

Hispanic Identification
on
Illinois Cancer Death Certificates

by

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A Publication of the
Illinois Department of Public Health
Division of Epidemiologic Studies
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Springfield, IL 67261

August 1998

Acknowledgments

The authors express their gratitude to the staff of the Illinois Department of Public Health, Division of Vital Records, and all others responsible for providing the data that made possible the study of Hispanic identification on Illinois cancer death certificates.

Special thanks to Mr. David Word with the U.S. Bureau of the Census and senior author of the working paper, *Building a Spanish Surname List for the 1990's A New Approach to An Old Problem*, for providing direction in the application of the approach to death certificate data in Illinois.

Suggested citation

Dolecek TA, Howe HL. Hispanic Identification on Illinois Cancer Death Certificates. *Epidemiologic Report Series 98:3*. Springfield, Ill.: Illinois Department of Public Health, August 1998.

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Executive Summary

A study of Hispanic identification on Illinois cancer death certificates for 1986 to 1996 was conducted using methods established from a comprehensive Hispanic identification study in the Illinois State Cancer Registry (ISCR).¹ The purpose was to establish a policy that defines the reporting of Hispanic cancer deaths in Illinois and is consistent with the reporting of Hispanic cancer incidence.

Origin or Hispanic origin data contained on Illinois death certificates filed from 1986 to 1996 were collected. It was determined that approximately 85 percent to 90 percent of Hispanic decedents could be identified directly from information on these death certificates. Indirect identifiers, including birthplace and surname, were examined to determine if development of an algorithm that used both direct and indirect information could improve ascertainment of Hispanic cancer decedents in Illinois.

Birthplaces outside of the United States (U.S.) that suggest probable Hispanic ethnic status include Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), Cuba, Mexico, Puerto Rico, South America (Argentina, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela) and Spain (Andorra, Balearic Islands and Canary Islands). An evaluation of decedents born in Hispanic non-U.S. birthplaces indicated that the use of birthplace information could enhance Hispanic cancer death identification.

Spanish surnames are known to be predictors of Hispanic status. In March 1996, a Spanish surname list, developed through special study of 1990 census surnames and Hispanic origin responses, became available to facilitate Hispanic identification in the U.S. Evaluation of the census Spanish surname approach indicated that it was applicable to the Hispanic population in Illinois and was suitable for indirect Hispanic identification of Illinois decedents.

It was then determined that a combination of direct and indirect Hispanic identification was necessary to produce the most complete ascertainment of Hispanic cancer decedents, as was the case with Hispanic cancer incidence on ISCR. An algorithm was created, using both direct (origin or Hispanic origin) and indirect (Hispanic non-U.S. birthplace and heavily Hispanic surname) identifiers on Illinois death certificates, that maximized the probability of correct Hispanic identification of cancer decedents.

Hispanic cancer mortality will be reported using the established algorithm for reports and special studies in the Division of Epidemiologic Studies. More valid and reliable cancer mortality data on Illinois' Hispanic population residing in Illinois should guide future cancer control and prevention programs for this rapidly growing ethnic group.

Introduction

In 1997, an Hispanic identification study in the Illinois State Cancer Registry (ISCR) was conducted to respond to the need for accurate cancer incidence data on the state's Hispanic population.¹ This study was prompted by the fact that Illinois is among 11 states where the United States (U.S.) Hispanic population is concentrated. By some estimates, Hispanics are increasing at a rate five times that of the rest of the country and are projected to become the largest minority group in the U.S. by the year 2000.^{2,3}

A population presence of this nature necessitates targeted health care planning at federal, state and local levels. Such activities require valid and reliable data on the respective population to form a basis for accurate needs assessments and subsequent program planning, implementation and surveillance. However, program development for Hispanics has been impeded due to a lack of health-related data on the group. Only recently have changes in the organized U.S. data collection systems specifically targeted the Hispanic population.

The ISCR Hispanic identification study successfully established a means by which Hispanic cancer incidence could be accurately ascertained from 1989 to the present for use in directing cancer control and prevention activities in the state. Because cancer mortality data must be considered with cancer incidence, a companion study of Hispanic identification on Illinois death certificates was initiated.

A comprehensive evaluation of current Hispanic identification on Illinois death certificates was conducted from December 1997 to March 1998. The use of algorithms to enhance identification with indirect sources was studied using methods from the Hispanic identification study in ISCR with the intention of producing accurate information on cancer mortality among Illinois' Hispanic population to guide future cancer control and prevention programs. This report describes that study.

Objectives

1. To examine Hispanic identification methods from 1986 to 1996 on Illinois death certificates by applying the methodology from the Hispanic identification in ISCR study.
2. To determine the applicability of a U.S. Bureau of the Census Spanish surname product made available in March 1996 to Hispanic identification on Illinois death certificate data.
3. To establish an effective methodology using all available relevant information from Illinois death certificates, which assures the most complete ascertainment of Illinois Hispanic decedents, to study cancer mortality trends among the ethnic group.

Methods

Information Sources for Hispanic Identification

The identification of Hispanic persons on existing databases, including cancer registries, has been studied using several sources of information.⁴ These include specific Hispanic origin data elements, birthplace, race and surname. Illinois death certificates contain data for all of these sources of Hispanic information.

Hispanic Origin Data Elements

Origin or ethnicity has been collected on Illinois vital records over the time period included in this study using two formats. As shown in Table 1, a change in format emphasizing Hispanic origin rather than origin, in general, was made in 1989.

Birthplace and Race

Because of the high migration rates of Hispanic persons to the U.S., information on birthplace is useful as an indirect identifier. Birthplaces that suggest probable Hispanic ethnic status include Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), Cuba, Mexico, Puerto Rico, South America (Argentina, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela) and Spain (Andorra, Balearic Islands and Canary Islands). Conversely, birthplace also may serve as a means to refine methodologies by avoiding erroneous identification of individuals where Spanish surnames may prevail but classification as Hispanic is incorrect. These birthplaces include Asia (especially the Philippines), the Atlantic/Caribbean area (excluding Cuba and Puerto Rico), Europe (excluding Spain), the Pacific area, the Panama canal zone and South America (including Brazil, French Guiana, Guyana and Suriname). Birthplace has been documented on Illinois death certificates over the study period 1986 to 1996. However, a change was made in 1989 that substantially expanded the number of birthplaces that could be coded. These birthplaces are shown with geocodes used for data obtained on Illinois death certificates in Table 2.

Among certain race groups, Spanish names are prevalent but these persons are not Hispanic and should be excluded during identification procedures. Such race groups include American Indian, Filipino and Hawaiian. Data on race are routinely collected on Illinois death certificates.

Surnames

Spanish surname lists have been available from the U.S. Bureau of the Census for 1950, 1960, 1970 and 1980. These resources have been used to identify Hispanic individuals for a variety of purposes, including identification on cancer registry databases. The lists have specified a surname as Spanish and names not listed have been assumed to be non-Spanish.

In March 1996, a Spanish surname product became available using data from the 1990 census. Unlike previous products, this version offers a more refined approach to Hispanic identification using surnames.

The development of this product made use of 5,609,592 census records with name appended for the purpose of determining undercount. These records included both a valid surname and a response to the 1990 Hispanic origin question allowing the cross-tabulation of Spanish origin question responses by surname and the ability to group surnames based on frequency of responses.

From these records, surnames were identified for 1,868,781 "householders" to mitigate clustering effects because most persons within a household also have the same surname and ethnicity. Therefore, the generalizability of results from this census bureau study is greatest for male householders and females who have never married.

A classification scheme was created from the database used for the 1990 census Spanish surname study. Using both the relationship of the surname to the Hispanic origin response and the frequency of occurrence of the name in the sample, these 28 Spanish surname categories were established.

Heavily Hispanic	Generally Hispanic	Moderately Hispanic	Occasionally Hispanic	Rarely Hispanic
0101	0201	0301	0405	5001
0102	0202	0302	0410	5005
0105	0205	0305	0415	5010
0110	0210	0310	0425	5025
0115	0215	0315		5100
0125	0225	0325		5500

The first two characters denote Hispanic classification (01 heavily Hispanic, 02 generally Hispanic, 03 moderately Hispanic, 04 occasionally Hispanic and 50 rarely Hispanic). The criterion for placing a surname within each category depended on the proportion of householders with the surname responding affirmatively to the Hispanic origin item on the 1990 census form. The criterion for each of the five Spanish surname categories was as follows.

Spanish Surname Classification	Proportion of Householders Who Are Hispanic
01 Heavily Hispanic	Over 75 Percent
02 Generally Hispanic	50 Percent < x ≤ 75 Percent
03 Moderately Hispanic	25 Percent < x ≤ 50 Percent
04 Occasionally Hispanic	5 Percent < x ≤ 25 Percent
50 Rarely Hispanic	5 Percent ≥ x

The third and fourth characters represent the frequency with which a name occurred in the study sample. (For example, category 0125 includes surnames that are heavily Hispanic with at least 25 observations.)

In addition, other characteristics indicating strengths or weaknesses of the association between surname and Hispanic status, including Spanish state, orthographic structure of the name (Buechley rules) and status relative to the 1980 Spanish surname list, were examined when the schematic coding system was developed. The approach is described in more detail elsewhere.⁵

Illinois death certificates contain last name, father's last name and marital status of the decedent.

Application in Illinois

An Hispanic identification evaluation study was conducted from December 1997 through March 1998 using data from Illinois death certificates on Illinois master death files for years 1986 to 1996, the time period that parallels the reporting of Illinois cancer incidence data by ISCR.

Procedures

1. Data obtained included last name, father's last name, sex, race, marital status, birthplace, origin (1986 to 1988) or Hispanic origin (1989 to 1996) and underlying cause of death (*International Classification of Diseases*, version 9, codes limited to cancer sites, including 140.0 to 208.9). The Hispanic origin, birthplace and race data on the cancer death files were then evaluated and described. Hispanic origin data for Illinois deaths were compared with U.S. Hispanic cancer mortality data for 1991 to determine any differences in ancestral subgroup composition between Illinois and the U.S. The year 1991 was selected because it is the midpoint for the 1986 to 1996 time period of the study. In addition, Illinois cancer mortality files for 1986 to 1996 were matched to ISCR cancer incidence files for 1986 to 1994. Agreement between incidence and death certificate data for direct ascertainment of Hispanic origin was assessed to determine the quality of death certificate relative to ISCR data.

2. Then, a file with the 1990 census Spanish origin names and schematic codes was matched electronically using the add variables procedure of SPSS for Windows (version 7.0) allowing classification of last names for all decedents and maiden name (father's last name) for ever married females according to the 1990 census Spanish surname study scheme. Last names were 100 percent complete for all decedents. Father's last name was available for 97 percent of ever married females providing maiden names for these decedents. Missing maiden names were coded as 9000 (unknown). Names not on the census Spanish origin name file were coded 6000 (no match). Thus, all last names for males and females and maiden names for ever married females on the Illinois cancer death files for 1986 to 1996 were classified into one of 30 categories (28 U.S. Bureau of the Census study categories, no match category 6000 or missing category 9000).

3. Next, the most commonly heavily Hispanic (0125) and rarely Hispanic (5500) names on the cancer death files were identified and compared with those from the 1990 census Spanish surname study for similarities and differences. Last names for males and never married females and maiden names for ever married females were examined separately. Only 145 females were reported to have unknown marital status and were, therefore, excluded from indirect Hispanic identification by surname.

4. Then, the distributions of last names for males and never married females and maiden names were compared with those from the census Spanish surname study as classified by the 28 categories, again to examine similarities and differences. Selected summary statistics, including number of names in category, occurrences and percent Hispanic according to the Hispanic origin status documented on the death certificate, were the basis for comparisons.

5. Next, the annual distributions of the last names and maiden names by all 30 categories over the 1986 to 1996 time period were examined for number of occurrences, percent Hispanic, percent names per year and percent residing in Illinois Hispanic counties. In Illinois, most Hispanic persons reside in the following seven counties: Cook, DuPage, Kane, Lake, Rock Island, Will and Winnebago.

6. At this point in the study, the degree of similarity of Illinois decedent names to the census study surnames and their relationships to Hispanic status was determined. Depending on the findings, one of two approaches could have been taken with respect to the application of Spanish surnames to the identification of Hispanic cancer decedents in Illinois. If the census study Spanish surname relationships with Hispanic status were similar to those observed for Illinois, the identification procedures would be done using the census Spanish surname schematic codes. If the comparison of the census study findings with Illinois were dissimilar, a Spanish surname schematic coding system tailored to Illinois would have been developed using Illinois surnames and Hispanic origin as identified on death certificates using the census Spanish surname study methodology.

7. After it was determined that the best approach was to use the census Spanish surname study scheme rather than developing a separate scheme for Illinois, last and maiden names classified by the 30 categories were collapsed into seven broad categories, including heavily Hispanic, generally Hispanic, moderately Hispanic, occasionally Hispanic, rarely Hispanic, no match and missing as follows.

- 0100 Heavily Hispanic: Categories 0101, 0102, 0105, 0110, 0115 and 0125
- 0200 Generally Hispanic: Categories 0201, 0202, 0205, 0210, 0215 and 0225
- 0300 Moderately Hispanic: Categories 0301, 0302, 0305, 0310, 0315 and 0325
- 0400 Occasionally Hispanic: Categories 0405, 0410, 0415 and 0425
- 5000 Rarely Hispanic: Categories 5001, 5005, 5020, 5025, 5100 and 5500
- 6000 No Match: Category 6000
- 9000 Missing: Category 9000

Percent Hispanic, percent names per year and percent residing in Hispanic counties were again examined by collapsed category for last and maiden names.

8. Hispanic surname variables were then created. First, decedents born in places where Spanish names are prevalent but ethnic status is not Hispanic were excluded from Hispanic identification by name. Also, decedents whose race was documented as American Indian, Filipino or Hawaiian were excluded from Hispanic identification using name criteria. Hispanic identification using name was then implemented to produce four Hispanic identification variables that reflected the strength of association of name with Hispanic status for each decedent (shown in Table 3).

In summary, males and never married females with last names in the 5000 and 6000 categories were not considered for Hispanic identification using Spanish surname classification. Ever married females with maiden names in the 5000 and 6000 categories were not considered for Hispanic identification regardless of the Spanish status of their last name. If maiden name was missing for an ever married female, the decedent was not considered for Hispanic identification using name because so few maiden names were missing on the cancer death files. Females whose marital status was unknown also were excluded from Hispanic identification based on name.

9. Then, an Hispanic birthplace variable was created for all decedents on the cancer death files for Hispanic identification purposes. Decedents identified as Hispanic were those born in non-U.S. birthplaces associated with high probability of Hispanic ethnicity listed in Table 2. (Hispanic birthplace in this document refers to only non-U.S. birthplaces and does not include the 11 states where the Hispanic population is concentrated in the U.S.)

An adjustment that eliminated those decedents classified as Hispanic by birthplace based on last and maiden name status was applied as follows. Males and never married females with last names in the 5000 and 6000 categories were eliminated from Hispanic identification based solely on birthplace. Ever married females born in Hispanic non-U.S. birthplaces with maiden names in the 5000, 6000 and 9000 (unknown) categories were excluded from Hispanic identification only on birthplace. Females with unknown marital status were not considered for indirect Hispanic identification based on Hispanic non-U.S. birthplace status. The adjustment eliminated non-Hispanic individuals who had settled in Spanish countries. (Many generations of English, German, Dutch and French families have resided in areas of South America.)

10. Hispanic identification was then implemented using available data on Hispanic origin, surname and birthplace. Fourteen Hispanic variables using combinations of available data were created and are shown in Table 4. The numbers and percentages of Hispanic decedents identified over the 1986 to 1996 study period using each variable were calculated and compared to determine the effects of Hispanic status information separately and in combination.

11. The four combined Hispanic non-U.S. birthplace/surname variables (indirect Hispanic identifiers) were then compared relative to the Hispanic origin only variable (direct Hispanic identifier) over the 1986 to 1996 time frame as follows. The sensitivity, positive predictive value (PPV), specificity and negative predictive value (NPV) were calculated for each of the four Hispanic non-U.S. birthplace/surname combinations relative to death certificate Hispanic origin status for all decedents

in order to determine how relaxing the surname criteria, through the graded inclusion of the 0100, 0200, 0300 and 0400 surname categories, affected the indirect Hispanic identification relationship to Hispanic origin as defined on Illinois death certificates.

12. Three Hispanic identifier variables were selected to calculate and to evaluate cancer mortality rates for Illinois based on findings from evaluations of Hispanic origin, Hispanic non-U.S. birthplace and surnames as well as from comparisons of indirect to direct Hispanic identification. These included direct, indirect and combined direct and indirect identifiers.

Denominators used for cancer incidence rate calculations included the 1990 U.S. census Modified Age, Race and Sex (MARS) population counts for white Hispanic, non-white Hispanic, Hispanic (all races) and non-Hispanic (all races) males and females as well as U.S. Bureau of the Census population counts and intercensal estimates for years 1986 to 1996 for Hispanics and non-Hispanics in Illinois. Cancer mortality rates were calculated for selected sites using the Health Information Retrieval System (HIRS) software developed by the U.S. Centers for Disease Control and Prevention and were age-adjusted using the 1970 U.S. standard.

Illinois Hispanic and non-Hispanic cancer mortality rates were calculated for sites that were reported recently in the monograph, *Racial/Ethnic Patterns of Cancer in the United States 1988-1992*.⁶ These included all sites combined, oral cavity excluding nasopharynx, nasopharynx, esophagus, stomach, colon and rectum, liver and intrahepatic bile duct, pancreas, larynx, lung and bronchus, melanomas, breast, urinary bladder, kidney and renal pelvis, brain and other nervous system, thyroid, Hodgkin's disease, non-Hodgkin's lymphoma, multiple myeloma and leukemias for males and females. Prostate and testis cancer mortality rates also were calculated for males and cervix, corpus uteri and ovary for females. In addition, gallbladder cancer mortality rates for both males and females were calculated, even though U.S. rates were not reported, because gallbladder-related diseases have been shown to be more common among Hispanics, particularly Mexican Americans.⁷

Illinois Hispanic cancer mortality rates were calculated for 1988 to 1992 and were compared with U.S. white Hispanic and white non-Hispanic cancer incidence rates for 1988 to 1992. Illinois Hispanic (all races) cancer mortality rates were also calculated for 1988 to 1992 and compared with reported U.S. Hispanic (all races) cancer mortality rates for 1988 to 1992.

Means and standard deviations were computed for site-specific cancer death rates (n=21 for males and n=22 for females). Pearson correlations were made between the observed Illinois rates and the reported U.S. rates for each respective race-Hispanic-sex group.

Illinois cancer mortality rates also were calculated for years 1986 to 1996 using the three Hispanic identification variables for all sites combined and for the selected sites. The U.S. Hispanic (all races) cancer mortality rates for 1988 to 1992 are presented with the Illinois Hispanic (all races) cancer mortality rates for 1986 to 1996.

13. Based on the results of this study, the methodology by which Hispanic cancer decedents are defined for future division publications and studies was determined.

Results and Discussion

Tables 5 through 28 and the Appendix present results of the study on Hispanic identification on Illinois cancer death certificates.

Hispanic Origin Data Elements

Table 5 presents Hispanic origin data on Illinois cancer deaths for 1986 through 1996. When the emphasis on Hispanic origin was implemented in 1989, the only major change was a decrease in the number and proportion “not classifiable”.

Mexican is the largest Hispanic subgroup, followed by Puerto Rican, for Illinois cancer deaths from 1986 to 1996 (Table 6). An improved ability to discriminate Hispanic subgroups with the addition of a more focused Hispanic origin element in 1989 is evidenced by a substantial decrease in classification as “other/unknown Spanish” from 1989 to 1996 compared with 1986 to 1988.

Comparison of Illinois and U.S. Hispanic Ancestral Subgroup Compositions

The Hispanic ancestral subgroup composition for all 1991 U.S. deaths was obtained for comparison with all Illinois deaths for 1991 for ancestral subgroup comparisons as shown below.

Hispanic Category	Illinois 1991		U.S. 1991	
	count	%	count	%
Mexican	1,309	1.26	43,371	2.00
Puerto Rican	510	0.49	10,156	0.47
Cuban	89	0.09	7,901	0.36
South/Central American	99	0.10	5,828	0.27
Other/Unknown Spanish	261	0.25	14,244	0.66
Not Classifiable	940	0.90	63,574	2.93
Non-Hispanic	100,663	96.91	2,027,986	93.32
Total	103,871	100.00	2,173,060	100.00

Hispanic Ancestral Subgroup	Illinois 1991		U.S. 1991	
	count	%	count	%
Mexican	1,309	57.72	43,371	53.22
Puerto Rican	510	22.49	10,156	12.46
Cuban	89	3.92	7,901	9.69
South/Central American	99	4.37	5,828	7.15
Other/Unknown Spanish	261	11.51	14,244	17.48
All Subgroups	2,268	100.00	81,500	100.00

When all Hispanic categories are compared for 1991, 3.75 percent of U.S. deaths and 2.19 percent of Illinois deaths were classified as Hispanic. The distribution by Hispanic ancestral subgroup

shows Mexican to be the largest Hispanic ancestral subgroup for both Illinois and the U.S. Proportionately more U.S. Hispanic deaths were classified as “other/unknown Spanish” than Illinois deaths in 1991, probably reflecting the more focused Hispanic origin data element in Illinois whereas U.S. data reflect data elements from almost all states. Illinois had proportionately more Puerto Rican and less Cuban and South/Central American decedents than the U.S. in 1991.

Hispanic Identification on Illinois Cancer Death Certificates Compared with ISCR

A final examination of the quality of the Hispanic origin element on Illinois cancer death certificates involved the matching of the Illinois cancer death file for 1986 to 1996 to the ISCR database for 1986 to 1994. The 267,499 cancer deaths occurring from 1986 to 1996 were matched to the 437,099 cancer incidence cases for 1986 to 1994 on last name and social security number using the add variables procedure of SPSS for Windows (version 7.0). A file with 142,309 matched cases was produced. Analyses for agreement between cancer death certificate records and ISCR incidence report form data were conducted for Hispanic origin 93,984 matched records with only cancer incidence cases diagnosed from 1989 to 1994 because Hispanic origin data collection was implemented in ISCR in 1989. The results are summarized as follows.

