

Developing Spanish-Language Family Planning Materials: Lessons Learned from Extensive Field Tests

By Colleen Denny-Garamendi, Jill Lopez-Rabin, Sylvia Guendelman and Sarah Schafer

Colleen Denny-Garamendi is assistant adjunct professor of public health sciences, School of Medicine, University of California, Davis. Jill Lopez-Rabin was project coordinator, *Apoyando a la Mujer Latina*. Sylvia Guendelman is professor of community health and human development, School of Public Health, University of California, Berkeley. At the time this project was developed, Sarah Schafer was a medical consultant for Contra Costa Health Services.

Despite the importance of providing family planning clients with educational materials that are easy to read and understand, scant information is available on the development of materials for clients who feel most comfortable speaking and reading Spanish. Language difficulties and low health literacy, including lack of knowledge about contraception or where to get it, are important barriers to Latinas' utilization of reproductive health services and understanding of health information among Latinas.¹⁻³ Other barriers, such as cost and lack of health insurance coverage, compound difficulties in accessing services, placing low-income Latina women at high risk of unintended pregnancy.⁴⁻⁶ Noncitizens and most recent immigrants are not eligible for Medicaid-covered family planning services, and the proportions of 15-44-year-old women who have no insurance are nearly twice as high among these groups (63% and 66%, respectively) as among those born in the United States (35%).⁴

In California, access to family planning is greatly facilitated by Family Planning, Access and Treatment (Family PACT), a federally funded program run through the Office of Family Planning of the state's Department of Health Services. This program provides reproductive health and family planning services at no cost to uninsured and underinsured residents. Family PACT serves approximately 1.6 million clients per year. More than half (52%) of these clients speak Spanish as their primary language; among clients aged 35 and older, the proportion is 69%.⁷ Despite the availability of Family PACT, access to quality services for women who speak primarily Spanish is impeded by a lack of health education materials compatible with the literacy levels of these clients.

In this special report, we describe a project in which a team of researchers, family planning practitioners and health education experts designed and extensively field-tested Spanish-language brochures for five contraceptive methods.

BACKGROUND

In 2000, the Public Health Division of Contra Costa Health Services (the county health department) wanted to improve the quality of family planning service delivery for its largely Spanish-speaking clientele. A needs assessment in which 197 of the agency's immigrant Latina clients were surveyed found that 74% had not graduated from high school and 33% had a sixth-grade education or less.⁸ Furthermore, consistent with findings from

previous studies,⁹⁻¹⁵ it found that many clients had difficulty understanding the medical forms and health education materials they received in the clinics.

The needs assessment results prompted a broader review of available family planning materials. This review concluded that while numerous family planning materials were available in Spanish, nearly all were inappropriate for clients who had not graduated from high school. Some materials lacked illustrations to support the text, others relied too heavily on medical terminology and yet others included too many educational messages per page.¹⁶⁻¹⁹

Given that the ability to read and understand the information provided with a contraceptive method is associated with its proper use,^{9,20,21} the lack of appropriate materials for this immigrant population was problematic. As a result, a medical consultant from Contra Costa Health Services and a University of California researcher with expertise in the reproductive health of immigrant women developed a project, *Apoyando a la Mujer Latina* (Providing Support to Latina Women), aimed at creating a new set of family planning brochures. The project's guiding principle was to listen to and learn from the target population so as to provide materials that would help Spanish-speaking clients who had not graduated from high school make informed choices about contraceptive methods, improve compliance and increase knowledge about how to use contraceptives correctly.

The California Family Health Council, an organization with expertise in creating innovative health education resources, assisted the project with the development of the brochures and provided a graphic artist to create the illustrations and the brochure design. The project was funded over three years by The California Endowment. An eight-page brochure was developed for each of the following methods: oral contraceptives, the injectable depot medroxyprogesterone acetate (DMPA), the patch, IUDs and male condoms.

