

# Increasing the Use of Child Restraints in Motor Vehicles in a Hispanic Neighborhood

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The use of restraints in motor vehicles is less common in minority and low-income populations than in the general population. A preliminary survey of Hispanic preschool-aged children in west Dallas, Tex, conducted in 1997 showed much lower child restraint use (19% of those surveyed) than among preschool children of all races in the rest of the city (62%).

Because there are few reports of successful programs to increase child restraint use among Hispanics, we undertook to implement and evaluate such a program. The program was conducted by bilingual staff and was tailored for this community. It was successful in increasing both child restraint use and driver seat belt use.

**MINORITY AND LOW-INCOME** populations are less likely than the general population to use restraints in motor vehicles.<sup>1-4</sup> A preliminary survey of Hispanic preschool-aged children in west Dallas, Tex, conducted in 1997 showed that the percentage using child restraints was much lower in this population (19%) than among preschool children of all races in the rest of the city (62%).<sup>5</sup>

Information obtained from focus groups of Hispanic parents in the community led to development of a program tailored to that population. Activities were carried out at neighborhood parties and in a local community health center, local day care centers, churches, community centers, and *botanicas* (stores that

sell traditional Hispanic remedies and often employ a folk healer). Child safety seats were distributed through parent education classes in a variety of locations.

Child motor vehicle restraint use was evaluated through structured observational surveys, which showed a significant increase in child restraint use in the community. By 2000, restraint use among Hispanic preschool-aged children attending the clinic (72%) had surpassed use in a comparison population of preschool-aged children in the rest of Dallas (69%).

## THE PROGRAM

Three adjacent zip codes (75208, 75211, and 75212) in the west sector of Dallas were chosen for the survey because of their predominantly Hispanic population (population 110 000, 60% Hispanic). Preliminary surveys had shown that child restraint use among Hispanic preschool-aged children was lower than 20% in several settings in these zip codes.

We used the Safe Communities model to develop community interventions.<sup>6</sup> Components of the program are listed in Table 1.

The interventions were developed from standardized educational programs, with modifications based on information obtained from 6 focus groups in the Hispanic community. These included establishing a child safety seat loaner program, educating parents in small classes, identifying mothers as authority figures to help communicate the message, addressing the issue of fatalism or destiny, and using videos that graphically showed what happens to a child held on an adult's lap in a car crash.

Since child safety seat use was not part of the tradition or culture of the Hispanic community in the target area,<sup>7,8</sup> the interventions were incorporated into various aspects of the culture. For example, local priests were asked to bless the child safety seats in a ceremony before they were distributed; pamphlets about the program were distributed through local *botanicas*, churches, and community centers; and educational materials about child safety seats were presented on local Spanish-language radio and television shows.

Child safety seat classes were conducted in Spanish and English in the target area throughout

the project, beginning in May 1997. The classes were taught by certified child passenger safety technicians and were held biweekly at the only county-sponsored community primary care health center in the target area and at other locations in the community on request. Parents were required to attend an hour-long training class on the proper use and installation of child safety seats before they received a seat. They were asked to pay a \$10 deposit for the seat, but they were not denied a seat if they were unable to pay. More than 3000 child safety seats were distributed to Hispanic families in the target area during the survey period.

Interventions also were implemented in several day care centers and neighborhoods in the target area (Table 1). A key component was the traffic safety workshops, which included information about vehicle safety, driver's licenses, immigration, and social security laws, as well as demonstrations of proper installation of child safety seats. At local schools, churches, and neighborhood events, a Hispanic policewoman known as *La Protectora* ("The Protector")<sup>9</sup> held classes in Spanish and English for parents and children to explain child safety laws and procedures. Information was also provided through activities at churches, community centers, and *botanicas*. Trained bilingual staff, most

of whom were also residents of the target area, conducted all activities.

## EVALUATION

Observers were trained in the use of a standardized observation survey form that had been used by the Texas Transportation Institute (TTI) for the past 13 years for longitudinal studies of restraint use throughout Texas.<sup>10</sup> Beginning in February 1997, surveys were conducted as vehicles entered parking lots at 3 types of locations in the target area: (1) the community health center where the intervention was done; (2) day care centers that were sites of interventions, and (3) the parking lots of 8 grocery stores,

## KEY FINDINGS

- A program to increase use of child safety restraints in motor vehicles in a Hispanic neighborhood was successful because it incorporated religion, cultural beliefs, and community into the interventions, and because it was ongoing and multifaceted.
- The program was most successful among persons who attended the community health center and in the youngest age group (children younger than 2 years).
- Use of child safety seats and restraints was closely linked to drivers' use of seat belts.

