americans (20.9%). This is likely to be due in part to the younger age of the Latino population in our state.

The BRFSS data in Table 1 indicate that 26% of Latino adults did not have health insurance. However, this percentage is not representative of the entire population of Latino adults in North Carolina. Since the BRFSS was conducted only in English during 1997-2001, the responses of recent, Spanish-speaking immigrants (who are more likely to be uninsured) are not included. Data from the 2000-2002 Current Population Surveys, conducted by the U.S. Bureau of the Census, show that 54% of Latino adults in North Carolina were uninsured. The 2002 BRFSS data (where interviews were conducted in Spanish) are very consistent with the CPS data: 54% of all Latino adults reported having no health insurance, including 30% of English-speaking Latinos and 64% of Spanish-speaking Latinos.

Mortality: The leading causes of death among Latinos in North Carolina during 1999-2000 were motor vehicle

Table 2. Number of deaths and age-adjusted death rates* by ethnicity and race, North Carolina residents, 1999-2000

	Latino		*White*		*African American*	
	No.	*Rate*	*No.*	*Rate*	*No.*	*Rate*
All causes (per 1,000)	1,089	5.9	108,392	8.9	30,980	11.9
Cancer	112	76.3	24,682	197.0	6,494	250.8
Diabetes	23	17.5	2,596	20.9	1,458	57.0
Heart disease	125	99.4	30,494	251.6	7,887	312.5
Stroke	37	31.0	8,684	72.8	2,509	101.3
Pneumonia & influenza	12	9.9	3,115	26.4	658	26.5
Chronic lung disease	10	7.2	6,392	51.5	833	33.3
Chronic liver disease	9	4.6	1,157	9.2	329	11.3
Septicemia	8	5.5	1,391	11.5	640	25.5
Nephritis	7	4.8	1,537	12.7	877	34.9
Suicide	29	4.1	1,612	13.4	189	5.4
AIDS	18	3.7	201	1.7	716	21.6
Homicide	122	17.0	564	4.8	669	18.7
Motor vehicle injuries	242	30.7	2,338	19.9	713	21.4
Other injuries	84	12.6	2,700	22.7	763	26.2

*The rates are deaths per 100,000 population, except for all causes.

Table 3. Number tested for alcohol and blood alcohol levels in North Carolina deaths from non-natural causes, 1996-2000, by ethnicity and race

	No. tested for alcohol (Age 15+ only)	*Percent 0.0*	*Percent .01-.07*	*Percent .08-.15*	*Percent .16 or more*
Motor vehicle and other unintentional injury deaths					
Latino	656	46.5	7.8	14.9	30.8
White, Non-Latino	7,748	68.2	5.5	9.1	17.2
African American, Non-Latino	2,800	62.0	8.1	9.2	20.7
Homicide					
Latino	265	40.8	14.0	20.8	24.5
White, Non-Latino	1,124	60.8	10.1	13.7	15.5
African American, Non-Latino	1,672	59.2	14.5	14.0	12.3
Suicide					
Latino	75	45.3	13.3	21.3	20.0
White, Non-Latino	3,696	68.5	8.1	9.8	13.6
African American, Non-Latino	425	72.2	13.2	6.1	8.5
All other					
Latino	10	30.0	30.0	20.0	20.0
White, Non-Latino	206	71.4	7.3	10.7	10.7
African American, Non-Latino	66	83.3	10.6	4.6	1.5

Data from the North Carolina Medical Examiner's office

injury (242 deaths), heart disease (125 deaths), homicide (122 deaths), and cancer (112 deaths) (Table 2).

Compared to whites and African Americans, Latinos had a lower suicide rate. The AIDS and homicide death rates for Latinos were substantially higher than those for whites, but lower than those for African Americans. The motor vehicle injury death rate was 50% higher among Latinos compared to whites and African Americans. The death rate for other unintentional injuries (such as falls, drownings, fires, and poisonings) for Latinos was approxi-

Table 4. Sexually transmitted disease cases and rates* by ethnicity and race, North Carolina residents, 2001

	Latino		*White*		*African American*	
	No. of cases	*Rate*	*No. of cases*	*Rate*	*No. of cases*	*Rate*
Primary and secondary syphilis	14	3.7	70	1.2	312	18.1
Early syphilis	50	13.2	151	2.7	644	37.4
Gonorrhea	344	90.8	2,146	38.0	13,870	804.9
Chlamydia	1,475	389.2	5,633	99.7	14,427	837.2
HIV/AIDS	62	16.4	353	6.3	1,146	66.5

*The rates are new cases per 100,000 population.