Analysis for agreement between the Hispanic origin on the death certificate with Hispanic origin on the ISCR incidence report form showed the Kappa statistic to be 0.791 ($p < 0.001$) indicating 79.1 percent agreement beyond chance. Kappa statistics for the three major Hispanic ancestral subgroups, Mexican, Puerto Rican and Cuban, were 0.565, 0.708 and 0.690, respectively. Agreement between the two Hispanic origin assessments may be considered excellent for all Hispanics and fair to good for each of the ancestral subgroups.⁸

Birthplace

The reported birthplaces for Hispanic persons dying of cancer in Illinois from 1986 to 1996 are shown in Table 7. Almost 35 percent of Hispanic decedents were reported to be the born in Mexico. Puerto Rico, Illinois, Texas and Cuba were birthplaces reported in the next greatest proportions.

Table 8 displays data for Illinois cancer decedents born in Hispanic non-U.S. birthplaces. As would be expected, the largest proportions of decedents were born in Mexico, Puerto Rico and Cuba. Over the entire 1986 to 1996 time span, the positive predictive value of Hispanic non-U.S. birthplace for Hispanic status exceeded 90 percent for all but three of 11 years.

Racial Composition of Hispanic Decedents

Table 9 shows cross-tabulations of Hispanic ancestral subgroups by race for Illinois cancer deaths 1986 to 1996. More than 97 percent of Hispanic cancer deaths were classified as white. Approximately one percent was reported as black and the remainder was distributed among other racial groups. The largest proportion of Hispanic cancer deaths reported as black were Cuban. Since

more black Hispanics would be expected among the Puerto Rican as well as Cuban Hispanic ancestral subgroups, given that historically African slaves were brought to these islands, it is unclear why more Puerto Rican decedents were not documented as black on Illinois death certificates.

Hispanic Status of Illinois Surnames

Tables 10 and 11 show comparisons for last names for males and never married females and maiden names for ever married females with those identified in the 1990 census Spanish surname study by rank for the 12 most common heavily Hispanic surnames (0125) and the 12 most common rarely Hispanic surnames (5500). As shown, the Illinois names are very similar to those observed in the census Spanish surname study. The name Garcia, observed to be the most frequently occurring heavily Hispanic surname in the census study sample, ranked first along with Rodriguez for last names of males and never married females (Table 10) and second for ever married females in Illinois (Table 11). Rodriguez was the most frequently occurring heavily Hispanic surname for ever married female decedents in Illinois during 1986 to 1996 ranking third among surnames on the census study data set.

For last names of Illinois male and never married female decedents (Table 10), Gonzales ranked 16th in Illinois and 12th in the census study. More names in Illinois were observed with equal frequency because the number of decedents in Illinois from 1986 to 1996 was considerably less than the census sample. The names Flores, Ortiz, Reyes and Ramos ranked in the top 12 in Illinois but in the census sample 13th, 16th, 19th and 20th, respectively. For category 5500, Moore ranked 14th in Illinois and 10th in the census study sample, whereas Jackson ranked 9th in Illinois but 20th in the census study.

Maiden names of ever married females are compared with the census study sample in Table 11. Like Table 10, more Illinois names achieved the same rank due to the smaller numbers. All of the census sample names were among the 12 top names for Illinois with a few exceptions. Gonzales ranked 16th for Illinois and 12th in the census sample 0125 category. In the 5500 category, Moore ranked 13th in Illinois and 10th in the census sample. Also, the 5500 category name Thomas ranked 15th in Illinois and 12th in the census sample. The 0125 category names Flores, Diaz, Ortiz, Cruz, Gutierrez and Castillo ranked in the top 12 for ever married female cancer decedents in Illinois but in the census sample 13th, 14th, 16th, 17th, 24th and 25th, respectively

It is apparent that, at least from the frequency perspective, the Spanish surnames in Illinois are very similar to those observed in the national sample. The census Spanish schematic surname classification system is likely suitable for application on Illinois death certificates as it was for the ISCR database.

Tables 12 and 13 present comparisons of selected summary statistics (number of surnames, occurrences and percent Hispanic) for last names of males and never married females and for maiden names of ever married females with the census Spanish surname study for all 28 Spanish surname categories, respectively. Percent Hispanic for Illinois cancer deaths reflects the origin or Hispanic

origin data, whereas the census Spanish surname study used self-identified responses to the Hispanic origin question on the census form.

For both last and maiden name comparisons, fewer names were identified for most categories in Illinois than the census Spanish surname study, especially for the lower frequency census scheme categories (i.e., 0101, 5001), due to the fact that the number of occurrences for Illinois cancer deaths during 1986 to 1996 was considerably less than the census Spanish surname sample. Of the 639 most frequently observed heavily Hispanic surnames (0125) on the census data set, 404 and 358 appeared on Illinois cancer death certificates from 1986 to 1996 for males and never married females and ever married females, respectively. The positive predictive values of the heavily, generally, moderately and occasionally Hispanic surname categories for Hispanic status measured by the census question are greater than those observed for Illinois although the categorical relationship patterns are similar for both Illinois cancer deaths 1986 to 1996 and the census Spanish surname study. That is, a greater proportion of Hispanic cases are identified as the category becomes more Hispanic. The most likely explanation for the differences between Illinois and the census study in observed strength of the surname category Hispanic status associations is that the Illinois data are limited to information provided by the individual responsible for completing the death certificate and are subject to more error than self-identification on the census questionnaire. It is very unlikely that the surname Hispanic status associations would differ that greatly for the Illinois population compared with the census study given the similarity of surname occurrences.

Overall, little differences were apparent between surname category and proportion Hispanic when comparing Table 12 with Table 13, suggesting the scheme may be just as generalizable to ever married females when maiden names are available as to males and females who have never married.

For Illinois, it appears that the census Spanish surname classification system offers a more accurate means to indirect Hispanic identification than a scheme developed using only Illinois deaths certificate names. It is very unlikely that the true strength of the surname categorical relationships with Hispanic status would differ that greatly for the Illinois population compared with the census study sample given their similarities in occurrence frequency and surname Hispanic status association patterns. Therefore, like the Hispanic identification in ISCR study the study of Hispanic identification on Illinois cancer death certificates proceeded using Illinois surnames classified by the census Spanish surname study classification scheme to evaluate indirect Hispanic identification using surname.

Illinois Cancer Decedent Surnames by Collapsed Census Spanish Surname Study Categories

Tables 14 and 15 present last names of males and never married females and maiden names for ever married females for Illinois cancer decedents 1986 to 1996 by collapsed census schematic codes. These tables also include the percent decedents identified as Hispanic by surname classification with and without adjustment for birthplace and race. The proportions of decedents excluded from Hispanic identification using the census Spanish surname schematic system based upon birthplace and/or race as described in “Methods” ranged from about 2 percent to 7 percent for years 1986 to 1996.

As shown, the greatest proportion of Hispanic cancer decedents (approximately 80 percent) have last or maiden names in the heavily Hispanic surname category. The adjustment for birthplace and race strengthens the predictive value of surname for Hispanic status slightly. More decedents with heavily Hispanic surnames resided in the seven Hispanic counties in Illinois than those in other surname categories. Selected summary statistics for all surname study categories are presented in Tables 16 and 17 for last names of males and never married females and for maiden names of ever married females, respectively. The 0125 category includes surnames of the largest proportion of Hispanic cancer decedents in Illinois.

Surnames of Cancer Cases Born in Hispanic Non-U.S. Birthplaces

Table 18 shows the last and maiden names of Illinois cancer decedents 1986 to 1996 born in Hispanic non-U.S. birthplaces by the collapsed census Spanish surname study categories. As shown, approximately 80 percent of these decedents have last names in the heavily Hispanic 0100 category. It is important to note that about 3 percent have names in the rarely Hispanic 5000 category and about 9 percent have names in the no match 6000 category. As presented in Tables 14 through 17, the proportion Hispanic for categories 5000 and 6000 was very low and, therefore, decedents with surnames in these categories should be excluded when Hispanic non-U.S. birthplace is applied as an indirect Hispanic identifier to avoid erroneous selection.

Surnames of Illinois Cancer Decedents of American Indian, Filipino and Hawaiian Race

A total of 266 of 267,499 cancer decedents for 1986 to 1996, or 0.10 percent, were reported to be among the three race groups where Spanish names are common but ethnicity is not Hispanic (Table 19). The composition included 65 (24.4 percent) American Indians, 173 (65.0 percent) Filipinos and 28 (10.5 percent) Hawaiians. All three race groups had last or maiden names in the heavily and generally Hispanic surname categories. Among Filipinos and Hawaiians about 25 percent and among American Indians approximately 9 percent of the last or maiden names were among the heavily Hispanic surname categories. Although a large proportion of surnames for these race groups fall into the heavily Hispanic category, these decedents should be excluded from indirect Hispanic identification because it is known that generally they are not Hispanic.

Effects of Adjustment for Surname on Hispanic non-U.S. Birthplace As Hispanic Identifier

As discussed in “Methods”, an Hispanic birthplace variable was created for each decedent on the Illinois cancer death files for 1986 to 1996. Hispanic status based on birthplace was then adjusted for Spanish surname status for each decedent. As shown, when decedents born in Hispanic birthplaces who had last or maiden names in the rarely Hispanic (5000), no match (6000) or missing (9000) categories were removed, the proportion identified as Hispanic increased on average by 3.6 percent.

Percent Hispanic by Hispanic Non-U.S. Birthplace, Illinois Cancer Deaths, 1986 to 1996

Hispanic Birthplace	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Unadjusted	91.7	96.2	95.9	94.8	88.4	90.3	89.7	91.2	93.5	93.5	87.8	90.5
Adjusted*	95.3	96.6	97.1	97.6	91.5	95.7	93.5	94.9	98.3	96.1	93.1	94.0

* Cancer deaths with surnames in rarely Hispanic, no match or missing excluded

Such an adjustment serves to improve the precision of Hispanic identification using birthplace, especially when only indirect evidence for Hispanic status is available and should be incorporated into algorithms for Hispanic identification purposes.

Table 20 displays sensitivity, PPV, specificity and NPV estimates for combinations of adjusted Spanish surname and non-U.S. Hispanic birthplace combinations relative to reported Hispanic origin for cancer deaths in Illinois 1986 to 1996. As the surname criteria becomes more relaxed, including decedents with surnames in the generally, moderately and occasionally Hispanic categories, sensitivity increases, PPV decreases, specificity decreases and NPV would be expected to increase but shows no change due to the proportionately greater number of decedents with surnames in the rarely or no match categories.

Although the decrease in specificity may appear slight, it should be kept in mind that far more decedents are non-Hispanic than Hispanic and even a fraction of a percent could result in substantial false Hispanic identification of decedents with a drop in specificity. The use of indirect measures for our purposes should maximize correct identification.

Hispanic Identification

Table 21 shows the results of Hispanic identification using 14 combinations of Hispanic origin, Hispanic non-U.S. birthplace and surname. It is evident that with additional data the number and proportion of cancer decedents identified as Hispanic increases. Our goal in evaluating these identifiers was to determine which maximize the selection of true Hispanic cancer deaths and minimize incorrect selection.

Highlighted are the three Hispanic identifiers selected for further study of Hispanic cancer mortality rates. The three Hispanic identifiers included (1) death certificate Hispanic origin only, the direct identifier; (2) heavily Hispanic surnames and/or Hispanic non-U.S. birthplace, the indirect identifier; and (3) death certificate Hispanic origin status and/or heavily Hispanic surnames and/or Hispanic non-U.S. birthplace, the combined direct and indirect identifier.

Hispanic origin is a completely direct Hispanic identifier because these decedents were determined to be Hispanic by persons completing death certificates. This means of identification has the distinct advantage of identifying Hispanic decedents when no evidence of Hispanic status is apparent through indirect means.

Although the Illinois death certificate includes a means to directly identify Hispanic decedents, an indirect Hispanic identifier was selected to study the quality of Hispanic identification using indirect sources. Ideally, an optimal indirect Hispanic identifier would be established with an algorithm that maximizes correct identification using birthplace, race, marital status and surname. Information for all of these variables is available on Illinois death certificates.

The Hispanic identifier that included decedents born in Hispanic non-U.S. birthplace and/or decedents with heavily Hispanic surnames was selected for further evaluation in this study as the indirect identifier. The rationale for selection of this identifier was that, first, decedents born in Hispanic non-U.S. birthplaces adjusted for surname have about a 95 percent probability of being Hispanic. Second, the heavily Hispanic surnames were shown to be associated with the greatest proportions of Hispanic persons for both Illinois cancer deaths 1986 to 1996 and the census Spanish surname study (Tables 12 and 13). For the census study, the heavily Hispanic 0100 categories were over 90 percent Hispanic and for Illinois between 60 percent to 85 percent Hispanic with the exception of category 0101. The Appendix contains an alphabetical list of the 0100 last and maiden names appearing on Illinois cancer death certificates from 1986 to 1996 with the specific census Spanish surname category number.

Although the generally Hispanic 0200 census Spanish surname categories for the census study sample also contained high proportions of Hispanic persons (50.0 percent to 77.9 percent), the proportion Hispanic for Illinois cancer deaths was much lower in these categories. In addition, although the national census sample and the Illinois population appear to be very similar based on the evaluation of surnames, differences undoubtedly do exist and those difference most likely would be manifest in the generally, moderately and occasionally Hispanic surname categories. An example of this was apparent when all surnames in the heavily, generally, moderately and occasionally Hispanic surname categories were examined for frequency of occurrence on the Illinois cancer death files for 1986 to 1996. The surnames Moran and Costello, category 0425, appeared among the top 12 when all heavily, generally, moderately and occasionally Hispanic surnames for Illinois were considered. Moran and Costello are occasionally prevalent among Hispanics nationally but also are prevalent among persons of Irish origin and Illinois has a large Irish population subgroup. Costello also is common among Americans of Italian ancestry and Illinois has a large Italian American population. If all of the Hispanic category surnames were considered, substantial false positive identification would have been made because Moran and Costello would have been used as indirect identifiers. Based on these observations, it was decided that only heavily Hispanic census category surnames be used for indirect Hispanic identification to reduce the chance of false positive selections.

The third Hispanic identifier is the strongest among those presented in Table 21 because it combines both direct and indirect information in a manner that maximizes correct Hispanic identification based on the results of this evaluation. "Hispanic" is defined as (1) all decedents identified as Hispanic on death certificates; (2) decedents with heavily Hispanic last or maiden names not born in birthplaces associated with high Spanish surname prevalence and low probability of Hispanic ethnicity and not of American Indian, Filipino or Hawaiian race; and (3) decedents born in birthplaces associated with high probability of Hispanic ethnicity and not having last or maiden names

in the rarely Hispanic, no match or missing categories. In this manner, all information on the Illinois death certificate is used in a manner that maximizes accurate Hispanic identification and minimizes false positive identification.

Table 22 shows the proportion Hispanic cancer deaths identified using each of the seven possible combinations of Hispanic origin, Hispanic non-U.S. birthplace and heavily Hispanic last or maiden name when Hispanic cancer deaths are identified using the combined direct and indirect identifier. Approximately 13 percent of Hispanic cancer deaths could be identified only by Hispanic status documented on the death certificate and about 15 percent could be identified only with indirect birthplace and/or surname information. As shown, most identification involves Hispanic origin as documented on the death certificate and heavily Hispanic surname. Hispanic non-U.S. birthplace alone identified the least Hispanic decedents, about 0.2 percent.

Hispanic Cancer Mortality Rates

Tables 23 and 24 present white Hispanic cancer mortality rates for 1988 to 1992 using the three Hispanic variables compared with those reported for the U.S. for males and females, respectively. Hispanic (all races) male and female comparisons are shown in Table 25. Descriptive and analytic statistics for data presented in Tables 23 to 25 are shown in Table 26.

The U.S. Hispanic cancer mortality rates represent one of the few standards for comparison. However, when using this standard for comparison, the assumption must be made that the Illinois Hispanic population is similar to the U.S. Hispanic population with respect to cancer mortality. It was shown on page 10 that similarities and some differences between the 1991 Illinois deaths and 1991 U.S. deaths were apparent for Hispanic ancestral subgroup composition. Although the known patterns of cancer for Hispanics tend to be shared by most of the ancestral subgroups, the fact that Illinois' Hispanic composition differs somewhat from the nation should be recognized when interpreting these data.

Overall, the patterns of cancer deaths among Hispanics compared with non-Hispanics in Illinois shown in Tables 23 and 24 appear to be consistent with the available reports on Hispanic cancer mortality.⁶⁻⁹ White Hispanic males and females had lower all sites combined cancer mortality rates compared with their white non-Hispanic counterparts in Illinois. White Hispanic males in Illinois have lower cancer mortality rates of lung, prostate, colon and rectum, oral cavity, melanoma and non-Hodgkin's lymphoma than white non-Hispanic males in Illinois. White Hispanic females in Illinois have lower rates of cancers of the breast, colon and rectum, corpus uteri, lung, ovary, oral cavity, non-Hodgkin's lymphoma and melanoma than their white non-Hispanic counterparts. Conversely, white Hispanic males have higher rates of stomach, liver and gallbladder cancer compared with white non-Hispanic males in Illinois. Higher rates of cancers of the cervix, stomach, liver and gallbladder occurred among white Hispanic females than among white non-Hispanic females in Illinois.

The most frequently occurring cancer deaths for Hispanic males and females in Illinois were sites consistent with those observed for the U.S. Hispanic population (Table 25).^{6,9-11} Cancers of the lung, colon and rectum, prostate, stomach and liver were the most common sites for Illinois Hispanic males. The most common cancer-related causes of death for Illinois Hispanic females were from cancers of the breast, lung, colon and rectum.

In summary, all Pearson correlation coefficients (range 0.989 to 0.994) comparing the cancer mortality rates calculated using the three Hispanic identifiers for Illinois with the U.S. rates were highly correlated ($p < 0.01$) for both males and females. The least differences between the means of Illinois and U.S. cancer mortality rates were apparent with the combined direct and indirect Hispanic identifier.

Tables 27 and 28 show Hispanic cancer mortality rates from 1986 to 1996 using the three Hispanic identifiers for males and females, respectively. The U.S. Hispanic (all races) cancer mortality rate for 1988 to 1992 also is presented with each site for comparison purposes.

Conclusions

1. Hispanic identification has been in effect on Illinois death certificates from 1986 to 1996. A change in the origin item emphasizing Hispanic ethnicity in 1989 appeared to improve identification for specific Hispanic ancestral subgroups and fewer decedents were reported to be not classifiable. Direct Hispanic identification using death certificate Hispanic origin elements was capable of identifying about 85 percent of Hispanic cancer deaths. About 13 percent of Hispanic cancer deaths from 1986 to 1996 could only be identified through direct Hispanic identification. Agreement between Illinois death certificate and Illinois State Cancer Registry (ISCR) Hispanic identification was nearly 80 percent.
2. Surnames and their relationships to Hispanic status categorically presented in the U.S. Bureau of the Census' working paper, *Building a Spanish Surname List for the 1990's A New Approach to An Old Problem*, were very similar to those observed for Illinois cancer decedents during years 1986 to 1996 and offer an indirect means for Hispanic identification in Illinois.
3. Hispanic non-U.S. birthplaces, including Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), Cuba, Mexico, Puerto Rico, South America (Argentina, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela) and Spain (Andorra, Balearic Islands and Canary Islands), also were demonstrated to be valid indirect identifiers of Hispanic status.
4. The 1990 census Spanish surname list and Hispanic non-U.S. birthplace data offer a valid approach to indirect Hispanic identification of Illinois decedents. Combined surname and Hispanic non-U.S. birthplace could identify an additional 15 percent Hispanic decedents who were most likely misclassified as non-Hispanic on Illinois death certificates. However, special study would be necessary to determine the precision of the 15 percent estimate.
5. Exclusion of decedents based on race, birthplace and/or surname status from indirect identification to improve precision was shown to increase positive predictive values of Hispanic non-U.S. birthplaces and Hispanic surnames for Hispanic status. Therefore, these exclusions should be incorporated into algorithms for indirect Hispanic identification on Illinois death certificates.
6. Illinois cancer mortality rates calculated using Hispanic decedents identified with both direct and indirect means for years 1988 to 1992 demonstrated the least difference from those recently published for five-year cancer mortality rates observed among the U.S. Hispanic population and should be used routinely for the analysis of cancer deaths in the Hispanic population residing in Illinois.
7. Based on the findings of this study, the Hispanic identifier that will be used routinely to identify Hispanic Illinois cancer decedents is as follows. "Hispanic" is defined as (1) all decedents identified on Illinois death certificates as Hispanic; (2) decedents with heavily Hispanic surnames (last name for males and never married females and maiden names for ever married females) not born in birthplaces associated with high Spanish surname prevalence and low probability of Hispanic ethnicity and not

of American Indian, Filipino or Hawaiian race; and (3) decedents born in birthplaces associated with high probability of Hispanic ethnicity and not having last names in the rarely Hispanic or no match census Spanish surname study categories for males and never married females and maiden names in the rarely Hispanic, no match or missing categories for ever married females. Females with marital status missing will be excluded from indirect Hispanic identification.

Limitations

The limitations of the Hispanic identification on Illinois cancer death certificates study are the same as those reported for the Hispanic identification in the Illinois State Cancer Registry study.

1. All results from this study are only estimates because it is not possible to know for certain the exact number of Hispanic cancer decedents in Illinois. Undoubtedly, a small proportion of Hispanic cancer decedents are missed even though procedures of direct identification on death certificate and indirect identification through birthplace, race and surname are employed routinely. Despite efforts to avoid false positive identifications, some decedents will still be identified as Hispanic who are indeed non-Hispanic since the indirect identification criteria are not 100 percent certain and misclassifications also may occur during direct identification due to errors on vital records. Even though it is not possible to estimate how many Hispanic decedents are missed or misclassified, the actual numbers are likely to be small using the combined direct and indirect Hispanic identifier developed in this study.
2. Identification using the algorithm, which incorporates both direct and indirect methods, cannot specify Hispanic ancestral subgroup. Spanish surnames are not specific to ancestral subgroups.
3. The surname approach from the U.S. Bureau of the Census is applicable for the 1990s. As Hispanics acculturate, changes in surname Hispanic status relationships will occur nationally and in Illinois. These changes may render use of Spanish surname lists obsolete and, therefore, the effectiveness of algorithms for Hispanic identification should be monitored and changed accordingly.
4. It is fortunate that the census Spanish surname study approach could be applied in its entirety to the population of Illinois. The ability to use this application is attributable to the similarity of the Illinois Hispanic population to the nation's Hispanic population. States sharing this representativeness could probably use the approach as has Illinois. However, other states, such as New Mexico, whose Hispanic surnames are unique, would have more difficulty in its application.⁵ This factor should be considered when using Spanish surname approaches to indirect Hispanic identification.