DEVELOPMENT PHASE

Between May and September 2003, we conducted focus groups and in-depth interviews with women who spoke primarily Spanish to learn about acceptable vocabulary, appropriate images and preferred layout for the brochures. After analyzing the data, we created a version of the first brochure to field-test between March and December 2004. Family planning practitioners from Contra Costa Health Services provided key educational messages

for the brochures, and *Contraceptive Technology*²² was used as the primary resource to ensure that messages were accurate. Recommendations made by the Program for Appropriate Technology in Health (PATH)²³ were used as guidelines for developing the brochures (Box 1). Each brochure included an introduction to the method, explanations of how the method works and how to use it correctly, a list of possible side effects and information about the risks of STDs. Each one also had a page that addressed method-specific issues. For example, the DMPA brochure covered changes in the menstrual period related to use of the method, and the condom brochure contained information on how to take care of condoms.

The brochures illustrated a clinic visit, presenting a dialogue between a Latina doctor and a Latina client (the condom brochure also included a Latino male client). The doctor gives information about the method, answers questions and sometimes asks the client questions. The client asks questions about the method and answers the doctor's questions. Each page (except for the cover page) included key educational messages—for example, "Return to the clinic in 12 weeks for your next injection" or "The patch does not protect against sexually transmitted diseases."

Ideally, we would have liked to design and field-test all five brochures, make appropriate revisions and retest them to assess improvements. However, restrictions on time and resources required that we test one brochure in the field while we worked on the design of the next. We developed the pill brochure first, then the brochures for DMPA, the patch, IUDs and condoms. We were able to use the valuable information gathered from each field test to improve upon the design of the next brochure. This process allowed us to assess whether the improvements we made to the brochures had the desired effects on comprehensibility and acceptability. The brochures were developed in both Spanish and English by a bilingual staff, and the final Spanish-language version was translated and proofread by a professional translator.

ASSESSMENT PHASE

To assess the brochures, we conducted interviews with 18–50-year-old women whose primary language was Spanish and who had not graduated from high school or its equivalent in their country of origin. Recruitment occurred at five family planning clinic sites;* interviews took place between December 2004 and August 2005. A total of 304 women were interviewed (86 for the pill, 60 for the DMPA, 59 for the patch, 52 for the IUD and 47 for the condom brochure).† Eighty percent were from Mexico, and 20% were from Central America. Respondents had lived in the United States for an average of five years, and 47% had a sixth-grade education or less.

Bilingual interviewers administered a structured questionnaire, which took approximately one hour to complete. They began with the questionnaire's demographic measures and then gave participants the brochure and

BOX 1. Guidelines for developing contraceptive education materials in the Apoyando a la Mujer Latina project

Style and layout

Make the material interactive whenever possible.
Limit the number of educational messages per page.
Leave plenty of white space on each page.
Choose a type style and font size that are easy to read.
Do not use all capitals or italics; use bold or underlining for emphasis.

Content and text

Use simple language.
Restate important information.
Arrange messages in the sequence that is most logical to the audience.

Illustrations

Use illustrations to supplement the text.
Present one message per illustration.
Use familiar images.
Use simple but realistic illustrations.
Illustrate objects in scale and in context whenever possible.

asked them to review it. They then asked three questions exploring participants' overall reactions to the brochure: "What do you think about the brochure in general?" "Did you like the brochure?" and "Why or why not?"

Next, participants were asked a series of questions (which were developed according to PATH guidelines²³) about each page of the brochure. The first three questions addressed the illustrations: "What do you see in this picture?" "Do you like the picture?" and "Why or why not?" Using the answers to these questions, the interviewer determined if the illustration was understood as it was intended to be and if it was acceptable. If so, the interviewer designated the illustration "OK." If the participant had not understood the illustration or felt that it should be changed, the interviewer designated the illustration as "not OK" and asked the participant what changes should be made.

The interviewer used a similar technique for assessing the key educational message on each page. To assess the comprehensibility of these messages, the interviewer asked: "Tell me in your own words what messages you understood from this page." Participants were allowed to look at the page while answering this question. Messages that were described accurately were designated "OK," while messages that were missed, misunderstood or hard to understand were designated "not OK." The interviewer solicited suggestions for improving messages determined to be "not OK" and asked participants if any specific words were difficult for them to understand. The final question about each page was "Is there anything else on this page that you would like to change that we have not asked about?"

*Brentwood Public Health Clinic, Concord Planned Parenthood, Parlier United Health Center, Richmond Public Health Clinic and The Women's Health Center at 5M in San Francisco General Hospital.

