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**EVALUATING AWARENESS OF COMMUNITY HEALTH AND HUMAN  
SERVICES BY THE HISPANIC POPULATION  
IN LEXINGTON, KENTUCKY**

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Casptone Project 2005

Running Head: Community Health and Human Services

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## EXECUTIVE SUMMARY

Over the past 10 years, Hispanics, predominately Mexicans, have become a notable component of immigration in Kentucky. At the same time, the city of Lexington has striven to increase and stimulate community efforts to help and support people in need. Over 2000 non-profit organizations exist in the city and surrounding areas that unite community support to assist people seeking help.

Among non-profit agencies, particularly the United Way of the Bluegrass, there is a perceived idea that people in need and seeking help are overwhelmed with information about available community human and health services. Notwithstanding this perception, a different reality seems to be at work for the Hispanic population. It seems that Hispanics do not know about health and human services they could benefit from. Therefore, the aim of this study is to make non-profit agencies aware of whether or not the information about their services is reaching this population.

This study will investigate whether there exist a *lack of awareness among the Hispanic population about readily available community human and health services in the Lexington area*. It will also evaluate the factors that could have a relationship with the lack of awareness such as ethnicity, language skills, education and income level, age and willingness to share personal information when requesting a service.

The study population consists of 429 Lexington residents. This population is divided in two samples. A general sample of 399 individuals and a sub sample of 30 individuals who have defined their ethnicity as Hispanic. Telephone interviews were conducted with 399 respondents who reside in Lexington and personal interviews were conducted with 30 members of the Hispanic community using a translated version of the telephone interview. Questions were translated into a colloquial form in order to be understood by the average Spanish speaker.

Multiple regression tests were run in order to estimate which of the defined predictors is statically significant to explain the variability in the level of awareness. The model indicates that **ethnicity (Hispanic), age, educational attainment, and language skills** have statistically significant impact on the level of awareness. All of them are significant at the 0.05 confidence level. The model succeeds in rejecting the first and second null hypotheses –“There is no relationship between *ethnicity* and the level awareness about available community health and human services” and “There is no relationship between the education level and language skills and the level of awareness about community health and human services”. In addition, the Hispanic ethnic group is the one with the least level of awareness.

Furthermore, income level as well as willingness to share personal information are not statistically significant predictors of the variability in the level of awareness. The third hypothesis, “willingness to share personal information affects the level of awareness”, is not confirmed by the study: willingness was found to be an inversely related non-statistically significant predictor of level of awareness.

Following the results of the study, recommendations are suggested to non-profit agencies as well as to local authorities in order to increase the level of awareness about community health and human services and in order to reach populations in need. Considering that English language skill is found to have a significant impact on the level of awareness, recommendations to non-profit agencies emphasize the need of efforts on their behalf to face and overcome language barriers. In this sense, agencies should develop new strategies to advertise their services by designing their own web pages in English, Spanish and other foreign languages as well as developing recruitment strategies for bilingual individuals. In addition, it would be a significant step towards success if they advertised their services in the local mass media and the Hispanic press. Participating in the UWBG's 2-1-1 initiative will also be a useful resource that non profits could benefit from.

On the other hand, the results of this study also suggest that recommendations be made in order to trigger some governmental actions. Regarding language skills, local authorities should increase the number of minority-serving institutions and community-based organizations that receive funding and support to address language barriers among the Hispanic community.

Lastly, as the educational attainment is another significant predictor of the level of awareness, local authorities should increase the percentage of Lexington's resident with higher education as well as the funding and support to promote educational opportunities (fellowships, internships, scholarships...) for racial and ethnic minority students.

EVALUATING AWARENESS OF COMMUNITY HEALTH AND HUMAN  
SERVICES BY THE HISPANIC POPULATION  
IN LEXINGTON, KENTUCKY

Over the past 10 years, the structure of immigration has changed in Lexington, Kentucky. Attracted by the employment availability in the tobacco fields and the horse farms, Hispanics, predominantly Mexicans, have become a notable component of immigration. According to the 2000 census data, Fayette County has 260,512 inhabitants and 3.3 percent of that total are Hispanic (U.S Census Bureau: 2000). Many of them enter the country illegally or overstay their visas. In addition, such farming jobs are low wage positions forcing migrant workers to live under the poverty level.

In the meantime, demand for low-skilled labor continues to grow in the United States while the domestic supply of suitable workers inexorably declines - yet U.S. immigration law contains virtually no legal channel through which low-skilled immigrant workers can enter the country to fill that gap. The result is an illegal flow of workers characterized by more permanent and less circular migration, smuggling, document fraud, deaths at the border, artificially depressed wages, and threats to civil liberties (Griswold, D.:2002). Griswold's (2002) analysis of the immigration system states that, contrary to common objections to the reception of Mexican immigrants, evidence does not suggest that a properly designed system of legal Mexican migration will unleash a flood of new immigrants to the United States, hurt low-skilled Americans, burden taxpayers, create an unassimilated underclass, encourage lawbreaking, or compromise border security.

On the other hand, this city strives to increase and stimulate community efforts to help and support people in need. Over 2000<sup>1</sup> non-profit organizations<sup>2</sup> exist in Lexington and surrounding areas that unite community support to assist people seeking help. They provide a range of services such as:

- ◆ *Basic human need resources:* food banks, clothing closets, shelters, rent and utility assistance.
- ◆ *Physical and mental health resources:* Health insurance programs, Medicaid and Medicare, maternal health, Children's Health Insurance Program, medical information lines, crisis intervention services, support groups, counseling, drug and alcohol intervention and rehabilitation.
- ◆ *Employment supports:* Financial assistance, job training, transportation assistance, and education programs.
- ◆ *Support for the elderly and people with disabilities:* adult day care, congregate meals, Meals and Wheels, respite care, home health care, transportation, and homemaker services.
- ◆ *Support for children, youth and families:* Childcare, after school programs, mentoring, tutoring, and protective services.

This study has been inspired by a previous marketing research study conducted by Preston-Osborne and the author on behalf of the United Way of the BlueGrass (UWBG). The UWBG aims to predict the effectiveness of a help line called 2-1-1. This help line, when implemented, would provide information and referrals about human and health services. The study involved two major surveys that were conducted in order to get feedback from vested audiences including not only potential callers but also the various

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<sup>1</sup> Preston-Osborne Marketing Research Company. Lexington- KY

agencies and organizations that would potentially be included in the 2-1-1 database. One of the surveys was directed to non-profit agencies that provide human and health services in the Lexington area (n=366). The purpose of it was to address the perceived role agencies would play in making the effort successful. (Preston-Osborne Marketing Communication & Research: 2004). Some of the findings for the Non-profit Agencies Survey are of particular interest for this study and motivate some of the research questions. In one of the questions, the respondents (Non-profit agencies) were asked about what it would take for a 2-1-1 system to be successful. “To have multilingual operators” (one of the 16 considerations presented), ranked in a middle low position (See Appendix Figure # 1). Moreover, respondents were also asked to provide input regarding the type of information 2-1-1 should seek from agencies when compiling its database. “Language spoken”, one of 15 items that were presented, was selected by less than half of all respondents. (See Appendix Figure # 2). These facts could mean that they are not interested in providing help to those groups that are not English speakers or they never have been in the need of dealing with this population. On the other hand, they could imply that this population is not asking or seeking help due to many factors such as culture, fear, uncertainty and, disinformation.