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Tables

Hispanic Identification on Illinois Cancer Death Certificates 1986 to 1996

Table 1

Hispanic Identification Elements on Illinois Vital Records

prior to 1989	Origin	
	01=Mexican	14=Italian
	02=Puerto Rican	15=Other North, Central, South American
	03=Cuban	16=Other Western European
	04=Central or South American	17=Other Northern European
	05=Other and Unknown Spanish	18=Other Eastern European
	06=American	19=Other Southern European
	07=Indian	20=Southeast Asian, Pacific Islander
	08=British, Scottish, Welch, Scotch-Irish	21=South Central Asian
	09=Irish	22=Other Asian
	10=German	23=North African
	11=French	24=Other African
	12=Norwegian, Swedish, Danish	88=Not on Certificate
	13=Polish	99=Not Classifiable
revised 1989	Hispanic Origin	
	0=Non-Hispanic	
	1=Mexican	
	2=Puerto Rican	
	3=Cuban	
	4=Central or South American	
	5=Other and Unknown Spanish	
	9=Not Classifiable	

Table 2
Birthplaces Relevant to Indirect Hispanic Identification
Hispanic Identification on Illinois Cancer Death Certificates, 1986 to 1996

Birthplaces Associated with High Probability of Hispanic Ethnicity

MX Mexico	CX Central America including	SB South America including	SP Spain
	GT Guatemala	CB Colombia	AJ Andorra
PR Puerto Rico	BL Belize	VZ Venezuela	
	HO Honduras	EC Ecuador	
CU Cuba	SS El Salvador	PU Peru	
	NI Nicaragua	BV Bolivia	
	CR Costa Rica	CL Chile	
	RP Panama	AG Argentina	
		PG Paraguay	
		UY Uruguay	

Birthplaces Associated with High Spanish Surname Prevalence and Low Probability of Hispanic Ethnicity

Atlantic/Caribbean Area excluding Puerto Rico and Cuba (AB, AI, BB, BH, BK, BM, CI, CS, DR, GN, HA, JM, MQ, TR, XK, XV, VI)	Pacific Area (AS, CE, KI, GU, JA, XI, MP, MW, NN, WK, NZ, TT, XA)	South America including	Europe including Portugal (EO, UN, EN, WL, ST, IE, NO, IC, NW, DK, SV, FN, GE, NT, LX, SZ, AT, LI, FR, PT, IT, RO, PO, CK, BO, SQ, YG, SJ, CC, BU, RU, UR, ES, LV, GR, HU, AA, GD, MM, CY)
		BZ Brazil	
		GY Guyana	Asia (AC, TY, SY, LN, JO, IQ, SA, YE, SM, UA, BJ, KU, OM, IS, PL, GG, AM, AV, IR, AF, PK, MH, II, NP, BN, BA, BR, TH, LS, CD, VM, MY, SI, BI, IO, PH, CN, HK, TW, MF, MG, JP, KO)
CZ Canal Zone		SN Suriname	
		FG French Guiana	

Highlighted Codes Used for Records Preceding 1989 and Records After 1989.

Table 3
Hispanic Surname Variable Criteria*
Hispanic Identification on Illinois Cancer Death Certificates
1986 to 1996

Heavily Hispanic Name Variable

Males with last name in 0100 category
Never married females with last name in 0100 category
Ever married females with maiden name in 0100 category

Heavily and Generally Hispanic Name Variable:

Decedents classified as Hispanic in the heavily Hispanic name variable
Males with last name in 0200 category
Never married females with last name in 0200 category
Ever married females with maiden name in 0200 category

Heavily and Generally and Moderately Hispanic Name Variable

Decedents classified as Hispanic in the heavily and generally Hispanic name variable
Males with last name in 0300 category
Never married females with last name in 0300 category
Ever married females with maiden name in 0300 category

Heavily and Generally and Moderately and Occasionally Hispanic Name Variable

Decedents classified as Hispanic in the heavily and generally and moderately Hispanic variable
Males with last name in 0400 category
Never married females with last name in 0400 category
Ever married females with maiden name in 0400 category

* The last and maiden names for cancer decedents by Spanish surname schematic codes were collapsed as follows:

Heavily (0100): Categories 0101, 0102, 0105, 0110, 0115 and 0125
Generally (0200): Categories 0201, 0202, 0205, 0210, 0215 and 0225
Moderately (0300): Categories 0301, 0302, 0305, 0310, 0315 and 0325
Occasionally (0400): Categories 0405, 0410, 0415 and 0425

Table 4
Hispanic Identification Variables
Hispanic Identification on Illinois Cancer Death Certificates Study
1986 to 1996

1. Hispanic Origin (HO) Only
2. HO and Hispanic Non-U.S. Birthplace (BP)

Spanish Surname Only

3. Heavily Hispanic
4. and Generally Hispanic
5. and Moderately Hispanic
6. and Occasionally Hispanic

Spanish Surname and BP

7. Heavily Hispanic
8. and Generally Hispanic
9. and Moderately Hispanic
10. and Occasionally Hispanic

HO and BP and Spanish Surname

11. Heavily Hispanic
12. and Generally Hispanic
13. and Moderately Hispanic
14. and Occasionally Hispanic

Table 5

Distribution of Hispanic Origin Categories, Illinois Cancer Deaths, 1986-1996

Category		1986-96	Origin						Hispanic Origin				
			1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Mexican	count	2,164	112	134	117	189	182	197	204	268	245	244	272
	% per year	0.8	0.5	0.6	0.5	0.8	0.7	0.8	0.8	1.1	1.0	1.0	1.1
Puerto Rican	count	772	49	43	50	54	63	73	77	86	98	90	89
	% per year	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Cuban	count	230	11	21	23	20	18	22	25	16	22	25	27
	% per year	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
South/Central American	count	297	17	22	12	26	29	30	26	36	29	33	37
	% per year	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other/Unknown Spanish	count	451	39	52	58	40	33	51	41	44	48	22	23
	% per year	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1
Not Classifiable	count	5,035	1,096	1,122	1,208	279	216	217	155	158	149	203	232
	% per year	1.9	4.7	4.8	5.1	1.2	0.9	0.9	0.6	0.6	0.6	0.8	0.9
Non-Hispanic	count	258,550	21,842	21,917	22,108	23,329	23,902	23,798	24,088	24,655	24,500	24,398	24,013
	% per year	96.7	94.3	94.0	93.8	97.5	97.8	97.6	97.9	97.6	97.6	97.5	97.2
Total	count	267,499	23,166	23,311	23,576	23,937	24,443	24,388	24,616	25,263	25,091	25,015	24,693

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 6
Proportion of Hispanic Cancer Deaths by Ancestral Subgroup, Illinois, 1986-1996

	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Ancestral Subgroup	Origin				Hispanic Origin							
Mexican	55.3	49.1	49.3	45.0	57.4	56.0	52.8	54.7	59.6	55.4	58.9	60.7
Puerto Rican	19.7	21.5	15.8	19.2	16.4	19.4	19.6	20.6	19.1	22.2	21.7	19.9
Cuban	5.9	4.8	7.7	8.8	6.1	5.5	5.9	6.7	3.6	5.0	6.0	6.0
South/Central American	7.6	7.5	8.1	4.6	7.9	8.9	8.0	7.0	8.0	6.6	8.0	8.3
Other/Unknown Spanish	11.5	17.1	19.1	22.3	12.2	10.2	13.7	11.0	9.8	10.9	5.3	5.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 7
Distribution of Reported Birthplaces for Hispanic Cancer Deaths, Illinois, 1986-1996

United States (U.S.)		Hispanic non-U.S. Birthplaces				Other Birthplaces		
	No.	%		No.	%	No.	%	
Spanish States			Mexico	1,367	34.9	Brazil	3	0.1
Illinois	536	13.7	Puerto Rico	751	19.2	Dominican Republic	15	0.4
Texas	359	9.2	Cuba	243	6.2	Jamaica	3	0.1
California	18	0.5	Central America	2	0.1	Other Caribbean Islands	1	0.0
New Mexico	14	0.4	Guatemala	78	2.0	Canada	2	0.1
Colorado	12	0.3	British Honduras	3	0.1	Germany	2	0.1
New York	11	0.3	Honduras	18	0.5	France	1	0.0
Arizona	7	0.2	El Salvador	25	0.6	Italy	1	0.0
New Jersey	7	0.2	Nicaragua	4	0.1	Poland	5	0.1
Florida	5	0.1	Costa Rica	4	0.1	Czechoslovakia	1	0.0
Nevada	1	0.0	Panama	12	0.3	Russia	1	0.0
Other States			South America	5	0.1	Lithuania	2	0.1
Kansas	37	0.9	Colombia	32	0.8	Hungary	2	0.1
Indiana	20	0.5	Venezuela	4	0.1	Arabian Peninsula	1	0.0
Missouri	16	0.4	Ecuador	25	0.6	Pakistan	1	0.0
Iowa	15	0.4	Peru	37	0.9	Burma	1	0.0
Oklahoma	8	0.2	Bolivia	8	0.2	Indonesia	2	0.1
Michigan	8	0.2	Chile	13	0.3	Philippines	17	0.4
Nebraska	5	0.1	Argentina	9	0.2	China NOS	1	0.0
Montana	5	0.1	Paraguay	1	0.0	Korea	1	0.0
Rhode Island	5	0.1	Spain	16	0.4	Not US but Unknown	37	0.9
Minnesota	5	0.1				Unknown	30	0.8
Mississippi	5	0.1				Total	3,914	99.7
Wisconsin	4	0.1						
Ohio	4	0.1						
Kentucky	3	0.1						
West Virginia	3	0.1						
Georgia	2	0.1						
Louisiana	2	0.1						
Arkansas	2	0.1						
Alabama	1	0.0						
Tennessee	1	0.0						
North Dakota	1	0.0						
Vermont	1	0.0						
Wyoming	1	0.0						
Pennsylvania	1	0.0						
Maine	1	0.0						
District of Columbia	1	0.0						

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 8
Description of Cancer Deaths Born in Hispanic Birthplaces, Illinois, 1986-1996

Birthplace		1986-96	1986	1987	1988	1989	1990	1991	1992	19943	1994	1995	1996
All Born in Hispanic Birthplaces	count	2,899	159	194	193	225	247	261	284	336	323	329	348
	% Hispanic	91.7	96.2	95.9	94.8	88.4	90.3	89.7	91.2	93.5	93.5	87.8	90.5
	% deaths	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Mexico	count	1,442	84	109	95	103	121	119	124	175	164	163	185
	% Hispanic	94.8	100.0	97.2	96.8	90.3	94.2	92.4	97.6	98.3	94.5	91.4	92.4
	% deaths	49.7	52.8	56.2	49.2	45.8	49.0	45.6	43.7	52.1	50.8	49.5	53.2
Puerto Rico	count	780	53	51	57	54	63	71	79	85	95	84	88
	% Hispanic	96.3	94.3	94.1	94.7	96.3	98.4	94.4	96.2	97.6	97.9	96.4	96.6
	% deaths	26.9	33.3	26.3	29.5	24.0	25.5	27.2	27.8	25.3	29.4	25.5	25.3
Cuba	count	274	16	25	28	25	21	25	32	21	23	29	29
	% Hispanic	88.7	87.5	92.0	96.4	88.0	85.7	88.0	84.4	81.0	100.0	86.2	86.2
	% deaths	9.5	10.1	12.9	14.5	11.1	8.5	9.6	11.3	6.3	7.1	8.8	8.3
Central America NOS	count	4	0	0	0	0	0	0	1	2	1	0	0
	% Hispanic	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	100.0	0.0	0.0
	% deaths	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.3	0.0	0.0
Guatemala	count	80	2	6	7	8	2	11	7	7	10	10	10
	% Hispanic	97.5	100.0	100.0	85.7	100.0	100.0	100.0	100.0	100.0	100.0	90.0	100.0
	% deaths	2.8	1.3	3.1	3.6	3.6	0.8	4.2	2.5	2.1	3.1	3.0	2.9
British Honduras	count	23	0	0	0	2	4	4	4	3	2	2	2
	% Hispanic	13.0	0.0	0.0	0.0	0.0	25.0	0.0	50.0	0.0	0.0	0.0	0.0
	% deaths	0.8	0.0	0.0	0.0	0.9	1.6	1.5	1.4	0.9	0.6	0.6	0.6
Honduras	count	28	1	1	3	3	1	3	2	3	1	6	4
	% Hispanic	64.3	100.0	100.0	66.7	33.3	100.0	100.0	50.0	100.0	100.0	33.3	50.0
	% deaths	1.0	0.6	0.5	1.6	1.3	0.4	1.1	0.7	0.9	0.3	1.8	1.1
El Salvador	count	29	1	0	1	3	5	2	6	3	1	2	5
	% Hispanic	86.2	100.0	0.0	100.0	100.0	40.0	100.0	83.3	100.0	100.0	100.0	100.0
	% deaths	1.0	0.6	0.0	0.5	1.3	2.0	0.8	2.1	0.9	0.3	0.6	1.4
Nicaragua	count	8	1	0	0	0	1	1	0	0	0	3	2
	% Hispanic	50.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	66.7	50.0
	% deaths	0.3	0.6	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.9	0.6
Costa Rica	count	7	0	0	0	1	0	1	2	1	0	1	1
	% Hispanic	57.1	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0
	% deaths	0.2	0.0	0.0	0.0	0.4	0.0	0.4	0.7	0.3	0.0	0.3	0.3
Panama	count	24	1	2	2	1	3	2	3	5	3	2	0
	% Hispanic	50.0	100.0	100.0	50.0	100.0	33.3	100.0	0.0	40.0	33.3	50.0	0.0
	% deaths	0.8	0.6	1.0	1.0	0.4	1.2	0.8	1.1	1.5	0.9	0.6	0.0
South America NOS	count	12	0	0	0	1	2	1	3	1	0	2	2
	% Hispanic	41.7	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	50.0	50.0
	% deaths	0.4	0.0	0.0	0.0	0.4	0.8	0.4	1.1	0.3	0.0	0.6	0.6
Columbia	count	39	0	0	0	5	5	3	3	8	6	3	6
	% Hispanic	82.1	0.0	0.0	0.0	80.0	100.0	66.7	100.0	100.0	66.7	66.7	66.7
	% deaths	1.3	0.0	0.0	0.0	2.2	2.0	1.1	1.1	2.4	1.9	0.9	1.7

Table 8 (continued)
Description of Cancer Deaths Born in Hispanic Birthplaces, Illinois, 1986-1996

Birthplace		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Venezuela	count	4	0	0	0	1	1	0	0	1	0	1	0
	% Hispanic	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0
	% deaths	0.1	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.3	0.0	0.3	0.0
Ecuador	count	28	0	0	0	3	5	3	2	7	1	3	4
	% Hispanic	89.3	0.0	0.0	0.0	100.0	100.0	66.7	100.0	100.0	100.0	100.0	50.0
	% deaths	1.0	0.0	0.0	0.0	1.3	2.0	1.1	0.7	2.1	0.3	0.9	1.1
Peru	count	40	0	0	0	5	4	3	6	4	5	8	5
	% Hispanic	92.5	0.0	0.0	0.0	100.0	100.0	66.7	100.0	100.0	100.0	75.0	100.0
	% deaths	1.4	0.0	0.0	0.0	2.2	1.6	1.1	2.1	1.2	1.5	2.4	1.4
Bolivia	count	9	0	0	0	2	1	1	2	2	0	0	1
	% Hispanic	88.9	0.0	0.0	0.0	100.0	100.0	100.0	50.0	100.0	0.0	0.0	100.0
	% deaths	0.3	0.0	0.0	0.0	0.9	0.4	0.4	0.7	0.6	0.0	0.0	0.3
Chile	count	15	0	0	0	1	4	2	1	2	3	2	0
	% Hispanic	86.7	0.0	0.0	0.0	100.0	75.0	100.0	0.0	100.0	100.0	100.0	0.0
	% deaths	0.5	0.0	0.0	0.0	0.4	1.6	0.8	0.4	0.6	0.9	0.6	0.0
Argentina	count	27	0	0	0	3	2	6	4	5	2	3	2
	% Hispanic	33.3	0.0	0.0	0.0	0.0	50.0	33.3	100.0	0.0	50.0	0.0	50.0
	% deaths	0.9	0.0	0.0	0.0	1.3	0.8	2.3	1.4	1.5	0.6	0.9	0.6
Paraguay	count	2	0	0	0	0	0	1	0	0	0	1	0
	% Hispanic	50.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0
	% deaths	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.3	0.0
Uruguay	count	1	0	0	0	0	0	0	0	0	1	0	0
	% Hispanic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% deaths	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Spain	count	23	0	0	0	4	2	2	3	1	5	4	2
	% Hispanic	69.6	0.0	0.0	0.0	50.0	100.0	100.0	66.7	100.0	60.0	75.0	50.0
	% deaths	0.8	0.0	0.0	0.0	1.8	0.8	0.8	1.1	0.3	1.5	1.2	0.6

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 9
Distribution of Hispanic Ancestral Subgroups by Race
Hispanic Cancer Deaths, Illinois, 1986-1996

Race		Hispanic Ancestral Subgroup					
		All Hispanic	Mexican	Puerto Rican	Cuban	South or Central American	Other Spanish including European
Whites	Count	3,814	2,134	757	219	289	415
	Percent	97.4	98.6	98.1	95.2	97.3	92.0
Blacks	Count	42	10	6	7	3	16
	Percent	1.1	0.5	0.8	3.0	1.0	1.1
Native American	Count	5	3	0	0	1	1
	Percent	0.1	0.1	0.0	0.0	0.3	0.2
Chinese	Count	2	0	0	0	1	1
	Percent	0.1	0.0	0.0	0.0	0.3	0.2
Filipino	Count	9	0	0	0	0	9
	Percent	0.2	0.0	0.0	0.0	0.0	2.0
Asian Indian	Count	38	17	8	4	2	7
	Percent	1.0	0.8	1.0	1.7	0.7	1.6
Other Asian	Count	2	0	1	0	0	1
	Percent	0.1	0.0	0.1	0.0	0.0	0.2
Other	Count	2	0	0	0	1	1
	Percent	0.1	0.0	0.0	0.0	0.3	0.2
All Races	Count	3,914	2,164	772	230	297	451

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 10
Comparison of Last Names of Males and Never Married Females for
Illinois Cancer Deaths, 1986-1996, with 1990 Census Spanish Surname Study Sample
Heavily Hispanic (0125) and Rarely Hispanic (5500) Categories

Heavily Hispanic Surnames (Category 125).				Rarely Hispanic Surnames (Category 5500).			
Illinois Cancer Deaths 1986-1996		Census 1990		Illinois Cancer Deaths 1986-1996		Census 1990	
Rank	Surname (Occurrences)	Rank	Surname	Rank	Surname (Occurrences)	Rank	Surname
1.	Garcia (76) Rodriguez (76)	1.	Garcia	1.	Smith (1,287)	1.	Smith
2.	Hernandez (70)	2.	Martinez	2.	Johnson (1,286)	2.	Johnson
3.	Martinez (61)	3.	Rodriguez	3.	Williams (870)	3.	Williams
4.	Gonzalez (57)	4.	Lopez	4.	Jones (795)	4.	Brown
5.	Lopez (53)	5.	Hernandez	5.	Brown (737)	5.	Jones
6.	Perez (43)	6.	Gonzalez	6.	Miller (687)	6.	Davis
7.	Rivera (41)	7.	Perez	7.	Davis (602)	7.	Miller
8.	Sanchez (39)	8.	Sanchez	8.	Anderson (590)	8.	Wilson
9.	Ramirez (32) Torres (32)	9.	Rivera	9.	Jackson (434)	9.	Anderson
10.	Flores (26)	10.	Ramirez	10.	Wilson (433)	10.	Moore
11.	Ortiz (25)	11.	Torres	11.	Taylor (415)	11.	Taylor
12.	Ramos (21) Reyes (21)	12.	Gonzales	12.	Thomas (392)	12.	Thomas
<hr/>							
16.	Gonzales (48)	13.	Flores	14.	Moore (381)	20.	Jackson
		16.	Ortiz				
		19.	Reyes				
		20.	Ramos				

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 11
Comparison of Maiden Names of Ever Married Females for
Illinois Cancer Deaths, 1986-1996, with 1990 Census Spanish Surname Study Sample
Heavily Hispanic (0125) and Rarely Hispanic (5500) Categories

Heavily Hispanic Surnames (Category 125).				Rarely Hispanic Surnames (Category 5500).			
Illinois Cancer Deaths 1986-1996		Census 1990		Illinois Cancer Deaths 1986-1996		Census 1990	
Rank	Surname (Occurrences)	Rank	Surname	Rank	Surname (Occurrences)	Rank	Surname
1.	Rodriguez (54)	1.	Garcia	1.	Smith (966)	1.	Smith
2.	Garcia (51)	2.	Martinez	2.	Johnson (964)	2.	Johnson
3.	Gonzalez (45) Martinez (45)	3.	Rodriguez	3.	Williams (636)	3.	Williams
4.	Hernandez (32)	4.	Lopez	4.	Miller (575)	4.	Brown
5.	Lopez (31) Rivera (31)	5.	Hernandez	5.	Brown (514)	5.	Jones
6.	Perez (26)	6.	Gonzalez	6.	Jones (505)	6.	Davis
7.	Diaz (24)	7.	Perez	7.	Anderson (463)	7.	Miller
8.	Ramirez (18)	8.	Sanchez	8.	Davis (402)	8.	Wilson
9.	Castillo (16)	9.	Rivera	9.	Wilson (307)	9.	Anderson
10.	Cruz (15)	10.	Ramirez	10.	Thompson (295)	10.	Moore
11.	Flores (15) Gutierrez (15)	11.	Torres	11.	Taylor (287)	11.	Taylor
12.	Ortiz (14)	12.	Gonzales	12.	Jackson (282)	12.	Thomas
16.	Gonzales (48)	13.	Flores	13.	Moore (277)	15.	Thompson
		14.	Diaz	15.	Thomas (259)	20.	Jackson
		16.	Ortiz				
		17.	Cruz				
		24.	Gutierrez				
		25.	Castillo				

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 12
Comparison of Selected Summary Statistics for Surnames of Males and Never Married Females on
Illinois Cancer Death Certificates, 1986-1996, with Surnames on the 1990 Census Spanish Surname Study

		Heavily Hispanic					
Category		0101	0102	0105	0110	0115	0125
Number of Names	Illinois	78	83	62	49	69	404
	Census	7,974	2,463	625	263	251	639
Occurrences	Illinois	98	90	66	61	88	2,021
	Census	7,974	6,626	4,300	3,295	5,080	115,526
*Percent Hispanic	Illinois	28.6	65.6	72.7	70.5	77.3	83.0
	Census	100.0	96.1	94.8	94.6	93.5	94.2
		Generally Hispanic					
Category		0201	0202	0205	0210	0215	0225
Number of Names	Illinois	7	20	26	7	11	23
	Census	218	354	106	25	25	39
Occurrences	Illinois	7	22	35	15	17	92
	Census	436	1,041	1,046	449	726	4,038
*Percent Hispanic	Illinois	42.9	18.2	37.1	33.3	52.9	35.9
	Census	50.0	77.9	64.8	64.6	63.8	64.0
		Moderately Hispanic					
Category		0301	0302	0305	0310	0315	0325
Number of Names	Illinois	71	37	23	8	3	6
	Census	3,611	260	68	21	10	11
Occurrences	Illinois	91	55	44	15	3	18
	Census	4,288	1,345	1,187	640	522	1,190
*Percent Hispanic	Illinois	6.6	10.9	13.6	20.0	0	16.7
	Census	71.4	49.7	37.2	39.2	38.1	39.6
		Occasionally Hispanic					
Category			0405	0410	0415	0425	
Number of Names	Illinois		44	12	13	5	
	Census		65	16	13	5	
Occurrences	Illinois		207	101	136	65	
	Census		3,265	1,445	2,253	1,375	
*Percent Hispanic	Illinois		1.0	4.0	5.1	7.7	
	Census		12.6	12.1	11.5	17.7	
		Rarely Hispanic					
Category		5001	5005	5010	5025	5100	5500
Number of Names	Illinois	295	329	550	1,193	1,132	353
	Census	3,354	969	986	1,411	1,141	353
Occurrences	Illinois	426	546	1,317	5,220	17,613	38,470
	Census	7,940	7,642	16,689	74,881	249,666	522,614
*Percent Hispanic	Illinois	1.9	0.9	0.2	0.1	0.1	0.1
	Census	41.5	15.6	7.7	2.5	1.0	0.7

*Percent Hispanic for Illinois was determined using Hispanic identification during 1986-1996.