**TABLE 1—Components of Program to Increase Child Restraint Use in Hispanic Community, Dallas, Tex**

### Program development and cultural issues

- The program used the Safe Communities model. It was developed from standardized educational programs, adapted to the Hispanic community, and was further modified on the basis of results from 6 community focus groups.
- Activities were conducted in Spanish and in English.
- Classes were taught by certified child passenger safety technicians who were bilingual.
- Activities addressed issues of importance to the community other than child safety restraints.

### Health center

- Classes were held biweekly.
- Parents were required to attend an hour-long training class on proper use and installation before receiving a child safety seat.
- Parents were not denied a seat if they were unable to pay the \$10 deposit.
- Pediatricians at the health center promoted child safety seat use by distributing "prescriptions" for proper child safety seat use to patients.
- Class instructors also participated in health fairs and special events sponsored by the health center, distributed pamphlets about child safety seat and seat belt use, and conducted child safety seat inspections and demonstrations.

### Day care centers

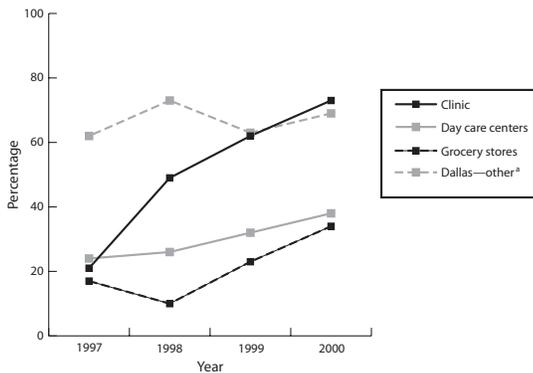
- A week-long intervention for children, parents, and day care staff included a presentation by a Hispanic policewoman, seat belt demonstrations, coloring contests, child safety seat training for day care center employees, and traffic safety workshops for parents. It emphasized the importance of seat belt use by parents as well as use of child safety seats.
- A second intervention involved hiring 3 local mothers as liaisons to promote child safety seat use over a 9-week period in 5 day care centers. Liaisons were responsible for developing an ongoing relationship with the day care centers and implementing interventions tailored to the centers' needs and interests. Strategies developed by the liaisons included information booths, raffles, and games designed to promote child safety seat use.

### Neighborhoods

- Interventions implemented in several neighborhoods in the target area included neighborhood block parties, health fairs, child safety seat inspections, traffic safety workshops, and delivery of educational messages at local festivals.
- The traffic safety workshops included information about vehicle safety, driver's license and traffic laws, immigration and social security laws, and proper installation and use of child safety seats.
- At local schools, churches, and other neighborhood events, a Hispanic policewoman held classes in Spanish and English for parents and children to explain child safety laws and procedures.
- Educational pamphlets were distributed at churches, community centers, and local *botanicas*.

### Evaluation

- Child restraint surveys were performed by trained observers, using survey forms developed by the Texas Transportation Institute.
- The target-area sites were a community health center, day care centers, and grocery store parking lots. The comparison-area sites were day care centers and shopping centers in other parts of the city.



Note. Data from the health center, day care centers, and grocery stores in the target area are for Hispanic children only.  
 \*Dallas data were obtained from Texas Transportation Institute surveys for Dallas, Tex, excluding the target area, and include all races/ethnicities.

**FIGURE 1—Child restraint use for children from birth to age 4 years in various settings in the target area, compared with Dallas data, Dallas, Tex, 1997–2000.**

which were patronized predominantly by Hispanics. Observations at the grocery stores were considered to be most representative of the community as a whole. Children who were restrained in accordance with current Texas state law were considered properly restrained.<sup>11</sup> The safety seats were not examined in detail to determine whether they were appropriately tightened and tethered.

A total of 7413 observations among preschool-aged Hispanic

children (<5 years) were conducted from 1997 through 2000: 2246 (30%) at the health center, 2735 (37%) at day care centers, and 2432 (33%) at grocery store parking lots. Additionally, 4137 comparison observations were done by TTI on preschool-aged children of all races in other parts of Dallas.

