
Evaluation Activities to Strengthen an Injury Prevention Resource Center for Urban Families

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The Johns Hopkins Children's Safety Center (CSC) is a unique health care provider and patient education resource that elevates the attention injury prevention receives in a medical setting and reduces barriers to injury prevention experienced by low-income, urban families, the Center's priority population. This article describes the CSC's development, implementation, and selected elements of its evaluation. Because evaluation has played an important role in the CSC from its inception through its implementation and sustainability, three evaluation activities are described: process evaluation to monitor activity, impact evaluation to understand its effects on parents' safety behaviors, and qualitative interviews with CSC visitors and non-visitors to enhance services. Implications of each evaluation activity are described and recommendations are made for strengthening the CSC.

Keywords: *injury prevention; low-income families; urban health; health education; evaluation*

A unique health care provider and patient education resource began 5 years ago, providing a comprehensive approach to injury prevention in a pediatric clinical setting. The Johns Hopkins Children's Safety Center (CSC), which opened in March 1997, provides in one convenient location injury prevention patient education and counseling, health care provider training, access to safety products, and opportunities for skill development for both parents and providers. The CSC holds promise as an effective replicable strategy to positively influence the safety practices of

urban parents with young children. The CSC elevates the attention injury prevention receives in medical settings and reduces barriers to injury prevention experienced by low-income, urban families. This article describes the CSC, its development, its implementation, and selected elements of its evaluation. Three evaluation activities have been used: process evaluation to monitor activity, impact evaluation to understand its effects on parents' safety behaviors, and qualitative interviews with CSC visitors and non-visitors to gain insights into improving CSC services.

► **LITERATURE REVIEW**

Increased attention for finding effective prevention and education strategies is warranted as injuries continue to be significant contributors to childhood morbidity and mortality. Injuries account for 900,000 hospitalizations and 14 million emergency room visits annually in the U.S. (Weiss, Mathers, Forjuoh, & Kinnane, 1997). Each year, unintentional injuries kill 6,700 children and disable another 50,000. One in four children is hurt seriously enough to require medical attention (Kogan, Overpeck, & Fingerhut, 1995; Scheidt et al., 1995).

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The home is a particularly risky environment for children. In a study of unintentional, non-fatal injuries among children aged 1 to 17 years, Scheidt and colleagues (1995) identified the home as the setting for half of all injuries reported. Features of the home (stairs, windows) and products found in them (medicines, cleaning supplies) have been linked to particular injuries. Falls, for example, are the leading cause of unintentional injury for children (Fingerhut & Warner, 1997). Whereas falls from furniture are common and may be serious, fatal fall injuries are more likely to occur from windows or on stairs (Grossman, 2000). Fire and burn injuries, the third leading cause of unintentional injury deaths in children aged 1 to 5 (Fingerhut & Warner, 1997), can be caused by faulty electrical wiring, stoves, hot liquids, heaters, matches, irons, and other household products.

Safety Practices and Prevention Programs

The ability of various safety products to greatly reduce the risk of death and injury has been well documented and includes, among other things, smoke alarms (Marshall et al., 1998), bicycle helmets (Attewell, Glase, & McFadden, 2001), child-resistant packaging (Rodgers, 1996), and auto restraint devices (Task Force on Community Preventive Services, 2001). However, the success of these products in preventing injury or death is contingent on not only their proper and consistent use but also on their availability to the user. The challenge of properly using a safety product is highlighted in the example of car safety seats where a recent study documented misuse rates as high as 94% (Kohn, Chausmer, & Flood, 2000). Towner, Dowswell, and Jarvis (2001) and DiGuseppi and Roberts (2000) noted the importance of access to safety products in their recent reviews of the childhood injury prevention literature. Educational programs focusing on the needs of low-income families enhance their potential effectiveness when they include the provision of low-cost or free safety products. With a few exceptions (Clamp & Kendrick, 1998; Kendrick, Marsh, Fielding, & Miller, 1999; Schwartz, Grisso, Miles, Holmes, & Sutton, 1993), recently evaluated programs tend to focus on single injury topics rather than on a comprehensive array of safety practices. A comprehensive approach may be more important for low-income families who are at elevated risk for multiple injuries.

