

**National Institute for Occupational Safety and Health
Partnership with the Mexican Consulates in the U.S.
Materials Development: Illustrations Testing
Summary Report
June, 2011**

Background

The National Institute for Occupational Safety and Health (NIOSH) has ongoing, long-term demonstration projects that work closely with several Mexican consulates to develop and disseminate occupational safety and health training and education materials to Spanish-speaking immigrant workers. The overarching goal of this effort is to improve the occupational safety and health of Spanish-speaking immigrant workers of Mexican origin in the United States through improved access to information, resources, and services. From 2003 to 2006, two-thirds of Latinos who died from a work-related injury were foreign born, and approximately 70% of these decedents were born in Mexico, underscoring the importance of improving outreach to Mexican workers in the U.S. [CDC 2008].

The specific goal for partnership with Mexican Consulates is to integrate occupational safety and health as a key interest area within their health promotion and service provision infrastructure, in particular the *Ventanilla de Salud* health promotion program. NIOSH hopes to achieve these goals by working with the Consulates to improve their capacity to address their clients' occupational safety and health needs and by increasing recognition among Mexican workers in the U.S. of the Consulate as a trusted source of information and services related to occupational safety and health. At the same time, NIOSH aims to increase the capacity of the occupational safety and health community to better respond to the needs of Spanish-speaking immigrant workers in the U.S.

Materials Development and Illustrations Testing

Through these demonstration projects, NIOSH will produce a series of at least 5 print materials for workers as well as a curriculum for training lay community health workers (*promotores de salud*). All of these materials will use original, targeted illustrations to supplement the text and unify this family of products for Spanish-speaking workers. The print materials will be designed similar to a graphic novel, which is commonly used with Spanish-speaking audiences (see examples at <http://www.migrantclinician.org/announcement/educational-comic-books.html>).

Anecdotal evidence and observation gathered throughout the partnership indicates that a large proportion of the immigrants who access services at the Mexican consulates may have low-literacy levels in their native language. This observation is supported by the more general finding that in 2009, more than one-third (34.6%) of foreign-born Latinos in the U.S. had attained less than a 9th grade education and more than one-half (51.7%) had not completed high school [Pew Hispanic Center 2009]. A good communication practice for low-literacy audiences is to ensure that pictures and other visuals are relevant to the text and meaningful to the audience. Pretesting both visuals and written content is of paramount importance to producing the best quality print material possible [NCI 2003]. From January 2010 through March 2011, NIOSH interviewed Spanish-speaking immigrants accessing services through Consulates to select an illustrator for this family of products. The interview and selection process is described below.

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Step 1: Choose Illustrators to Pre-test

First, three illustrators were identified through an online talent search engine. Each of the artists chosen through the online search had won either the NYC Art Directors award or a Communication Arts award, guaranteeing a desirable level of talent and professionalism. In addition, three artists were selected through referrals from internal NIOSH colleagues and external partners. Each of the six artists' work represents a distinct style. All of the artists selected showed in their online portfolios the ability to draw emotion, draw recognizable objects, and create in both black-and-white and color.

Step 2: Pre-test styles

The NIOSH team went into the testing process with several assumptions. General assumptions were:

- qualitative testing (interviews with people accessing services at the Consulates) will give an objective measure of likely effectiveness of illustrations;
- good talent is out of NIOSH's price range;
- illustrations help make a document more attractive but won't necessarily add technical value.

We also had some assumptions about how some of the artists would do in the testing based on feedback from other NIOSH staff and partners who had commissioned illustrations before. Suggestions from others had included names of specific artists (3 of whom were included in the testing), as well as advice on content, tone, and style. Of the six illustrators chosen as possible contractors for the project, the project team had specific assumptions about three of them.

- General received wisdom was that Latinos respond well to the concept of family so that theme should play a part in the illustrations.
- Zapalac was an illustrator who had worked with NIOSH and partners in the past, in particular for lower-literacy documents intended for workers. We assumed her work would test well, that she would be familiar with OSH concepts because of her prior experience with NIOSH, and that her very precise and realistic style would be easily understood.
- D. Smith is from Mexico originally and has adopted an indigenous artistic style. Some project staff felt that members of the target audience would identify with this style and that it would be engaging for less technical drawings like cover art to draw potential readers in.
- Burdock is an artist with a high level of experience illustrating non-technical pieces about the U.S.-Mexico border and occupational safety issues, for example the treatment of women in factories on the northern Mexican border. She resides on the border and has a strong cultural sympathy and interest with the target audience. Project staff hypothesized that her previous experience and cultural orientation might make her work resonate strongly with the target audience.