Table 5. Number of reported pregnancies and pregnancies per 1,000 women by ethnicity, race, and age, North Carolina residents, 2000

	Latina		*White*		*African American*	
Age	*No. of pregnancies*	*Rate*	*No. of pregnancies*	*Rate*	*No. of pregnancies*	*Rate*
15-17	706	104.5	3,620	36.4	2,762	68.6
18-19	1,486	216.2	7,949	108.6	4,688	159.5
20-44	11,750	160.8	87,000	81.9	32,835	92.0

Note: Pregnancies include live births, induced abortions, and fetal deaths ≥20 weeks gestation.

mately one-half that for the other two groups. During 1999 and 2000, there were 326 North Carolina Latino deaths from all unintentional injuries: 242 (or 74%) due to motor vehicle injuries and 84 (26%) due to other types of injury or poisoning. Among all North Carolina residents, 48% of deaths from unintentional injuries were due to motor vehicle injuries.

In general, the age-adjusted death rates (per 100,000 population) for chronic diseases were much lower in the Latino population: for example, 99.4 for heart disease compared to 251.6 for whites and 312.5 for African Americans; 76.3 for cancer compared to 197.0 and 250.8; and 31.0 for stroke compared to 72.8 and 101.3, respectively.

The blood alcohol data from the Medical Examiner (Table 3) show that more than 45% of Latinos age 15 and older who died from unintentional injuries (motor vehicle and other) and were tested for alcohol had a blood alcohol level of 0.08% or greater. The percentage for homicide deaths was also about 45%. These are much higher than the percentages for whites and African Americans. Even though the suicide rate is lower among Latinos, the level of alcohol involvement is much higher among the Latinos who died from suicide; more than 40% of Latino suicide decedents had a blood alcohol level of 0.08% or greater.

The percentages with a very high blood alcohol level were also much higher for Latinos. Among the Latinos who died from unintentional injuries, 31% had a blood alcohol level of 0.16% or greater (twice the legal limit), compared to about 18% for whites and African Americans. For homicide, 25% of Latino decedents had a blood alcohol level of 0.16% or greater, compared to around 14% for whites and African Americans. These results are consistent with new BRFSS data on binge drinking among adults (age 18 and older). For the first time in 2002, the BRFSS produced separate estimates for Spanish-speaking Latinos. The percentage of 2002 BRFSS respondents who reported having five or more drinks on one or more occasions in the past month was 18.5% for Spanish-speaking Latinos and 13.3% for English-speaking Latinos (though these percentages are based on fairly small sample sizes), compared to 10.4% for non-Latinos. African Americans had the lowest percentage of any racial group of reported binge drinking (7.1%).

Sexually Transmitted Diseases: As shown in Table 4, rates of syphilis, HIV/AIDS, gonorrhea, and chlamydia were much higher among Latinos compared to whites, but much lower compared to African Americans.

Pregnancy Rates: Pregnancy rates are much higher for Latinas ages 15-17, ages 18-19, and ages 20-44, compared to white and African American women (Table 5). Among the teens, the higher pregnancy rates may be explained in

Table 6. Data from live birth certificates by ethnicity, race, and place of birth of mother, North Carolina residents, 1996-2000

	Latina, US born	*Latina, Mexico born*	*Latina, other born*	*White, non-Latina*	*African American, non-Latina*
Percent who smoked during pregnancy	7.8	0.6	1.7	17.8	11.1
Percent with prenatal care beginning after 1st trimester (including no prenatal care)	19.4	35.7	26.4	9.6	25.5
Percent low birth weight (less than 2,500 grams)	7.1	6.0	6.1	7.2	13.8
Infant deaths per 1,000 live births	6.3	6.1	5.0	6.6	15.0
Number of live births	6,395	28,029	8,358	354,130	139,944

part by the higher percentage of Latinas who were married: 30% of those ages 15-17 compared to 18% of whites and 1% of African Americans; and 41% of those ages 18-19 compared to 36% of whites and 6% of African Americans. Among pregnant Latinas ages 20-44, 59% were married, compared to 77% of whites and 35% of African Americans.

Latina pregnancies are more likely to result in a live birth. Induced abortions account for a substantially lower percentage of the reported pregnancies among Latinas: 6% for those ages 15-17 compared to 23% for both whites and African Americans; 10% for those ages 18-19 compared to 19% for whites and 25% for African Americans; and 10% for those ages 20-44 compared to 11% for whites and 28% for African Americans.