UWBG intended the second survey (n=429) to assess the community’s opinion about this new phone line. The main concern that led UWBG to conduct the latter survey was the perceived idea that people in need and seeking help are overwhelmed with information. As quoted in the 2-1-1 Communicator’s Guide, “faced with a dramatic increase in the number of agencies and help lines, people often do not know where to turn. In many cases, people end up going without these necessary and readily available

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<sup>2</sup> Governmental agencies are not of interest in this study.

services because they do not know where to start” (2-1-1 Communicator’s guide: 2004).

Therefore, a central directory such as the 2-1-1 could organize that information and serve as a one-stop resource.

## **Research Design**

### **Statement of the problem**

Despite UWBG’s perception, that people are overwhelmed with information about community health and human services, the community survey (Preston-Osborne: 2004) concludes that a different reality seems to be at work for the Hispanic population. It seems that Hispanics do not know about human and health services they could benefit from.

The problem this study will address is whether there exists *a lack of awareness, and its causes, among the Hispanic population about readily available community human and health services in the Lexington area.*<sup>3</sup>

There are several factors that could have a relationship with the lack of awareness ranging from ethnicity and English language skills to education and income level. .The research questions and hypotheses that are of interest in this study are the following:

### ***Research questions***

1) Does a relationship exist between ethnicity and the level of awareness about community health and human services?

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<sup>3</sup> According to Ben Figueras, president of Lexington’s Hispanic Association, a resource center for Kentucky’s Latino population, “there is no government agency dedicated to Hispanic issues, no coordinated effort to address the need of the Hispanics who are already here and to prepare for the score of others who are sure to come....Though several agencies have special services, programs or initiatives aimed at the Hispanic community, oftentimes those people do not know about them” (<http://www.kypost.com/2002/jul/20/kinney072002.html>).



2) Do education level and language skills have an effect on the level of awareness about community health and human services?

3) Does willingness to disclose personal information affect the level of awareness of community health and human services?

**Hypotheses:**

H<sub>1</sub>= There is a relationship between *ethnicity* and the level awareness about the availability of community health and human services.

H<sub>0</sub>=There is no relationship between *ethnicity* and the level awareness about the availability of community health and human services.

H<sub>2</sub>=There is a relationship between the education level and language skills and the level of awareness about community health and human services.

H<sub>0</sub>=There is no relationship between the level of education and language skills and the level of awareness about community health and human services.

H<sub>3</sub>= Willingness to disclose personal information affects the level of awareness about community health and human services.

H<sub>0</sub>= Willingness to disclose personal information does not affect the level of awareness about community health and human services.

Additional information such as *age* and *income level* will also be tested in order to verify whether or not a relationship exists between those variables and the level of awareness.

*Ethnicity*: among “Latinos” the most common way to find information is asking relatives, neighbors or people of trust. This population does not assimilate in the idea of utilizing official organizations to find help, especially organizations from the non-profit sector. This fact would prevent them from having information about benefits and services

they could obtain from these agencies. Many Hispanics do seek and receive help from governmental agencies once they have children in the U.S who are eligible for governmental programs.

*Education Attainment:* This research will focus on education levels attained by respondents as well as language skills. Lack of education in general could prevent this population from asking for help in the right places. As an example, most of them end up calling 9-1-1 asking for places to find food or shelter. In addition, language barriers could prevent Hispanics from seeking help due to the fear of not being understood. Studies have found that unlike African-Americans, who are more integrated into white communities than ever, the growing Hispanic community remains highly knit together because of the language barrier.

*Willingness to disclose personal information:* In most of the cases, when attending official institutions, people are requested to provide personal information such as address, zip code, social security number, driver license, etc. In the case of Hispanics, some of them, predominantly Mexicans, are undocumented. Therefore, disclosing information about their location could lead to their deportation. Consequently, being afraid to share personal information with agencies prevents people from being informed about health and human services.

### **Measurement- Construct Validity**

#### *Dependent Variable:*

Level of awareness about the availability of health and human services: Number of agencies, help lines or places in general that the respondent is aware of, regardless of whether or not he or she has used them.

For the purpose of analysis, those predictors of the level of awareness about community health and human services that are ordinary in nature will be considered as continuous variables.

*Independent Variables*

Ethnicity: (White/Black/Hispanic/Asian/Caucasian/Bi-racial/other)

Level of education: 8th grade or less / Some high school / High school graduate-GED-Vo-tech / Some college-associate's degree-College graduate / Post graduate study / Refused.

Language Skills: Measured by responses to the question how well the respondent understand, speak and write English. Scores range from 1 for the lowest skill level to 6 for the highest skill level. The list of scores is as follow: I do not understand or speak any of the language / I can understand a little and can speak a few words / I understand quite well; I can speak in familiar situations and read simple things but I find writing difficult / I speak well but not fluently; I understand most spoken language; I can read fairly well and write simple sentences but make mistakes / I understand almost all spoken and written everyday language; I can speak confidently, even in unfamiliar situations, and my writing is quite good / There are occasional errors or misunderstandings, but generally I communicate clearly and effectively in both spoken and written language.

Willingness to disclose personal information: is measured by responses to the question how willing would the respondent be to share personal information such as age, income and education levels, and zip code when requesting community health and human services. Scores range from “very willing to share information” for the most willing to “not willing at all” for the least willing.

## **Design and Procedures**

In August 2004, a total of 399 telephone surveys were conducted in the Lexington area. The method used to select the units for the phone interview was simple random sampling from the Lexington local phonebook (The Official ALLTEL Directory of the Greater Lexington Metro Area. 2004 edition).

Recognizing that the needs of the Hispanic community would most likely differ from other ethnic groups, and also understanding that conducting interviews with Hispanics via phone would be challenging, 30 additional interviews were conducted in person by a UWBG summer intern fluent in both Spanish and English (the author). These additional interviews were performed in areas of Lexington with a high density of Hispanic population such as the Cardinal Valley area and North Limestone, as well as other sites. The author needed to predetermine those areas creating a list of places frequented by Hispanics. As it is noticeable, it could not be feasible to apply the same sampling process used for the telephone survey when selecting the units for the Hispanic subgroup. Random sampling was not practical because, first of all, there are no complete and reliable lists of Hispanics' residences in Lexington. Many of them are not registered in the phonebook and their immigration status prevents them from being registered in any official record. In addition, individuals that are of interest in this study are not the general Hispanic population, but those who are more likely to benefit from help lines and non-profit agencies that provide health and human services. Therefore, what is at work for the Hispanic subset ( $n=30$ ) is *a non-probabilistic sampling* that does not involve random selection, specifically, *purposive sampling*. "Purposive sampling refers to gathering information with an end in mind. Usually it targets one or more specific predefined

groups. After verifying if the respondent does in fact meet a determine criteria they are included in the sample.” (Trochim, W: 2001:52)

### **Procedure for the Hispanic Sub sample**

During June 2004, the author contacted different Hispanic organizations that might have information about what could be the most suitable way to find Hispanics in the Lexington area. Responses were obtained from “La voz de Kentucky”, “Hoy en las Americas” (Newspapers for Spanish speakers) and Asociación de Hispanos en Lexington (Lexington Hispanic Association). These organizations provided a list of Hispanic groceries, businesses, restaurants, churches, etc. most of them located in Versailles Road, Alexandria Dr, Village Dr., Oxford Dr. (Cardinal Valley Area) and North Limestone (See Appendix -Figure 3- for the list of places).