Special Needs of Low-Income, Urban Families

Ethnic minorities and low-income families are disproportionately affected by injuries. African American and Native American children have death rates from poisonings several times higher than the national average; and low-income children, particularly those who live in single-parent homes, are at highest risk for scald

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burns (Baker, O'Neill, Ginsberg, & Li, 1992). In a review of childhood injuries between 1987 and 1994, Danseco, Miller, and Spicer (2000) reported that children in families with incomes less than \$5,000 had the highest overall nonfatal injury rates. Injury fatality also seems to be linked to subgroup characteristics. Danseco and colleagues (2000) also revealed that although White children suffered more non-fatal injuries, African American children experienced higher fatality rates from injuries than children from other racial groups.

Issues such as housing quality, access to resources, lack of education, and financial issues, among others, create unique barriers for families living in impoverished areas. Gielen and colleagues (1995) found that both housing quality and family income were significantly associated with safety practices. Families who lived in homes that passed a minimum housing standard practiced more safety behaviors than families whose homes failed the standard. In addition, families with an income between \$5,000 and \$14,999 reported fewer safety practices than families with incomes of more than \$15,000. Lack of transportation and access to preventive devices, lack of control over housing conditions, and increased exposure to physical hazards have been cited as additional barriers for low-income, urban families (O'Donnell & Mickalide, 1998).

The CSC

The CSC addresses many of the barriers experienced by low-income, urban families to implementing safety practices by increasing access to safety supplies and by providing education and support. Built to resemble a home and to replicate some common household hazards, the 6-ft by 9-ft (1.83-m by 2.74-m) CSC includes a

bathroom vanity, sink, and medicine cabinet; a gas water heater; two mock staircases; and a double-hung window. These displays not only allow Center staff to demonstrate correct procedures for installing and using safety products, but also provide visitors opportunities to test different styles of products to determine which ones will work best in their homes.

Health education staff in the Center are specially trained in home and motor vehicle safety. Staff are available to work one-on-one with visitors to address their unique injury prevention needs and to answer their questions. Pediatric residents and other hospital staff also rotate through the Center to receive injury prevention training and an orientation to our services.

The non-profit Center currently sells more than 30 safety products; most products are priced 10-20% less than other retailers. A car safety seat loaner program provides infant seats for a nominal yearly fee; a low-cost sales program makes convertible and booster seats available for \$25 and \$20, respectively. Center services, such as patient education and counseling, car seat installation and checks, and referral to the local fire department for free smoke alarms, are provided at no-charge. Services are available to anyone, although our primary mission is to serve low-income families, especially those who attend the Harriet Lane Primary Care (HLPC) clinic, a pediatric primary care clinic staffed by residents. A variety of written materials are also available to consumers free of charge. This not-for-profit Center is open Monday through Friday from 10:00 a.m. until 4:30 p.m. and is located within the Johns Hopkins Children's Center. Figure 1 includes the Center's mission statement and a description of its services.

Development of the CSC

The CSC was established in March 1997 under the auspices of the SAFE Home Project, a randomized, controlled study of three clinic-based interventions to improve parents' injury prevention practices with regard to falls, burns, and poisonings (Gielen et al., 2001; 2002). In addition to the CSC, the other interventions tested were enhanced pediatric anticipatory guidance and home safety visits. Parents or guardians of infants younger than 6 months old were enrolled in the SAFE Home study and followed until the children were 18 to 24 months old. Pediatricians provided the

<p>The Johns Hopkins Children's Safety Center</p>  <p>Helping Keep Every Child Safe</p> <p>No child should suffer because of a preventable injury. The Johns Hopkins Children's Safety Center keeps our communities' children safe through public and professional education, service delivery, product distribution, and advocacy.</p>	<p>CSC Services</p> <p>Personalized Child and Home Safety Assessments. Visitors' injury risks are assessed, taking into consideration each family's unique situation.</p> <p>Safety Counseling. CSC staff provide families with the latest injury risk and prevention information specific to their needs.</p> <p>Safety Product Demonstration and Practice. Safety products are demonstrated and visitors are able to practice them under the watchful eye of a safety expert.</p> <p>Lower Cost Safety Products. All products are offered at reduced prices, and some families with special needs can receive free products.</p> <p>Car Safety Seat Loaner Program. Safety seats are rented at low cost and are correctly installed into families' cars.</p> <p>Consultation with Community Groups. To spread the prevention message, CSC staff work closely with other childhood injury prevention coalitions and groups.</p>
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FIGURE 1 CSC Mission Statement and Services

enhanced anticipatory guidance and made referrals to the CSC. Community health workers, trained in home hazard identification, visited randomly selected families to assess injury risks in their homes and made referrals to the CSC. The development of the CSC was guided by the PRECEDE/PROCEED planning framework and drew on a variety of behavioral sciences theories and health education principles that have been described elsewhere (Gielen & McDonald, 1996).