Maryann Zapalac portfolio samples

After gauging the artists' interest in the NIOSH project, which was overall very high, and asking permission from the artists, we downloaded two sample illustrations from their online portfolios to test with immigrants seeking services at the Washington, DC Mexican consulate. For each artist, we selected one color image that showed a character and one black-and-white line drawing that depicted a scene (see sample insets, left). Through individual and small group intercept interviews in the waiting room at the consulate, we learned basic information about what themes and values the audience wanted to see. The people interviewed responded most favorably to a drawing of a woman with a young girl (top left). They talked both about the subject and about the style, being in color and photorealistic. A challenge at this stage was that, in general, it was difficult to elicit people's reactions to the artists' styles separately from the content of the drawings. To objectively test the different artists' abilities to connect with the audience and communicate an OSH message, we decided to commission work using a consistent criteria so we would be testing each artists' interpretation of the same OSH content.

Step 3: Commission Examples

We wanted to be able to compare each artist's interpretation of the same assignment, so they all started with the same information. We asked each to create three black-and-white drawings:

- One detailed and emotive illustration that captures the message:
"You have come to this country looking for a better future. You also want to show that you are hardworking. You have overcome great obstacles to give your family a better life."
- Two technical illustrations that show workplace hazards: a male construction worker falling from a roof at a residential construction site; a female hotel housekeeper exposed to fumes from cleaning products.

We provided an overview of the projects and basic information about the target audience. We asked them to make the characters in the emotive drawing recognizable in the technical illustrations, and suggested that these characters would be consistently featured throughout the series of materials. Characters should represent workers the target audience could relate to and that both the emotive and technical drawings should illustrate some themes that are important to this target audience: the dignity of work, the hardships of the immigrant experience, importance of family, sacrifice, perseverance. We wanted the illustrated characters to seem strong and capable of handling the challenges that come their way. We offered to give them feedback and more information about any technical occupational safety and health concepts at their request. Artists had three weeks to finish a first draft, to which NIOSH provided comments and feedback. They had an additional three weeks to submit their final draft.

Step 4: Pre-test Examples

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Six identical testing samples were created. Each small card had the emotive drawing on the cover and then the two technical illustrations as thumbnails on the inside. All the cards featured the same text, which is draft text for one of the print materials being created. The text featured a title and tagline, as well as a message to motivate the reader to seek additional information, advocacy assistance, and services. The only differences between the cards were the pictures.

The six cards were tested at the Mexican consulate in DC and its mobile consulate in Baltimore (26 interviews) and the Guatemalan mobile consulate in Cincinnati, OH (8 interviews). A total of 34 interviews were conducted, including 11 interviews with women. We asked some participants about the cover and some about the inside using a standardized interview guide and improvised probes. The interviewers took notes of the respondents' actual words to use for the analysis.

NIOSH interviewers asked respondents at the consulate to read the text. The interviewer read the text out loud if there was any indication at all that the respondent might feel uncomfortable reading. We asked them to choose one sample out of the six, and then asked a series of questions to determine what about that sample made them choose it, whether the occupational safety and health message was clearly communicated, and if not, if there was another from the set that they thought showed a stronger message. If this was the case, we then asked for suggestions as to how we could either modify the pictures on the samples they identified as having a strong message to make them more attractive, or modify the first sample they chose to make the message stronger.

Step 5: Analyze Pre-test Results

When we felt we were getting no new data by conducting more interviews (theoretical saturation), three members of the DC team did a formal data analysis based on the direct quotes and interviewers' notes from all 34 interviews. Responses were grouped by question and artist. Both number and content of the responses were considered for each artist. Themes and similarities emerged between respondents when grouped by artist and question. All of the illustrations were shown with the same, limited text. Therefore, we conclude that differences in perceptions, interpretations, and appreciation of the 6 samples are due to the illustrations only. Our general conclusions are described below.