Between July 1<sup>st</sup> and July 15<sup>th</sup> 2004, the interviewer contacted Hispanic householders older than 18 years old, some of them residing in Cardinal Valley. Participants were assured confidentiality and were given the opportunity to decline to participate in the survey. Only 3 persons refused to participate. The interview lasted 10 to 15 minutes approximately. Contact information of the respondent was recorded and also explained that the interviewer might need to contact them again in a near future. All the data were tabulated by Preston-Osborne with the participation of the author.

### **Sample population**

The population of interest of this study are individuals, head of household<sup>4</sup>, 18 years old and older, residing in Lexington.(n=399)

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<sup>4</sup> Head of household is defined as a married or unmarried person who maintains a household for a dependent (or nondependent relative) and provides more than half of the dependent's financial support.(U.S Census Bureau)

***Hispanic Subsample:***

Hispanics residing in Lexington, Kentucky who are more likely to benefit from health and human services provided by Non profit agencies (n=30).

In order to participate in this study for the Hispanic subgroup, individuals must meet the following criteria:

- 1) Describe their ethnicity as Hispanic<sup>5</sup>
- 2) 18 years old and older
- 3) Head of household.

**Instrument**

The instrument was designed to include unstructured and structured questions. The interviewer was instructed not to prompt any response for unstructured questions. The decision of not providing any list of options to the respondents was based on the idea that any list could lead the answer and focus the respondent only in the issues or items mentioned in it.

Telephone interviews were conducted with 399 respondents who reside in Lexington and personal interviews were conducted with 30 members of the Hispanic community using a translated version of the UWBG's telephone interview. Questions were translated into a colloquial form in order to be understood by the average Spanish speaker. This effort was intended to motivate the respondents' willingness to cooperate with the interviewer.

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<sup>5</sup> **Hispanics or Latinos** are those people who classified themselves in one of the specific Spanish, Hispanic, or Latino categories listed on the Census 2000 questionnaire -"Mexican, Mexican Am., Chicano," "Puerto Rican", or "Cuban" -as well as those who indicate that they are "other Spanish/Hispanic/Latino." Persons who indicated that they are "other Spanish/Hispanic/Latino" include those whose origins are from Spain, the Spanish-speaking countries of Central or South America, the Dominican Republic or people identifying themselves generally as Spanish, Spanish-American, Hispanic, Hispano, Latino, and so on. (U.S. Census Bureau)

### **Proposed Data Analysis**

Descriptive analysis will be conducted to obtain general information such as the mean and spread of income and education levels, age, and gender.

Regression analysis will be employed to structure the relationship between the independent variables -education level, languages skills, age, income level, willingness to disclose personal information, ethnicity (Hispanic) and, ethnicity (black)- and the dependant variable. -Level of awareness about community health and human services-

The following linear model will be used:

$$Y = \beta_0 + \beta_1 X_1 + X_2 + \dots + X_n + E$$

Where:

Y = Level of awareness

$\beta_0$  = Intercept

$\beta_1$  = Factor coefficient

$X_1$  = Education level

$X_2$  = Language skills

$X_3$  = Age

$X_4$  = Income Level

$X_5$  = Willingness to disclose personal information

$X_6$  = Hispanic

$X_7$  = Black

E = Error

### **Limitations of this study**

As this study involved a non-probabilistic purposive sample for the Hispanic population, external validity is limited. Final results will not be susceptible to be generalized, however, this sampling method is appropriate for hard-to-reach populations. In this particular study this method serves as an adjunct to other sampling strategies and even when its results cannot be generalized, it will allow the author to provide analysis to support research conclusions.

**Significance of this study**

New demographics and migration trends in Kentucky, particularly in Lexington, call for action in order to accurately recognize how to reach populations in need and clarify and define what that population actually need.

As we already mentioned, there is a common idea among nonprofits that people looking for assistance are overwhelmed with information about health and human service programs and have trouble navigating a complicated web of these services, hence, they often do not know where to turn. With this idea in mind, the aim of this study is to make non-profit agencies aware about whether or not this idea applies to the Hispanic community, that is, to let them know whether or not the information about their services is reaching this population.

**Literature Review**

The Hispanic population in the U.S. has witnessed tremendous growth over the last thirty years, moving from roughly six percent of the population in 1960 to about ten percent in 1995. According to the Census Bureau, Hispanics have surpassed Blacks as the nation's largest minority group. The Latino population grew to 37 million in July 2001, up 4.7 percent from April 2000. They now comprise nearly 13 percent of the U.S. population, which grew to 284.8 million in July 2001. The Black population increased 2 percent during the same period, to 36.1 million. As predicted by Census Bureau demographers, the rapid growth in the Hispanic component of the population nationwide has been fueled both by significant immigration, particularly since 1964, and high fertility rates. Hispanics, on average, reflect larger families than either non-Hispanic White or African- Americans, although there are differences in family size among the major subgroups in the Hispanic population. Mexican-Americans, generally have the



largest families within this grouping, particularly in rural areas or small towns, followed in order by Puerto Ricans, Central Americans and Cubans.

Hispanics tend to remain heavily concentrated in certain regions of the United States, notably the Southwest (including significantly, California), the Northwest, South Florida and several urban centers of the Midwest. However, evidence exists that a diffusion of Hispanics to many “nontraditional” areas of the country is occurring. Accordingly, an increasing population of Hispanic immigrant is making the Bluegrass their home. In the past 10 years, the number of Hispanics in Kentucky has more than doubled. According to the US Census Bureau 2000, the total population of Lexington is 260,512 and 3.3% of that total are people of Hispanic or Latin origin (8,516). That number, however, does not include those migrants who are undocumented and those who enter the country only during the tobacco season<sup>6</sup>. The Hispanic population is significantly undercounted because many did not fill out the Census forms, also some Hispanics say they are fearful of reporting their ethnicity because they are afraid that their working permits or visas could be revoked. By most estimates the figure is currently somewhere above 30,000<sup>7</sup>, a dramatic contrast to the mere 3,347<sup>8</sup> Hispanics registered in the area in 1990 when migration was relatively low. The need of labor force at tobacco fields as well as at the horse industry has been the main cause of the massive Hispanic immigration towards the Bluegrass during the last 10 years.

### *Hispanic/ Latino Culture*

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<sup>6</sup> The state estimates that between 70 and 80 percent of Kentucky’s 25,000 tobacco workers are Hispanic.

<sup>7</sup> Kentucky Long Term Policy Research Policy: “Status of Hispanic Kentuckians Key to Future”. Foresight, Vol 8, N° 4 2002

<sup>8</sup> Census Bureau 1990

Hispanic culture, as many others, has certain cultural nuances of unwritten norms that rule social interactions. These unstated rules may have an effect in the way individuals perceive and also receive health and human services. According to The Provider's Guide to Quality and Culture<sup>9</sup>, the most significant cultural characteristics for Hispanics in the United States include family (la familia), respect (respeto), and (confianza).