EVALUATION STRATEGIES OF THE CHILDREN'S SAFETY CENTER

Evaluation has played an important role in the CSC from its inception through its current implementation. Formative evaluation methods, including focus groups with clinic parents, provided data to guide its design, determine its hours of operation, and select an inventory of safety products and educational materials most relevant to its intended audience (Gielen & McDonald, 1996). The remainder of this article focuses on three additional evaluation strategies used by the CSC in its first 3 years of operation and describes how results con-

tributed to enhancing the CSC and its services. A review of the literature revealed no published studies evaluating safety centers such as the CSC.

Process Evaluation

Process evaluation is critical to determine if the intended audience is accessing program services and to monitor program implementation (Windsor, Baranowski, Clark, & Cutter, 1994). The four process evaluation mechanisms that are used to monitor activities in the CSC are described below.

CSC prescriptions. A two-part carbonless copy prescription-like referral form to visit the CSC was created for use by pediatric residents in the HLPC. During the medical visit, the pediatrician completed the prescription form, indicating the injury prevention area(s) that needed to be addressed by CSC staff, and gave one copy to the parent. Center staff collected the original copy from parents who visit the Center and the duplicate copy from the pediatrician. Monthly tallies of all prescriptions allowed us to estimate the number of referrals made by pediatricians and the proportion of those referrals completed by parents. From March 1997 to December 1999, 59 different doctors wrote 349 prescription referral forms.

CSC safety checklist. Center staff completed a checklist to document interactions with visitors to the Center, regardless of receipt of a prescription form. Questions on the checklist assessed the visitor's injury prevention needs by asking about current safety practices related to fires and burns (smoke alarms, hot water temperature), falls (stair gates, baby walkers), and poisoning (storage of poisons, syrup of ipecac), and so forth. The checklist also collected information about how the visitor heard about the Center and whether their child(ren) attend the HLPC. Tallying the checklists demonstrated that visits to the Center more than quadrupled from its opening in March 1997 to December 1999, with visits increasing from approximately 20 per month to 100 per month. During this time frame, the CSC had more than 2,300 documented visits.

Together, the prescription referrals and the safety checklists allowed us to describe our visitors. Between its opening and December 1999, about two thirds of CSC visitors were either families seen in the pediatric clinic or Johns Hopkins employees, whose children may also have been seen in the clinic. An additional 20% of our visitors had no Hopkins affiliation and came to the Center from outside the hospital.

Telephone inquiries. In January 1998, we developed a telephone log to track phone calls to the Center. Staff entered into the log the date and time of the call, the general nature of the call (questions about specific safety products, questions about hours of operations, questions about CSC services, etc.), and the affiliation of

the caller (Hopkins personnel, parent, media, etc.). In 1998, Center staff fielded about 29 calls per month. Average monthly calls almost doubled the following year. The nature of the calls ranged from asking directions to and hours of the Center, to specific safety questions ("My child weighs 20 pounds. Can he use a forward facing safety seat?"), to advice about starting similar children's safety centers elsewhere.

Product sales. All purchases made in the Center generate a sales receipt and records are kept of the date of the sale, the items purchased, and their costs. Sales increased steadily in the first 3 years of operation. The initial CSC inventory included six products ranging in price from \$0.81 (ipecac) to \$16 (stair gate). Monthly sales averaged about \$60 in 1997 and almost doubled the next year to \$100 per month. Year 3 showed the biggest gain, with monthly sales averaging \$277. By the end of 1999, more than 20 products were sold in the CSC and overall sales totaled more than \$5,300.