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 13
Comparison of Selected Summary Statistics for Surnames of Ever Married Females on
Illinois Death Certificates, 1986-1996, with Surnames on the 1990 Census Spanish Surname Study

		Heavily Hispanic					
Category		0101	0102	0105	0110	0115	0125
Number of Names	Illinois	67	63	49	24	55	358
	Census	7,974	2,463	625	263	251	639
Occurrences	Illinois	73	67	53	29	59	1,324
	Census	7,974	6,626	4,300	3,295	5,080	115,526
*Percent Hispanic	Illinois	30.1	62.7	67.9	69.0	81.4	84.1
	Census	100.0	96.1	94.8	94.6	93.5	94.2
		Generally Hispanic					
Category		0201	0202	0205	0210	0215	0225
Number of Names	Illinois	4	20	15	12	7	24
	Census	218	354	106	25	25	39
Occurrences	Illinois	4	22	17	15	12	53
	Census	436	1,041	1,046	449	726	4,038
*Percent Hispanic	Illinois	75.0	18.2	35.3	6.7	50.0	39.6
	Census	50.0	77.9	64.8	64.6	63.8	64.0
		Moderately Hispanic					
Category		0301	0302	0305	0310	0315	0325
Number of Names	Illinois	53	45	28	10	5	8
	Census	3,611	260	68	21	10	11
Occurrences	Illinois	60	57	36	20	8	26
	Census	4,288	1,345	1,187	640	522	1,190
*Percent Hispanic	Illinois	5.0	5.3	11.1	5.0	25.0	11.5
	Census	71.4	49.7	37.2	39.2	38.1	39.6
		Occasionally Hispanic					
Category				0405	0410	0415	0425
Number of Names	Illinois			31	12	13	4
	Census			65	16	13	5
Occurrences	Illinois			120	66	123	47
	Census			3,265	1,445	2,253	1,375
*Percent Hispanic	Illinois			1.7	3.0	4.1	2.1
	Census			12.6	12.1	11.5	17.7
		Rarely Hispanic					
Category		5001	5005	5010	5025	5100	5500
Number of Names	Illinois	260	270	474	1,115	1,092	352
	Census	3,354	969	986	1,411	1,141	353
Occurrences	Illinois	342	395	911	3,950	12,997	27,889
	Census	7,940	7,642	16,689	74,881	249,666	522,614
*Percent Hispanic	Illinois	1.5	0.5	0.7	0.2	0.1	0.1
	Census	41.5	15.6	7.7	2.5	1.0	0.7

**Percent Hispanic for Illinois was determined using Hispanic identification during 1986-1996.

Source: Illinois Master Death Tapes 1986 to 1996

Table 14
Selected Summary Statistics for Last Names of Males and Never Married Females by
Collapsed Census Schematic Codes, Illinois, 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1993	1996
Heavily	Unadjusted Count	2,424	174	182	193	189	199	208	226	269	270	256	258
	Adjusted Count	2,347	171	179	191	186	188	202	224	260	256	244	246
	% Hispanic												
	Unadjusted	79.4	69.0	75.3	66.8	82.5	82.9	79.3	80.5	86.6	83.3	79.3	81.0
	Adjusted	81.6	69.0	76.0	67.5	83.3	87.2	81.7	81.3	89.2	87.1	82.8	84.6
	% Hispanic County	91.9	89.7	89.0	92.2	92.1	88.9	92.8	93.4	94.4	90.7	92.6	93.0
	% Names per Year	1.6	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.9	1.9	1.8	1.9
Generally	Unadjusted Count	188	12	11	10	14	18	15	13	28	20	26	21
	Adjusted Count	157	10	11	10	9	14	14	12	25	18	17	17
	% Hispanic												
	Unadjusted	35.6	16.7	36.4	20.0	42.9	61.1	40.0	30.8	46.4	20.0	30.8	33.3
	Adjusted	41.4	20.0	36.4	20.0	66.7	71.4	42.9	33.3	48.0	22.2	47.1	41.2
	% Hispanic County	80.9	83.3	81.8	90.0	78.6	88.9	73.3	61.5	78.6	90.0	76.9	85.7
	% Names per Year	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2
Moderately	Unadjusted Count	226	22	9	21	22	27	22	21	20	20	14	28
	Adjusted Count	194	22	9	20	18	20	19	18	19	15	10	24
	% Hispanic												
	Unadjusted	10.6	4.5	11.1	14.3	9.1	11.1	4.5	9.5	15.0	10.0	7.1	17.9
	Adjusted	12.4	4.5	11.1	15.0	11.1	15.0	5.3	11.1	15.8	13.3	10.0	20.8
	% Hispanic County	74.3	77.3	100.0	76.2	77.3	70.4	68.2	81.0	80.0	65.0	78.6	64.3
	% Names per Year	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
Occasionally	Unadjusted Count	509	43	57	42	58	39	46	38	39	54	43	50
	Adjusted Count	474	42	55	39	53	35	39	36	37	51	40	47
	% Hispanic												
	Unadjusted	3.5	2.3	5.3	0.0	5.2	0.0	4.3	7.9	2.6	7.4	2.3	0.0
	Adjusted	3.6	2.4	5.5	0.0	5.7	0.0	5.1	8.3	2.7	5.9	2.5	0.0
	% Hispanic County	72.3	55.8	73.7	78.6	70.7	79.5	78.3	55.3	82.1	74.1	72.1	74.0
	% Names per Year	0.3	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.4
Rarely	Unadjusted Count	63,592	5,506	5,487	5,655	5,671	5,863	5,946	5,902	5,970	5,896	5,893	5,803
	Adjusted Count	61,773	5,383	5,365	5,532	5,467	5,665	5,767	5,693	5,788	5,724	5,735	5,654
	% Hispanic												
	Unadjusted	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2
	Adjusted	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2
	% Hispanic County	58.1	59.2	58.4	58.3	59.2	58.3	57.4	57.0	57.7	57.8	58.2	58.2
	% Names per Year	42.6	42.0	42.2	42.4	42.2	43.1	43.5	42.9	42.6	42.3	42.4	42.8
No Match	Unadjusted Count	82,452	7,360	7,270	7,426	7,494	7,471	7,441	7,562	7,682	7,667	7,675	7,404
	Adjusted Count	76,645	7,214	7,122	7,282	6,797	6,753	6,761	6,900	6,976	7,026	7,010	6,804
	% Hispanic												
	Unadjusted	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.3
	Adjusted	0.3	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3
	% Hispanic County	64.4	64.8	64.8	64.2	64.9	65.3	63.7	64.7	63.8	63.7	64.7	63.6
	% Names per Year	55.2	56.1	55.9	55.6	55.7	54.9	54.4	54.9	54.8	55.1	55.2	54.6

Table 14 (continued)
Selected Summary Statistics for Last Names of Males and Never Married Females by
Collapsed Census Schematic Codes, Illinois, 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1993	1996
Adjustment	Count	7,801	275	275	273	918	942	876	879	903	837	851	772
Exclusion	% Hispanic	0.3	0.7	0.4	0.0	0.2	0.2	0.3	0.1	0.3	0.7	0.4	0.3
	% Names per Year	5.2	2.1	2.1	2.0	6.8	6.9	6.4	6.4	6.4	6.0	6.1	5.7
Total	Count	149,391	13,117	13,016	13,347	13,448	13,617	13,678	13,762	14,008	13,927	13,907	13,564

Source: Illinois Master Death Tapes 1986 to 1996

Table 15
Selected Summary Statistics for Maiden Names of Ever Married Females by
Collapsed Census Schematic Codes, Illinois, 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1993	1996
Heavily	Unadjusted Count	1,605	105	111	126	129	133	157	139	169	162	184	190
	Adjusted Count	1,538	102	110	124	125	127	147	129	160	153	180	181
	% Hispanic												
	Unadjusted	79.9	73.3	80.2	69.8	81.4	76.7	81.5	84.2	87.0	80.2	76.6	83.2
	Adjusted	83.0	75.5	80.9	71.0	84.0	80.3	85.7	89.1	91.3	85.0	78.3	87.3
	% Hispanic County	91.1	87.2	91.7	93.0	93.1	90.7	90.9	92.1	91.1	91.4	88.2	92.5
	% Names per Year	1.4	1.0	1.1	1.2	1.2	1.2	1.5	1.3	1.5	1.5	1.7	1.7
Generally	Unadjusted Count	123	9	11	10	9	9	14	17	10	12	7	15
	Adjusted Count	107	9	11	10	9	9	11	15	7	10	5	11
	% Hispanic												
	Unadjusted	33.3	33.3	54.5	30.0	22.2	55.6	35.7	35.3	10.0	41.7	28.6	20.0
	Adjusted	38.3	33.3	54.5	30.0	22.2	55.6	45.5	40.0	14.3	50.0	40.0	27.3
	% Hispanic County	87.2	100.0	100.0	100.0	87.5	87.5	90.9	81.8	75.0	77.8	90.0	79.2
	% Names per Year	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Moderately	Unadjusted Count	207	18	13	24	8	22	20	13	13	24	26	26
	Adjusted Count	182	18	12	23	7	19	18	12	10	20	22	21
	% Hispanic												
	Unadjusted	7.7	0.0	7.7	16.7	0.0	13.6	10.0	0.0	7.7	8.3	7.7	3.8
	Adjusted	8.8	0.0	8.3	17.4	0.0	15.8	11.1	0.0	10.0	10.0	9.1	4.8
	% Hispanic County	91.3	90.5	91.0	94.4	93.0	95.5	90.4	91.4	91.1	88.3	90.2	90.5
	% Names per Year	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2
Occasionally	Unadjusted Count	356	31	29	29	22	43	41	26	41	28	29	37
	Adjusted Count	333	31	27	29	20	37	40	25	36	26	28	34
	% Hispanic												
	Unadjusted	2.8	3.2	3.4	0.0	9.1	0.0	4.9	0.0	2.4	3.6	3.4	2.7
	Adjusted	2.7	3.2	3.7	0.0	10.0	0.0	2.5	0.0	2.8	3.8	3.6	2.9
	% Hispanic County	74.2	71.0	82.8	72.4	63.6	72.1	73.2	69.2	78.0	57.1	86.2	83.8
	% Names per Year	0.3	0.3	0.3	0.3	0.2	0.4	0.4	0.2	0.4	0.3	0.3	0.3
Rarely	Unadjusted Count	46,484	3,840	4,014	3,930	4,183	4,236	4,222	4,351	4,513	4,390	4,385	4,420
	Adjusted Count	45,133	3,752	3,917	3,840	4,063	4,102	4,085	4,210	4,373	4,255	4,243	4,293
	% Hispanic												
	Unadjusted	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.1
	Adjusted	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.1
	% Hispanic County	56.6	58.4	57.4	58.0	57.4	57.6	55.4	55.7	57.0	54.9	55.2	55.9
	% Names per Year	39.4	38.3	39.0	38.5	39.9	39.2	39.5	40.2	40.1	39.4	39.5	39.8
No Match	Unadjusted Count	65,344	5,382	5,456	5,397	5,896	6,123	6,016	6,066	6,245	6,301	6,252	6,210
	Adjusted Count	60,605	5,256	5,334	5,271	5,329	5,536	5,519	5,498	5,695	5,754	5,725	5,688
	% Hispanic												
	Unadjusted	0.2	0.1	0.1	0.1	0.3	0.2	0.3	0.3	0.1	0.2	0.2	0.3
	Adjusted	0.2	0.1	0.1	0.2	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.3
	% Hispanic County	65.1	66.1	65.7	65.4	66.0	64.9	65.5	65.7	64.8	64.9	63.8	64.0
	% Names per Year	55.4	53.6	53.1	52.8	56.3	56.6	56.2	56.0	55.5	56.5	56.3	55.9

Table 15 (continued)
Selected Summary Statistics for Maiden Names of Ever Married Females by
Collapsed Census Schematic Codes, Illinois, 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1993	1996
Missing	Unadjusted Count	3,844	653	650	698	232	251	229	223	254	231	212	211
	Adjusted Count	3,453	640	637	682	188	207	189	173	204	184	169	180
	% Hispanic												
	Unadjusted	2.0	0.5	0.5	0.9	2.6	2.8	2.6	4.5	3.1	5.2	2.4	4.3
	Adjusted	2.1	0.5	0.5	0.9	3.2	3.4	2.6	5.8	3.9	6.5	3.0	5.0
	% Hispanic County	70.0	56.7	54.5	57.3	85.3	86.5	83.8	85.7	85.4	83.5	82.5	86.3
	% Names per Year	3.3	6.5	6.3	6.8	2.2	2.3	2.1	2.1	2.3	2.1	1.9	1.9
Adjustment	Count	6,612	230	236	235	738	780	690	773	760	746	723	701
Exclusion	% Hispanic	0.3	0.0	0.0	0.0	0.4	0.4	0.7	0.4	0.1	0.4	0.3	0.1
	% Names per Year	5.6	2.3	2.3	2.3	7.0	7.2	6.4	7.1	6.8	6.7	6.5	6.3
Total	Count	117,963	10,038	10,284	10,214	10,479	10,817	10,699	10,835	11,245	11,148	11,095	11,109

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 16
Selected Summary Statistics for Last Names of Males and Never Married Females by
Census Spanish Surname Schematic Codes, Illinois Cancer Deaths, 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
101	count	98	11	8	9	11	7	4	14	6	7	11	10
	% Hispanic	28.6	27.3	12.5	33.3	27.3	14.3	25.0	28.6	50.0	42.9	27.3	30.0
	% Hispanic County	82.7	63.6	75.0	100.0	81.8	100.0	75.0	78.6	100.0	85.7	72.7	90.0
	% Names per Year	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1
102	count	90	3	6	6	7	5	5	14	8	12	13	11
	% Hispanic	65.6	66.7	16.7	50.0	100.0	100.0	80.0	64.3	75.0	75.0	69.2	36.4
	% Hispanic County	96.7	100.0	66.7	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	90.9
	% Names per Year	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
105	count	66	3	5	3	5	6	7	5	11	8	6	7
	% Hispanic	72.7	100.0	80.0	66.7	80.0	50.0	71.4	60.0	72.7	62.5	66.7	100.0
	% Hispanic County	90.9	100.0	80.0	100.0	80.0	83.3	100.0	100.0	90.9	87.5	83.3	100.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1
110	count	61	6	2	6	11	7	4	2	1	7	8	7
	% Hispanic	70.5	50.0	0.0	66.7	90.9	71.4	75.0	100.0	100.0	57.1	62.5	85.7
	% Hispanic County	86.9	83.3	50.0	66.7	90.9	100.0	100.0	100.0	100.0	85.7	87.5	85.7
	% Names per Year	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
115	count	88	8	2	6	4	10	4	4	21	7	8	14
	% Hispanic	77.3	75.0	100.0	83.3	75.0	80.0	75.0	100.0	85.7	85.7	75.0	50.0
	% Hispanic County	92.0	75.0	50.0	100.0	100.0	90.0	75.0	100.0	100.0	71.4	100.0	100.0
	% Names per Year	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1
125	count	2,021	143	159	163	151	164	184	187	222	229	210	209
	% Hispanic	83.0	72.0	81.1	68.7	85.4	87.2	81.0	85.6	88.7	86.5	83.8	87.1
	% Hispanic County	92.3	92.3	91.8	92.0	92.7	87.8	92.9	93.6	93.7	91.3	93.3	92.8
	% Names per Year	1.4	1.1	1.2	1.2	1.1	1.2	1.3	1.4	1.6	1.6	1.5	1.5
201	count	7	0	0	0	0	2	1	1	1	1	0	1
	% Hispanic	42.9	0	0	0	0	100.0	0.0	0.0	100.0	0.0	0	0.0
	% Hispanic County	85.7	0.0	0.0	0.0	0.0	100.0	100.0	100.0	100.0	0.0	0.0	100.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
202	count	22	2	1	1	1	1	0	2	4	2	4	4
	% Hispanic	18.2	0.0	0.0	0.0	0.0	100.0	0	50.0	25.0	0.0	0.0	25.0
	% Hispanic County	77.3	100.0	100.0	100.0	100.0	100.0	0.0	50.0	75.0	50.0	50.0	100.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
205	count	35	1	2	1	3	2	4	2	8	2	6	4
	% Hispanic	37.1	0.0	0.0	100.0	33.3	0.0	50.0	100.0	50.0	50.0	33.3	0.0
	% Hispanic County	80.0	100.0	100.0	100.0	66.7	50.0	100.0	100.0	75.0	100.0	66.7	75.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
210	count	15	1	1	0	2	0	3	2	2	2	1	1
	% Hispanic	33.3	0.0	0.0	0	0.0	0	66.7	0.0	100.0	0.0	100.0	0.0
	% Hispanic County	80.0	100.0	100.0	0.0	100.0	0.0	66.7	50.0	100.0	100.0	100.0	0.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	count	17	1	4	2	1	5	2	0	0	0	2	0
	% Hispanic	52.9	0.0	50.0	50.0	100.0	60.0	50.0	0	0	0	50.0	0
	% Hispanic County	82.4	0.0	50.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	100.0	0.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 16 (continued)
Selected Summary Statistics for Last Names of Males and Never Married Females by
Census Spanish Surname Schematic Codes, Illinois Cancer Deaths 1986-1996

Category	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
225	count	92	7	3	6	7	8	5	6	13	13	11
	% Hispanic	35.9	28.6	66.7	0.0	57.1	62.5	20.0	16.7	38.5	23.1	54.5
	% Hispanic County	81.5	85.7	100.0	83.3	71.4	87.5	40.0	50.0	76.9	100.0	90.9
	% Names per Year	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1
301	count	91	12	3	3	10	11	9	8	7	8	12
	% Hispanic	6.6	0.0	0.0	0.0	10.0	0.0	0.0	0.0	28.6	12.5	16.7
	% Hispanic County	69.2	75.0	100.0	66.7	80.0	72.7	66.7	75.0	57.1	50.0	50.0
	% Names per Year	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
302	count	55	3	1	6	5	6	10	8	7	4	2
	% Hispanic	10.9	0.0	0.0	0.0	20.0	16.7	10.0	12.5	14.3	0.0	0.0
	% Hispanic County	80.0	100.0	100.0	66.7	80.0	66.7	70.0	87.5	85.7	75.0	100.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0
305	count	44	5	5	6	2	6	1	2	3	5	7
	% Hispanic	13.6	20.0	20.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	28.6
	% Hispanic County	84.1	80.0	100.0	83.3	100.0	83.3	100.0	100.0	100.0	80.0	71.4
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
310	count	15	1	0	3	2	0	0	1	2	2	4
	% Hispanic	20.0	0.0	0.0	33.3	0.0	0.0	0.0	100.0	0.0	50.0	0.0
	% Hispanic County	73.3	0.0	0.0	66.7	50.0	0.0	0.0	100.0	100.0	100.0	75.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	count	3	0	0	0	0	2	0	0	0	0	1
	% Hispanic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Hispanic County	66.7	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	100.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	count	18	1	0	3	3	2	2	2	1	1	2
	% Hispanic	16.7	0.0	0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	50.0
	% Hispanic County	61.1	100.0	0	100.0	66.7	50.0	50.0	50.0	100.0	0.0	50.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
405	count	207	21	20	18	27	18	22	13	15	18	20
	% Hispanic	1.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	5.6	0.0
	% Hispanic County	79.7	76.2	80.0	94.4	70.4	94.4	86.4	46.2	86.7	72.2	95.0
	% Names per Year	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1
410	count	101	8	11	10	10	7	6	9	8	8	17
	% Hispanic	4.0	0.0	0.0	0.0	0.0	0.0	16.7	22.2	0.0	12.5	0.0
	% Hispanic County	68.3	37.5	81.8	50.0	70.0	71.4	83.3	66.7	75.0	87.5	64.7
	% Names per Year	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1
415	count	136	9	16	9	14	9	12	13	13	19	9
	% Hispanic	5.1	0.0	18.8	0.0	7.1	0.0	0.0	7.7	7.7	5.3	0.0
	% Hispanic County	64.0	33.3	50.0	88.9	71.4	77.8	58.3	46.2	76.9	68.4	66.7
	% Names per Year	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
425	count	65	5	10	5	7	5	6	3	3	9	4
	% Hispanic	7.7	20.0	0.0	0.0	28.6	0.0	0.0	0.0	0.0	11.1	0.0
	% Hispanic County	72.3	40.0	90.0	60.0	71.4	40.0	83.3	100.0	100.0	77.8	25.0
	% Names per Year	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0