*Family:* Hispanic families traditionally emphasize interdependence over independence, and cooperation over competition. In this sense, Hispanics include many people in their extended families, not only parents and siblings but grand parents, aunts, uncles, cousins and “compadres”, close friends, and godparents (padrinos) of the family's children. When they are going through an adverse situation, Hispanic people frequently consult with other family members. Therefore family members are likely to be involved in situations such as, for example, health treatment. In this case, the opinion of family members in the consultation is often critical to the care of a patient and may contribute to an individual's ability to decide regarding his or her health care treatment. The individual may not be the key decision-maker for describing symptoms, deciding among treatment options or complying with recommended treatment.

*Respect:* For Hispanics the intimate confines of extended families, cohesive Hispanic communities, and traditional patriarchal networks are mediated by respect. In this sense, respect means a mutual and reciprocal deference. Respect indicates appropriate behavior towards others based on age, sex, social position, economic status, and authority.

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<sup>9</sup> Management Science for Health: Provider's Guide to Quality and culture.  
<http://erc.msh.org/mainpage.cfm.htm&module=provider&language>

As an example, health and education providers, by virtue of their healing abilities, education, and training are afforded a high level of *respect (respeto)* as authority figures. As a general rule, Hispanics tend to look forward to what the health care provider or teacher has to say and value the direction and services.

*Trust (confianza)*: When human and health services providers show their respect towards the culture and also how personal interest in the person's situation, they can expect to win a person's *confianza* (trust). When there is trust, Hispanics will value the time they spend talking with their providers and believe what they say. *Confianza* means that the provider has their best interests at heart.

Up to this point, certain questions come to surface such as does a strong nonprofit sector make any difference? Counting with a strong non profit sector does make Lexington City a better place for Hispanics?

Gronbjerg, K. et. al (2001) state that nonprofits reflect and shape community conditions. Understanding the nature of this relationship is important if we are to fully comprehend the role nonprofits play in contemporary society and if policy makers are to make effective use of the sector to implement local responses to community needs.

As most observers of the nonprofit sector recognize, the sector is deeply inserted in the society in which it is located—reflecting the nature and intensity of social problems, the opportunities for citizen participation afforded by decision-making structures, the interests and resources of residents, and the configuration of other key community institutions, such as government. At the same time, nonprofits affect societal conditions through their ability to undertake collective action for public or mutual benefit. A better appreciation of the dynamic in the nonprofit sector would enhance our understanding of the role nonprofits play in contemporary American society.

### Descriptive Statistics

The sample is composed of 429 individuals. It includes 352 who defined their ethnicity as “white”, 22 as “black”, 30 as “Hispanics” and 11 defined their ethnicity in other categories rather than the three mentioned here. As far as gender is concerned, 45% of the respondents are male and 55% are female. Forty percent of the participants are between 35 and 54 years old. Regarding educational attainment, mayor percentages of the population fall between “high school graduate” and “some college/associate’s degree” (52%). Surprisingly, almost 65 % of the respondents agree on being very willing and somewhat willing to share personal information when requiring a service.

Table 1: Age distribution of the population<sup>10</sup>

Age range	Percentage
18-24	4%
25-34	15.9%
35-44	19.8%
45-54	20.7%
55-64	17.9%
65-74	10.5%
75 or older	7.5%
Refused	3.7%
N= 429	

Table 2: Educational Attainment distribution<sup>11</sup>

Education	Percentage
8 <sup>th</sup> grade or less	6.3%
Some high school	4.7%
High School graduate	29.1%
Some college	22.1%
College graduate	24.2%
Post graduate study	11.9%
Refused	1.6%
N= 429	

<sup>10</sup> Please refer to Appendix Table A2 for more details.

<sup>11</sup> Please refer to Appendix Table A3 for more details.

Table 3: Income distribution of the population<sup>12</sup>

<b>Income level</b>	<b>Percentage</b>
Less than \$10,000	8.4%
\$10-14,999	5.1%
\$15-24,999	10.5%
\$25-34,999	11.7%
\$35-49,999	13.1%
\$50,74,999	14.9%
\$75 and above	17.3%
Refused	19.1%
N= 429	

Table 4: Willingness to share information distribution<sup>13</sup>

<b>Willingness to share</b>	<b>Percentage</b>
Very willing	37.5%
Somewhat willing	37.3%
Not very willing	14.2%
Not willing at all	11.0%
N= 429	

- Level of awareness about available health and human services.

Survey participants were given a definition of health and human services<sup>14</sup>.

Following the description, respondents were asked to name any sources they were aware of that could provide information about the various health and human services available in the area for those needing help.

Respondents were allowed to mention more than one, and also were not provided with any list of options. They were free to mention any entity or organization they think they could get information from. Nevertheless, interviewers were provided with a list of nine specific organizations: FirstLink, Kentucky Cares, LexCall, Ask Us, Social Security Office, Health Department, Cabinet for Families and Children, Family Resource Center and United Way and they were instructed to specify when those were mentioned.

<sup>12</sup> Please refer to Appendix Table A4 for more details.

<sup>13</sup> Please refer to Appendix Table A5 for more details.

Taking into consideration these nine specific organizations, few people are aware of the existing places where they can find information about community health and human services. 72 percent of the sample was not aware of any place where to find human and health services. See table 2.

Table 5: Level of Awareness about available community health and human services

Level of Awareness	Frequency	Percent	Cumulative Percent
Not aware of any place (0)	309	72.0	72.0
Respondent mentions 1 institution (1)	104	24.2	96.3
Respondent mentions 2 institutions (2)	15	3.5	99.8
Respondent mentions 3 or more institutions (3)	1	.2	100.0
<b>Total</b>	<b>429</b>	<b>100.0</b>	

### **Data Analysis**

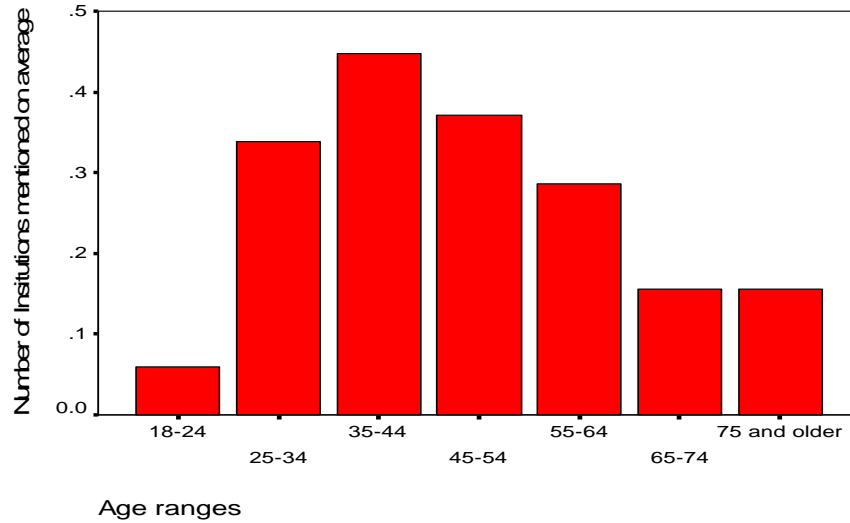
- *Who were the least familiar with the existence of health and human services?*

Graph 1 shows the number of institutions mentioned on average by each age range. Among those least familiar with any human and health services –those age groups that mentioned the least number of institutions on average- were elderly respondents and young people from ages 18-24. As it could be expected, people in the latter age might not decide whether or not use community health and human services, rather their tutors or parents would do it.

