Reaching Spanish-speaking workers and employers with Occupational Safety and Health Information

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Introduction

This paper addresses the informational needs of Spanish speaking workers, their employers and occupational safety and health practitioners as it relates to occupational safety and health, with a particular focus on the communication channels most appropriate for reaching these audiences. Since other papers in this series are examining the background of occupational injuries and illnesses among Spanish-speaking workers in the U.S. and the present state of the availability of Spanish language OSH materials, this paper will not address these issues.

Spanish-speaking employees: Defining the Population

The employee population that is the subject of this inquiry is "Spanish-speaking workers." This includes foreign-born residents who have immigrated from Latin America and, to a much smaller extent, from Spain, as well as U.S.-born individuals who speak Spanish as their primary language. It should be noted at the start of this inquiry that, while we are referring not to "Hispanics/Latinos" but to "Spanish-speaking" individuals, little data exists specifically on the latter group. These two groups differ in two ways: first, the former includes a substantial segment for whom Spanish is not the primary language; secondly, the latter includes people whose country of origin is Spain. For this reason, this paper will refer to data on the "Hispanic/Latino" population with the understanding that the two are not entirely equivalent.

In addition, it should be recognized that while "Spanish-speaking" does not necessarily mean "immigrant," this paper will focus much attention on the Latino immigrant population, for two reasons: 1) a high percentage of the population in this country whose primary language is Spanish are recent immigrants from Latin America; and 2) the recent immigrant population is at especially high risk for workplace injury and illness and, therefore, warrants particular attention in the process of developing strategies for Spanish-language OSH training, education and outreach.

Number of Spanish-speakers with limited English

The 2000 Census included a population survey that asked about individuals' use of Spanish as the primary language in the home. The survey resulted in an estimate of 18,520,000 Spanish-speakers within the working age population range (18-64 years), with which we are primarily concerned in this paper[1].

For the purposes of developing a strategy for the preparation and dissemination of Spanish language materials, it is particularly important to know something about the English language abilities of this population. In other words, what is the

[1] *Census 2000 Supplementary Survey, Detailed Table 35: Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over*

population of Spanish-speaking workers whose English is insufficient to enable us to reach them effectively with OSH materials in English? The Census survey addressed this question, asking about the individual's ability to speak English and found the following results:

Population 18-64 years	Estimate	Lower Bound*	Upper Bound*
Speak Spanish:	18,519,675	18,339,602	18,699,748
Speak English "very well"	9,198,012	9,062,738	9,333,286
Speak English "well"	3,364,412	3,291,434	3,437,390
Speak English "not well"	3,787,984	3,694,688	3,881,280
Speak English "not at all"	2,169,267	2,082,805	2,255,729

*Using 90% Confidence Interval

Thus, there are an estimated 18.5 million working age people in the U.S. for whom Spanish is the primary language. It is perhaps surprising to find that some two-thirds of these individuals report being able to speak English "well" or "very well." The remaining approximately 5.96 million report speaking English "not well" or "not at all." It is also important to remember that there is a substantial population of immigrants working in the U.S. without legal documents, a high percentage of whom speak little or no English, and who were missed in the Census count. Despite a more successful effort at a comprehensive count in 2000 than in previous censuses, a certain degree of undercounting among recent immigrants was inevitable.

An analysis of the records of 1,668 Hispanic immigrant job seekers at a community center in Durham, North Carolina, for example, found that a much lower proportion spoke good or fluent English than that found in the Census. The analysis broke down as follows:

Hispanic Community Job Information Center Clients, Durham, N.C.

English Ability	Number	Percentage

None	609	36.5%
Little	719	43.1
Good	129	7.8
Fluent	83	5.0

Data from the Hispanic community Job Information Center, located at the Centro Hispano in Durham, North Carolina. Surveys conducted among job seekers from approximately January 2001 through March 2002. English ability was self-reported. Data from 20 African immigrants was excluded from these results.

It should be noted that this group of immigrants is primarily comprised of recent immigrants from Mexico and Central America and may not be representative of the Latino population of the area as a whole. However, it *is* representative of the recent Latino immigrant population, which is likely to be working in the highest risk jobs in this country. The discrepancy regarding English language capacity with the Census figures--with less than 13% of this group speaking English well--is striking. Thus, we should consider this roughly 6 million figure from the Census to be a significant under-estimate of the actual number of Spanish-speakers in the U.S. who speak little or no English.

Demographic Profile of the Spanish-speaking working age population in the U.S.

Educational Level and Occupation

In order to consider the information needs of Spanish-speaking workers in the U.S., we must look at the demographics of this population. The rapidly growing Spanish-speaking workforce in the U.S. is by no means monolithic and varies significantly by region. In the states that have been the traditional immigrant destinations (e.g., California, Texas, Florida, Illinois, New York, and New Jersey), for example, there is a large population of second and third generation immigrants for whom Spanish remains the primary language, who have attained a relatively high level of education and are employed in professional positions and skilled trades. Conversely, in the states that have only recently experienced major immigration flows, such as Arkansas, Georgia, and North Carolina, the great majority of Spanish speakers fit a similar demographic profile: they arrive with little formal education, speak very little or no English, and are employed in bottom-rung jobs on the economic ladder. This latter group of states has experienced a tremendous growth in the population of the Latino population, with rates of increase from1990 to 2000 between 200 and 400% for Georgia, North Carolina, Arkansas, and Tennessee, for example.

Even in these "new immigration" states, however, there is some diversity within the Spanish-speaking population. Deteriorating economic and political conditions in Central and South America have led to a significant increase in immigration among educated professionals, with varying levels of English language literacy. It is not uncommon in many parts of the U.S. to find Colombian engineers working

as warehouse stockers, Honduran doctors working as hospital orderlies, or Peruvian teachers assembling computers, for example.