Table 16 (continued)
Selected Summary Statistics for Last Names of Males and Never Married Females by
Census Spanish Surname Schematic Codes, Illinois Cancer Deaths 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
5001	count	426	37	44	39	31	33	35	48	45	40	36	38
	% Hispanic	1.9	0.0	0.0	0.0	0.0	0.0	5.7	6.3	0.0	2.5	0.0	5.3
	% Hispanic County	68.5	81.1	72.7	61.5	83.9	69.7	68.6	58.3	57.8	72.5	63.9	71.1
	% Names per Year	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
5005	count	546	53	46	52	39	42	56	51	57	45	51	54
	% Hispanic	0.9	0.0	0.0	1.9	0.0	0.0	1.8	0.0	0.0	4.4	0.0	1.9
	% Hispanic County	66.7	0.0	0.0	65.4	66.7	90.5	69.6	54.9	64.9	62.2	58.8	66.7
	% Names per Year	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4
5010	count	1,317	125	109	119	129	125	121	120	119	113	116	121
	% Hispanic	0.2	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.9	0.0
	% Hispanic County	66.4	73.6	65.1	68.1	58.1	68.8	66.9	67.5	65.5	62.8	67.2	66.1
	% Names per Year	0.9	1.0	0.8	0.9	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.9
5025	count	5,220	457	439	517	477	464	469	480	479	450	490	498
	% Hispanic	0.1	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.0	0.2	0.0
	% Hispanic County	58.6	60.6	57.9	57.1	58.1	58.8	57.6	57.5	58.7	62.9	56.7	58.8
	% Names per Year	3.5	3.5	3.4	3.9	3.5	3.4	3.4	3.5	3.4	3.2	3.5	3.7
5100	count	17,613	1,490	1,512	1,514	1,564	1,642	1,696	1,614	1,644	1,656	1,627	1,654
	% Hispanic	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1
	% Hispanic County	56.8	57.9	58.0	57.2	58.9	57.0	55.7	55.3	56.6	56.2	56.4	55.9
	% Names per Year	11.8	11.4	11.6	11.3	11.6	12.1	12.4	11.7	11.7	11.9	11.7	12.2
5500	count	38,470	3,344	3,337	3,414	3,431	3,557	3,569	3,589	3,626	3,592	3,573	3,438
	% Hispanic	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1
	% Hispanic County	58.2	58.7	58.1	58.5	59.3	58.0	57.6	57.3	57.7	57.4	58.9	58.6
	% Names per Year	25.8	25.5	25.6	25.6	25.5	26.1	26.1	26.1	25.9	25.8	25.7	25.3
No Match	count	82,452	7,360	7,270	7,426	7,494	7,471	7,441	7,562	7,682	7,667	7,675	7,404
	% Hispanic	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.3
	% Hispanic County	64.4	64.8	64.8	64.2	64.9	65.3	63.7	64.7	63.8	63.7	64.7	63.6
	% Names per Year	55.2	56.1	55.9	55.6	55.7	54.9	54.4	54.9	54.8	55.1	55.2	54.6
Total	count	149,391	13,117	13,016	13,347	13,448	13,617	13,678	13,762	14,008	13,927	13,907	13,564

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 17
Selected Summary Statistics for Maiden Names of Ever Married Females by
Census Schematic Codes, Illinois Cancer Deaths, 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
101	count	73	6	4	11	8	9	9	4	5	4	9	4
	% Hispanic	30.1	50.0	50.0	45.5	12.5	33.3	11.1	25.0	40.0	25.0	11.1	50.0
	% Hispanic County	86.3	100.0	50.0	90.9	100.0	88.9	88.9	50.0	60.0	100.0	100.0	75.0
	% Names per Year	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0
102	count	67	4	6	12	7	5	6	7	6	9	4	1
	% Hispanic	62.7	50.0	50.0	58.3	57.1	60.0	83.3	71.4	83.3	66.7	50.0	0.0
	% Hispanic County	82.1	100.0	66.7	83.3	85.7	80.0	83.3	85.7	100.0	77.8	75.0	0.0
	% Names per Year	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0
105	count	53	4	5	4	4	3	2	4	6	5	8	8
	% Hispanic	67.9	50.0	0.0	75.0	50.0	66.7	100.0	100.0	66.7	100.0	62.5	87.5
	% Hispanic County	90.6	75.0	60.0	100.0	100.0	100.0	50.0	100.0	100.0	100.0	100.0	87.5
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
110	count	29	2	2	4	4	1	0	1	3	0	7	5
	% Hispanic	69.0	50.0	100.0	50.0	100.0	100.0	0.0	100.0	66.7	0.0	71.4	40.0
	% Hispanic County	82.8	50.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	0.0	71.4	60.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
115	count	59	0	10	0	7	6	8	8	4	6	9	1
	% Hispanic	81.4	0.0	100.0	0.0	71.4	83.3	75.0	100.0	75.0	83.3	55.6	100.0
	% Hispanic County	88.1	0.0	90.0	0.0	85.7	100.0	87.5	87.5	100.0	83.3	77.8	100.0
	% Names per Year	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0
125	count	1,324	89	84	95	99	109	132	115	145	138	147	171
	% Hispanic	84.1	77.5	85.7	74.7	89.9	80.7	86.4	85.2	90.3	81.9	83.7	85.4
	% Hispanic County	92.4	91.0	96.4	95.8	92.9	96.3	91.7	93.0	91.0	88.4	91.2	92.4
	% Names per Year	1.1	0.9	0.8	0.9	0.9	1.0	1.2	1.1	1.3	1.2	1.3	1.5
201	count	4	1	0	0	0	1	1	0	0	0	0	1
	% Hispanic	75.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0
	% Hispanic County	100.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	100.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
202	count	22	1	0	0	1	3	2	6	1	3	3	2
	% Hispanic	18.2	100.0	0.0	0.0	0.0	0.0	50.0	16.7	0.0	33.3	0.0	0.0
	% Hispanic County	77.3	100.0	0.0	0.0	0.0	100.0	100.0	50.0	100.0	66.7	100.0	100.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
205	count	17	2	2	1	3	1	2	1	3	0	0	2
	% Hispanic	35.3	50.0	100.0	0.0	0.0	100.0	50.0	100.0	0.0	0.0	0.0	0.0
	% Hispanic County	82.4	100.0	100.0	100.0	100.0	100.0	50.0	100.0	66.7	0.0	0.0	50.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210	count	15	0	2	2	1	0	3	2	2	0	1	2
	% Hispanic	6.7	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% Hispanic County	73.3	0.0	100.0	100.0	0.0	0.0	100.0	50.0	50.0	0.0	100.0	50.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
215	count	12	1	0	1	1	1	1	1	0	4	0	2
	% Hispanic	50.0	0.0	0.0	100.0	100.0	0.0	100.0	0.0	0.0	50.0	0.0	50.0
	% Hispanic County	75.0	100.0	0.0	100.0	100.0	0.0	100.0	0.0	0.0	75.0	0.0	100.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 17 (continued)
Selected Summary Statistics for Maiden Names of Ever Married Females by
Census Schematic Codes, Illinois Cancer Deaths, 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
225	count	53	4	7	6	3	3	5	7	4	5	3	6
	% Hispanic	39.6	0.0	42.9	33.3	33.3	100.0	20.0	57.1	25.0	40.0	66.7	33.3
	% Hispanic County	86.8	75.0	85.7	83.3	66.7	100.0	100.0	85.7	100.0	100.0	66.7	83.3
	% Names per Year	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
301	count	60	5	6	8	4	6	7	3	1	6	10	4
	% Hispanic	5.0	0.0	0.0	12.5	0.0	0.0	14.3	0.0	0.0	0.0	0.0	25.0
	% Hispanic County	76.7	100.0	83.3	37.5	100.0	83.3	57.1	66.7	0.0	83.3	90.0	100.0
	% Names per Year	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
302	count	57	2	1	4	1	10	8	4	4	7	8	8
	% Hispanic	5.3	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	14.3	0.0	0.0
	% Hispanic County	71.9	100.0	100.0	75.0	100.0	90.0	75.0	75.0	25.0	57.1	62.5	75.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1
305	count	36	6	4	4	2	2	1	2	3	2	3	7
	% Hispanic	11.1	0.0	25.0	25.0	0.0	50.0	0.0	0.0	33.3	0.0	0.0	0.0
	% Hispanic County	83.3	83.3	100.0	100.0	100.0	100.0	100.0	100.0	100.0	50.0	33.3	71.4
	% Names per Year	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
310	count	20	2	0	2	1	2	1	0	4	2	1	5
	% Hispanic	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0
	% Hispanic County	75.0	100.0	0.0	50.0	100.0	50.0	0.0	0.0	100.0	100.0	100.0	60.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
315	count	8	1	0	3	0	0	1	0	0	1	2	0
	% Hispanic	25.0	0.0	0.0	33.3	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0
	% Hispanic County	87.5	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
325	count	26	2	2	3	0	2	2	4	1	6	2	2
	% Hispanic	11.5	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	16.7	50.0	0.0
	% Hispanic County	61.5	0.0	0.0	66.7	0.0	50.0	50.0	75.0	0.0	100.0	100.0	50.0
	% Names per Year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
405	count	120	10	10	12	4	13	13	7	15	8	13	15
	% Hispanic	1.7	0.0	0.0	0.0	25.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0
	% Hispanic County	81.7	70.0	90.0	66.7	75.0	84.6	76.9	85.7	86.7	62.5	100.0	86.7
	% Names per Year	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
410	count	66	7	5	5	5	14	9	3	10	2	4	2
	% Hispanic	3.0	0.0	0.0	0.0	20.0	0.0	11.1	0.0	0.0	0.0	0.0	0.0
	% Hispanic County	71.2	57.1	80.0	80.0	80.0	71.4	66.7	66.7	80.0	50.0	75.0	50.0
	% Names per Year	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0
415	count	123	11	11	9	7	12	11	12	11	12	9	18
	% Hispanic	4.1	9.1	9.1	0.0	0.0	0.0	0.0	0.0	0.0	8.3	11.1	5.6
	% Hispanic County	74.0	81.8	81.8	88.9	57.1	75.0	72.7	58.3	63.6	75.0	66.7	83.3
	% Names per Year	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
425	count	47	3	3	3	6	4	8	4	5	6	3	2
	% Hispanic	2.1	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0
	% Hispanic County	59.6	66.7	66.7	33.3	50.0	25.0	75.0	75.0	80.0	16.7	100.0	100.0
	% Names per Year	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0

Table 17 (continued)
Selected Summary Statistics for Maiden Names of Ever Married Females by
Census Schematic Codes, Illinois Cancer Deaths, 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
5001	count	342	33	24	33	30	29	39	34	34	26	30	30
	% Hispanic	1.5	0.0	0.0	0.0	6.7	0.0	0.0	2.9	2.9	3.8	0.0	0.0
	% Hispanic County	72.5	72.7	79.2	69.7	83.3	79.3	53.8	82.4	64.7	80.8	66.7	73.3
	% Names per Year	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.3
5005	count	395	26	34	27	43	26	46	30	36	46	46	35
	% Hispanic	0.5	0.0	0.0	3.7	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0
	% Hispanic County	65.8	50.0	73.5	55.6	69.8	65.4	63.0	70.0	61.1	65.2	69.6	74.3
	% Names per Year	0.3	0.3	0.3	0.3	0.4	0.2	0.4	0.3	0.3	0.4	0.4	0.3
5010	count	911	72	62	93	75	72	86	86	98	83	81	103
	% Hispanic	0.7	0.0	0.0	0.0	1.3	1.4	0.0	1.2	2.0	1.2	0.0	0.0
	% Hispanic County	65.5	65.3	62.9	67.7	66.7	75.0	65.1	66.3	66.3	59.0	55.6	69.9
	% Names per Year	0.8	0.7	0.6	0.9	0.7	0.7	0.8	0.8	0.9	0.7	0.7	0.9
5025	count	3,950	296	328	311	339	392	350	390	391	407	375	371
	% Hispanic	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.5	0.3	0.3
	% Hispanic County	57.9	59.1	55.5	57.9	59.3	61.2	56.0	57.2	59.6	54.1	59.7	57.7
	% Names per Year	3.3	2.9	3.2	3.0	3.2	3.6	3.3	3.6	3.5	3.7	3.4	3.3
5100	count	12,997	1,066	1,151	1,130	1,164	1,179	1,167	1,209	1,233	1,234	1,253	1,211
	% Hispanic	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.1
	% Hispanic County	55.9	59.5	55.9	58.2	55.8	55.7	54.3	55.8	56.4	54.0	53.5	56.2
	% Names per Year	11.0	10.6	11.2	11.1	11.1	10.9	10.9	11.2	11.0	11.1	11.3	10.9
5500	count	27,889	2,347	2,415	2,336	2,532	2,538	2,534	2,602	2,721	2,594	2,600	2,670
	% Hispanic	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.2	0.1
	% Hispanic County	56.1	57.6	57.8	57.4	57.0	57.1	55.4	54.5	56.4	54.9	54.9	54.6
	% Names per Year	23.6	23.4	23.5	22.9	24.2	23.5	23.7	24.0	24.2	23.3	23.4	24.0
No Match	count	65,344	5,382	5,456	5,397	5,896	6,123	6,016	6,066	6,245	6,301	6,252	6,210
	% Hispanic	0.2	0.1	0.1	0.1	0.3	0.2	0.3	0.3	0.1	0.2	0.2	0.3
	% Hispanic County	65.1	66.1	65.7	65.4	66.0	64.9	65.5	65.7	64.8	64.9	63.8	64.0
	% Names per Year	55.4	53.6	53.1	52.8	56.3	56.6	56.2	56.0	55.5	56.5	56.3	55.9
Missing	count	3,844	653	650	698	232	251	229	223	254	231	212	211
	% Hispanic	2.0	0.5	0.5	0.9	2.6	2.8	2.6	4.5	3.1	5.2	2.4	4.3
	% Hispanic County	70.0	56.7	54.5	57.3	85.3	86.5	83.8	85.7	85.4	83.5	82.5	86.3
	% Names per Year	3.3	6.5	6.3	6.8	2.2	2.3	2.1	2.1	2.3	2.1	1.9	1.9
Total	count	117,963	10,038	10,284	10,214	10,479	10,817	10,699	10,835	11,245	11,148	11,095	11,109

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 18
Distribution of Last and Maiden Names of Cancer Decedents Born in non-U.S. Birthplaces by
Collapsed Census Spanish Surname Category, Illinois Cancer Deaths, 1986-1996

Category		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Heavily	No.	2,354	139	162	159	178	194	205	224	277	267	263	286
	%	81.2	87.4	83.5	82.4	79.1	78.5	78.5	78.9	82.7	82.7	79.9	82.2
Generally	No.	82	4	8	1	7	11	8	6	11	9	7	10
	%	2.8	2.5	4.1	0.5	3.1	4.5	3.1	2.1	3.3	2.8	2.1	2.9
Moderately	No.	37	1	2	6	2	6	2	3	3	4	3	5
	%	1.3	0.6	1.0	3.1	0.9	2.4	0.8	1.1	0.9	1.2	0.9	1.4
Occasionally	No.	15	2	0	0	2	0	2	3	1	2	2	1
	%	0.5	1.3	0.0	0.0	0.9	0.0	0.8	1.1	0.3	0.6	0.6	0.3
Rarely	No.	81	1	6	4	8	9	8	9	8	8	11	9
	%	2.8	0.6	3.1	2.1	3.6	3.6	3.1	3.2	2.4	2.5	3.3	2.6
No Match	No.	267	10	13	18	23	19	33	30	30	25	37	29
	%	9.2	6.3	6.7	9.3	10.2	7.7	12.6	10.6	9.0	7.7	11.2	8.3
Missing	No.	62	2	3	5	5	8	3	9	5	8	6	8
	%	2.1	1.3	1.5	2.6	2.2	3.2	1.1	3.2	1.5	2.5	1.8	2.3
Total	No.	2,898	159	194	193	225	247	261	284	335	323	329	348

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 19
Distribution of Last and Maiden Names by Collapsed Census Spanish Surname Category for American Indian, Filipino and Hawaiian Decedents
Illinois Cancer Deaths, 1986-1996

Category		All Three Races	American Indian	Filipino	Hawaiian
Heavily	No.	55	6	42	7
	%	20.7	9.2	24.3	25.0
Generally	No.	13	1	11	1
	%	4.9	1.5	6.4	3.6
Moderately	No.	11	0	11	0
	%	4.1	0.0	6.4	0.0
Occasionally	No.	2	0	2	0
	%	0.8	0.0	1.2	0.0
Rarely	No.	60	32	22	6
	%	22.6	49.2	12.7	21.4
No Match	No.	119	26	79	14
	%	44.7	40.0	45.7	50.0
Missing	No.	6	0	6	0
	%	2.3	0.0	3.5	0.0
Total	No.	266	65	173	28

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 20
Evaluation of Hispanic Birthplace and Surname Combinations Relative to Hispanic Origin Status
Illinois Cancer Deaths, 1986-1996

		1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
All Decedents	No.	267,499	23,166	23,311	23,576	23,937	24,443	24,388	24,616	25,263	25,091	25,015	24,693
Hispanic	No.	3,914	228	272	260	329	325	373	373	450	442	414	448
BP/HH													
Decedents	No.	4,020	280	299	322	322	332	361	365	436	424	436	443
Sensitivity	%	84.8	88.2	86.4	86.2	82.1	87.1	81.2	82.3	87.6	82.8	85.5	85.0
PPV	%	82.5	71.8	78.6	69.6	83.9	85.2	83.9	84.1	90.4	86.3	81.2	86.0
Specificity	%	99.7	99.7	99.7	99.6	99.8	99.8	99.8	99.8	99.8	99.8	99.7	99.7
NPV	%	99.8	99.9	99.8	99.8	99.8	99.8	99.7	99.7	99.8	99.7	99.8	99.7
BP/HH/GH													
Decedents	No.	4,202	295	313	341	333	344	378	386	457	443	451	461
Sensitivity	%	85.4	89.0	87.1	87.7	82.4	88.3	82.0	83.4	88.0	83.0	86.2	85.0
PPV	%	79.6	68.8	75.7	66.9	81.4	83.4	81.0	80.6	86.7	82.8	79.2	82.6
Specificity	%	99.7	99.6	99.7	99.5	99.7	99.8	99.7	99.7	99.8	99.7	99.6	99.7
NPV	%	99.8	99.9	99.8	99.9	99.8	99.8	99.7	99.7	99.8	99.7	99.8	99.7
BP/HH/GH/MH													
Decedents	No.	4,541	334	332	378	356	377	413	413	483	474	480	501
Sensitivity	%	85.6	89.0	87.1	88.1	82.7	88.3	82.3	83.4	88.2	83.3	86.5	85.5
PPV	%	73.8	60.8	71.4	60.6	76.4	76.1	74.3	75.3	82.2	77.6	74.6	76.4
Specificity	%	99.5	99.4	99.6	99.4	99.6	99.6	99.6	99.6	99.7	99.6	99.5	99.5
NPV	%	99.8	99.9	99.8	99.9	99.8	99.8	99.7	99.7	99.8	99.7	99.8	99.7
BP/HH/GH/MH/OH													
Decedents	No.	5,333	405	414	446	427	449	490	471	555	549	546	581
Sensitivity	%	85.9	89.0	88.6	88.1	83.6	88.3	82.6	83.6	88.4	83.7	86.5	85.5
PPV	%	63.1	50.1	58.2	51.3	64.4	63.9	62.9	66.2	71.7	67.4	65.6	65.9
Specificity	%	99.3	99.1	99.2	99.1	99.4	99.3	99.2	99.3	99.4	99.3	99.2	99.2
NPV	%	99.8	99.9	99.9	99.9	99.8	99.8	99.7	99.7	99.8	99.7	99.8	99.7

Abbreviations: BP Hispanic Birthplace, HH Heavily Hispanic, GH Generally Hispanic, MH Moderately Hispanic, OH Occasionally Hispanic, PPV Positive Predictive Value, NPV Negative Predictive Value

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 21
Number and Proportion Hispanic Cancer Deaths for 14 Hispanic Identification Variables
Illinois Cancer Deaths, 1986-1996

Number Hispanic	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Hispanic Origin (HO) Only	3,914	228	272	260	329	325	373	373	450	442	414	448
HO and Birthplace (BP)	4,032	233	277	264	345	334	387	385	455	453	433	466
Spanish Surname Only												
Heavily Hispanic	3,885	273	289	315	311	315	349	353	420	409	424	427
and Generally Hispanic	4,149	292	311	335	329	338	374	380	452	437	446	455
and Moderately Hispanic	4,525	332	332	378	354	377	411	410	481	472	478	500
and Occasionally Hispanic	5,332	405	414	446	427	449	490	471	554	549	546	581
Spanish Surname and BP												
Heavily Hispanic	4,020	280	299	322	322	332	361	365	436	424	436	443
and Generally Hispanic	4,202	295	313	341	333	344	378	386	457	443	451	461
and Moderately Hispanic	4,541	334	332	378	356	377	413	413	483	474	480	501
and Occasionally Hispanic	5,333	405	414	446	427	449	490	471	555	549	546	581
HO and BP and Spanish Surname												
Heavily Hispanic	4,616	307	336	358	381	374	431	431	492	500	496	510
and Generally Hispanic	4,772	320	348	373	391	382	445	448	511	518	508	528
and Moderately Hispanic	5,103	359	367	409	413	415	479	475	536	548	536	566
and Occasionally Hispanic	5,883	430	445	477	481	487	555	532	607	621	602	646
Percent Hispanic	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Hispanic Origin (HO) Only	1.5	1.0	1.2	1.1	1.4	1.3	1.5	1.5	1.8	1.8	1.7	1.8
HO and Birthplace (BP)	1.5	1.0	1.2	1.1	1.4	1.4	1.6	1.6	1.8	1.8	1.7	1.9
Spanish Surname Only												
Heavily Hispanic	1.5	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.7	1.6	1.7	1.7
and Generally Hispanic	1.6	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.8	1.7	1.8	1.8
and Moderately Hispanic	1.7	1.4	1.4	1.6	1.5	1.5	1.7	1.7	1.9	1.9	1.9	2.0
and Occasionally Hispanic	2.0	1.7	1.8	1.9	1.8	1.8	2.0	1.9	2.2	2.2	2.2	2.4
Spanish Surname and BP												
Heavily Hispanic	1.5	1.2	1.3	1.4	1.3	1.4	1.5	1.5	1.7	1.7	1.7	1.8
and Generally Hispanic	1.6	1.3	1.3	1.4	1.4	1.4	1.5	1.6	1.8	1.8	1.8	1.9
and Moderately Hispanic	1.7	1.4	1.4	1.6	1.5	1.5	1.7	1.7	1.9	1.9	1.9	2.0
and Occasionally Hispanic	2.0	1.7	1.8	1.9	1.8	1.8	2.0	1.9	2.2	2.2	2.2	2.4
HO and BP and Spanish Surname												
Heavily Hispanic	1.7	1.3	1.4	1.5	1.6	1.5	1.8	1.8	1.9	2.0	2.0	2.1
and Generally Hispanic	1.8	1.4	1.5	1.6	1.6	1.6	1.8	1.8	2.0	2.1	2.0	2.1
and Moderately Hispanic	1.9	1.5	1.6	1.7	1.7	1.7	2.0	1.9	2.1	2.2	2.1	2.3
and Occasionally Hispanic	2.2	1.9	1.9	2.0	2.0	2.0	2.3	2.2	2.4	2.5	2.4	2.6

Denotes variables selected for further evaluation through cancer mortality rate calculation and comparisons.