Child restraint use among preschool-aged Hispanic children increased significantly in all 3 settings between 1997 and 2000 ( $P<.0001$  by  $\chi^2$  for trend; Fig-

ure 1). By 2000, use of restraints among Hispanic children attending the health center was higher than use in the rest of the city as measured in the TTI survey (72% vs 68%). There was substantially higher use among younger children (from birth to 1 year) than among children aged 2 to 4 years (Figure 2). Nevertheless, the trend of increasing use was significant in all 3 settings and for both age groups ( $P<.001$  by  $\chi^2$  for trend).

Observed driver seat belt use also increased significantly in each of the 3 settings ( $P<.001$  by  $\chi^2$  for trend), whereas the TTI survey showed little change in driver seat belt use for other parts of Dallas (not significant). There was a strong association between child restraint use and driver seat belt use at all the observation sites. The association remained strong after results were stratified by year, setting, age of the child, and type of vehicle (summary risk ratio=5.7, 95% confidence interval=5.0, 6.4;  $P<.0001$ ).

**DISCUSSION**

We believe that the success of this program was the result of its ongoing nature,<sup>12</sup> its integration of cultural and religious factors,<sup>13,14</sup> the use of Hispanic teachers in child safety seat classes, the efforts of the community health center staff to integrate safety messages into the clinical routine,<sup>15</sup> and the feedback that program staff received from surveillance data about progress in the program.<sup>16</sup> In addition, it appears clear that a successful program to increase child restraint use must target driver seat belt use.<sup>17,18</sup> We saw little increase in child restraint use in ve-

hicles in which drivers did not wear a seat belt. Driver seat belt use may be a necessary factor in child restraint use, although it is not the sole determinant.

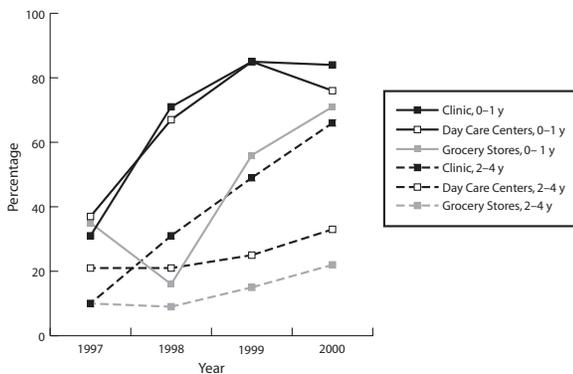
Several caveats are in order. First, although we found a significant increase in child restraint use in the community (as measured by the grocery store and day care center surveys), use in the community remained significantly lower than use at the health center, indicating that there is much work still to be done. Some of the increase in restraint use at the health center may have been due to a “social desirability” effect—parents who knew they were going to the health center, the primary site of the intervention activities, may have been more likely to practice car seat safety.

Second, although the overall trend was relatively flat, there were some fluctuations in restraint use in the rest of Dallas from year to year, which may have reflected other community factors at work that influenced child restraint use. Third, the predominant impact of the program in the overall community (as measured by the surveys in grocery store parking lots) was seen among children younger than 2 years. Finally, the program may not be generalizable to other populations and ethnic groups.

Despite these possible shortcomings, the program appears to have been successful. With a multifaceted program, child restraint use and driver seat belt use in the Hispanic population may reach levels that equal or exceed those of the general population. ■

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Note. Data from the health center, day care centers, and grocery stores in the target area are for Hispanic children only.

**FIGURE 2—Child restraint use for Hispanic children from birth to age 1 year and aged 2 to 4 years in various settings in the target area, Dallas, Tex, 1997–2000.**

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### Contributors

G. Istre participated in conception and design of the intervention and evaluation, analyzed and interpreted the data, and wrote the manuscript. M. McCoy participated in conception and design of the intervention and evaluation, analyzed data, and assisted in interpreting the analysis. K. Womack participated in conception and design of the intervention and evaluation, helped with data analysis, and assisted in interpreting the analysis. L. Fanning participated in design of the intervention and evaluation. L. Dekat participated in the design and implementation of the interventions. M. Stowe participated in the conception and design of the intervention and evaluation, and assisted in interpreting the analysis. All authors helped revise the manuscript.

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**A priest reads a prayer before the blessing ceremony. Parents are standing next to their vehicle, and the child safety seats are in place.**