The 2000 Census reported that 43% of the Hispanic population of the U.S. had an educational level of less than a high school diploma, compared to 11% of the non-Hispanic population. Only 10.6% had a Bachelor's degree or greater, compared to 28.1% of the non-Hispanic population. It should be noted, however, that these refer to individuals "of Hispanic origin" which is not equivalent to individuals whose primary language is Spanish and have limited English ability. If we narrow our focus to look at foreign-born U.S. residents from Latin America, we find that 34.6% have less than a 9th grade education, and 50.4% have less than a high school diploma. A small study of Spanish-speaking construction workers by the North Carolina Occupational Safety and Health Project in 2000 found that the median educational level was 7.5 years. Only 24% had completed high school[2].

Census data on occupation indicate that Hispanics are over-represented in the categories of "Operators, Fabricators, and Laborers" (22% of Hispanics compared to 13.4% of the general population) and service occupations (19.4% compared to 13.9% of the general population.) Again, these differences would be starker if we narrowed the focus to those whose primary language is Spanish. In addition, an important factor affecting the health and safety of immigrant workers is the dislocation in occupational circumstances caused by immigration itself, as explained by Eduardo Siqueira, who has studied these issues extensively:

"It is important to emphasize that immigrants often work in very different workplaces and situations when they migrate to the US. They may be peasants at home and become service sector or construction workers (which is worse) here. They may be young and inexperienced at home and are asked or end up working in dangerous jobs here without any training, safety or otherwise, whatsoever. They may also be middle class in their home country and end up working in blue-collar jobs here. Therefore, the real issue is how much work experience in the given industry they have before getting a job in it. There is often a large and sometimes drastic change in work environment conditions from their previous jobs, no matter what safety knowledge they had before. Anybody would be affected by this, not only immigrants."[3]

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2 *Immigrant Workers at Risk: A Qualitative Study of Hazards faced by Latino Immigrant Construction Workers in the Triangle Area of North Carolina,* North Carolina Occupational Safety and Health Project, June, 2000

3 *Eduardo Siqueira, University of Massachusetts-Lowell, Work-Environment Program, personal communication.*

Age and Gender

It is important to note that the Hispanic population of the United States is substantially younger on average than the non-Hispanic population, with a median age of 25.8 years, a full thirteen years less than the non-Hispanic White population. This is not only a function of more children in the average Hispanic family, but also reflects a substantially higher proportion in the 18-24 year range--a group likely to be working and particularly vulnerable to workplace hazards.[4] Census data corroborate the widespread impression that a great many young men, in their teens and twenties, often with little prior work experience, come to the U.S. from Mexico and Central America seeking work. In addition, it must be recognized that there is much anecdotal evidence that teenaged Hispanic males frequently add a few years to their reported age when applying for work, in order to gain jobs from which minors are barred. A recent study of young Latinos in construction found several teens who reported starting construction work in the U.S. at age 14 or 15.[5]

In addition, it must be recognized that while Hispanic men outnumber Hispanic women in the U.S., it is a smaller gap than is often believed. Females make up 48.5% of the Hispanic population of the U.S. and, with a median age of 26.3, a great number of them are in the workforce. A recent report emphasizes that

"available research appears to show that Hispanic women face greater risk of occupational injury and illness than non-Hispanic white women. This is due in large part to the disproportionate representation of Hispanic women in high-hazard industries and occupations. A 1989 California study showed Hispanic women experienced incidence rates of occupational injury and illness that were 1.5 times that of non-Hispanic white women. Because many Hispanic women are employed in "informal" industries or in industries where safety, health, and wage laws might not be routinely followed (e.g., "sweatshops" in the apparel, restaurant, food processing plants, or other industries), the risks can become even greater."[6]

Recommendations: So, what does this mean for the development of appropriate Spanish language OSH materials? It means that strategies for developing and disseminating such materials should take into account the following factors:

- The Spanish-speaking working population is diverse in its demographic characteristics such as education, income, and

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4 *Census 2000* Population by Age, Sex, Race, and Hispanic or Latino Origin for the United States

5 North Carolina Occupational Safety and Health Project, unpublished data, 2002

6 C. Richardson, *Hispanic Women and Occupational Health*, paper presented at the first Hispanic forum on a safe and healthy environment October 18-19, 2000

occupation. Thus is there is some need for materials targeting individuals at a variety of literacy levels and in a variety of occupations.

- There is a substantial segment of the Spanish-speaking workforce that has little English language ability and, thus, is most in need of Spanish language OSH education and training. This group is comprised predominantly of recent immigrants with little formal education, occupying low-wage and often hazardous jobs in industries such as meat processing, construction, and textile and apparel manufacturing.
- The Spanish language literacy level of this population is likely to be relatively low, on average, given the relatively low level of average education. This suggests that a high premium must be placed on developing low-literacy materials when designing Spanish language materials and that *approaches other than, or in addition to, using written materials must be an essential element of a strategy to reach Spanish-speaking workers.*
- Contrary to popular perceptions, Spanish-speaking women not only play an important part in the workforce, but also are exposed to significant workplace hazards. Efforts to reach Spanish-speaking workers to prevent occupational injuries and illnesses must include targeted efforts to reach women workers.
- A high proportion of Hispanic workers are young and relatively new to the workforce. Thus, all of the lessons learned in educating and training young workers in the U.S. must also be applied to the Spanish-speaking worker population.
- A substantial segment of the Spanish-speaking workforce is made up of immigrants who are working in hazardous jobs, such as construction, but who have little or no home-country experience in these fields, making their need for training even greater.

Channels of Communication for Reaching Workers: In the Community

In the next few sections, we will look at how information can best reach Spanish-speaking workers in the U.S. and some of the challenges that different approaches present.