Live Birth Data: As shown in Table 6, the numbers of live births during 1996-2000 were 6,395 for Latinas born in the U.S. (15% of all North Carolina Latina births), 28,029 for Latinas born in Mexico (66%), and 8,358 for Latinas born in other countries (19%). In contrast to these 42,782 Latina live births during 1996-2000, there were 354,130 births to white non-Latinas and 139,944 births to African American non-Latinas.

The percentage who reported smoking during pregnancy (from birth certificates) is lower in the three Latina groups, compared to whites and African Americans, particularly among Latinas born outside of the United States (Table 6). More than one-third of the Latinas born in Mexico began prenatal care after the first trimester or had no prenatal care. The percentages with late or no prenatal care for the other two Latina groups were substantially higher than the percentage for whites, and about the same as the percentage for African Americans. The percentage of live births that were low birth weight (less than 2,500 grams) is lower for each of the three Latina groups, compared to whites and African Americans. Low birth weight is a major cause of infant death, and so the ethnic and racial patterns in infant mortality rates mirror those for low birth weight (Table 6).

Pregnancy Conditions and Risk Factors: PRAMS data show that the percentage of Latinas having a live birth who reported that their pregnancy was unintended (i.e., was wanted later or not at all) was 37.5, about the same as for white non-Latinas and substantially lower than the percentage for African American non-Latinas (Table 7). So the much higher pregnancy rates for Latinas (see Table 5) are not due to a higher level of unintended live births. A much higher percentage of Latinas reported that they initiated breastfeeding. A much lower percentage of Latinas reported smoking during the last three months of pregnancy – consistent with the birth certificate data. Latinas were less likely than whites or African Americans to report that they had a loaded gun in the house, which is associated with infant and family safety. Nearly two-thirds of the Latina respondents to the PRAMS survey reported an annual family income of less than $14,000, a much higher percentage than each of the two comparison groups. Latinas were less likely than whites and African Americans to respond that there were very depressed at the time of the PRAMS interview, 3-6 months postpartum. Latina PRAMS respondents were much less likely to report taking a multivitamin or folic acid every day before pregnancy (17%) compared to whites (29%), but had about the same percentage as African Americans (16%). Consumption of 400 micrograms of folic acid each day before pregnancy is recommended to help prevent neural tube defects and other birth defects. Latinas reported about the same prevalence of physical abuse by a husband or partner around the time of pregnancy as whites, and a lower prevalance than African Americans. For example, 3.0% of Latinas reported physical abuse during pregnancy by a husband or partner, compared to 3.2% for whites and 5.4% for African Americans.

Table 7. Pregnancy and postpartum conditions from the North Carolina PRAMS Survey by ethnicity and race, for live births July 1997 - December 2000

	Latina	*White, non-Latina*	*African American, non-Latina*
Number interviewed	374	3,803	1,870
Percent			
Unintended pregnancy	37.5	37.1	67.5
Breastfed	82.9	62.8	38.0
Smoked last 3 months of pregnancy	2.3	18.2	8.0
Drank alcohol last 3 months of pregnancy	2.0	4.7	2.6
Baby sleeps on back	50.9	54.2	38.7
Tested for HIV	87.1	75.0	88.5
Loaded guns in house	1.5	9.5	2.6
Physical abuse before pregnancy by husband or partner	2.7	4.1	6.7
Physical abuse during pregnancy by husband or partner	3.0	3.2	5.4
Physical abuse after pregnancy by husband or partner	2.5	2.0	3.6
Income less than $14,000	63.1	18.5	45.1
Using birth control when got pregnant	46.6	43.2	40.8
Using birth control now	82.7	87.1	86.4
Pregnancy very hard or worst time	5.8	8.0	14.0
Very depressed now	4.9	7.2	9.2
Took multivitamin/folic acid every day before pregnancy	17.2	29.4	15.5

Birth Defects: Data from the North Carolina Birth Defects Monitoring Program show a substantially higher rate of neural tube defects per 10,000 live births among Latinos, compared to the other two groups (Table 8). This higher rate could be due in part to the lower intake of folic acid supplements, as well as to lower consumption of commercial foods that are fortified with folic acid. Though the rate for Latinos is more than double that for the two comparison groups, it is still only 0.184% of the live births. The number of live-born Latino babies with neural tube defects during 1995-1999 was 63, compared to 307 for whites and 99 for African Americans. Latinos also have a higher rate of Down Syndrome compared to whites and African Americans.