Implications. Process evaluation was used to assess the Center's productivity. We established that pediatricians were referring their patients to the Center, but there was room for improvement. Moreover, we knew receipt of a referral was not always sufficient to encourage a parent to visit. We initiated other ways of encouraging parents to visit the Center—posting flyers in the waiting room and encouraging CSC staff to walk through the clinic waiting room to talk with parents. Over time, increasing numbers of parents visited the Center. What remained to be determined, however, was what that meant. Did visiting the Center motivate parents to change safety behaviors? Were products purchased at the CSC installed and used correctly in parents' homes? For answers to these questions, we turned to impact evaluation.

Impact Evaluation

Impact evaluation assesses the short-term effects of a program. These effects can be changes in knowledge, attitudes, skills, or behaviors among program participants (Green & Kreuter, 1999). Both the research design and the data collection activities of the SAFE Home Project allowed us to monitor a variety of outcomes and determine if changes occurred in participating parents' knowledge, attitudes, and behaviors as a result of exposure to one or a combination of the interventions being tested. We found that pediatric counseling alone resulted in improved parent satisfaction, but did not change parents' knowledge, attitudes, or safety behaviors (Gielen et al., 2001). When we evaluated all three interventions, we found that pediatric counseling in combination with visiting the CSC was associated with increased home safety practices (as described below), and that there was no added benefit of receiving a home visit (Gielen et al., 2002).

During the SAFE Home Project, CSC products and educational materials centered on encouraging safety

practices that minimize injury risk related to falls, fires and burns, and poisonings. Relevant safety products carried in the CSC included smoke alarms, thermometers to test water temperature, stair gates, cabinet locks and latches, and syrup of ipecac. SAFE Home Project participants consented to a home observation by research staff who assessed the parents' safety practices, including (a) having a working smoke alarm, (b) having hot water temperature lower than 120 degrees, (c) having stairs protected by a stair gate or door, (d) keeping poisons locked or latched, and (e) having syrup of ipecac. CSC use data were then used to divide SAFE Home Project participants (all of whom had pediatricians trained to provide the injury prevention counseling) into two groups: those who visited the CSC and those who did not. The safety practices of these two groups were compared, revealing statistically significant differences. CSC visitors ($n = 58$) had significantly more safety practices in place than non-visitors ($n = 39$) when the total number of observed safety practices was compared for the two groups: 34% of CSC visitors had three or more observed safety practices compared to 17% of CSC non-visitors. As determined by a proportional odds regression of total safety scores, CSC visitors were more than three times as likely than CSC non-visitors to have more safety practices observed in their homes. However, rates for some practices remained low: fewer than half of families had safe hot water temperatures, and fewer than one third had safe stairs, appropriate poison storage, or syrup of ipecac. To examine the data for confounding and selection bias, we compared CSC visitors and non-visitors on a variety of demographic characteristics. Families who visited the CSC were somewhat more advantaged, as indicated by having more household income and education, smaller household sizes, and more use of well-child care than families who did not visit the CSC. However, these sociodemographic differences did not explain our positive findings, as they were not significant correlates of the observed safety practices.

Implications. Impact evaluation results suggest that families who visit the CSC benefit from their exposure to it. Compared to families who did not visit the Center, CSC visitors had more safety practices observed in their homes. Impact evaluation also shed light on the type of family who was accessing the Center, indicating that we were not reaching the most disadvantaged or vulnerable of the families served in the clinic. Despite the demonstrable benefits of visiting the CSC, impact evaluation also revealed that many families' homes still contained injury hazards. Although the impact evaluation results were very encouraging, we needed to better understand parents' motivations for using the Center, their perceptions of their experiences there, and ways to better reach other parents with young children. To answer these questions, qualitative evaluation using a semi-structured telephone survey was conducted, as described in the next section.

Qualitative Evaluation

Sullivan (2001) describes qualitative research as using "data in the form of words, pictures, descriptions, or narratives" to make observations (p. 20). Focus groups, structured interviews, and semi-structured interviews are just a few of the qualitative research techniques that can be used to evaluate a program. We chose semi-structured telephone interviews because we had both specific and general questions we wanted to ask. Moreover, such interviews are more effective than focus groups to reach the number of parents we wanted to survey.