In discussions of effective outreach programs to Hispanics in the U.S. a frequently recurring theme is the importance of trust--that the only way to reach Hispanics effectively is by first establishing a relationship of trust. It is often noted that representatives of government agencies have a particularly challenging task in reaching out to Hispanic immigrants in that these communities are likely to have a high level of suspicion of government representatives. This suggests that rather than government attempting to reach workers directly, it would be more effective to reach them through intermediary agencies that they trust. Some examples would be local Hispanic community

centers, churches, immigrant advocacy organizations, non-profit worker advocates such as "COSH" groups (committees on occupational safety and health), and unions. Some examples of effective worker outreach on OSH issue through these types of channels include:

1) In Atlanta, an area OSHA office has partnered with the Roswell Intercultural Center, a Hispanic community-based organization that provides a wide range of services, including a major project serving day laborers in the construction industry. Day laborers are at high risk for occupational injuries because of their limited access to OSH training and frequent mobility, among other reasons. The OSHA office has established a partnership in which OSHA staff, professional trainers from construction companies and fall protection equipment manufacturers, and local worker safety advocates come to the Roswell site and present full day safety trainings. Workers are required to attend the training in order to gain access to the full services provided by the Roswell Center.
2) In Durham, North Carolina, a "COSH" group teamed up with the local Centro Hispano to create a Job Information Center in which recent immigrants would gain access to information about jobs. A condition of receiving the job information is that all participants attend an orientation training including basic job safety and health principles and information on workers' rights under OSHA law. For the COSH group the goal was to provide OSH training and education, but this could only be accomplished effectively by providing the community with what they most wanted and needed--access to job information. Training is conducted in Spanish by native speakers (sometimes in conjunction with a co-teacher who is not a native speaker), with individual English translation provided for the occasional non-Spanish speaking participant.
3) The Santa Clara (California) Committee on Occupational Safety and Health has developed a very successful occupational safety and health training program for immigrant women working in the electronics industry in Silicon Valley. The program, called "WE-LEAP" (the Working Women's Leadership Project) brings together groups of women of various language and ethnic groupings, and provides them both practical training on a variety of job-related topics of interest to them and OSH training. Training sessions use a variety of modes that are grounded in the culture of the group being trained: story telling, drawing/painting, rituals, dances and songs. The training uses a four-part "Worker Story Process" that takes a holistic approach to the issue of occupational safety and health that includes gender and family issues in the discussion. The workshops end with a presentation by the trainees of what they learned, again using their own cultural modes of expression. Thus, training sessions provide a social outlet for the women as well as providing important information about health and safety and workers' rights on the job.
4) The San Francisco Department of Health developed a successful partnership with a number of local agencies to conduct an outreach and

educational program for day laborers, most of whom are Spanish-speaking. Health department staff and other professional trainers conduct training at locations where the day laborers regularly congregate such as a local day labor center, homeless shelters, a church, and on the street corners themselves. It should be noted that this project did involve a government agency, which was able to overcome the obstacle of immigrants' fears of government. By establishing a regular presence in the community, the government agency staff were able to gain the trust of the community and gain good access to a highly vulnerable population.

5) Around the country, many unions have recognized that providing services desired by immigrants is the most effective way to bring these workers to them and give them greater access for health and safety and other training. The UNITE textile workers union local in New York city, for example, offers a wide range of services, such as English classes and immigration assistance, to its multi-lingual immigrant membership.

These models illustrate a few key principles that are applicable to all worker training, but are particularly useful with non-English-speaking workers:

- *Provide workers what they want and you may get an opportunity to reach them with the information that you want to provide.* It is difficult to attract workers in general to programs that are primarily focused on occupational safety and health. It is simply not a high priority for most workers to increase their knowledge of these issues. This is particularly true among Spanish-speaking workers in the U.S., who are likely to work longer hours, have less free time to attend training programs, and are likely to be more mistrusting of anyone perceived as an outsider.
- *Go out and find workers where they are.* We can't simply produce training materials, file them in our libraries, and expect workers (or employers) to seek them out. An officer of a state Department of Labor wage and hour section once told me that they didn't believe that there was a problem with non-payment of wages to Hispanic workers in the state because they didn't receive many calls from Spanish-speaking workers. I pointed out that my non-profit agency received hundreds of calls alleging non-payment of wages, because we had made a point of getting information on this issue out into the community. Only by actively going out into communities and reaching out to workers where they are can we effectively reach Spanish-speaking workers. Some outreach programs have effectively distributed information at soccer games, community festivals, Hispanic neighborhoods and trailer parks, and other venues in which the Hispanic community gathers.

- *Make training sessions interesting.* Providing an enjoyable, comfortable environment for training creates much greater opportunities for learning and will bring people back in the future.
- *Use Hispanic trainers who are native speakers*, when possible. While non-Hispanics may be perfectly capable of providing Spanish-language training, there is no avoiding the fact that immigrants, in particular, are most comfortable receiving information and participating in training in which the trainer is of their ethnic background. It is sometimes possible to use a team-teaching approach, with a Hispanic trainer paired with a non-Hispanic.
- *Avoid if at all possible providing training in English that is then translated into Spanish.* This process can be used as a last resort but is far inferior as a training method. For one, only half as much material can be covered because of the time taken in interpreting. Secondly, some content is invariably lost in translation and the instructor will be unable to facilitate any discussion among the group. This type of training inevitably is restricted to a simple lecture format that discourages much participation.
- *Provide childcare* to facilitate the participation of women workers. In the vast majority of Hispanic families, childcare is taken care of within the family. If another family caregiver is not available, it is common for Hispanic women to attend events accompanied by their children. Providing child care at training sites not only increases the likelihood that women workers will be able to attend, but increases their ability to participate in the sessions without the distractions of their children's presence.
- *Be prepared to use low-tech training methods.* Most community-based training venues are distinctly low-tech. Trainers in these venues should not expect to do Power Point presentations or have other advanced audiovisual equipment available.