Results did not match assumptions: Of the three artists who we thought would test well, only one tested in the top three. Burdock was our third choice. Respondents seemed to appreciate her concept for the emotive drawing of a family eating around a table but did not recognize a relation to occupational safety and health. There were no remarks on her technical drawings, which we interpreted to indicate that respondents were reacting more to the content of her emotive drawing rather than her particular style or ability.

A few respondents liked the clarity and straight lines of Zapalac's technical drawings but the responses indicated that there was no emotional connection to her characters and the overarching themes did not come through.

D. Smith's indigenous style was difficult for the respondents to interpret. Most comments related to his work indicated that respondents thought his pictures were of children.

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Illustrations aren't just pretty—they tell the story. The illustrations were able to clarify and enhance the meaning of the written word on the samples. They connected the audience to the message, and they provided a call to action for the reader.

Minimal investments in time and funding can lead to a better impact with the final product. We strongly believe that having our selected artist illustrate both these materials and the curriculum package will not only make our products more attractive to potential viewers, meaning more people are likely to pick them up, but will also add to the meaning and understanding of the materials, making them more impactful.

Good qualitative methods gave clear and replicable results. Our experienced confirmed the value of pre-testing. We used trained, culturally competent interviewers using a standard interview guide that asked specific but open-ended questions. We grounded our analysis in direct participant quotes rather than general notes or impressions.

Step 6: Select an Illustrator

We ranked the illustrators as follows:

1. Chi-Yun Lau (see below for commissioned pieces)
2. Eugene Smith
3. Maureen Burdock
4. Maryann Zapalac
5. Duncan Toniatiuh Smith
6. Dave Kirwin

We are confident that Chi-Yun Lau's art, on the whole, both attracted the attention of the audience and successfully communicated the occupational safety and health message. Lau's illustrations drew respondents in. The respondents seemed to gain a deep understanding of the content of the sample from his illustrations. Respondents had the most to say about his work. They appeared to engage his work more than the other artists, and their comments were more substantive and showed a greater understanding of the concepts and message. Comments related to his work stood out in three major themes.

1. *Respondents sympathized with the characters that Lau created.* An example of a quote that demonstrates this is:

"I would show something that is more precautionary, not so dangerous like the situation this man here is in. ... I work in construction. That you are always thinking and worrying about your family, conscious of how to get home, and taking care of yourself so that you can work."¹

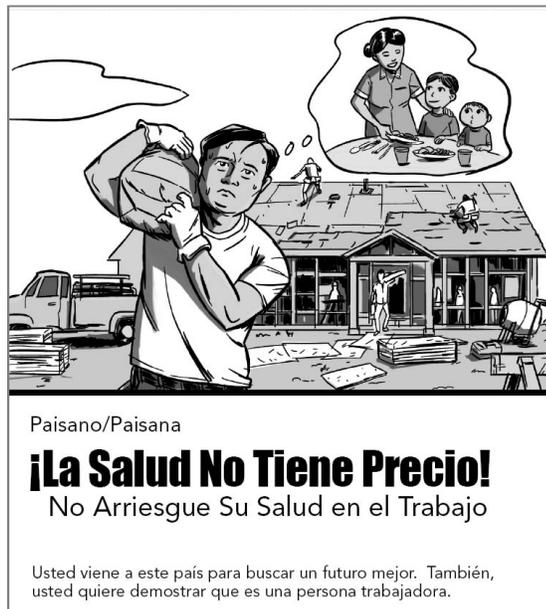
Several respondents said that they would like to give the man and his family a better and safer working environment and in general, a better life. They cared about his well-being and sympathized with his situation, and related it back to their own life experiences.

¹ Response translations by project team.

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2. *Participants related to and personalized the subject matter and the character.* A representative quote is: "...this could happen to me and it is dangerous." In the previous quote, we also heard the respondent relate the situation back to his or her own life. The situations that Lau depicted resonated with the audience and made them reflect on their own situations and work experiences, their own risks and safety. Lau uses an artistic technique in his technical sketches that engenders this connection. In the construction drawing, the viewer is placed on the roof looking down at coworker falling off roof, unable to help. In the hotel housekeeper drawing, the viewer is on the floor with the woman, on her same level, like a co-worker or colleague.