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 22
Hispanic Variable Distribution by Components
(Hispanic Origin, Hispanic non-U.S. Birthplace and Heavily Hispanic Surname)
Illinois Cancer Deaths, 1986-1996

ALL HISPANIC DEATHS	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
count	4,616	307	336	358	381	374	431	431	492	500	496	510
Component	%	%	%	%	%	%	%	%	%	%	%	%
HO	12.9	8.8	11.0	10.1	15.5	11.2	16.2	15.3	11.4	15.2	12.1	13.1
HO/BP	2.8	2.0	3.0	2.0	2.6	4.5	2.8	2.3	3.3	2.6	2.2	2.9
HO/NAME	20.6	19.5	20.5	17.3	25.5	21.7	23.2	19.3	21.7	19.0	19.8	19.0
HO/BP/NAME	48.6	44.0	46.4	43.3	42.8	49.5	44.3	49.7	55.1	51.6	49.4	52.7
HO TOTAL	84.8	74.3	81.0	72.6	86.4	86.9	86.5	86.5	91.5	88.4	83.5	87.8
BP	0.2	0.3	0.0	0.0	0.3	0.0	0.0	0.5	0.0	0.4	0.2	0.2
NAME	12.7	24.1	17.6	26.3	9.4	10.7	10.2	10.7	7.5	9.4	12.7	8.6
BP/NAME	2.4	1.3	1.5	1.1	3.9	2.4	3.2	2.3	1.0	1.8	3.6	3.3
NHO TOTAL	15.2	25.7	19.0	27.4	13.6	13.1	13.5	13.5	8.5	11.6	16.5	12.2
MALES												
count	2,452	171	186	189	201	199	216	226	275	271	258	260
Component	%	%	%	%	%	%	%	%	%	%	%	%
HO	11.5	8.8	10.8	9.5	12.4	9.5	15.3	11.1	10.2	13.3	10.9	13.1
HO/BP	2.7	1.8	2.2	1.1	4.5	4.5	1.9	2.2	4.4	1.5	2.3	3.5
HO/NAME	21.0	18.1	18.3	19.0	25.9	21.1	26.9	19.0	23.6	19.9	20.2	18.1
HO/BP/NAME	48.8	42.1	46.8	42.9	44.3	54.3	40.7	50.9	52.4	53.5	51.6	51.9
HO TOTAL	84.0	70.8	78.0	72.5	87.1	89.4	84.7	83.2	90.5	88.2	84.9	86.5
BP	0.2	0.6	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.0	0.4
NAME	13.3	26.3	19.9	25.9	7.5	9.5	11.6	14.2	8.4	9.2	11.6	10.4
BP/NAME	2.5	2.3	2.2	1.6	5.5	1.0	3.7	2.2	1.1	2.2	3.5	2.7
NHO TOTAL	16.0	29.2	22.0	27.5	12.9	10.6	15.3	16.8	9.5	11.8	15.1	13.5
FEMALES												
count	2,164	136	150	169	180	175	215	205	217	229	238	250
Component	%	%	%	%	%	%	%	%	%	%	%	%
HO	14.6	8.8	11.3	10.7	18.9	13.1	17.2	20.0	12.9	17.5	13.4	13.2
HO/BP	2.8	2.2	4.0	3.0	0.6	4.6	3.7	2.4	1.8	3.9	2.1	2.4
HO/NAME	20.1	21.3	23.3	15.4	25.0	22.3	19.5	19.5	19.4	17.9	19.3	20.0
HO/BP/NAME	48.3	46.3	46.0	43.8	41.1	44.0	47.9	48.3	58.5	49.3	47.1	53.6
HO TOTAL	85.7	78.7	84.7	72.8	85.6	84.0	88.4	90.2	92.6	88.6	81.9	89.2
BP	0.2	0.0	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.4	0.4	0.0
NAME	11.9	21.3	14.7	26.6	11.7	12.0	8.8	6.8	6.5	9.6	13.9	6.8
BP/NAME	2.2	0.0	0.7	0.6	2.2	4.0	2.8	2.4	0.9	1.3	3.8	4.0
NHO TOTAL	14.3	21.3	15.3	27.2	14.4	16.0	11.6	9.8	7.4	11.4	18.1	10.8

HO=Hispanic origin (yes)

BP=Hispanic non-U.S. birthplace

NAME=Heavily Hispanic last or maiden Name

HO Total=Hispanic decedents identified on death certificates

NHO Total=Hispanic decedents not identified by Hispanic origin on death certificates but with BP, NAME or BP and NAME

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 23
Comparison of Illinois with United States (U.S.) Five Year Age-Adjusted Cancer Mortality Rates, 1988-1992
White Hispanic and White Non-Hispanic Males

SITE	White Non-Hispanic Illinois Hispanic Identification				White Hispanic Illinois Hispanic Identification			
	U.S.	Direct	Indirect	Combined	U.S.	Direct	Indirect	Combined
All Sites	217.0	223.4	223.2	222.7	134.0	103.0	110.2	124.9
Oral Cavity excl Nasopharynx	3.9	2.8	2.8	2.8	2.7	1.8	2.2	2.4
Nasopharynx	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Esophagus	5.4	5.9	5.9	5.9	3.5	3.2	3.7	3.9
Stomach	6.0	6.5	6.5	6.5	8.8	6.1	6.2	6.8
Colorectal	23.4	26.8	26.8	26.7	13.4	12.6	13.3	14.8
Liver and Intrahepatic Bile Duct	3.7	4.1	4.1	4.0	6.1	4.6	5.1	5.6
Gallbladder	-	0.5	0.5	0.5	-	1.1	1.4	1.5
Pancreas	9.8	10.1	10.1	10.1	7.4	5.9	5.7	6.7
Larynx	2.3	2.4	2.4	2.4	1.9	1.4	1.4	1.4
Lung and Bronchus	74.2	74.3	74.3	74.1	33.6	25.5	26.6	31.4
Melanomas	3.6	3.1	3.1	3.1	0.8	0.4	0.6	0.6
Breast	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0
Prostate	24.4	24.5	24.5	24.5	15.9	9.6	10.7	12.5
Testis	0.3	0.3	0.2	0.2	0.0	0.3	0.4	0.4
Bladder	6.0	6.0	6.0	6.0	2.9	1.8	2.1	2.2
Kidney and Renal Pelvis	5.1	5.4	5.4	5.4	4.0	3.7	4.5	4.7
Brain and Other Nervous System	5.6	5.5	5.5	5.5	3.2	2.1	2.6	2.6
Thyroid	0.3	0.3	0.3	0.3	0.3	0.2	0.0	0.2
Hodgkin's Disease	0.8	0.7	0.7	0.7	0.7	0.4	0.5	0.5
Non-Hodgkin's Lymphoma	8.2	8.4	8.4	8.4	5.6	4.8	4.5	5.1
Multiple Myeloma	3.4	3.3	3.3	3.3	2.8	2.9	2.9	3.2
Leukemias	8.6	9.2	9.2	9.1	5.4	4.4	4.7	5.4

Rates are per 100,000 and are age-adjusted to 1970 U.S. standard population.

Hispanic identification is defined as follows (1) Direct is death certificate Hispanic origin only; (2) Indirect is Hispanic non-U.S. and/or heavily Hispanic Surname; and (3) Combined is death certificate Hispanic origin and/or Hispanic non-U.S. birthplace and/or heavily Hispanic surname.

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 24
Comparison of Illinois with United States (U.S.) Five Year Age-Adjusted Cancer Mortality Rates, 1988-1992
White Hispanic and White Non-Hispanic Females

SITE	U.S.	White Non-Hispanic Illinois			U.S.	White Hispanic Illinois		
		Hispanic Identification				Hispanic Identification		
		Direct	Indirect	Combined		Direct	Indirect	Combined
All Sites	143.0	146.9	146.9	146.4	89.0	74.8	73.6	87.8
Oral Cavity excl Nasopharynx	1.5	1.0	1.0	1.0	0.7	0.6	0.7	0.7
Nasopharynx	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Esophagus	1.3	1.3	1.3	1.3	0.7	0.4	0.5	0.5
Stomach	2.7	2.7	2.7	2.7	4.4	3.6	3.2	3.9
Colorectal	15.6	16.7	16.7	16.6	8.6	6.4	6.6	7.6
Liver and Intrahepatic Bile Duct	1.7	1.9	1.9	1.9	2.9	2.1	2.3	2.4
Gallbladder	-	1.1	1.1	1.1	-	1.1	1.2	1.3
Pancreas	7.0	7.2	7.2	7.2	5.4	4.6	4.6	5.8
Larynx	0.5	0.5	0.5	0.5	0.2	0.1	0.1	0.1
Lung and Bronchus	32.9	31.7	31.7	31.6	11.2	9.0	9.4	11.4
Melanomas	1.8	1.6	1.6	1.6	0.5	0.6	0.6	0.6
Breast	27.7	30.1	30.1	30.0	15.7	13.9	13.6	16.9
Cervix	2.5	2.5	2.5	2.4	3.6	3.5	3.8	4.2
Corpus Uteri	3.3	3.6	3.7	3.6	2.4	2.4	1.8	2.6
Ovary	8.2	8.5	8.5	8.4	5.1	4.6	4.6	5.3
Bladder	1.7	1.7	1.7	1.7	0.9	0.3	0.5	0.5
Kidney and Renal Pelvis	2.3	2.5	2.5	2.5	1.8	1.4	1.1	1.5
Brain and Other Nervous System	3.8	3.5	3.5	3.5	2.1	1.7	1.6	2.0
Thyroid	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.5
Hodgkin's Disease	0.5	0.4	0.4	0.4	0.4	0.1	0.1	0.2
Non-Hodgkin's Lymphoma	5.4	5.3	5.3	5.3	3.8	2.7	2.4	2.9
Multiple Myeloma	2.3	2.3	2.3	2.3	1.8	1.9	2.1	2.3
Leukemias	5.0	5.4	5.4	5.4	3.6	4.0	4.0	4.4

Rates are per 100,000 and are age-adjusted to 1970 U.S. standard population.

Hispanic identification is defined as follows (1) Direct is death certificate Hispanic origin only; (2) Indirect is Hispanic non-U.S. and/or heavily Hispanic Surname; and (3) Combined is death certificate Hispanic origin and/or Hispanic non-U.S. birthplace and/or heavily Hispanic surname.

SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 25
Comparison of Illinois with United States (U.S.) Five Year Age-Adjusted Cancer Mortality Rates, 1988-1992
Hispanic (All Races) Males and Females

Site	U.S.	Males			U.S.	Females		
		Illinois Hispanic Identification				Illinois Hispanic Identification		
		Direct	Indirect	Combined		Direct	Indirect	Combined
All Sites	129.0	98.6	109.3	119.6	85.0	71.3	74.3	84.4
Oral Cavity excl Nasopharynx	2.7	1.9	2.6	2.6	0.7	0.6	0.8	0.8
Nasopharynx	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.0
Esophagus	3.4	3.0	3.4	3.6	0.7	0.4	0.5	0.5
Stomach	8.4	5.9	6.0	6.6	4.2	3.4	3.3	3.8
Colon and Rectum	12.8	12.0	12.9	14.2	8.3	6.4	6.9	7.7
Liver & Intrahepatic Bile Duct	5.9	4.4	5.1	5.4	2.8	1.9	2.2	2.3
Pancreas	7.1	5.7	5.9	6.3	5.2	4.3	4.4	5.5
Larynx	1.9	1.3	1.3	1.3	0.2	0.1	0.1	0.1
Lung and Bronchus	32.4	24.8	27.4	30.3	10.8	8.8	10.0	11.1
Melanomas	0.8	0.4	0.5	0.5	0.5	0.6	0.6	0.6
Breast	0.1	0.0	0.0	0.0	15.0	13.1	13.6	16.0
Cervix	-	-	-	-	3.4	3.3	3.9	4.1
Corpus Uteri	-	-	-	-	2.3	2.2	1.7	2.4
Ovary	-	-	-	-	4.8	4.4	4.5	5.1
Prostate	15.3	9.2	10.7	12.1	-	-	-	-
Testis	0.2	0.3	0.4	0.4	-	-	-	-
Urinary Bladder	2.8	1.7	2.2	2.1	0.9	0.3	0.4	0.4
Kidney & Renal Pelvis	3.7	3.5	4.3	4.4	1.7	1.3	1.2	1.4
Brain, Other Nervous System	3.0	2.0	2.6	2.5	2.0	1.6	1.5	1.8
Thyroid	0.2	0.2	0.0	0.2	0.5	0.5	0.3	0.5
Hodgkin's Disease	0.6	0.4	0.5	0.5	0.3	0.1	0.1	0.2
Non-Hodgkin's Lymphoma	5.3	4.5	4.2	4.8	3.6	2.6	2.3	2.8
Multiple Myeloma	2.7	2.7	2.7	3.0	1.8	1.8	2.2	2.2
Leukemia	5.1	4.4	4.6	5.3	3.4	3.8	4.3	4.2

Rates are per 100,000 and are age-adjusted to 1970 U.S. standard population.

Hispanic identification is defined as follows (1) Direct is death certificate Hispanic origin only; (2) Indirect is Hispanic non-U.S. and/or heavily Hispanic Surname; and (3) Combined is death certificate Hispanic origin and/or Hispanic non-U.S. birthplace and/or heavily Hispanic surname.

SOURCE: Illinois Department of Public Health Master Death Tapes, 1988 to 1992

Table 26
Descriptive and Analytic Statistics Illinois Compared with U.S. Cancer Mortality Rates,1988-1992
Males (n=21 Sites) and Females (n=22 Sites)
White Hispanics, White Non-Hispanics and All Races Hispanics

White Hispanic				
Hispanic Variable	Males		Females	
	Mean	S.D.	Mean	S.D.
Direct	4.4	5.8	2.9	3.4
Indirect	4.7	6.1	2.9	3.4
Combined	5.3	7.2	3.5	4.1
U.S.	5.7	7.7	3.5	3.9
Hispanic Variable	U.S. minus Illinois		U.S. minus Illinois	
Direct	1.3		0.5	
Indirect	1.0		0.6	
Combined	0.4		0.0	
Hispanic Variable	Pearson r	p value	Pearson r	p value
Direct	.989	< 0.01	.992	< 0.01
Indirect	.990	< 0.01	.992	< 0.01
Combined	.993	< 0.01	.993	< 0.01
White Non-Hispanic				
Hispanic Variable	Males		Females	
	Mean	S.D.	Mean	S.D.
Direct	9.5	16.5	6.0	8.9
Indirect	9.5	16.5	6.0	8.9
Combined	9.5	16.4	5.9	8.8
U.S.	9.3	16.3	5.8	8.7
Hispanic Variable	U.S. minus Illinois		U.S. minus Illinois	
Direct	-0.2		-0.2	
Indirect	-0.2		-0.2	
Combined	-0.2		-0.1	
Hispanic Variable	Pearson r	p value	Pearson r	p value
Direct	.999	< 0.01	.998	< 0.01
Indirect	.999	< 0.01	.997	< 0.01
Combined	.999	< 0.01	.998	< 0.01
All Races Hispanics				
Hispanic Variable	Males		Females	
	Mean	S.D.	Mean	S.D.
Direct	4.2	5.7	2.8	3.2
Indirect	4.4	5.8	2.8	3.2
Combined	5.0	6.9	3.3	4.0
U.S.	5.5	7.4	3.3	3.8
Hispanic Variable	U.S. minus Illinois		U.S. minus Illinois	
Direct	1.3		0.5	
Indirect	1.1		0.5	
Combined	0.5		0.0	
Hispanic Variable	Pearson r	p value	Pearson r	p value
Direct	.989	< 0.01	.994	< 0.01
Indirect	.990	< 0.01	.992	< 0.01
Combined	.993	< 0.01	.994	< 0.01

Rates are per 100,000 and are age-adjusted to 1970 U.S. standard population.
Hispanic identification is defined as follows (1) Direct is death certificate Hispanic origin only; (2) Indirect is Hispanic non-U.S. and/or heavily Hispanic Surname; and (3) Combined is death certificate Hispanic origin and/or Hispanic non-U.S. birthplace and/or heavily Hispanic surname.
SOURCE: Illinois Master Death Tapes 1986 to 1996

Table 27
Comparison of Illinois with U.S. Age-Adjusted Hispanic Cancer Mortality Rates for Selected Sites in Males
Using Direct, Indirect and Combined Hispanic Identifier Variables*

	U.S.	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
All Sites	129.0												
Direct		93.9	79.5	90.2	84.6	107.5	99.5	92.9	94.6	110.0	100.9	82.5	86.9
Indirect		99.3	101.8	105.2	106.2	108.2	101.0	90.7	102.7	110.3	101.1	86.8	86.7
Combined		113.0	111.6	114.6	116.7	125.8	112.4	111.1	116.1	124.4	116.9	98.2	101.0
Oral Cavity excl Nasopharynx	2.7												
Direct		1.3	1.6	1.2	2.0	1.3	1.5	2.0	1.4	2.2	0.4	1.1	0.8
Indirect		1.4	1.1	1.5	5.1	1.3	1.5	1.3	1.4	1.7	0.4	1.1	0.8
Combined		1.7	1.6	1.7	5.3	1.3	1.5	2.0	1.4	3.1	0.4	1.1	0.8
Nasopharynx	0.3												
Direct		0.1	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Indirect		0.1	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Combined		0.1	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Esophagus	3.4												
Direct		2.9	1.0	3.0	2.5	2.7	1.3	4.5	3.5	4.1	2.5	2.0	4.1
Indirect		3.2	1.0	3.5	4.0	4.0	1.3	3.6	3.9	4.1	3.2	1.6	4.6
Combined		3.4	1.5	3.5	4.0	4.0	1.3	4.5	3.9	4.1	3.2	2.0	4.6
Stomach	8.4												
Direct		6.1	5.5	9.0	3.3	8.3	5.7	7.2	4.1	6.2	8.5	5.5	4.9
Indirect		6.3	5.9	8.0	4.3	8.2	6.0	6.4	4.0	7.0	8.5	7.0	4.0
Combined		6.9	7.0	9.7	4.8	8.8	6.0	7.7	4.9	7.0	9.0	7.0	4.9
Colon and Rectum	12.8												
Direct		10.4	5.7	9.9	9.8	12.3	11.4	12.1	12.1	16.4	9.0	7.5	8.0
Indirect		11.0	7.8	11.5	12.9	12.2	11.4	12.2	12.6	16.4	10.2	7.2	8.5
Combined		12.4	8.4	12.8	15.5	13.8	12.8	13.0	13.9	18.7	11.4	8.6	9.1
Liver/Intrahepatic Bile Duct	5.9												
Direct		5.1	3.7	3.7	3.9	3.0	5.4	5.0	4.2	9.1	3.9	6.3	6.3
Indirect		5.0	4.7	4.5	4.4	4.4	4.5	5.1	5.3	8.4	3.1	5.1	5.3
Combined		5.8	4.7	5.2	4.4	4.9	5.4	6.1	5.3	9.5	4.4	6.7	6.3
Pancreas	7.1												
Direct		5.0	5.1	5.5	8.4	4.3	6.7	5.1	3.5	4.5	5.8	3.1	4.6
Indirect		5.2	5.2	7.0	8.0	3.8	6.1	5.0	3.5	4.9	6.1	4.1	5.2
Combined		6.0	7.0	7.4	9.4	4.8	6.7	6.3	4.3	5.3	6.5	4.1	6.2

*Rates are per 100,000 and are age-adjusted to 1970 U.S. standard population.

Hispanic identification is defined as follows (1) Direct is death certificate Hispanic origin only; (2) Indirect is Hispanic non-U.S. and/or heavily Hispanic Surname; and (3) Combined is death certificate Hispanic origin and/or Hispanic non-U.S. birthplace and/or heavily Hispanic surname.