Reaching Workers through Unions

There is a widespread perception that Spanish-speaking workers, particularly recent immigrants, are less likely than other U.S. workers to join unions and to turn to them for information and assistance. While this may be true for the most recent immigrants, many of whom lack legal work documents and are, thus, very reluctant to draw attention to themselves, it is not necessarily true for Hispanic workers as a whole. It is commonly noted that recent immigrants from Mexico have negative attitudes about unions because of the long history of corruption and abuse of workers by "official" Mexican unions tied into the political establishment. What is often overlooked the presence in this country of a

substantial population of immigrants from Central and South America, where unions have often played central roles in promoting the welfare of working families and fighting, literally and figuratively, for workers' rights against repressive military-backed regimes. These immigrants, according to many observers, are more likely than the average American worker to trust unions and to want to join them. One survey found, for example, that in the 1998 California referendum on the anti-union Proposition 226 in California, 75 percent of Latinos opposed the measure, compared to only 53.5% of non-Latinos.[7]

Many unions have, in fact, established very effective health and safety training programs targeting Latino immigrants and have produced good quality training and educational materials in Spanish. Some of the international unions that have been particularly active in this area are the United Food and Commercial Workers (UFCW), the UNITE textile and garment workers union, the United Auto Workers (UAW), the Laborers' International Union, and the Retail Wholesale and Department Store Workers Union (RWDSU.)

The Internet as a Channel of Communication

More and more, business, government, and non-profit agencies are using the Internet to disseminate information. The Internet provides a tremendous resource for reaching countless people with our messages and offers a wonderfully flexible forum for doing so. Where just ten years ago, it was difficult for a non-specialist to know how to find chemical hazard information, for example, today a few keystrokes on an Internet search engine provide a mind-boggling wealth of information. For those who have good access to the Internet, this is a rich treasure of resources.

We must not forget, though, in our excitement over the possibilities of the Internet, that many Americans still lack reliable access to this resource. This is particularly true of low-income workers and Spanish-speakers. A recent Commerce Department report found that while Hispanic Americans' use of the Internet is growing fast—a 30 percent growth rate from 2000 to 2001, it still lags far behind other groups. Only 31.6 percent of Hispanics use the Internet, compared to about 60 percent of Asian Americans and 60 percent of whites.[8] Thus, an outreach and education strategy that primarily relies on the Internet will leave out nearly 70% of the Hispanic community at this time. If we consider the fact that those recent immigrants who speak little or no English are even less likely to use the Internet, we can assume that an Internet-focused strategy would

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7 Bailey, Eric, and Shogan, Robert ADefeat of Measure Energizes Labor." Los Angeles Times, June 4, A3, A28. Cited in Organizing Immigrants: the Challenge for Unions in Contemporary California, edited by Ruth Milkman, p.8.

8 "A Nation Online: How Americans are Expanding their use of the Internet," U.S. Department of Commerce, Feb. 2002.

miss the vast majority of the highest risk Spanish-speaking workers.

The Worksite: Limitations of Worksite-based Training

Training at the worksite has some distinct advantages. Workers are a "captive audience" that is, they can be required to attend trainings that are on company time, guaranteeing a good turnout. In addition, training employees of a single employer ensures that the training will be targeted appropriately and very specifically to the needs of that workforce. Third, the employer's "buy-in" to the training, allowing it to take place at the worksite, increases the likelihood that it will lead to substantive changes to prevent hazardous conditions in the workplace.

Worksite-based training, however, has a number of major drawbacks, which can become even more pronounced when conducting training for low-wage immigrant workers. These include:

- Open dialogue is stifled by the presence of management. Many, if not most, workers of all backgrounds in this country are reluctant to speak up about workplace concerns, such as health and safety hazards, in the presence of company managers. This is particularly true of immigrant workers who are especially fearful of the consequences of losing their jobs and whose culture is often very deferential to those in superior positions in the workplace. In these settings it is very difficult to elicit any critical commentary or concerns from workers about safety and health conditions in the workplace.
- Competition with Work Demands. When training is not removed from the worksite, it is often disrupted by the demands of the work. Worksite trainers may arrive for their scheduled training on time at 9:00 am only to find that production has stepped up and the line employees can't be spared until 11:00 and the training, therefore, will only be an hour, instead of the promised three hours. Breakdowns of machinery or other problems on-site often require key participants to leave in the midst of training.
- Logistical Obstacles. Training conditions are frequently less than ideal. Training may take place in the employee lunchroom, for example, with the trainer forced to make herself heard over the din of a crowd of non-participating employees eating lunch. Acoustics may be difficult. Managers may crowd a full shift of 100 employees into a room in order to get everyone into a training as quickly and efficiently as possible, making effective interaction impossible.

Spanish Language Media

While the number of English language daily newspapers in the U.S. has been steadily declining in recent years, the number of Spanish-language dailies in this

country grew from 14 in 1990 to 34 in 2000 and the number of weeklies increased from 152 to 265. Magazines doubled from 177 to 352.[9]

The Allied Media Hispanic Publications Network reports that 91% of U.S. Hispanics speak Spanish at home and 67% are more comfortable with Spanish language publications, suggesting that Spanish language newspapers could potentially be a very effective method of reaching this population. [10]

Radio and Television

As noted above, the educational and literacy levels of a substantial segment of the Latino immigrant worker population I the U.S. are limited. Thus, it is critical to reach out to these groups using strategies that do not rely exclusively on written materials. Spanish-language television and radio offer excellent opportunities to achieve this. Several Spanish-language TV networks broadcast nationally, including Telemundo, Univision, Azteca America, and Telefutura. These networks have huge viewing audiences among the Spanish-speaking population. In addition, there are currently 594 U.S. radio stations that broadcast in Spanish. These radio and television outlets represent other powerful potential outreach channels for occupational safety and health information targeting Spanish-speakers.

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9 Data from the National Hispanic Media Directory cited in K. Campbell ADemographics drive the Latino media story, *The Christian Science Monitor*, June 21, 2001

10 Data from the Scarborough Multi-Media Study and 1995 Hispanic InfoSource.

Content: What are the priority content needs for Spanish-language worker training and educational materials?