Recruitment

Using families who completed home observations in the SAFE Home study, we obtained home addresses for 122 parents, 75 of whom were preliminarily categorized as CSC Visitors (61%) and 47 as CSC Non-Visitors (38%). Because of the in-depth qualitative nature of this evaluation activity, only a small number of interviews were desired; our goal was to survey approximately 20 CSC Visitors and 20 CSC Non-Visitors. Personalized letters were mailed inviting participation in a telephone survey about the CSC. Included with the letter was a self-addressed, stamped refusal postcard to be returned to us if the parent did not want to participate. Ten days after the letters were mailed, the project interviewer initiated calls to those for whom a postcard was not returned. The interviewer called participants, obtained verbal consent in keeping with procedures approved by our institutional review board, and after clarifying CSC visitor status, began the survey.

Data Collection and Analysis

Two different semi-structured interview forms were developed depending on one's status as a CSC Visitor or Non-Visitor. The telephone survey for CSC Non-Visitors asked whether the respondent had ever heard of the CSC, if they recalled anyone talking with them about it, and if they could describe the services offered there. If they could not, a brief description of the Center and its products and services was read to the respondent. Non-Visitors were then asked to identify what would motivate them to use the CSC and what services or products would be most helpful.

Those who reported visiting the CSC at least once (CSC Visitors) were asked to recall when they first heard about and used the Center, to describe how many times they visited and the quality of those visits, and to list the types of products or services they received from the Center. Visitors were also asked to critique the Center, evaluating what they liked least and best about their experience as well as the costs, variety, and availability of services and products offered there.

Both CSC Visitors and Non-Visitors were asked to describe their experiences purchasing safety supplies at

other retail locations, for ideas about how to best market the Center to other parents of young children, and to describe if a safety product ever averted an injury for a child they know.

Seven invitation letters (6%) were returned to us with no forwarding address information and refusal postcards were received from two people. The project interviewer began contacting the remaining 113 participants in groups of 10; the protocol required 10 attempts per working phone number before moving on to the next person on the list. On average, 5.1 attempts (range = 2 to 8) were made before successfully completing seven telephone interviews with CSC Non-Visitors. CSC Non-Visitor interviews were stopped after completing seven due to the combination of difficulty reaching them and the lack of new information emerging among those we did reach, a common qualitative research practice. A total of 34 CSC Visitor telephone surveys were completed after an average of 2.7 attempts (range = 1 to 8). CSC status was 100% correct among those preliminarily identified as visitors. Among those identified from the SAFE Home study as non-visitors, seven parents reported visiting the CSC and were switched to the CSC Visitor survey. Most respondents (95%) were the female primary caretakers of the index children originally enrolled in the SAFE Home project.

Results

CSC Non-Visitors. Of the seven CSC Non-Visitors contacted, all but one recalled hearing about the Center. Three respondents remembered hearing about the Center from their child's doctor and one reported getting a "prescription" to visit the Center. When asked to describe the CSC services, four respondents were able to do so accurately.

CSC Non-Visitors were asked to identify the "major reason for not visiting" the Center. Three of the respondents identified CSC hours of operation as the biggest barrier to using the Center and another three reported that they had no need for the services offered in the Center (e.g., "I took it upon myself to go to the store to buy [products]." and "I believed I purchased everything from the store . . ."). When asked to identify services or other things that would make them want to visit the Center, a number of respondents commented that they did want to visit. For example, one parent reported, "I really would like to see it and learn about what goes on there and find out some safety tips." Another respondent commented, "I need to go there." Only one respondent didn't feel the need to visit the Center, claiming, "My son doesn't get into anything . . . he was never interested in getting into stuff."

CSC Visitors. A total of 34 surveys were completed with CSC Visitors (see Table 1). Most CSC Visitors (71%) credited their child's doctor or nurse as their first source for learning about the CSC. Other sources cited by

TABLE 1
Selected Results From Qualitative Telephone Survey of Families Who Visited the Children's Safety Center