3. *Lau's work appeared to motivate the respondents towards action.* They wanted to know how they could protect these characters and themselves, and indicated some level of motivation to take action. One respondent, for example, said "We work the same way. Yes, there is danger and we need to work carefully. The good thing is that this tells us what we can do."

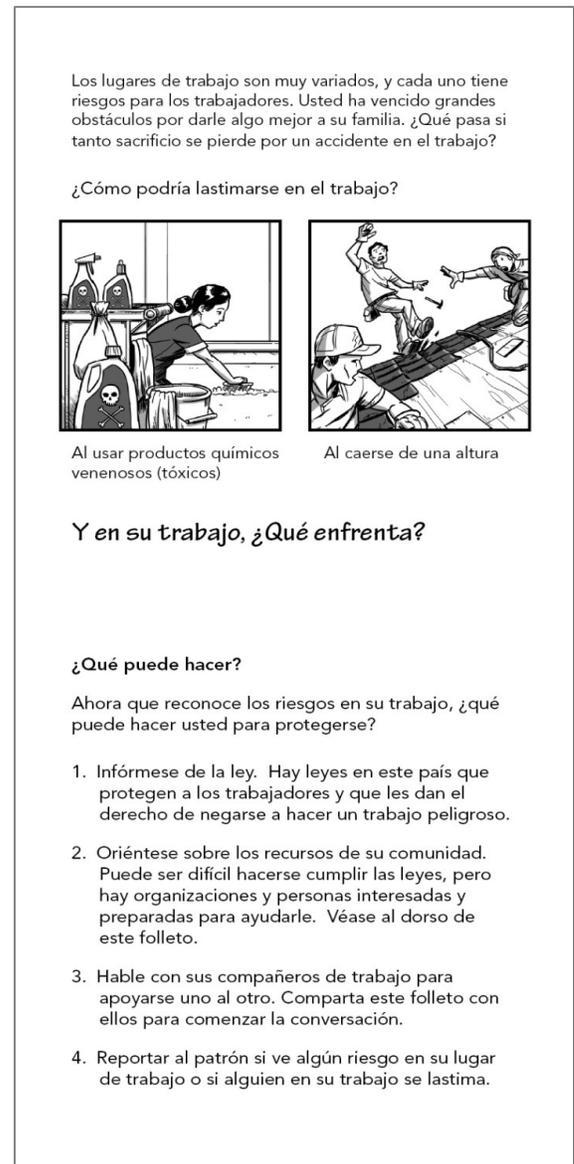


Chi-Yun Lau pre-test sample card. Cover (above); Inside unfolded (right).

Conclusion

Pre-testing both visuals and written content is an essential practice for effectively communicating messages to intended audiences. Through a replicable process, NIOSH determined which illustrator is most likely to engage Spanish-speaking immigrants through emotive and technical drawings, while at the same time connecting a powerful occupational safety and health message. Initial assumptions were debunked and additional themes discovered. We are confident that Chi-Yun Lau's art both attracted the attention of the audience and

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successfully communicated the OSH message by creating sympathy for the illustrated characters, personalizing the subject matter, and motivating respondents towards action. NIOSH has selected to commission Chi-Yun Lau as the illustrator for the educational print materials created for Spanish-speaking immigrants on workplace safety and health.

Next Steps

As you know, the pre-testing of illustrations was part of a larger, ongoing NIOSH collaboration with the Mexican Consulates and the *Ventanilla de Salud* program. Our hope is to commission from the selected artist all illustrations for 5 educational print materials (booklets and brochures) covering the following topics:

- Introduction to workplace safety and health in the US
- Personal protective equipment
- Strategies for prevention: negotiation skills at work and accessing appropriate resources
- Construction work
- Hotel housekeeping work

These materials are currently in draft form and being prepared for internal NIOSH review. The selected illustrator will also be asked to illustrate a lay community health worker (promotora de salud) workplace safety and health training curriculum that is in the final stages of drafting and pre-testing, in anticipation of a planned second round of pilot-testing expected in Fall, 2011.

References

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