Needs for Spanish language OSH materials and training can be divided into four general areas:

1) Basic information on OSHA and workers' rights under OSHA standards
2) Basic "hazard awareness"
3) Skills for addressing work hazards and protecting one's health and safety on the job
4) Industry- or hazard-specific training

Basic information on OSHA and workers' rights

A 2000 study of Latino construction workers in North Carolina found that the workers had a very low level of knowledge of basic health and safety laws in this country. Participants in the study were asked "If you thought that there was a dangerous situation at work and the boss wasn't doing anything to correct the problem and you wanted to make a complaint about the situation, do you know what you could do to make a complaint?" Only one of the 45 respondents named the Department of Labor, while not a single respondent mentioned OSHA. After responding to this question, participants were asked if they had ever heard of OSHA. Only 15 out of 43 (35%) said they had heard of OSHA and were able to explain something about its role.[11]

This study supports a contention frequently made by educators and advocates who work with recent immigrants: that the greatest need among this population is basic education on OSHA law and workers' rights to safe and healthy conditions under these laws. A number of OSH educators who work with Spanish-speaking workers noted that the greatest need for training among the immigrant worker population is not technical information but training on how to use the rights that OSHA gives them to protect their health and safety on the job. One educator who works with meat processing workers commented:

"Training to shift power - it's important to include that workers are not vulnerable because of race or immigrant status. Workers in general wield less power in the workplace and this power differential is especially acute among immigrant and minority workers for a number of reasons. However training should not only be about increasing knowledge among workers, but about changing this power differential."[12]

Hazard Awareness

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11 *Immigrant Workers at Risk: A Qualitative Study of Hazards faced y Latino Immigrant Construction Workers in the Triangle Area of North Carolina*, North Carolina Occupational Safety and Health Project, June, 2000.)

12 Susan Cameron, United Food and Commercial Workers Union, personal communication.

Clearly, training on workers' rights under OSHA, however, is not sufficient in itself. Spanish-speaking workers with little prior safety and health training often are in need of basic health and safety "hazard awareness" training, to raise their level of awareness of the existence of hazards in their workplaces that they may not recognize as the potential source of serious health problems (e.g., chemical hazards or ergonomic hazards) or that they may simply see as unavoidably "part of the job." A number of good tools and materials are currently available in Spanish for this type of hazard awareness training from sources such as the UC Berkeley's Labor Occupational Health Program, the UCLA Labor Occupational Safety and Health program, COSH groups, and unions. The reader is advised to consult Marianne Brown's White Paper in this series, which addresses this in greater detail.

Skills in Addressing Work Hazards

In addition to knowledge about work hazards, there is also a great need for training of Latino immigrant workers on how to address those hazards. A number of useful training materials and techniques have been developed for this purpose, some of which are currently available in Spanish, others of which would need to be translated.

It is very important that this training focus on the realities that immigrant workers face. We must recognize that many of these workers are fearful of making complaints for a variety of reasons. Therefore, simply providing them with information about the hazards and about their rights under OSHA to protect themselves from these hazards misses the key point that this information may not result in any changes. Training should include a focus on real-life problem-solving in the workplace, given the reality that many workers will not be willing to make a complaint and that many of them believe, correctly, that the OSHA laws that are intended to protect them from retaliation often fail to do so. A number of simple small group exercises have been developed that pose problem situations and ask participants to develop solutions. This type of exercise is very valuable in encouraging immigrant workers to consider their options when faced with a hazardous work situation and to work on developing creative solutions.

Industry- and Hazard-specific Materials and Training

Finally, there is a need for materials and training specifically targeting industries and hazards in which Spanish-speaking workers predominate. The priorities in terms of the content of this training should be based upon the results of the analysis of injury and illness data among Hispanic workers that is being reported on in another White Paper in this series. We can assume, however, that priority target industries will include construction, meat processing, and garment/textile industries, and agriculture, to name a few of the most likely targets. As noted earlier in this paper, it is important to keep in mind the varied audiences for these materials, ranging from educated professionals to very low-literacy workers.

Literacy Issues

In designing materials for Spanish-speaking workers, it is not enough to simply take existing materials and translate them into Spanish. This may serve the purposes of a certain segment of the population--the more educated segment--but it will fail to meet the needs of those workers who most likely to be in high hazard jobs. While no hard data is available on Spanish language literacy among Spanish-speakers in the U.S., we do know that 13% of the population of Mexico, the largest source of Spanish-speaking immigrants to the U.S. is illiterate in Spanish.[13] Given the fact that poor, less-educated, rural residents of Mexico are the most likely to emigrate to the U.S., the proportion of Mexican immigrants who are illiterate in Spanish is probably higher than this.

It bears mentioning that this lesson regarding literacy is an important one for English speakers as well as Spanish speakers. The 1992 National Adult Literacy Survey (NALS) found that between 21% and 23% of American adults are functioning at the lowest level of literacy. At most, people at this level are able to perform tasks involving a brief, uncomplicated text--but many do so with difficulty...An additional 25 to 28% of the participants are functioning at Level 2. Those at this level have skills that the Department of Education describes as "more varied than those at Level 1 but still quite limited." They have "considerable difficulty carrying out tasks requiring them to use long texts or do 2-step calculations."[14]

Most OSH documents currently available for workers, both English and Spanish-language, are written at too high a reading level to enable the majority of workers to comprehend the information. One study, for example, found that the average worker cannot understand 40 percent of the content of the information on Material Safety Data Sheets.[15] Another analysis done for OSHA found that the average MSDS was written at a college level--well above the reading level of most workers.[16] Similarly, the Labor Occupational Health Program of UC-Berkeley conducted a review of 25 health and safety materials produced by government agencies, unions, educators, and companies and found that the average reading level was college level. Only four of the samples were at or below the 8th grade level, the level that LOHP recommends for widespread comprehension.[17]

This trend is true not only for printed material, but for website content as well. One study that examined the suitability of website content for low-literacy and

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13 *CIA World Factbook: Mexico, 1994*

14 *Adult Literacy in America, U.S. Department of Education*

15 *"Rights and Realities: A Critical Review of the Accessibility of Information on Hazardous Chemicals." Sattler, Barbara. Occupational Medicine: State of the Art Reviews, April-June 1992.*

16 *The Right to Understand: Linking Literacy to Health and Safety Training.* By Elizabeth Szudy and Michele Gonalez Arroyo, Labor Occupational Health Program, UC-Berkeley

17 Ibid, p.33

non-English speaking users concluded that "perhaps the greatest gap we found in content is material for the 44 million adults in the United States who lack functional literacy skills to perform everyday tasks. Of the 1,000 sites we reviewed, we found only 10 that were appropriate for limited-literacy adults." [18]

There are a number of good resources available to assist OSH trainers in preparing low literacy materials. These include *Teaching About Job Hazards: A Guide for Workers and their Health Providers,* by Nina Wallerstein and Harriet Rubenstein. This book provides an excellent overview of effective adult education and training methods, guidelines for providing education during screening programs, preparing factsheets and training materials, and evaluating health and safety education. The UC Berkeley Labor Occupational Health Program's excellent book *The Right to Understand: Linking Literacy to Health and Safety Training* also provides an extensive guide to effective training and materials development for low-literacy workers.