Table 27 (continued)
Comparison of Illinois with U.S. Age-Adjusted Hispanic Cancer Mortality Rates for Selected Sites in Males
Using Direct, Indirect and Combined Hispanic Identifier Variables*

	U.S.	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Larynx	1.9												
Direct		1.2	2.3	0.0	2.1	1.4	0.5	0.0	2.5	0.0	2.3	0.8	1.1
Indirect		1.3	1.5	0.3	2.1	1.4	0.5	0.0	2.5	0.8	2.7	1.0	1.1
Combined		1.3	2.3	0.3	2.1	1.4	0.5	0.0	2.5	0.8	2.7	1.0	1.1
Lung and Bronchus	32.4												
Direct		21.5	18.5	17.1	24.5	27.4	27.7	19.3	21.9	21.2	21.7	17.7	20.4
Indirect		23.0	25.0	23.1	27.2	25.7	28.5	16.8	24.4	22.1	21.7	20.9	21.1
Combined		26.8	25.9	25.5	31.8	32.5	31.4	24.6	27.6	24.9	25.4	23.8	24.8
Melanomas	0.8												
Direct		0.5	0.3	0.1	0.0	0.3	0.2	0.1	1.2	0.7	0.8	0.8	0.4
Indirect		0.6	0.3	1.2	0.0	0.3	0.2	0.1	1.7	0.7	0.8	0.7	0.4
Combined		0.6	0.3	1.2	0.0	0.3	0.2	0.1	1.7	0.7	0.8	0.8	0.4
Breast	0.1												
Direct		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Indirect		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Combined		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prostate	15.3												
Direct		10.6	8.9	12.5	7.3	11.8	9.3	7.9	8.6	16.3	12.7	8.7	10.4
Indirect		10.8	10.6	13.1	7.6	12.0	9.2	10.8	10.1	14.8	12.2	8.1	10.2
Combined		12.6	10.6	13.5	8.6	14.8	12.2	12.2	10.9	18.4	13.9	9.7	12.8
Testis	0.2												
Direct		0.2	0.1	0.5	0.1	1.0	0.1	0.1	0.2	0.5	0.0	0.0	0.3
Indirect		0.3	0.1	0.7	0.1	1.0	0.1	0.5	0.2	0.5	0.0	0.0	0.1
Combined		0.3	0.1	0.7	0.1	1.0	0.1	0.5	0.2	0.5	0.0	0.0	0.3
Urinary Bladder	2.8												
Direct		1.7	1.1	1.8	0.0	3.9	0.9	1.8	1.5	1.7	2.2	0.9	2.2
Indirect		2.0	3.4	1.8	0.0	3.9	0.9	2.2	2.6	2.3	2.9	1.5	1.2
Combined		2.2	3.4	1.8	0.0	3.9	0.9	2.2	3.0	2.3	2.9	1.5	2.2
Kidney/Renal Pelvis	3.7												
Direct		3.3	1.7	1.6	3.3	1.9	2.7	5.4	3.3	3.1	5.0	4.3	2.4
Indirect		4.0	4.9	1.6	2.9	1.9	3.9	5.4	5.9	3.5	4.8	4.8	3.1
Combined		4.1	4.9	1.6	3.3	1.9	4.3	5.4	5.9	3.5	5.6	4.8	3.1
Brain/Other Nervous System	3.0												
Direct		1.8	0.7	2.3	3.7	1.6	1.2	1.0	2.5	3.0	1.0	0.7	2.0
Indirect		2.1	1.7	2.3	5.2	1.6	1.8	1.1	2.5	3.2	1.0	1.4	2.1
Combined		2.2	1.7	2.3	5.2	1.6	1.8	1.3	2.5	3.2	1.0	1.4	2.2

Table 27 (continued)
Comparison of Illinois with U.S. Age-Adjusted Hispanic Cancer Mortality Rates for Selected Sites in Males
Using Direct, Indirect and Combined Hispanic Identifier Variables*

	U.S.	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Thyroid	0.2												
Direct		0.2	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Indirect		0.2	0.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Combined		0.3	0.1	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Hodgkin s Disease	0.6												
Direct		0.4	0.0	1.0	0.1	0.1	1.4	0.0	0.3	0.3	0.7	0.1	0.1
Indirect		0.4	0.6	0.5	0.1	0.1	1.3	0.4	0.5	0.3	0.6	0.1	0.1
Combined		0.5	0.6	1.0	0.1	0.1	1.4	0.4	0.5	0.3	0.7	0.1	0.1
Non-Hodgkin s Lymphoma	5.3												
Direct		4.4	2.4	4.2	2.6	6.1	5.1	2.3	5.9	4.3	4.9	5.0	4.2
Indirect		4.4	3.7	5.7	2.6	4.5	4.9	2.5	5.9	3.4	4.9	5.6	3.6
Combined		5.1	3.7	6.3	2.6	6.1	5.1	2.5	6.9	4.5	6.9	5.6	4.8
Multiple Myeloma	2.7												
Direct		2.1	2.2	4.3	1.6	2.6	2.4	0.8	5.2	1.7	2.4	0.4	0.7
Indirect		2.4	3.1	3.8	2.6	3.2	2.4	0.8	4.3	1.4	3.2	1.2	1.1
Combined		2.7	3.1	4.3	2.6	3.2	2.4	0.8	5.2	1.7	3.9	1.2	1.5
Leukemias	5.1												
Direct		4.1	5.5	2.6	3.0	6.2	4.3	5.4	2.7	3.4	4.4	5.1	2.7
Indirect		4.1	4.3	3.3	4.3	8.3	4.1	3.6	2.1	4.1	4.0	5.0	2.4
Combined		4.7	6.2	3.5	4.3	8.9	4.3	5.4	3.5	4.2	4.9	5.3	2.7

Source: Illinois Master Death Tapes 1986 to 1996

Table 28
Comparison of Illinois with U.S. Age-Adjusted Hispanic Cancer Mortality Rates for Selected Sites in Females
Using Direct, Indirect and Combined Hispanic Identifier Variables*

	U.S.	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
All Sites	85.0												
Direct		68.8	56.2	61.6	59.8	69.4	66.0	78.9	73.4	75.4	69.5	66.7	72.0
Indirect		68.5	67.0	65.3	72.2	65.4	68.3	74.3	63.9	70.5	64.8	70.1	70.4
Combined		80.5	72.6	73.4	81.6	81.5	79.4	90.6	80.4	81.9	78.4	81.3	80.9
Oral Cavity excl Nasopharynx	0.7												
Direct		0.4	0.2	0.0	0.0	0.6	1.0	0.4	0.5	0.0	0.0	0.8	0.3
Indirect		0.4	0.0	0.0	0.4	1.2	1.0	0.4	0.5	0.0	0.0	0.8	0.3
Combined		0.5	0.2	0.0	0.4	1.2	1.0	0.4	0.5	0.0	0.0	0.8	0.3
Nasopharynx	0.1												
Direct		0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Indirect		0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Combined		0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Esophagus	0.7												
Direct		0.8	2.7	0.0	0.0	0.0	0.9	0.0	0.9	0.4	1.5	1.1	0.8
Indirect		0.8	2.7	0.0	0.0	0.0	0.9	0.5	0.9	0.4	1.1	1.8	0.8
Combined		0.9	2.7	0.0	0.0	0.0	0.9	0.5	0.9	0.4	1.5	1.8	0.8
Stomach	4.2												
Direct		3.4	0.8	6.2	1.3	5.5	3.2	2.7	4.1	5.8	3.6	2.3	2.4
Indirect		3.3	2.7	7.1	1.3	4.8	2.6	2.6	4.0	5.5	2.6	1.9	2.0
Combined		3.9	2.7	7.6	1.3	6.0	3.2	3.6	4.5	6.3	3.6	2.3	2.6
Colon and Rectum	8.3												
Direct		6.1	3.7	3.9	5.6	5.1	8.6	3.0	8.7	7.8	5.7	4.8	9.2
Indirect		6.1	6.1	3.6	6.8	5.1	8.8	2.9	8.3	6.9	4.4	5.5	8.4
Combined		7.2	6.1	4.6	7.2	6.8	10.1	4.5	9.1	7.8	6.3	5.9	9.9
Liver/Intrahepatic Bile Duct	2.8												
Direct		2.1	2.7	0.0	3.4	1.5	1.8	2.0	0.9	3.3	3.7	0.8	2.6
Indirect		2.3	3.6	0.0	4.1	1.5	2.3	1.5	1.5	3.3	3.0	1.6	3.0
Combined		2.6	3.6	0.0	4.1	1.5	2.3	2.0	1.5	3.7	4.1	1.6	3.3
Pancreas	5.2												
Direct		4.2	4.3	6.8	6.1	2.9	2.7	3.1	6.4	4.4	3.6	3.9	3.0
Indirect		4.2	5.0	7.3	7.1	2.9	4.9	2.2	4.4	4.0	4.0	2.8	3.8
Combined		5.0	5.0	7.3	8.4	3.4	4.9	3.1	7.3	4.4	4.4	3.9	4.5

*Rates are per 100,000 and are age-adjusted to 1970 U.S. standard population.

Hispanic identification is defined as follows (1) Direct is death certificate Hispanic origin only; (2) Indirect is Hispanic non-U.S. and/or heavily Hispanic Surname; and (3) Combined is death certificate Hispanic origin and/or Hispanic non-U.S. birthplace and/or heavily Hispanic surname.

Table 28 (continued)
Comparison of Illinois with U.S. Age-Adjusted Hispanic Cancer Mortality Rates for Selected Sites in Females
Using Direct, Indirect and Combined Hispanic Identifier Variables*

	U.S.	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Larynx	0.2												
Direct		0.1	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0	0.0
Indirect		0.1	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0	0.0
Combined		0.1	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.5	0.0	0.0	0.0
Lung and Bronchus	10.8												
Direct		8.4	5.0	8.3	5.4	11.2	6.5	11.3	8.4	9.4	7.5	9.6	8.4
Indirect		8.8	6.2	9.3	8.4	10.0	7.9	11.2	6.6	9.7	7.4	11.1	8.2
Combined		10.7	7.5	11.1	8.8	12.8	9.4	14.1	9.3	11.1	9.0	13.2	10.0
Melanomas	0.5												
Direct		0.4	0.0	0.3	0.6	0.2	0.0	1.7	0.4	0.9	0.0	0.0	0.5
Indirect		0.4	0.0	0.3	0.6	0.2	0.0	1.7	0.4	0.5	0.0	0.0	0.5
Combined		0.4	0.0	0.3	0.6	0.2	0.0	1.7	0.4	0.9	0.0	0.0	0.5
Breast	15.0												
Direct		12.4	11.1	8.6	8.6	12.3	11.1	19.1	12.4	11.9	11.3	13.3	14.6
Indirect		12.6	13.8	9.6	11.0	12.1	10.2	17.2	12.2	11.1	11.0	14.5	14.4
Combined		14.9	14.5	10.6	13.4	14.6	12.2	22.4	15.3	13.1	13.6	16.4	16.0
Cervix Uteri	3.4												
Direct		2.9	2.2	2.0	4.8	2.3	3.9	4.1	1.5	3.2	3.8	1.6	2.2
Indirect		3.1	2.2	2.6	6.1	2.8	4.5	3.6	1.5	3.3	3.4	2.7	1.8
Combined		3.4	2.2	2.6	6.1	3.9	4.7	4.1	1.5	3.7	3.8	2.7	2.2
Corpus Uteri	2.3												
Direct		1.8	1.0	1.8	1.7	2.4	1.8	2.7	2.2	1.6	1.2	2.3	1.1
Indirect		1.6	1.5	2.0	1.7	1.5	1.3	1.8	2.1	1.1	1.4	2.0	1.1
Combined		2.0	1.5	2.8	1.7	2.4	2.3	3.3	2.2	1.6	1.6	2.3	1.1
Ovary	4.8												
Direct		4.0	3.2	4.0	2.5	5.5	3.0	6.6	3.5	3.0	3.5	4.0	4.5
Indirect		4.0	3.1	3.8	3.0	4.9	4.0	6.1	3.3	2.6	3.9	4.8	4.0
Combined		4.6	3.7	4.5	3.6	6.0	4.0	7.0	4.0	3.5	4.3	5.0	4.8
Urinary Bladder	0.9												
Direct		0.6	1.4	1.9	0.7	0.4	0.6	0.0	0.0	0.4	0.5	0.4	0.5
Indirect		0.6	1.4	1.9	1.3	0.4	0.6	0.0	0.0	0.4	0.5	0.4	0.5
Combined		0.6	1.4	1.9	1.3	0.4	0.6	0.0	0.0	0.4	0.5	0.4	0.5
Kidney/Renal Pelvis	1.7												
Direct		1.6	0.9	2.4	1.0	1.3	2.7	0.6	1.1	2.5	2.9	0.8	1.1
Indirect		1.6	0.9	2.4	0.5	0.8	2.6	0.6	0.6	2.5	2.9	1.0	2.0
Combined		1.8	0.9	2.4	1.0	1.3	3.2	0.6	1.1	2.5	2.9	1.0	2.0

Table 28 (continued)
Comparison of Illinois with U.S. Age-Adjusted Hispanic Cancer Mortality Rates for Selected Sites in Females
Using Direct, Indirect and Combined Hispanic Identifier Variables*

	U.S.	1986-96	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Brain/Other Nervous System	2.0												
Direct		1.7	0.7	1.8	2.5	2.6	0.4	1.1	1.4	2.7	1.4	2.3	1.3
Indirect		1.6	1.1	1.6	2.4	3.1	0.4	1.1	0.7	3.0	1.4	1.6	1.3
Combined		1.9	1.1	1.8	3.1	3.5	0.4	1.1	1.4	3.5	1.4	2.3	1.3
Thyroid	0.5												
Direct		0.3	1.4	0.0	0.0	0.4	0.8	0.5	0.5	0.0	0.0	0.4	0.0
Indirect		0.3	1.4	0.0	0.0	0.4	0.8	0.5	0.0	0.0	0.4	0.4	0.0
Combined		0.4	1.4	0.0	0.0	0.4	0.8	0.5	0.5	0.0	0.4	0.4	0.0
Hodgkin s Disease	0.3												
Direct		0.2	1.4	0.0	0.2	0.0	0.5	0.0	0.0	0.1	0.1	0.0	0.4
Indirect		0.2	1.4	0.0	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.4
Combined		0.3	1.4	0.0	0.2	0.0	0.5	0.0	0.1	0.1	0.1	0.0	0.4
Non-Hodgkin s Lymphoma	3.6												
Direct		2.8	1.2	2.6	1.3	3.6	1.5	3.2	2.8	1.5	3.1	4.1	3.6
Indirect		2.7	2.5	3.2	1.4	2.8	1.6	2.7	2.3	1.5	3.1	3.7	3.5
Combined		3.1	2.5	3.2	1.4	3.6	2.3	3.2	2.8	1.5	3.1	4.9	4.0
Multiple Myeloma	1.8												
Direct		1.5	1.2	0.3	3.8	0.6	0.5	0.5	3.4	1.1	1.3	0.8	2.5
Indirect		1.6	1.9	1.0	4.5	0.6	0.0	1.0	3.4	1.1	1.7	0.8	2.2
Combined		1.8	1.9	1.0	5.2	0.6	0.5	1.0	3.4	1.1	1.7	0.8	2.9
Leukemias	3.4												
Direct		3.6	1.2	3.5	3.5	1.7	4.9	5.4	2.9	3.8	3.6	3.7	4.8
Indirect		3.5	1.9	2.8	3.7	2.6	4.4	5.7	2.5	3.4	2.6	4.0	4.9
Combined		3.9	1.9	3.5	4.3	2.6	4.9	5.7	3.1	3.8	4.0	4.1	4.9

SOURCE: Illinois Master Death Tapes 1986 to 1996

Appendix

Alphabetical and Categorical Listing of
United States Bureau of the Census
Heavily Hispanic Last and Maiden Names for
Illinois Cancer Deaths, 1986 to 1996

115 ABAD	125 AMADOR	125 BADILLO	125 BONILLA	115 CARRENO
115 ABARCA	115 AMARO	125 BAEZ	105 BORJAS	125 CARREON
125 ABREGO	125 AMAYA	125 BAEZA	102 BORRAS	110 CARRERAS
125 ABREU	115 AMBRIZ	105 BALDERAMA	125 BORREGO	125 CARRERO
125 ACEVEDO	101 AMELLA	125 BALDERAS	125 BOTELLO	101 CARRIEDO
115 ACEVES	110 AMESQUITA	115 BALDERRAMA	105 BRAN	125 CARRILLO
125 ACOSTA	125 ANAYA	101 BALDOVINOS	125 BRAVO	102 CARRIO
125 ADORNO	110 ANCHONDO	101 BALITA	105 BRIBIESCA	125 CARRION
125 AGOSTO	115 ANDINO	125 BALLESTEROS	102 BRIENO	115 CARRIZALES
105 AGUADO	101 ANELL	125 BANDA	125 BRIONES	125 CARVAJAL
125 AGUAYO	102 ANGLADA	125 BANUELOS	101 BRIOSO	105 CASADO
110 AGUDELO	125 ANGUIANO	115 BARAHONA	125 BRISENO	125 CASANOVA
110 AGUILA	105 ANTUNEZ	125 BARAJAS	125 BRITO	125 CASARES
125 AGUILAR	125 APARICIO	101 BAREA	101 BROCHE	101 CASARIS
125 AGUILERA	125 APONTE	110 BARGAS	102 BRUGUERA	125 CASAS
110 AGUILLON	115 AQUILAR	125 BARRAGAN	125 BUENO	115 CASIANO
105 AGUINIGA	110 AQUIRRE	125 BARRAZA	105 BURCIAGA	125 CASILLAS
125 AGUIRRE	125 ARAGON	102 BARREDA	125 BURGOS	102 CASTANADA
101 AJURIA	115 ARAMBULA	125 BARRERA	125 BUSTOS	125 CASTANEDA
125 ALANIS	125 ARANA	110 BARRERAS	102 CAAMANO	105 CASTANEDO
125 ALANIZ	115 ARANGO	101 BARRES	105 CABA	115 CASTANON
125 ALARCON	102 ARBALLO	110 BARRIENTES	125 CABALLERO	125 CASTELLANOS
105 ALATORRE	125 ARCE	101 BARRIGAN	125 CABAN	110 CASTELLON
125 ALBA	110 ARCEO	125 BARRIOS	102 CABELLERO	102 CASTENEDA
101 ALBIZU	105 ARCOS	110 BASQUEZ	110 CABRALES	125 CASTILLO
125 ALCALA	125 ARELLANO	125 BATISTA	125 CABRERA	125 CASTRO
102 ALCALDE	125 ARENAS	110 BATRES	115 CACERES	125 CAVAZOS
125 ALCANTAR	102 ARES	115 BAZAN	101 CADELL	101 CAZALES
115 ALCANTARA	125 AREVALO	125 BECERRA	105 CAJIGAS	115 CEDENO
125 ALCARAZ	115 ARGUELLES	105 BECERRIL	101 CALAS	125 CEJA
105 ALCAZAR	125 ARIAS	110 BEDOLLA	125 CALDERON	101 CENO
105 ALCOCER	102 ARJONA	110 BEDOYA	102 CALLEROS	125 CENTENO
105 ALCOSER	125 ARMAS	102 BELA	125 CALVILLO	125 CERDA
110 ALEGRIA	102 ARMENTEROS	125 BELTRAN	115 CALVO	115 CERNA
110 ALEJANDRE	125 ARMIJO	125 BENAVIDES	125 CAMACHO	105 CERON
125 ALEJANDRO	101 AROSEMENA	125 BENAVIDEZ	115 CAMARENA	125 CERVANTES
125 ALEMAN	125 ARREDONDO	125 BENITEZ	102 CAMPILLO	125 CERVANTEZ
125 ALFARO	110 ARRELLANO	101 BENTIVOGLIO	125 CAMPOS	101 CHABALA
105 ALGARIN	125 ARREOLA	110 BERLANGA	105 CAMPOVERDE	102 CHABEZ
125 ALICEA	125 ARRIAGA	102 BERMEO	110 CANCHOLA	125 CHACON
110 ALMAGUER	125 ARROYO	125 BERMUDEZ	102 CANDIA	105 CHAGOYA
125 ALMANZA	125 ARTEAGA	125 BERNAL	125 CANO	110 CHAIDEZ
125 ALMARAZ	101 ARTILES	125 BERRIOS	102 CANSINO	105 CHAIREZ
115 ALMENDAREZ	115 ARZOLA	101 BETANCE	125 CANTU	125 CHAPA
102 ALMEYDA	102 ARZUAGA	125 BETANCOURT	105 CAPOTE	115 CHAPARRO
115 ALMODOVAR	102 ASCENSIO	101 BIAZ	105 CARABAJAL	125 CHAVARRIA
125 ALMONTE	102 ASPERA	102 BILLEGAS	102 CARAVANTES	105 CHAVERA
125 ALONSO	102 ATILANO	125 BLANCO	125 CARBAJAL	125 CHAVEZ
125 ALONZO	125 AVALOS	105 BLANDON	125 CARDENAS	102 CHIONG
125 ALTAMIRANO	125 AVILA	101 BLES	125 CARDONA	101 CHUMAN
125 ALVA	125 AVILES	102 BOBE	125 CARMONA	125 CINTRON
125 ALVARADO	115 AVINA	115 BOCANEGRA	110 CARPIO	125 CISNEROS
125 ALVAREZ	125 AYALA	110 BOLIVAR	125 CARRANZA	102 CISNEROZ
101 ALZAMORA	125 BACA	110 BONET	125 CARRASQUILLO	102 CLAROS