†We had planned to interview approximately 50 women for each brochure; however, we interviewed more women for the pill brochure since it was the first to be assessed and we needed extra time to feel comfortable that we had reached saturation in our data collection.

KEY LESSONS LEARNED

•**Overall concept.** The image of a doctor and client conversing, paired with their dialogue in the text, created a strong connection between the two and resonated strongly with the women. The rapport between the doctor and client was important to the women and made them feel secure and confident. Many women also said that they liked that the characters in the brochures were Latinas and that they could relate to the clients. Some women even noted that they had some of the same questions that the clients in the brochures asked, and others noted that the pictures gave them confidence to ask questions of their doctor. Thus, the cultural appropriateness of the brochures was established not simply because the brochures were in Spanish. Women related to the images and conversations that reminded them of their own experiences.

•**Color.** In the original design of the brochures, the project team opted to keep the amount of color to a minimum, to enable clinics to print and photocopy the brochures if needed without losing much quality. We decided to include a strip of color down the side of each brochure to increase the aesthetic appeal. In the field tests, we asked participants about color preferences and identified the top five choices. Each brochure had a different color strip to help clinic staff easily differentiate between the brochures. Women had only a few criticisms of the brochures, nearly all of which were related to wanting color in the illustrations. Brochures developed for this population should include color if resources allow.

•**STD messages.** Educational messages about STDs were well understood in all brochures. This result could partly reflect how the information was presented. Each brochure had a page dedicated to educational messages about STDs (whether the method protects against STDs; the importance of consistent, correct condom use to protect against STDs; the importance of mutual monogamy; and possible consequences of STD infection, including infertility). In this clinic-based sample, knowledge about the risks of STDs may already have been fairly high because of previous exposure to health education messages about prevention.

•**Difficult educational messages or words.** In each brochure, the messages about side effects, how the method works and correct use of the method posed the most difficulty for clients. A correct understanding of information in these areas is essential, since it can improve contraceptive effectiveness and continuation rates.^{24,25} Even if written messages about these topics are easy to read, providers should not assume that they will be understood. Health educators may have to spend extra time discussing these areas with clients.

Many respondents had difficulty understanding a few words in each brochure; some of this difficulty reflected a lack of understanding about basic reproductive physiology. The words that women most commonly identified as difficult, and our ways of addressing those difficulties, are shown in Box 2.

BOX 2. Problem words in developing Spanish-language contraceptive education materials, *Apoyando a la Mujer Latina* project

•**Anticoncepción de emergencia (emergency contraception).** We deleted this term from the brochures because it was poorly understood and created confusion about missed pills.

There was insufficient space to address emergency contraception adequately, so we replaced this message with one about the need for a woman who has missed a pill to call or return to the clinic to discuss her options with a medical provider. A separate Spanish-language brochure on emergency contraception could help improve understanding of this important contraceptive option.

•**Esterilidad (infertility).** Because participants had difficulty understanding this word, we substituted the phrase *puede quedar estéril* (can become infertile), which was better understood.

•**Gonorrea (gonorrhea).** We replaced this word with *clamidia* (chlamydia), which is a more frequently reported STD, and it tested better.

•**Hormonas (hormones).** Women recognized this word, but were unclear about what hormones were and how they worked. We originally included a definition in the brochure, but we deleted it because it seemed to cause more confusion.

•**Látex (latex).** Although women had difficulty with this word, we felt that it was important to highlight the type of condom that prevents STDs and therefore retained it in the final version of the brochure.

•**Óvulos (ovum) and ovarios (ovaries).** Several women suggested that we use the slang term *huevecitos* instead of *óvulos* to improve understanding. We tested it in the DMPA brochure, and it did not test well. To eliminate confusion, we deleted *óvulos* and *ovarios*, and focused the educational message on the importance of taking the pill at the same time every day, rather than on the concept of preventing ovulation.

•**Poliuretano (polyurethane).** We left this word in the brochure but added an explanation that for those who have allergies to latex, there is another type of condom, made from a material called polyurethane.