The latter book provides a good summary of the techniques for effective materials development for low literacy audiences. These principles should be kept very much in mind when preparing Spanish language materials for workers in the U.S.:

Writing

- Establish your priority message
- Organize text into short, logical sections
- Use words that are easy to understand
- Define technical terms
- Keep sentences short and simple
- Use a conversational style and active voice

Design

- Use large type
- Emphasize important points by underlining, bold type, italics, and boxes
- Use wide margins

Illustrations

- Use simple line drawings
- Illustrate the correct way to do things, not the wrong way
- Avoid abstract graphs and charts

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18 *"Online Content for Low-Income and Underserved Americans." The Children's Partnership. Undated*

(Adapted from *The Right to Understand: Linking Literacy to Health and Safety Training*. By Elizabeth Szudy and Michele Gonalez Arroyo, Labor Occupational Health Program, UC-Berkeley.)

Rather than repeating all the lessons from the resources cited above, the reader is encouraged to consult them for further guidance on producing effective materials for low literacy learners.

Translation Issues

In the experience of this author and that of a number of other experts consulted for this paper, the quality of available Spanish language OSH materials is very mixed. A review of Spanish language OSH documents currently available on the Internet found that the majority are of good quality, but there are some notable exceptions. In some cases, translations clearly were not checked by a native speaker and the results are confusing and even misleading in some cases. For example, a translation of a fact sheet on the OSHA fall protection standard states in the Spanish version that the standard has been effective, as in "successful" since a given date; the original meaning was that the standard has been "in effect" since that date. Equally confusing and misleading errors occur throughout the document. Similarly, a Spanish language guidance document recently placed on the OSHA website was filled with errors and garbled language. (It should be noted that the NIOSH Spanish language website is of very good quality.)

One expert consulted on this issue contends that most available Spanish language OSH training materials in the U.S. are of inferior quality. Dr. Fernando Marroquin of the University of Alabama suggested that the problem is a combination of two factors: many of the people doing these translations are not actually fully literate in Spanish; and the translators are often not familiar with OSH terminology. He suggests that the first problem is caused by the fact that translations are often done by second generation Latinos in this country whose Spanish is learned haphazardly "on the street" and is inadequate to do complex technical translations.

<u>Differences among Spanish in different countries: not a major barrier</u>

Non-specialists often make reference to the differences among Spanish language usage in different countries, suggesting that it is nearly impossible to create materials that are readable by all Spanish-speakers. While regional and national differences certainly exist, these differences are very small in relation to the commonalities. If materials are produced using "standard" Spanish (i.e. avoiding local idiomatic expressions or words used only in specific countries) it is not difficult to create materials in a language understand by all Spanish-speakers. As one expert put it, "an educated writer from any Spanish-speaking country is perfectly capable of expression, on any subject, that is clear and unambiguous to an educated reader from any other Spanish-speaking country.

Period."[19]

The Use of "Spanglish"

The substantial presence in the U.S. of Mexican-born immigrants has resulted in the development of an entire vocabulary of hybrid words mixing Spanish and English. Many of these are work-related terms, which immigrant workers may know only in "Spanglish" or English, but not in Spanish. For example, in construction work, Latino immigrants, particularly Mexicans, will often refer to the *finisheros* and the *chitroqueros* to describe the finish carpenters and sheetrock installers.

Some translators insist that these neologisms are not legitimate Spanish words and should never be used in educational materials. Others, myself included, believe that the most important thing in developing educational materials is to ensure comprehension. If you need to use a word that is not accepted by the Real Academia in Madrid but is the word used by your entire target audience to describe a given concept, you are better off using that word. In addition, because many Latino immigrant workers learn a trade in the U.S., they may know many of the English terms for work-related concepts, but not the Spanish words. Thus, it may be useful in some cases to use both the Spanish and English words for equipment, job functions, etc. It does little good, for example, to refer in a document to "madera contrachapada" if every Latino construction worker in the U.S. knows it as "el plywood."

Machine Translation: Not a reliable option at this time. High hopes have been placed on the possibility that computer-based machine translation systems could take on much of the burden of written translations. These expectations, however, have failed to materialize for the most part up to the present time. A number of software programs for this purpose are widely available but the results are uniformly unsatisfactory. As the programs themselves warn users, they are useful only in order to give a general idea of the meaning, not to provide a precise translation. The translated output can, in fact, provide an idea of the content, but it can be painful to read and can be misleading. The following is Spanish to English machine translation output of a sample of text from of a NIOSH document:

In addition to the injuries, the materials and dangerous conditions of work also constitute a preoccupation for the adolescent workers. It is known less on this field than on the effects of the injuries (that have an immediate impact and that are possible to be counted and to be classified as far as the cause). The dangerous exhibitions of adolescent workers to materials and conditions of work could be in an immediate disease; nevertheless, it is possible that the disease cannot be detected per months or years after the exhibition. The adolescent

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19 *"Alli no se habla español" on the website of Contact International-the Center for Technical Translation.www.cicenter.com/a_espanol.htm*

workers could be exposed to pesticidas in the work of farm and taking care of the turf, benzene in powerboats, lead in the adjustment of bodies, asbestos and silica in the work of construction and maintenance, and high levels of noise in the manufacturing industry, the construction, and also preoccupation by the possibility that has arisen the fatigue to study and to work could contribute to injuries between adolescent workers.