### Graph 1: Level of Awareness according to age range

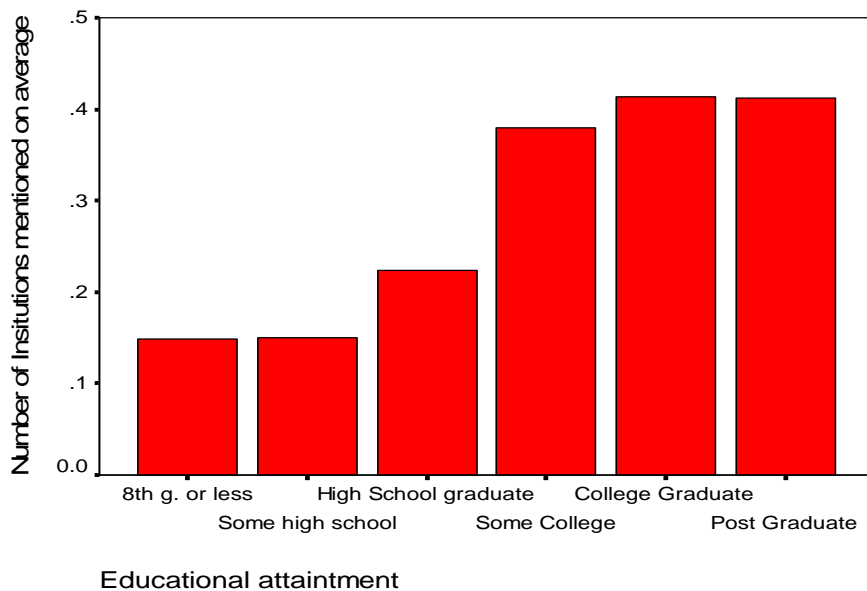
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<sup>14</sup> Definition: “Broadly defined, health and human services refer to those services designed to protect or aid in the health and well being of citizens. These types of services are offered by hundreds of organizations throughout the area.”



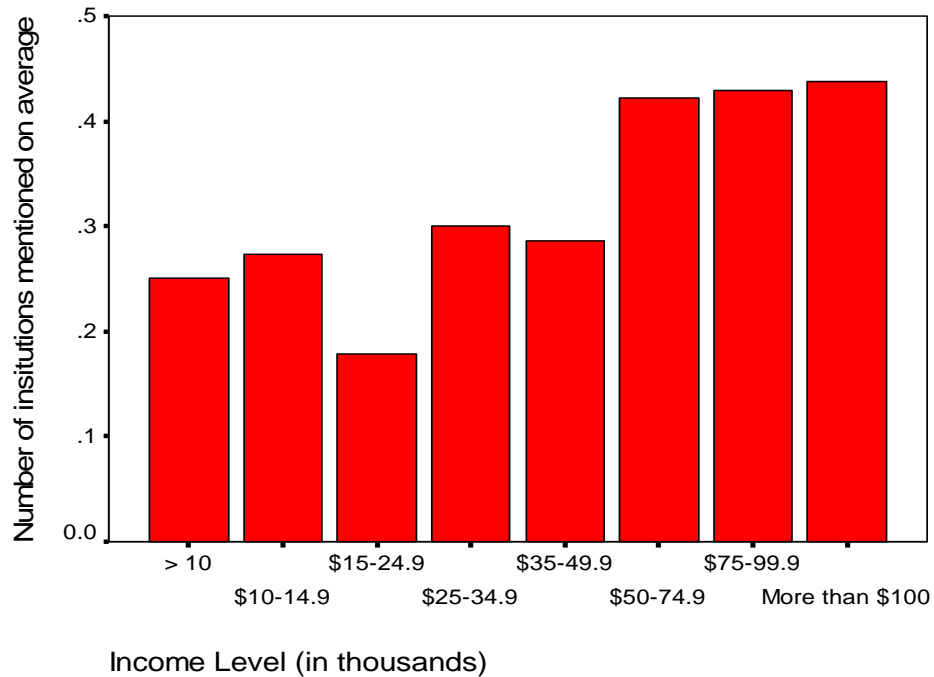
In addition, it was also noticeable that less educated respondents have the least information about where to find help when needed. As we mentioned before, 52 % of the sample have completed high degree or have some college done. Surprisingly, Graph 2 shows an important break in the number of institutions mentioned on average between these two levels of education.

Graph 2: Level of Awareness according to education attainment



Respondents with annual household income of between 15,000 and 25,000 were also those who were the least informed. More generally, those with lower income had less knowledge than those with higher income. See graph 3

Graph 3: Level of Awareness according to income level



Multiple Regression analysis

The analysis was done using SPSS 1101. For purpose of analysis, some predictors and the dependent variable are treated as continuous variables. A multiple regression model was used to indicate which of the independent variables are statistically significant predictors of the level of awareness. In order to test whether or not there exists a relationship between level of awareness and ethnicity the ethnicity variable was treated with a dummy variable for Hispanic (if Hispanic scored=1; else=0), and another for Black (if Black scored=1; else=0).

Regression tests were run in order to estimate which of the defined predictors are statistically significant to explain the variability in the level of awareness.



The following equation defined the multiple regression model with 7 explanatory variables:

$$\text{AWARENESS} = \beta_0 + \beta_1 * \text{AGE}_t + \beta_2 * \text{EDUCATION}_t + \beta_3 * \text{INCOME}_t + \beta_4 * \text{LANGUAGE}_t + \beta_5 * \text{WILLINGNESS}_t + \beta_6 * \text{ETHNICITY}_t (\text{Hispanic}) + \beta_7 * \text{ETHNICITY}_t (\text{Black}) + \varepsilon_t$$

According to the defined predictions,  $\beta_2$  (Education attainment),  $\beta_4$  (Language),  $\beta_5$  (Willingness),  $\beta_6$  (Ethnicity-Hispanic) are expected to have a positive impact on the dependant variable. When the independent variable increases its value, so does the dependent. On the other hand,  $\beta_3$  (Income),  $\beta_1$  (Age), are expected to be negative, when the independent variable goes up, the dependent variable is predicted to go down. Ethnicity (Black) was created as a control variable.

The results from the regression model at a level of significance of 0.05 are summarized in Table 6. Testing for the significance of the multiple regression model, the F statistics degrees of freedom 4,407 equals to 4.34 which is greater than 2.37 (the critical value on the F distribution with 4 and 407 degrees of freedom). Also, the p-value equals to 0.02, smaller than 0.05. Therefore, the null hypothesis: "There is no relationship between the dependent variable and the independent variables" can be rejected; hence, at least one of the independent variables is related to level of awareness. In addition, the coefficient of multiple determinations  $R^2$  tells us that 41% of the variation in the level of awareness can be explained by the variations in the independent variables. Also the adjusted  $R^2$  states that 33% of the variation in the level of awareness can be explained by the established multiple regression model, adjusted for the number of predictors and the sample size.

Table 6: Results from the multiple regression model with Level of Awareness as Dependant Variable

Variable	Coefficient	Standardized Coefficient	T-value	Significance
Constant	-.055		-.335	.738
Ethnicity (Hispanic)	-.236	-.110	-2.278	.023*
Ethnicity (Black)	.193	.078	1.606	.109
Age	-.035	-.103	-2.022	.044*
Education Attainment	.043	.103	1.934	.045*
Income level	.0086	.039	.742	.459
Language Skills	.055	.118	2.161	.031*
Willingness to share information	-.036	-.065	-1.249	.212
<b>Summary Statistics</b>	N=429 R <sup>2</sup> =0.45 Adjusted R <sup>2</sup> = 0.33			
* p=< 0.05				

*Statically significant predictors*

The model indicates that **ethnicity (Hispanic), age, educational attainment, and language skills** have statistically significant impact on the level of awareness. All of them are significant at the 0.05 confidence level.