115 CLAUDIO	125 DELATORRE	125 FLOREZ	125 GUARDADO	105 LANZARIN
105 COBIAN	125 DELEON	101 FONTANI	125 GUERRA	125 LARA
102 COBO	125 DELGADILLO	101 FORCADE	102 GUERREO	105 LARES
101 COBURGER	125 DELGADO	101 FORINO	125 GUERRERO	102 LARREA
105 COLINDRES	115 DELREAL	102 FORTIS	125 GUILLEN	101 LAUTERIO
125 COLLADO	125 DELVALLE	101 FRAIMAN	101 GUINEA	115 LAZO
125 COLLAZO	101 DERMA	125 FRANCO	101 GURRA	125 LEAL
125 COLON	101 DIAN	115 FRAUSTO	115 GUSMAN	125 LEBRON
105 COLORADO	125 DIAZ	115 FREGOSO	102 GUTIERES	125 LEDESMA
125 COLUNGA	101 DOLGONOS	125 FRIAS	125 GUTIERREZ	115 LEDEZMA
101 COMPAS	125 DOMINGUEZ	101 FRUMIN	105 GUTTIERREZ	115 LEIJA
125 CONCEPCION	102 DOPICO	125 FUENTES	125 GUZMAN	125 LEMUS
102 CONCEPTION	115 DORADO	101 FULLA	101 HECHAVARRIA	125 LEON
115 CONDE	102 DORANTES	115 GABALDON	125 HENRIQUEZ	115 LEOS
125 CONTRERAS	125 DUARTE	101 GABOUER	125 HERNANDEZ	105 LEPE
105 CORCHADO	125 DURAN	125 GAITAN	102 HERNENDEZ	115 LEYBA
101 CORDENAS	102 DURATE	125 GALARZA	105 HERRADA	125 LEYVA
102 CORDERA	115 DURON	115 GALAVIZ	125 HERRERA	125 LINARES
125 CORDERO	102 ECHAVEZ	101 GALBA	105 HERRERO	125 LLAMAS
115 CORDOBA	125 ECHEVARRIA	115 GALICIA	101 HERRNANDEZ	105 LLANAS
101 CORDORA	115 ELIZALDE	125 GALINDO	125 HOLGUIN	101 LOBASH
125 CORDOVA	102 ELIZARRARAZ	102 GALLAGA	101 HORBACH	105 LONA
102 COREAS	125 ELIZONDO	125 GALLARDO	115 HORTA	110 LONDONO
101 CORIANO	125 ENRIQUEZ	125 GALLEGOS	125 HUERTA	102 LOPERENA
125 CORNEJO	125 ESCALANTE	125 GALVAN	101 HUERTO	125 LOPEZ
125 CORONA	125 ESCAMILLA	125 GALVEZ	125 IBARRA	105 LOREDO
125 CORONADO	110 ESCARENO	125 GAMBOA	101 ICAZA	101 LORES
110 CORONEL	125 ESCOBAR	125 GAMEZ	125 IGLESIAS	101 LORIE
125 CORRAL	125 ESCOBEDO	105 GAMINO	101 INDACOCHEA	125 LOVATO
125 CORREA	102 ESPARSEN	102 GANA	115 INIGUEZ	125 LOYA
125 CORTES	125 ESPARZA	125 GAONA	125 IRIZARRY	125 LOZADA
125 CORTEZ	125 ESPINO	125 GARAY	101 IRRIZARY	125 LOZANO
102 CORZO	125 ESPINOSA	115 GARCES	102 ISAIS	125 LUCIO
125 COTTO	125 ESPINOZA	125 GARCIA	102 ISASSI	110 LUERA
125 COVARRUBIAS	125 ESQUIBEL	110 GARDEA	102 ISLA	125 LUEVANO
125 CRESPO	125 ESQUIVEL	125 GARIBAY	115 ISLAS	125 LUGO
101 CRISTAN	125 ESTRADA	101 GARMENDIA	115 IZAGUIRRE	125 LUJAN
125 CRUZ	102 ESTRELLO	125 GARZA	115 IZQUIERDO	125 LUNA
105 CUADRADO	101 ESTUDILLO	105 GAUNA	125 JAIME	105 LUPERCIO
125 CUELLAR	101 EURESTE	125 GAYTAN	125 JAQUEZ	110 MACHUCA
110 CUETO	115 FABELA	115 GERENA	125 JARAMILLO	102 MACIA
102 CURA	125 FAJARDO	125 GIL	115 JAUREGUI	125 MACIAS
125 CURIEL	101 FALLA	110 GIMENEZ	125 JIMENEZ	101 MACIS
102 DAGNINO	105 FANDINO	125 GIRON	125 JUAREZ	125 MADERA
110 DAMIAN	125 FARIAS	115 GLORIA	115 JUSINO	125 MADRID
102 DANDA	115 FAVELA	125 GODINEZ	125 LABOY	125 MADRIGAL
115 DAVALOS	105 FEBUS	125 GODOY	101 LACERA	125 MAGANA
125 DAVILA	125 FELICIANO	125 GOMEZ	102 LACHINO	101 MAGDALENA
110 DEHOYOS	115 FELIPE	110 GONGORA	101 LAGONA	101 MAJIA
125 DEJESUS	125 FERNANDEZ	125 GONZALES	115 LAGUNA	110 MALDANADO
101 DELAGUILA	125 FERRER	125 GONZALEZ	110 LAGUNAS	125 MALDONADO
102 DELAHOZ	110 FIGEROA	125 GRACIA	110 LAMAS	102 MALDONALDO
125 DELAO	125 FIGUEROA	102 GRANO	115 LANDEROS	110 MANCHA
125 DELAROSA	125 FLORES	125 GUAJARDO	115 LANDIN	102 MANCIAS

101 MANIOLA	101 MERZA	110 MURGUIA	125 OTERO	105 PIZZARO
102 MANJARRES	125 MESA	105 MURIEL	115 OVALLE	101 PLACENCIO
110 MANRIQUE	125 MEZA	125 MURILLO	110 OYOLA	115 PLAZA
102 MANSO	105 MIJARES	101 MUROS	125 PABON	125 POLANCO
102 MARADIAGA	102 MINAS	102 NAJARRO	125 PACHECO	125 PONCE
101 MARANDO	125 MIRAMONTES	125 NAJERA	101 PACHON	125 PORRAS
105 MARAVILLA	125 MIRANDA	102 NARVAEZ	125 PADILLA	102 PORTES
115 MARCANO	125 MIRELES	125 NARVAEZ	125 PADRON	125 PORTILLO
110 MARCHAN	125 MOJICA	115 NATAL	105 PADUA	105 PRADA
105 MARCIAL	125 MOLINA	125 NAVA	125 PAGAN	125 PRADO
125 MARES	110 MOLINAR	102 NAVAR	125 PALACIOS	125 PRIETO
115 MAREZ	115 MONCADA	125 NAVARRETE	105 PALAFOX	102 PROA
110 MARIA	125 MONDRAGON	115 NAVARRETTE	105 PALENCIA	125 PUENTE
101 MARICHALAR	102 MONGES	125 NAVARRO	102 PALMERIN	125 PULIDO
101 MARIMAN	102 MONOZ	102 NAVEDO	101 PALMIER	125 QUESADA
125 MARIN	105 MONROIG	125 NEGRETE	102 PALOMAR	115 QUEVEDO
105 MARINEZ	125 MONROY	125 NEGRON	125 PALOMINO	125 QUINONES
101 MAROS	125 MONTALVO	125 NEVAREZ	105 PALOS	125 QUINTANA
125 MARQUEZ	125 MONTANEZ	125 NIEVES	115 PANIAGUA	105 QUINTANAR
125 MARRERO	125 MONTANO	125 NINO	125 PANTOJA	125 QUINTANILLA
125 MARROQUIN	102 MONTECINOS	102 NOLAZCO	115 PARADA	125 QUINTERO
115 MARRUFO	110 MONTEJO	105 NOVA	105 PARAMO	101 QUIRCH
125 MARTINEZ	125 MONTENEGRO	102 NOVALES	125 PAREDES	115 QUIROGA
125 MATA	125 MONTERO	101 NOVARRO	125 PARRA	125 QUIROZ
125 MATEO	125 MONTES	125 NUNEZ	105 PARRALES	102 RABADAN
125 MATIAS	105 MONTESINOS	105 OBESO	125 PARTIDA	101 RABEY
125 MATOS	105 MONTEZUMA	102 OBLEDO	101 PASCENTE	101 RAMAS
101 MATZINGER	115 MONTIEL	115 OBREGON	110 PASTRANA	102 RAMIEREZ
115 MAURICIO	105 MONTILLA	125 OCAMPO	125 PATINO	125 RAMIREZ
125 MAYA	125 MONTOYA	125 OCASIO	102 PATLAN	125 RAMON
125 MAYORGA	125 MORA	125 OCHOA	102 PAYES	125 RAMOS
101 MAZAN	105 MORADO	101 ODANIELL	102 PAZMINO	125 RANGEL
101 MAZIN	101 MORAES	125 OJEDA	101 PECHTER	102 RANJEL
115 MEDELLIN	105 MORAGA	102 OLAVARRIA	105 PECINA	101 RAUL
125 MEDINA	101 MORAL	125 OLIVARES	125 PEDRAZA	102 RAVAGO
125 MEDRANO	125 MORALES	125 OLIVO	125 PEDROZA	105 RAVELO
125 MEJIA	102 MORARIO	105 OLMEDA	125 PENA	125 RAYA
115 MELCHOR	102 MORATAYA	125 OLMOS	125 PERALTA	105 RAYMUNDO
105 MELECIO	110 MOREJON	125 OLVERA	115 PERDOMO	102 RAYNOSO
125 MELENDEZ	102 MORELOS	102 ONATE	125 PEREA	102 RECENDEZ
105 MELENDREZ	125 MORENO	125 ONTIVEROS	125 PERES	125 REGALADO
102 MELIAN	101 MORISSETTE	125 OQUENDO	125 PEREZ	102 REGUERA
102 MELLADO	102 MORRALES	115 ORDAZ	102 PESANTE	105 REINOSO
101 MEMBIELA	101 MOSCARELLA	125 ORDONEZ	105 PILLOT	101 REMES
125 MENA	115 MOSQUEDA	102 ORDUNO	125 PINA	125 RENDON
125 MENCHACA	110 MOSQUERA	101 ORJUELA	101 PINDA	102 RENGIFO
102 MENDER	125 MOTA	115 OROPEZA	125 PINEDA	125 RENTERIA
125 MENDEZ	102 MOURE	125 OROZCO	105 PINEIRO	125 RESENDEZ
125 MENDOZA	125 MOYA	125 ORTEGA	102 PINEL	110 RESENDIZ
125 MENENDEZ	101 MOZA	125 ORTIZ	101 PINONES	110 RESTO
101 MER	105 MUNDO	101 ORTUZ	105 PINZON	102 REVOLORIO
125 MERCADO	102 MUNIS	125 OSORIO	101 PIQUERO	125 REYES
110 MERCED	125 MUNIZ	105 OSORNIO	105 PIZANA	125 REYNA
102 MERENO	125 MUNOZ	101 OSTOS	115 PIZANO	110 REYNOSA

125 REYNOSO	125 SANTANA	125 TERRAZAS	125 VASQUEZ	125 ZAMBRANO
125 RICO	102 SANTELL	110 TERRONES	125 VAZQUEZ	125 ZAMORA
125 RINCON	125 SANTIAGO	101 TERRONEZ	125 VEGA	125 ZAMUDIO
125 RIOJAS	125 SANTILLAN	102 TIENDA	110 VEGAS	125 ZAPATA
125 RIOS	102 SANTILLANA	125 TIJERINA	125 VELA	125 ZARAGOZA
125 RIVAS	101 SANTILLANO	115 TINOCO	115 VELARDE	125 ZARATE
125 RIVERA	101 SANTIS	125 TIRADO	125 VELASCO	125 ZAVALA
125 RIVERO	105 SANTOY	110 TOBAR	125 VELASQUEZ	105 ZENTENO
115 ROA	115 SANTOYO	125 TOLEDO	125 VELAZQUEZ	125 ZEPEDA
125 ROBLES	101 SAPALA	101 TOLENTO	101 VELDE	110 ZERMENO
125 ROCHA	115 SAPIEN	115 TOPETE	101 VELENZUELA	102 ZULUAGA
102 ROCHEL	115 SARAVIA	105 TORIBIO	102 VELETA	125 ZUNIGA
115 RODAS	102 SASTRE	125 TORO	125 VELEZ	102 ZUNO
102 RODELA	125 SAUCEDO	102 TORRADO	125 VELIZ	105 ZURITA
101 RODRIGUEZ	110 SEGARRA	102 TORRENTE	115 VELOZ	125 PALOMO
125 RODRIGUEZ	101 SEGOBIANO	125 TORRES	125 VENEGAS	105 PALOS
125 RODRIQUEZ	125 SEGURA	125 TORREZ	101 VENET	110 PANDO
125 ROJAS	101 SENDEJAS	125 TOVAR	125 VERA	102 PANETO
125 ROJO	105 SEPEDA	125 TREJO	102 VERASTEGUI	115 PANIAGUA
125 ROLDAN	125 SEPULVEDA	125 TREVINO	101 VERDU	102 PANTALEON
125 ROMERO	125 SERNA	125 TRUJILLO	125 VERGARA	125 PANTOJA
125 ROMO	102 SERNAS	101 TRUPPA	102 VICENS	115 PARADA
125 ROQUE	125 SERRANO	105 TURCIOS	102 VIEYRA	105 PARAMO
125 ROSADO	125 SERRATO	102 UBALLE	101 VILAND	125 PAREDES
125 ROSALES	125 SEVILLA	125 ULIBARRI	101 VILARO	105 PAREDEZ
125 ROSARIO	125 SIERRA	125 ULLOA	102 VILCHIS	105 PARES
125 ROSAS	115 SIFUENTES	125 URBINA	125 VILLA	125 PARRA
102 ROSENDO	105 SIMENTAL	125 URIBE	102 VILLAFRANCA	125 PARTIDA
115 RUANO	101 SIMOS	102 URIZAR	105 VILLAFUERTE	101 PASCENTE
110 RUBALCAVA	105 SIORDIA	102 URQUIZA	125 VILLAGOMEZ	115 PASILLAS
105 RUBI	125 SOLANO	102 URRRA	125 VILLALOBOS	110 PASTRANA
125 RUELAS	125 SOLIS	125 URRUTIA	105 VILLALON	125 PATINO
125 RUIZ	101 SOPENA	125 VACA	125 VILLALPANDO	102 PATLAN
125 SAENZ	125 SORIA	125 VALADEZ	110 VILLALTA	105 PAVON
101 SAITER	125 SOSA	125 VALDES	125 VILLANUEVA	110 PAYAN
125 SALAS	125 SOTELO	125 VALDEZ	102 VILLAPANDO	102 PAYES
125 SALAZAR	125 SOTO	125 VALDIVIA	125 VILLAREAL	125 PAZ
125 SALCEDO	101 SOTORRIO	125 VALENCIA	125 VILLARREAL	101 PECHTER
125 SALCIDO	105 SOZA	125 VALENTIN	115 VILLATORO	105 PECINA
125 SALDANA	125 SUAREZ	125 VALENZUELA	125 VILLEGAS	125 PEDRAZA
102 SALDIERNA	115 SUAZO	115 VALERO	115 VIRAMONTES	101 PEDREGAL
125 SALDIVAR	101 SUCILLA	105 VALLARTA	105 VIRELLA	101 PEDREYRA
125 SALGADO	105 SUERO	125 VALLE	105 VISCARRA	125 PEDROZA
101 SALGERO	101 SULA	125 VALLEJO	101 VITE	110 PELAEZ
125 SALINAS	101 TALAMANTE	115 VALLEJOS	105 VIVANCO	125 PELAYO
110 SALMERON	101 TALLET	105 VALLEZ	105 VIVAS	102 PELLAS
101 SALTO	125 TAMAYO	101 VANAGAS	125 YANEZ	125 PENA
125 SAMANIEGO	125 TAMEZ	101 VANDA	125 YBARRA	110 PENALOZA
102 SAMANO	125 TAPIA	102 VANGAS	102 YRACHETA	101 PENARANDA
102 SANCEN	101 TARDI	125 VARELA	105 YZAGUIRRE	101 PENIN
125 SANCHEZ	101 TAYO	125 VARGAS	110 ZABALA	101 PEON
125 SANCHEZ	125 TELLO	101 VARGES	101 ZABOR	125 PERALES
125 SANDOVAL	115 TENORIO	101 VARGOS	105 ZALDIVAR	110 PERALEZ
115 SANMIGUEL	101 TERRANDO	115 VASQUES	115 ZAMARRIPA	125 PERALTA

115 PERDOMO	125 QUINONES	115 RIZO	125 SALDIVAR	125 SEVILLA
125 PEREA	125 QUINONEZ	115 ROA	125 SALGADO	105 SIBRIAN
125 PERES	125 QUINTANA	102 ROBAINA	101 SALGATO	125 SIERRA
115 PEREYRA	125 QUINTERO	125 ROBLEDO	105 SALIDO	101 SIGAL
125 PEREZ	101 QUIRCH	125 ROBLES	125 SALINAS	115 SIGALA
101 PIANCA	115 QUIROGA	125 ROCHA	110 SALMERON	102 SILIS
102 PICON	125 QUIROZ	102 ROCHEL	125 SAMANIEGO	105 SIMENTAL
110 PIEDRA	101 RAICES	102 ROCHO	102 SAMANO	101 SIMOS
105 PILLOT	101 RAMAS	125 RODARTE	105 SAMUDIO	101 SOBERON
125 PINA	102 RAMIERZ	115 RODAS	125 SANABRIA	125 SOLANO
125 PINEDA	125 RAMIREZ	102 RODELA	125 SANCHES	115 SOLARES
110 PINEDO	125 RAMON	125 RODRIGUEZ	125 SANCHEZ	125 SOLIS
115 PINON	125 RAMOS	125 RODRIQUEZ	102 SANDAVAL	125 SOLIZ
101 PINONES	101 RAMPA	102 ROGAS	102 SANDIEGO	125 SOLORIO
102 PINOS	125 RANGEL	101 ROJANO	102 SANDINO	101 SOMORA
105 PINTADO	125 RASCON	125 ROJAS	125 SANDOVAL	101 SOPENA
105 PINTOR	101 RAUL	125 ROJO	102 SANJURJO	125 SORIA
105 PINZON	125 RAYA	125 ROLDAN	115 SANMIGUEL	125 SOSA
101 PIQUERO	110 RAYO	125 ROLON	101 SANTALLA	102 SOTA
105 PITA	125 RAZO	102 ROMANES	125 SANTANA	102 SOTELLO
115 PIZANO	105 REBOLLEDO	102 ROMEN	125 SANTIAGO	125 SOTELO
125 PIZARRO	102 RECENTEZ	125 ROMERO	125 SANTILLAN	125 SOTO
110 PLACENCIA	125 REGALADO	125 ROMO	101 SANTILLANO	105 SOTOLONGO
105 PLASENCIA	102 REGINO	102 RON	101 SANTIS	110 SOTOMAYOR
115 PLATA	102 REGUERA	101 RONCEROS	105 SANTOY	102 SOUCHET
115 PLAZA	105 REINOSO	125 ROQUE	115 SANTOYO	105 SOZA
125 POLANCO	102 RELLES	125 ROSADO	115 SAPIEN	125 SUAREZ
125 PONCE	101 REMES	125 ROSALES	125 SARABIA	101 SUCILLA
102 POPOCA	101 REMOS	125 ROSARIO	115 SARAVIA	105 SUERO
125 PORRAS	101 RENDO	125 ROSAS	102 SARDINAS	101 SULA
105 PORTALATIN	125 RENDON	102 ROSENDO	125 SAUCEDA	101 SUZANNE
125 PORTILLO	115 RENTAS	101 ROZOS	125 SAUCEDO	102 TABORA
102 POSADAS	125 RENTERIA	115 RUANO	105 SAVALA	125 TAFOYA
105 POZO	102 REQUENA	110 RUBALCABA	102 SEDANO	115 TALAVERA
105 PRADA	125 RESENDEZ	110 RUBALCAVA	101 SEDENO	125 TAMAYO
101 PRADEL	110 RESENDIZ	101 RUBALCAVE	110 SEGARRA	125 TAMEZ
125 PRADO	110 RESTO	125 RUBIO	101 SEGOBIANO	125 TAPIA
102 PRATS	115 RESTREPO	115 RUEDA	125 SEGOVIA	101 TARDI
101 PRESA	102 REVOLORIO	125 RUIZ	102 SEGOVIANO	115 TAVAREZ
102 PREZA	125 REYES	125 SAAVEDRA	101 SEGREDO	101 TAYO
101 PRIEGO	125 REYNA	110 SABALA	125 SEGURA	125 TEJADA
125 PRIETO	102 REYNE	125 SAENZ	102 SELAN	125 TEJEDA
102 PROA	110 REYNOSA	115 SAEZ	101 SEMA	125 TELLEZ
102 PROANO	125 REYNOSO	110 SAIS	102 SENCION	125 TELLO
101 PUBILL	110 REZA	101 SAITER	105 SENTENO	115 TENORIO
102 PUEBLA	101 RIBES	102 SALAMANCA	125 SEPULVEDA	125 TERAN
125 PUENTE	125 RICO	125 SALAS	105 SEQURA	101 TERRAN
115 PUENTES	125 RINCON	125 SALAZAR	125 SERNA	101 TERRANDO
115 PUIG	125 RIOJAS	102 SALCE	102 SERNAS	125 TERRAZAS
125 PULIDO	125 RIOS	101 SALCEDA	125 SERRANO	110 TERRONES
101 QUARRELL	125 RIVAS	125 SALCEDO	125 SERRATO	101 TERRONEZ
125 QUESADA	125 RIVERA	125 SALCIDO	110 SERVANTES	102 TIENDA
115 QUEVEDO	125 RIVERO	125 SALDANA	101 SERVERA	125 TIJERINA
125 QUEZADA	101 RIVIELLO	102 SALDANO	110 SERVIN	115 TINOCO

125 TIRADO	125 VARELA	105 VIRELLA
110 TOBAR	125 VARGAS	102 VIVAR
105 TOBON	115 VASQUES	105 VIVAS
125 TOLEDO	125 VASQUEZ	110 VIVEROS
105 TORIBIO	125 VAZQUEZ	110 VIZCARRA
125 TORO	125 VEGA	110 YANES
102 TORRADO	125 VELA	125 YANEZ
102 TORRENTE	102 VELAQUEZ	101 YANIZ
125 TORRES	115 VELARDE	125 YBARRA
125 TORREZ	125 VELASCO	115 YEPEZ
101 TORT	125 VELASQUEZ	102 YEPIZ
125 TOVAR	125 VELAZQUEZ	102 YERO
125 TREJO	101 VELDE	105 YNIGUEZ
125 TREVINO	102 VELETA	102 YRACHETA
110 TREVIZO	125 VELEZ	110 ZABALA
110 TRISTAN	125 VELIZ	101 ZABOR
125 TRUJILLO	115 VELOZ	105 ZALDIVAR
101 TRUPPA	125 VENEGAS	115 ZAMARRIPA
102 TUR	101 VENET	125 ZAMBRANO
101 UBEDA	125 VERA	125 ZAMORA
101 UGARTECHEA	102 VERASTEGUI	125 ZAMUDIO
125 ULLOA	101 VERDEJA	125 ZAPATA
110 UMANA	125 VERGARA	125 ZARAGOZA
102 UMANZOR	101 VERTIZ	125 ZARATE
125 URBINA	102 VICENS	102 ZARO
125 URIAS	102 VICTORES	125 ZAVALA
125 URIBE	105 VIDALES	125 ZAYAS
102 URRRA	125 VIERA	125 ZELAYA
125 URRUTIA	102 VIEYRA	105 ZELEDON
102 URSUA	125 VIGIL	105 ZENTENO
125 VACA	105 VIGO	101 ZEPADA
125 VALADEZ	101 VILAND	125 ZEPEDA
101 VALANTIN	101 VILARO	110 ZERMENO
105 VALAZQUEZ	102 VILCHIS	102 ZORRILLA
125 VALDES	125 VILLA	101 ZULAICA
125 VALDEZ	105 VILLAFANE	102 ZULUAGA
125 VALDIVIA	125 VILLAGOMEZ	125 ZUNIGA
102 VALDIZON	105 VILLAGRANA	
115 VALDOVINOS	115 VILLALBA	
125 VALENCIA	125 VILLALOBOS	
125 VALENTIN	105 VILLALON	
125 VALENZUELA	102 VILLAMIL	
110 VALERA	125 VILLANUEVA	
115 VALERO	110 VILLANVEVA	
125 VALLADARES	125 VILLAREAL	
125 VALLE	125 VILLARREAL	
125 VALLEJO	102 VILLASANA	
125 VALLES	125 VILLASENOR	
105 VALLEZ	115 VILLATORO	
110 VALTIERRA	125 VILLEGAS	
125 VALVERDE	105 VILICANA	
101 VANAGAS	101 VILLRREAL	
101 VANDA	102 VINCENTE	
101 VAQUEDANO	115 VIRAMONTES	

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Printed by Authority of the State of Illinois

P.O. #547097 900 8/98