The use of machine translation software to translate web pages has also been much touted on the Internet recently. This application appears to be even less useful, at this point, than the use of software to translate blocks of text. The translated output is often confusing to the point of being unreadable. A typical example, a Spanish to English translation of a NIOSH web page, follows:

The reactions begin of ordinary to the few minutes of the exhibition to latex, but hours can happen later and can produce different symptoms. The slight reactions present/display reddening, irritation, or picazón to the skin. Acute reactions can include respiratory symptoms such as nasal secretion, estornudos, picazón to the eyes or throat and asthma (difficulty to breathe, periods of cough and jadeo). In rare occasions, a shock state can take place; but a reaction that puts in danger the rare life time is the first symptom of the allergy to látex. These reactions are similar to the observed ones in some allergic people after undergoing a bee puncture.

Clearly, the software at this point in its development is not useful as a substitute for human translation. Some proponents of machine translation have argued that these systems can be effectively used in conjunction with human translators, doing the "heavy lifting" of rough translations of very long documents, which can then be polished by the human reviewer. [20] This may be of some value in settings like the United Nations or European Union offices where thousands of pages must be translated daily. However, it is debatable whether the output of the machine translators is, in fact, better than nothing or if it requires more time and effort to fix errors in sentence structure and translation than it saves time in providing correctly translated words.

Limitations of Written Information Alone

Most of the people who will read this paper and participate in this conference are, like myself, focused on the written word as the primary means of transmitting and gathering information. When we want to get a message across to a given segment of the population, our first thought is to put it into writing. Until very recently, our next step would be to have this information printed as "factsheets" or reports. Now, we are equally inclined to publish this information on websites, making it instantly available to millions of readers. But we tend to forget that the majority of Americans do not, in fact, get their information from

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20 *Cambridge Encyclopedia of Language*, David Crystal, editor, p.353

written sources. Newspaper readership has declined dramatically in recent years while the number of Americans who get their news primarily from television is at record high levels.

Adult educators commonly point to the maxim that we all learn best if we receive a message through a number of channels--seeing and hearing it--and if we have the opportunity to think critically about the message and put it into practice in some form. Written materials by themselves, whether published as printed factsheets or posted on websites, are unlikely to reach a broad audience. They are most effective when used as part of a broader communication strategy which includes group training in community, union, or workplace settings or in conjunction with one-on-one patient education.

Written materials may not be the most important priority for the Spanish-speaking workers at highest risk for occupational injury and illness. As one worker advocate commented in considering the question of what is most needed for Latino immigrant workers:

"So what's the answer? Producing more materials is not the real solution (although it would help). There are lots of materials out there now. The issue is outreach. Immigrant and undocumented workers are not likely to find their way to the OSHA web page, or call up a U.S. government agency when they have a problem. They are comfortable in their community organizations, churches, etc., and with people from their community. This is why OSHA needs to provide funding to organizations that have the ability and knowledge to reach workers where they are comfortable." [21]

Jim Platner of the Center to Protect Workers' Rights, who has studied construction safety issues for many years, emphasizes that written materials alone are insufficient and that materials must be supplemented by on-the-job safety training:

"Availability of translators or bilingual co-workers might be of little use when someone yells "look out below," as something falls off the catwalk over your head. While training materials are increasingly available in Spanish, critical skills are learned by observation of co-workers or journey-level workers who know the job, practicing the job with critical evaluation of performance, close supervision when you are new to a job, and other applied learning experiences. Translating these learning experiences must go beyond translating textbooks and fact sheets in order to successfully prevent occupational injury and disease in construction. While no specific research on the contribution of language issues to falls in Hispanic construction workers was found, it appears to be an important area for further attention and research. For example, the top cause of falls among

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21 *Jordan Barab, AFL-CIO Health and Safety Department, personal communication*

Hispanic construction workers involves falls from scaffolds that are being put up or taken down. A closer look at this task might reveal that communication problems or training deficiencies could be contributing to the resulting injuries."[22]

Selecting Effective Trainers

In this author's experience and in that of a number of people consulted for this paper, a common story is heard about worksite-based training in Spanish. In many cases, a safety professional or other company manager presents safety-related information in English to the employees, which is then interpreted in Spanish for the Spanish-speaking employees by a Latino employee who is bilingual. Or the bilingual employee may simply be given material in English and told to pass this information on to the Spanish-speakers. This intermediary, in the vast majority of cases, has no safety and health background and no education or training experience. In many cases, in organizations with large Spanish-speaking workforces, these bilingual Latino intermediaries become designated as the link between management and the Latino employees and take on important roles in the organizations, sometimes being assigned tasks and given responsibilities far beyond their training. In these circumstances, the English-speaking trainer has no assurance that the content that workers are receiving is accurate or complete.

In other cases, English-speaking trainers conduct oral presentations at the worksite in English, and then pass out written information in Spanish, as in the case reported by this Latino construction worker:

"They give us a "safety" every week, every Monday. A paper comes around in Spanish and in English. The supervisors read it out loud in English and give us the Spanish one to read. And we sign it."[23]

While we should recognize that these employers are at least making some effort to provide safety information, which is more than what some employers do, this approach is likely to have very limited effectiveness.

Employers' Needs for Spanish language information

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22 Jim Platner "Language and communication problems might contribute to the risks faced by Hispanic Workers," Conference Report from the First Hispanic Forum on a Safe and Healthy Environment, available on the conference website: www.geocities.com/hispanic_eosh/doc.html

23 . *Quote from an interview reported in Immigrant Workers at Risk: A Qualitative Study of Hazards faced by Latino Immigrant Construction Workers in the Triangle Area of North Carolina, North Carolina Occupational Safety and Health Project, June, 2000*

Defining the Population: Spanish-speaking Employers

A 1997 Census Bureau survey of business owners gives us a fairly detailed profile of Spanish-speaking business owners in the U.S. (including Spaniards.) Four states, California (336,400), Texas (240,400), Florida (193,900) and New York (104,200), accounted for 73 percent of these firms.

Table 1 includes those industry sectors in which Hispanics employ a substantial number of people.