Considering the coefficients, we can see how much the dependent variable (level of awareness) would increase, in case the independent increase by one unit. Educational attainment and language skills have the most significant impact on the dependent variable. Age and ethnicity (Hispanic) are statistically significant variable negatively related to the level of awareness. Willingness to share personal information is negatively related to the dependent variable; however it is not a statically significant predictor of level of awareness. Language skills is the variable with the largest unstandardized coefficient (.118), thus it has the greatest effect on the level of awareness.

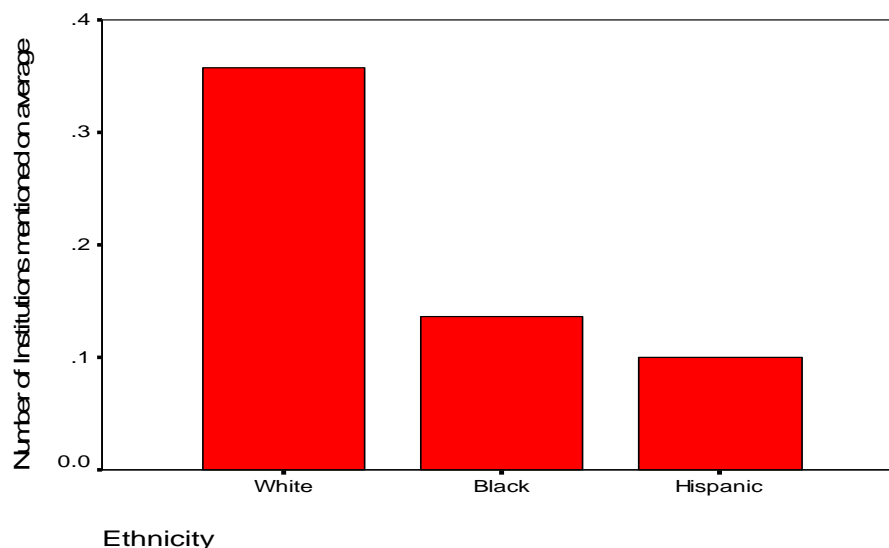
A separate analysis of each predictor is as follows:

**Ethnicity (Hispanic):** As we mentioned, there is a common idea that due to the dramatic increase in the number of agencies and help lines, people are overwhelmed with information and often do not know where to turn. The analysis shows that the mean level of awareness regarding the availability of community health and human services varies among ethnic groups, the Hispanic community being the least knowledgeable.

The F statistics (4.24) is greater than the critical value (2.37) and also the p-value equals 0.023 which is smaller than 0.05. Therefore, we can reject the null hypothesis that states that no relationship exists between the dependent variable (level of awareness) and the independent variable (ethnicity-Hispanic). Moreover, as predicted, the Hispanic subgroup is the one with the least level of awareness (See Graph 4).

In case of respondents who defined their race or ethnicity as Black, the model shows a p-value of .109. Even when it is not a normal statistically significant value, it is showing that there may also exist a relationship between being Black and the level of awareness. In addition, blacks are more knowledgeable than other respondents, once we control for other variables.

Graph 4: Level of Awareness according to Ethnicity



**Educational attainment:** In accordance with the estimated relationship, the more educated the individual is, the more informed he or she is regarding community health and human services. This predictor is statically significant at a .05 level of significance. (P-value: 0.045). As we already mentioned, Graph 2 indicates that participants who have completed high school and below are the least knowledgeable, while those who have attended collage and above have significantly higher level of awareness.

**Age:** Analysis shows a negative sign. This fact indicates that the younger a person is, the more informed he or she is. However, progression of data is not monotonic; therefore a liner model is not the best predictor for this variable. A quadratic model or a more complex distribution test would fit better the age data. Notwithstanding, in reference to Graph 1 we can conclude that there exists a negative relationship taking as a starting point the range 35-44. As we said, young people are expected not to be interested in having information about human and health services. In addition, the regression model results in a .044 level of significance. Hence, age is a statistically significant predictor of the level of awareness.

Knowing that the relationship between age and level of awareness is curvilinear, further analysis was done having two new dummy variables for age. One dummy variable where everyone less than 25 scored 1, all others scored 0; the second where everyone 65 and older scored 1; all others scored 0. Results of the regression using these new variables show levels of significance of .15 for the first variable and .66 for the second one. These results tell us that age, treated in this manner, is not a statistically significant predictor of level of awareness.

**Language Skills:** As expected, English language skills is a statistically significant predictor of the dependant variable. (P-value: 0.031). Actually, its coefficient

is the largest of the group of statistically significant predictors. Low English language skills prevent people from seeking help in the right places when they need it. Moreover, further analysis indicates that there exists a strong relationship between language skills and ethnicity. The latter was rearranged so as to organize respondents as being Hispanic or non Hispanic. An ad-hoc linear regression model was run considering language as a dependent variable and ethnicity (Hispanic) as an independent. Testing for significance, results show that the p-value equals to .000 which is smaller than 0.01 which denotes that ethnicity is a significant predictor of language skills. Moreover, the unstandardized coefficient -4.267, illustrates the negative impact of being Hispanic on the language skills. Hence, Hispanics face a double barrier.

**Income:** the prediction says that people with a high income level would not be those who can benefit from community health and human services; rather they would use private services among others, hence, their level of awareness will be low. Even when the coefficient gives us a positive number indicating the contrary, the .45 level of significant tells us that income is not a significant predictor of the level of awareness.

**Willingness to share information:** The prediction for this variable was thought to be positive. People who are not afraid or are willing to share information when they require services will be the most informed about them. The regression model shows a negative sign indicating the contrary; however the level of significance .21 tells us that whether a person is willing or not to share personal information is not statistically significant to determine the level of awareness. Furthermore, descriptive statistic tells us that almost 70% of the population are willing to share information regardless their level of awareness.

### Conclusion and recommendations

This study was inspired by two previous research studies that were conducted on behalf of the United Way of the Blue Grass (UGBG). One of the surveys was directed to non-profit agencies that provide human and health services in the Lexington area (n=366). The second was addressed to the Lexington Community. The latter aims to predict the effectiveness of a help line called 2-1-1. This help line, when implemented, would provide information about human and health services and also would serve as a one-stop resource of information. The perceived idea that led UWBG to conduct the study was that people are overwhelmed with information about community human and health services. In their own words, “faced with a dramatic increase in the number of agencies and help lines, people often do not know where to turn”. Notwithstanding UWBG’s perception, a different reality seems to be at work for the Hispanic population. It seems that Hispanics do not know about human and health services they could benefit from.

The objective of this study was to test whether a group of individual characteristics was related to the level of awareness about readily available community health and human services a person may have. The main concern was to verify whether or not there exists a lack of awareness among the Hispanic community. In addition, factors such as ethnicity, educational attainment, language skills, age, income level and, willingness to share personal information were also tested to verify whether they have a cause-effect relationship with the level of awareness.