Discussion

The leading cause of death among Latinos in North Carolina during 1999-2000 was motor vehicle injury. Homicide ranked third. In a relatively young population with males outnumbering females, it is not surprising that deaths from injury and violence would be prominent. The death rates (per 100,000 population) for these two causes are much higher among Latinos compared to whites. These are causes of deaths where alcohol is often a contributing factor. The Medical Examiner data confirm a high level of alcohol involvement in the deaths of Latinos from unintentional injuries, homicide, and suicide. These findings point to the need for increased educational and prevention programs.

Several factors may contribute to relatively low death rates among Latinos for most chronic diseases. A "healthy migrant effect" often results because usually the healthiest people choose to emigrate from their country of origin. People who become seriously ill may return to their country of origin, in which case no death certificate is filed in North Carolina. There are relatively few deaths of older Latinos in North Carolina, so age adjustment of the death rates may not completely control for the effect of the very young Latino population in the state.

Some of the measures presented in this study suggest a lower level of access to health care among Latinos in North Carolina. Latinos are much more likely than other groups to have no health insurance. Latinas giving birth are more likely to have started prenatal care after the first trimester of their pregnancy or to have had no prenatal care. Data from the 2002 BRFSS survey show that Latinos are less likely to have visited a dentist in the past year: 35% for Spanish-speaking Latinos and 63% for English-speaking Latinos, compared to 72% for whites and 61% for African Americans.

Latinas have very high pregnancy rates for all age groups, compared to whites and African Americans. Yet the percentage of Latinas responding to the PRAMS survey who

Table 8. Birth defects per 10,000 live births by ethnicity and race, North Carolina residents, 1995-1999

Defect	*Latino*	*White, non-Latino*	*African American, non-Latino*
Neural tube defects, all	18.4	8.8	7.2
Anencephalus	6.1	1.9	2.0
Spina sifida	10.0	5.7	3.6
Encephalocele	2.3	1.3	1.6
Hydrocephalus	8.5	8.8	13.6
Microcephalus	8.8	4.5	8.6
Anotia/Microtia	11.7	5.2	8.2
Conotruncal defect	9.7	11.2	10.4
Orofacial cleft	16.4	16.8	11.0
Pyloric stenosis	14.3	27.4	12.4
Down syndrome	18.7	11.7	11.9
Hypospadias/Epispadias	24.9	49.4	44.3
Intestinal stenosis	5.6	5.2	6.2
Obstruction of genitourinary tract	15.8	19.0	15.6
Total live births	34,159	347,573	137,606

Data are from the North Carolina Birth Defects Monitoring Program.

said that their recent live birth was unintended at the time of conception (i.e., was wanted later or not at all) was about the same as that for whites (37%). Latinos had rates of sexually transmitted disease that were much higher than those for whites but much lower than those for African Americans.

Despite lower family incomes, later entry into prenatal care, and higher rates of certain birth defects, Latinos had the lowest rates of low birth weight and infant mortality, compared to whites and African Americans. This "paradox" has been observed in other studies of births to Mexican women in the United States.[4,5] It is suggested that first generation immigrants in particular are likely to maintain healthy behaviors such as avoiding the high-risk use of alcohol, tobacco, and drugs. As a longer time is spent in the United States, and with subsequent generations, these advantages may be reduced. The data presented in the present study show a much lower rate of smoking during pregnancy among Latinas, particularly for those born outside of the United States. Providers of preconceptional and prenatal care should closely monitor smoking and other risk factors among their Latina patients. Also, there should be increased outreach efforts to bring them into prenatal care earlier.

The Latino population in North Carolina is young, rapidly growing, and has special health needs. The data presented in this report suggest several strategies for intervention by health care practitioners. Latinos in North Carolina rely heavily on publicly-funded health care programs and on providers who are willing to see low-income patients for free or on a sliding-fee basis.[6] Some Latinos receive regular primary care services from private providers, though no data are available to determine the number. Others, because of lack of health insurance and access to other providers, use the emergency room as a source of primary care. Screening and education by health care providers about alcohol use and smoking are certainly needed. Alcohol contributes strongly to two of the top three leading causes of death among Latinos, motor vehicle injuries and homicide. A higher percentage of Latino adults smoke, compared to whites and African Americans.

The young age of the Latino population in North Carolina results in relatively low morbidity and mortality rates for many chronic conditions. However, heart disease, cancer, stoke, diabetes, and other chronic illnesses will become more prominent as the Latino population grows older. Screening and education about smoking, nutrition, physical activity, and other healthy behaviors are needed to prevent these health problems in the future.

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