Table 1 Hispanic-owned businesses with at least one employee, by sector[24]

Industry Sector	Firms	Employees
Construction	31,478	168,873
Manufacturing	10,173	171,738
Retail Trade	48,713	324,474
Wholesale Trade	14,125	94,281
Service Industries	70,838	463,889

It should be noted, in addition, that 5,925 businesses in the agricultural services, forestry, and fishing sector are owned by Hispanics, employing 25,955 people. For our purposes in assessing needs for Spanish language materials and training, it is interesting to note the large number of employees in both the construction and the manufacturing sectors in Hispanic-owned businesses. Unfortunately, we have no data as to the English-language abilities of these business owners or that of their employees. We do know, by ample anecdotal evidence from a wide range of sources around the country that Hispanic business owners in the construction industry are most likely to hire a predominantly Hispanic workforce. These census data verify a widely held perception about these owners: that they are concentrated in the "special trade contractors" sector. This sub-group accounts for approximately 80% of the construction firms owned by Hispanics (or 25,110 firms) and employs 120,791 people. Again, we do not have a count by language ability or ethnicity of this group of employees, but we can assume that at least a large proportion is Spanish-speaking.

Within the manufacturing sector, there is no particular pattern, with Hispanic ownership spread across a range of sub-categories. Within the service sector, two categories with significant workplace hazards are notably represented: auto repair and services, with 11,662 firms employing 43,534 people; and health

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24 U.S. Department of Commerce, Census Bureau 1997 Survey of Minority-Owned Business Enterprises: Hispanic)

services, with 16,900 firms employing 96,349 people. Table 2 indicates the breakdown of these business owners by country of origin.

Table 2
Hispanic-Owned Firms by country of origin: 1997

Ethnic origin	Firms	Receipts ($1,000s)
Total	1,199,900	186,300
Mexican	472,000	73,700
Cuban	125,300	26,500
Unspecified/Other*	475,800	61,700
Puerto Rican	69,700	7,500
Spaniard	57,200	16,900

*This category includes unspecified written-in "Hispanic Latin-American" and "Other Hispanic" responses.

Recommendations for reaching Spanish-speaking employers: What does this mean for planning strategies for developing and disseminating OSH materials in Spanish targeting business owners? This is somewhat difficult to interpret in that we don't know with any certainty the extent to which Spanish language materials are needed by these business owners (without knowing their English language capacities.) However, anecdotal evidence suggests that a high percentage of those Hispanic employers in the construction industry may not be fluent in English and would benefit from Spanish language materials. Thus, it would be advisable to include a focus on the construction industry when developing materials in Spanish for employers. Similarly, the above data suggest that the auto service and repair industry may be an area in which many employers could benefit from Spanish language materials.

A report from the *First Hispanic Forum on a Safe and Healthy Environment*, in fact, included as one of its principal recommendations to target and involve Hispanic construction contractors in OSH. The report noted that "Hispanic workers in construction include managers. Although some may be self-employed and combine management with production work, managers were among the top five Hispanic construction occupations by number. Hispanic managers and contractors are an important group for future partnering. They are likely partners for Spanish language safety and health materials, and they can help to develop,

test, and disseminate best practices to help raise the standard of safety practice in the industry."[25]

The census data cited above support the contention that Hispanic contractors form a significant subset of the construction industry. A number of people consulted for this paper reiterated the above comments regarding the importance of reaching out to Hispanic construction managers. There is a widespread perception that Hispanic-owned construction companies are more likely to cut corners on safety. This perception was supported by interviews with Latino construction workers in North Carolina, a number of whom stated that, in their experience, Latino employers were worse to work for than non-Latinos.[26]

The North Carolina study and discussions with a number of experts for this paper also both pointed to the key role played by a person commonly found in the construction industry: the bilingual Latino supervisor. These individuals often play a role as trainers (to the extent that on-the-job training is done), interpreters, and intermediaries between workers and management. They are in a good position to reach their Hispanic employees because of language and cultural commonalities. At the same time, however they may have received little or no training in safety and health. A former OSHA compliance officer reports that she has inspected many incidents involving Latino worker fatalities and found that, in many cases, a language barrier was not involved—that the supervisor was Latino. But, she found, in many of these cases the supervisor was poorly trained and ill-equipped to carry out the functions of a supervisor, including overseeing safety and health conditions.[27]

Training of these bilingual supervisors, particularly in the construction industry, could have a significant impact. Training should emphasize the supervisor's responsibility for ensuring safe and healthy working conditions. In addition, training should aim to overcome the "macho" attitudes that are commonly found among construction workers, even more so among Latinos. An OSHA compliance assistant tells of her experience conducting a training on scaffolding safety in which the workers told her that the male instructor was a *maricon*, a sissy, because he told them they should never work on a scaffold that was unstable. They told her that the other workers would laugh at them if they appeared to be afraid. This *machismo* presents an obstacle that must be addressed in training.

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25 Conference Report-Actions, from the First Hispanic Forum on a Safe and Healthy Environment, available on the conference website: www.geocities.com/hispanic_eosh/doc.html

26 *Immigrant Workers at Risk: A Qualitative Study of Hazards faced by Latino Immigrant Construction Workers in the Triangle Area of North Carolina, North Carolina Occupational Safety and Health Project*

27 Marilyn Velez, former OSHA compliance officer, currently a compliance assistant with federal OSHA's Atlanta office, personal communication.

Many English speaking supervisors and foremen receive this training at local community colleges, but few programs are available in Spanish. Providing more of these training programs in Spanish would meet an important need.

Train-the-Trainer programs

A number of studies and reports have indicated that Latino workers are particularly likely to learn about safety from their co-workers rather than from formal training programs. This suggests that there is great potential in training supervisors and other Latino workers to train other workers on health and safety issues. The advantages of these train-the-trainer programs are many: workers are more likely to listen to and accept information from those they trust; training can be ongoing, rather than one-time; and training tends to be more grounded in the reality of the workplace. Although these programs require a larger additional investment, they can pay great dividends in the long run in preventing injuries and illnesses on the job.