A multiple regression model was created to analyze the effect of the independent variables on the level of awareness. Results from the model show that, as it was predicted, there is a relationship between ethnicity and the dependent variable. Literature

suggests that the Hispanic culture has certain cultural nuances of unwritten norms that rule social interactions. These unstated rules may have an effect on the way individuals perceive and also receive health and human services. Among “Latinos”, the most common way to find information is asking relations, neighbors or people of trust. This population does not assimilate in the idea of utilizing official organizations to find help. Notwithstanding this conclusion, it is also noticeable that, regardless of the ethnicity, the percent of respondents that could not mention any organization<sup>15</sup> or place where to find help was surprisingly high (72% of the total sample).

The model also indicates that educational attainment, age, and language skills are statistically significant predictors of level of awareness. Age was found to be inversely related to the level of awareness, while language skills and educational attainment were found to have a direct relationship.

Income level and willingness to share personal information were not statistically significant predictors of the dependent variable. The multiple regression analysis fails to reject the third null hypothesis: “willingness to disclose personal information does not affect the level of awareness about community health and human services”. This independent variable is found to be an inversely related non-statistically significant predictor of level of awareness.

This study has shown that there are particular individual characteristics that have a significant impact on the level of awareness about community health and human services. We can conclude that English language skills is the variable that has the greatest impact on the level of awareness. Therefore, final recommendations for non-profit agencies emphasize the need of efforts on their behalf to face and overcome language

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<sup>15</sup> Please recall that the level of awareness was measured considering how many institutions respondents

barriers so as to increase the level of awareness and reach populations in need. As we mentioned in the introduction, some of the findings of the Non-profit Agencies Survey relate to the importance agencies give to language issues. Items such as have multilingual operators and include language spoken in their web page were not highly considered in the answers agencies gave in the survey. In this sense, and consistent with the findings of this study, agencies should develop new strategies to advertise their services by designing their own web pages in English, Spanish and other foreign languages as well as developing recruitment strategies for bilingual individuals. In addition, it would be a significant complement if they advertised their services in the local mass media and the Hispanic press, with special emphasis in advertising strategies for young people under 30 as well as elderly.

Participating in the UWBG's 2-1-1 initiative will also be a useful resource that non profits could benefit from. This easy to remember telephone will connect people with important community services and volunteer opportunities. 2-1-1 Task force is currently working in a paramount advertising campaign to make the Lexington community aware of its services. Agencies that participate in this project reporting their contact information and details of their services would be available in the 2-1-1 database for all those people who call 2-1-1 seeking help

In addition, taking into account cultural differences previously discussed, it could be beneficial for non-profits to ensure that the perspectives of people utilizing services are reflected in planning and operations. This could be accomplished by having on their boards members of the communities being served, including clients, customers,



and volunteers. An organization's board should include individuals who bring contacts, sensibility, and knowledge related to the communities served.

Finally, networking is a significant tool to learn from others' experiences. Agencies should enhance the relationship with all the city's community-based organizations as well as with governmental agencies to identify common challenges, force new partnerships, and collaborate in the development of strategies to reach populations in need.

On the other hand, the results of this study suggest that recommendations be made in order to trigger some governmental actions. Regarding language skills, local authorities should increase the number of minority-serving institutions and community-based organizations that receive funding and support to address language barriers among Hispanic population.

Secondly, educational attainment is found to be another statistically significant predictor of the level of awareness. Results prove that the more educated people are, the more informed they are. Having this in mind, the recommendations for local authorities focus on increasing the percent of Lexington's residents with higher education as well as the funding and support to promote educational opportunities (fellowships, internships, scholarships ....) for racial and ethnic minority students.