•**Text boxes.** In the pill brochure, we used text boxes at the bottom of several pages to highlight key messages. Many participants either did not understand the messages in these text boxes or missed them completely. When we included the same information in the regular text of subsequent brochures, it was substantially better understood. For example, the following message was in a text box at the bottom of the page in the pill brochure: “For any question, call the advice line or return to the clinic.” Only 48% of participants articulated this message. When the same message was taken out of the box and incorporated into the text in the DMPA brochure, 79% of participants picked out the message.

•**Illustrations.** Illustrations are critical for transferring educational messages to this target population. In our materials review, we noticed that the educational messages of the text were seldom complemented by instructional illustrations. The newly designed brochures included instructional illustrations wherever possible. For example, in the patch brochure, we included an illustration of a calendar as an example of when to put on and take off the patch. We used illustrations to highlight the four acceptable places to put the patch and the places where it should not be put. We also included illustrations of five of the most common

side effects that occur with patch use. Many participants commented on the usefulness of the illustrations. Participants explained that when they did not understand the words used in the brochures, the pictures helped them grasp the idea.

While most of the illustrations worked very well, a few were totally misinterpreted. For example, several women said that they wanted the doctor's stethoscope to be more prominent so that it was clear she was a doctor, rather than a teacher. The field tests of the pill brochure revealed that the image of a round package of pills worked much better than the image of a rectangular package, which a number of participants mistook for a calendar.

Many participants misunderstood or did not find acceptable an illustration in the pill brochure that depicted the possible side effect of nausea. The woman in the picture had her hand on her stomach, and many participants misunderstood this to be illustrating that the woman had stomach pain or was pregnant. Common suggestions were to have the woman put her hand over her mouth so that she would look as if she were about to vomit. The revised picture improved the level of comprehensibility dramatically: Whereas 32% of women who saw the original image in the pill brochure understood it, 83% of those who saw the revised image in the patch brochure interpreted it correctly.

In the DMPA brochure, several women commented about the illustration of the possible side effect of increased appetite and weight gain. The illustration depicted a woman in a towel standing on a scale. Several women were adamant that she should be fully dressed, while others felt that she was too thin to be an example of this side effect. The final version of this illustration was revised to address these concerns.

Developers of health education materials should keep in mind that no matter how obvious the point of a picture seems, not everyone will interpret the illustration the same way. Illustrations are an essential part of transferring key educational messages to this population. These field tests reinforced the importance of testing images and messages before final versions of brochures are completed. Illustrations need to use images that reflect the cultural context of the audience and to which the audience can relate. Since certain illustrations in this study were initially not well understood, all instructional illustrations were labeled with a brief caption to reinforce the intended message and minimize misinterpretation. For example, the image depicting nausea had the word "nausea" written underneath.

FINAL VERSIONS AND FUTURE DIRECTIONS

The project staff made final revisions to the brochures after all five had been field-tested. In this way, each brochure benefited from the cumulative lessons learned from all five field tests. For example, on the last brochure that was tested, we changed the language on the STD page from "If you have any questions, call the advice line or

return to the clinic" to "If you think you have a sexually transmitted disease, call or return to the clinic." This revised message tested well, and we were able to include it in the final version of all five brochures.

All five clinics in which the field testing took place have copies of the new brochures. In addition, we are working on an arrangement under which the California Office of Family Planning will print the materials and distribute them for free to all participants in the Family PACT program. Our goal is to have the widest possible distribution for these brochures. We have also contacted other major health care providers in California and provided them with copies of these materials. We hope that others who design health education materials for this population will use these brochures or take ideas from them to improve their materials.

The defining features of these brochures are the incorporation of ideas and vocabulary suggested by the target population, the strategic use of white space and instructional illustrations, and the culturally relevant format. Part of the reason that these materials resonated well could be that they were developed for a very specific group; the brochures were not created for every audience or for every reader. Future studies need to evaluate whether targeted, interactive and illustrated health messages are more effective than standard messages in improving contraceptive use and reducing contraceptive failure among Latinas.

REFERENCES

1. Molina C, Zambrana RE and Aguirre-Molina M, The influence of culture, class and environment on health care, in: Molina C and Aguirre-Molina M, eds., *Latino Health in the US: A Growing Challenge*, Washington, DC: American Public Health Association, 1994.
2. Williamson E et al., The development of culturally appropriate health education materials, *Journal of Nursing Staff Development*, 1997, 13(1):19-23.
3. Carrillo JE et al., Cross-cultural primary care: a patient-based approach, *Annals of Internal Medicine*, 1999, 130(10):829-834.
4. Gold RB, Immigrants and Medicaid after welfare reform, *Guttmacher Report on Public Policy*, 2003, 6(2):6-9.
5. Finer LB and Henshaw SK, Disparities in rates of unintended pregnancy in the United States, 1994 and 2001, *Perspectives on Sexual and Reproductive Health*, 2006, 38(2):90-96.
6. Fu H et al., Contraceptive failure rates: new estimates from the 1995 National Survey of Family Growth, *Family Planning Perspectives*, 1999, 31(2):56-63.
7. Darney PD and Brindis C, Final evaluation report of Family PACT, San Francisco: Bixby Center for Reproductive Health Research and Policy, University of California, 2005.
8. Denny C, Guendelman S and Schafer S, The three Cs project: culturally-appropriate contraceptive counseling, improving the quality of family planning service delivery for low-income women in Contra Costa County, Martinez, CA: Contra Costa Health Services, 2000.
9. Gazmararian JA, Parker RM and Baker DW, Reading skills and family planning knowledge and practices in a low-income managed-care population, *Obstetrics & Gynecology*, 1999, 93(2):239-244.
10. Davis TC et al., The gap between patient reading comprehension and the readability of patient education materials, *Journal of Family Practice*, 1990, 31(5):533-538.

11. Parker RM et al., Literacy and contraception: exploring the link, *Obstetrics & Gynecology*, 1996, 88(3 Suppl.):725-775.
12. Wells JA et al., Literacy of women attending family planning clinics in Virginia and reading levels of brochures on HIV prevention, *Family Planning Perspectives*, 1994, 26(3):113-115 & 131.
13. Zion AB and Aiman J, Level of reading difficulty in the American College of Obstetrics and Gynecologists patient education pamphlets, *Obstetrics & Gynecology*, 1989, 74(6):955-960.
14. Streiff LD, Can clients understand our instructions? *Image: The Journal of Nursing Scholarship*, 1986, 18(2):48-52.
15. Nicoll A and Harrison C, The readability of health-care literature, *Developmental Medicine & Child Neurology*, 1994, 26(5):596-600.
16. Denny C, Culturally and educationally appropriate family planning materials: filling the gap, Martinez, CA: Contra Costa Health Services, 2001.
17. Houts PS et al., The role of pictures in improving health communication: a review of research on attention, comprehension, recall and adherence, *Patient Education and Counseling*, 2006, 61(2):173-190.
18. Safer RS and Keenan J, Health literacy: the gap between physicians and patients, *American Family Physician*, 2005, 72(3):463-468.
19. Mayeaux EJ, Jr., et al., Improving patient education for patients with low literacy skills, *American Family Physician*, 1996, 53(1): 205-211.
20. Smith LF and Whitfield MJ, Women's knowledge of taking oral contraceptive pills correctly and of emergency contraception: effect of providing information leaflets in general practice, *British Journal of General Practice*, 1995, 45(397):409-414.
21. Rosenberg MJ and Waugh MS, Causes and consequences of oral contraceptive noncompliance, *American Journal of Obstetrics & Gynecology*, 1999, 180(2, pt. 2):276-279.
22. Hatcher RA et al., *Contraceptive Technology*, 18th rev. ed., New York: Ardent Media, 2004.
23. Zimmerman M et al., *Developing Health and Family Planning Materials for Low-Literate Audiences: A Guide*, rev. ed., Washington, DC: Program for Appropriate Technology in Health (PATH), 1996.
24. Pretreatment counseling keeps patients on Depo, *Contraceptive Technology Update*, 1997, 18(10):125-126.
25. Rosenberg MJ and Waugh MS, Oral contraceptive discontinuation: a prospective evaluation of frequency and reasons, *American Journal of Obstetrics & Gynecology*, 1998, 179(3, pt.1):577-582.

Acknowledgments

The authors thank the staff of the five participating clinics for their support and the members of the qualitative analysis team (Elba Gonzales, Carrie Quintero, Zoraida McNulty, Donna Bell Sanders and Veronica Murillo) for their hard work and insightful contributions.

Author contact: cdenny@ucdavis.edu