APPENDIX

Figure 1: Level of importance of the 2-1-1 attributes

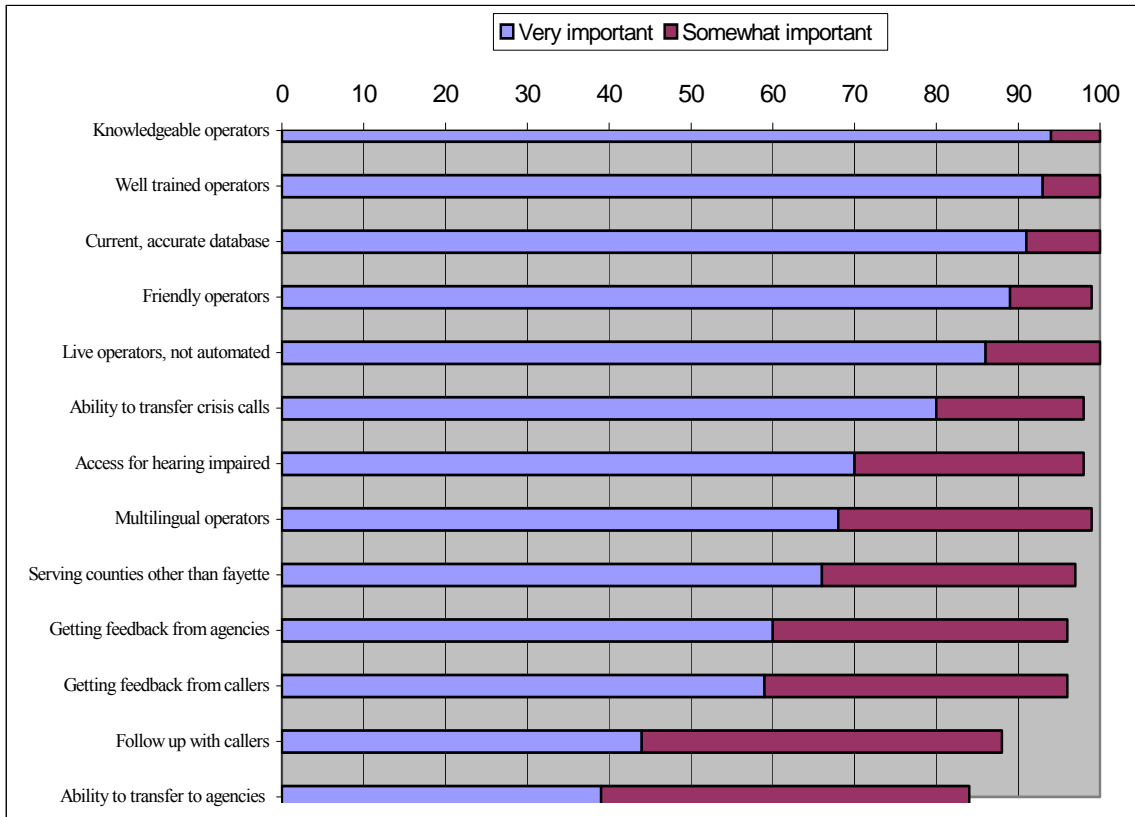


Figure 2: Information to include in Database

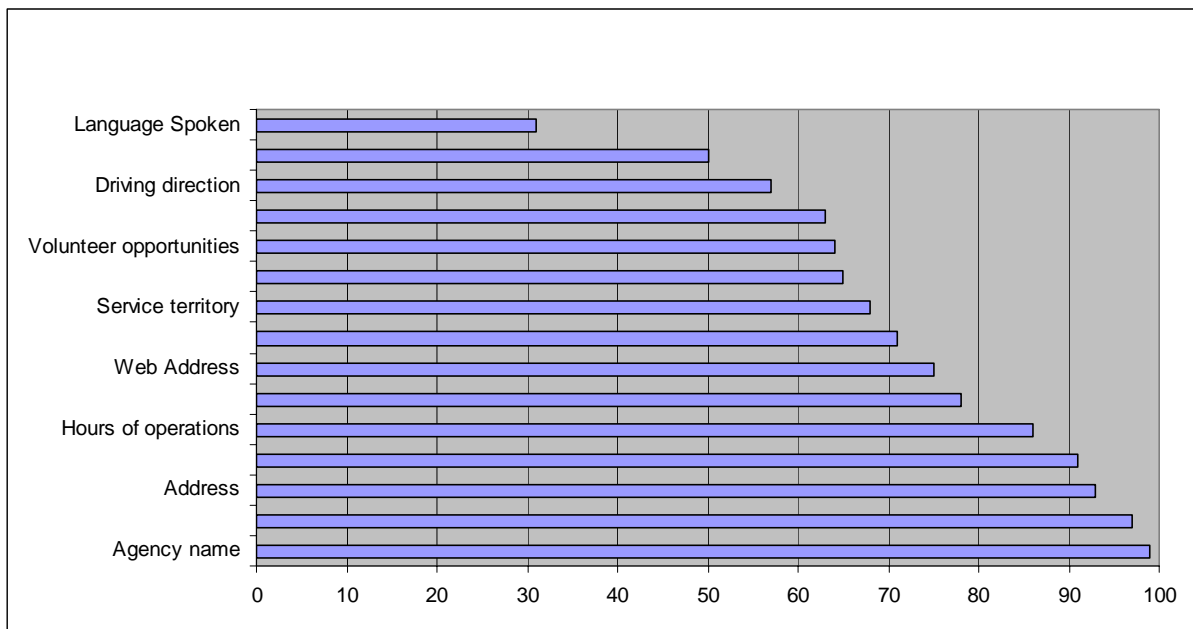


Figure N 3: List of Places to conduct the interviews with Hispanics

<u>Company / Organization</u>	<u>Address</u>
El Rancho Grande	1829 Alexandria Dr.
La Favorita	1827 Alexandria Dr.
Two Brothers	1565 Alexandria Dr.
Order Express	1561 Alexandria Dr.
El Milagro II	1545 Alexandria Dr.
Aguas Calientes	1424 Alexandria Dr.
Tortillería Ramírez	1441 Alexandria Dr.
Padrísimo	1465 Alexandria Dr.
La Unica	1429 Village Dr.
Los 3 Venados	1429 Village Dr.
Electra Mex Store	1410 Village Dr.
La Original	1418 Village Dr.
Panadería San Francisco	1930 Oxford Ave.
Laundry	1930 Oxford Ave.
Taquería San Francisco	1858 Oxford Cr.
Jalisco Abarrotes	810 N Limestone
Capilla Cristiana	1015 N Limestone
Patriot Tax	1412 N Broadway
San Panchos	481 New Circle Rd.
Ready Staffing	481 New Circle Rd.
Everybody's auto	540 N Limestone
Mi Casita	1794 Bryan Station
Aguas Calientes	2 424 New Circle Rd.
Cerro Blanco	Suite 5 1350 New Circle Rd.
Iglesia Salvador	1301 Branon Rd.

**Descriptive Data**

**Table A1: Gender**  
*All respondents*

	Total	Ethnicity			
		White	Black	Hispanic	Other
Unweighted Base	429	352	22	30	11
Base	429	352	22	30	11
Male	195 45.5%	155 44.0%	10 45.5%	16 53.3%	4 36.4%
Female	234 54.5%	197 56.0%	12 54.5%	14 46.7%	7 63.6%

**Table A2: Age**

	Total	Ethnicity			
		White	Black	Hispanic	Other
Unweighted Base	429	352	22	30	11
Base	429	352	22	30	11
18-24	17 4.0%	10 2.8%	1 4.5%	5 16.7%	0 0.0%
		--		+++	
25-34	68 15.9%	51 14.5%	4 18.2%	12 40.0%	1 9.1%
		-		+++	
35-44	85 19.8%	73 20.7%	3 13.6%	7 23.3%	1 9.1%
45-54	89 20.7%	74 21.0%	8 36.4%	3 10.0%	3 27.3%
55-64	77 17.9%	65 18.5%	2 9.1%	3 10.0%	5 45.5%
65-74	45 10.5%	42 11.9%	0 0.0%	0 0.0%	1 9.1%
		++			
75 or older	32 7.5%	29 8.2%	3 13.6%	0 0.0%	0 0.0%
Refused	16 3.7%	8 2.3%	1 4.5%	0 0.0%	0 0.0%
		---			

Table A3: Education attainment

All respondents

	Ethnicity				
	Total	White	Black	Hispanic	Other
Unweighted Base	429	352	22	30	11
Base	429	352	22	30	11
8th grade or less	27 6.3%	15 4.3%	1 4.5%	11 36.7%	0 0.0%
		---		+++	
Some high school	20 4.7%	16 4.5%	0 0.0%	4 13.3%	0 0.0%
				++	
High school graduate/GED/Vo-125 tech	103 29.1%	103 29.3%	7 31.8%	10 33.3%	4 36.4%
Some college/associate's degree	95 22.1%	81 23.0%	6 27.3%	1 3.3%	4 36.4%
				--	
College graduate	104 24.2%	92 26.1%	4 18.2%	4 13.3%	2 18.2%
		+			
Post graduate study	51 11.9%	43 12.2%	4 18.2%	0 0.0%	1 9.1%
Refused	7 1.6%	2 0.6%	0 0.0%	0 0.0%	0 0.0%
		---			

Table A4:

Income Level

	Ethnicity				
	Total	White	Black	Hispanic	Other
Unweighted Base	429	352	22	30	11
Base	429	352	22	30	11
Less than \$10,000	36 8.4%	23 6.5% ---	3 13.6%	10 33.3% +++	0 0.0%
\$10-15,000	22 5.1%	15 4.3% -	0 0.0%	6 20.0% +++	1 9.1%
\$15-25,000	45 10.5%	33 9.4%	4 18.2%	8 26.7% +++	0 0.0%
\$25-35,000	50 11.7%	45 12.8%	4 18.2%	1 3.3%	0 0.0%
\$35-50,000	56 13.1%	51 14.5% +	3 13.6%	0 0.0%	2 18.2%
\$50-75,000	64 14.9%	58 16.5% +	3 13.6%	1 3.3% -	1 9.1%
\$75-100,000	42 9.8%	37 10.5%	1 4.5%	0 0.0%	2 18.2%
More than \$100,000	32 7.5%	31 8.8% ++	0 0.0%	0 0.0%	1 9.1%
Refused	82 19.1%	59 16.8% ---	4 18.2%	4 13.3%	4 36.4%

Table 5A: Willingness to share personal information

	Total	Ethnicity			
		White	Black	Hispanic	Other
Unweighted Base	429	352	22	30	11
Base	429	352	22	30	11
Very willing to share information	161 37.5%	124 35.2% --	7 31.8%	24 80.0% +++	2 18.2%
Somewhat willing	160 37.3%	140 39.8% ++	9 40.9%	5 16.7% --	5 45.5%
Not very willing	61 14.2%	48 13.6%	5 22.7%	1 3.3% -	2 18.2%
Not willing at all to share information	47 11.0%	40 11.4%	1 4.5%	0 0.0%	2 18.2%

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