Survey Items	CSC Visitors (n = 34)
Identified health care provider as first source of information about CSC	71%
Credited health care provider referral as main impetus for visiting the CSC	68%
Rented or purchased safety product at CSC	91%
Received product demonstration or instruction	94%
Rated CSC staff as "very helpful"	91%
Received printed materials at CSC	91%
Rated materials as "very helpful"	82%
Rated CSC prices as reasonable, less expensive than other retailers	74%
Rated cost as "very important" factor in purchasing from CSC	56%

respondents included the SAFE Home project staff (18%), CSC staff (6%), and flyers or posters (3%). On average, Visitors first used the CSC when their children were 8.5 months old (range = 2 weeks to 18 months) and reported visiting an average of 3.2 times (range = 1 to 8). A variety of reasons were identified as the motivator for first visiting the Center. Most respondents (68%) cited receiving a verbal or written recommendation to visit the CSC as their main reason to do so. Also noted was their own curiosity about the Center (6%) or prompts received directly from the CSC staff (9%). No one credited a friend or family member or other clinic parent as motivating factor to visit the Center. When asked to describe their most recent CSC experience, 59% of respondents described the products they purchased, 29% recalled the information they received or discussed during the visit (e.g., "I went looking for information on gates for spiral stairs and she gave me ideas."), and 21% recalled the overall atmosphere of the Center (e.g., "I was really impressed. It was very nice and pleasant.").

When asked specifically about services received at the Center, 91% of respondents reported renting or purchasing at least one safety product (Table 1). On average, respondents obtained 2.7 safety products from the Center. Again, most CSC Visitors (94%) reported receiving demonstrations or instructions about the correct use of safety products. The safety products most frequently noted included syrup of ipecac (85%), outlet plugs (79%), cabinet latches (76%), and smoke alarms (68%). A majority of CSC Visitors (91%) also reported receiving educational materials and assessed them as either "somewhat" (8%) or "very helpful" (82%).

CSC Visitors were asked, "What did you think about the cost of products at the CSC?" (see Table 1). A total of 74% of respondents evaluated the prices as being "very

reasonable” and acknowledged that they were less expensive than other retail stores. Cost of safety products was identified by 56% of CSC Visitors as “very important” in influencing their decision to purchase products at the CSC as opposed to other retail outlets. Most CSC Visitors (87%) evaluated the Center as being well stocked with safety products they needed.

Two questions asked CSC Visitors to describe what they liked “best” and “least” about their experiences in the CSC. Most CSC Visitors (86%) reported that there “wasn’t anything to dislike” about the experience. Other respondents addressed four issues. Two focused on the limited hours of the Center. The other two responses included, “[The CSC is] not very visually impressive when you’re used to Toys & Us,” and “I didn’t like hearing about children’s homes being unsafe and stuff that happens to kids.” Examples of what CSC Visitors liked best about their CSC visits was easier for the group to articulate. Three main themes emerged from the responses.

- Helpfulness and knowledge of the staff. “The staff seemed to know what I needed . . . if I had questions I could ask.” “They take their time . . . to explain about safety of the child, and about the products. The thing I liked most was that they take [their] time.”
- Cost of products. “It was convenient and a lot less expensive than going to the store.” “They’ll work something out if you don’t have the money.”
- *Demonstration of products.* “Car seat and bike helmet demonstrations were very helpful. I was putting my kids in the front seat and the wrong way. She showed me how to do it the right way.” “When they gave demonstrations they broke it down so it was easy to understand.”

CSC Visitors were asked if they talked about their CSC experiences with others. More than two thirds of the CSC Visitors affirmed that they had talked with someone else about their experiences in the CSC. Most of those examples focused on sharing information with family members or friends (“I told my husband that I liked it because it was right there in the hospital.” “A lot of girlfriends . . . I told them [the CSC] has a lot of stuff you can’t get at the . . . store.”). A few examples included discussions with the child’s pediatrician (“He asked what I purchased and how did I like it.” “I talked to the doctor . . . confirming everything the CSC told me . . . I asked [him] what [he] thought of the CSC.”).

CSC compared to retail stores. All respondents were asked to evaluate their experiences buying safety supplies at retail stores and for ideas to attract other families with young children to the CSC. Although most CSC Visitors and Non-Visitors reported that it was easy to find the safety products they were looking for at other retailers, they evaluated more critically the helpfulness of the sales people there. Half of the CSC Non-Visitors reported the sales staff as “helpful” whereas the remaining half reported “I didn’t need their help” or that there

were no sales staff around. Among CSC Visitors who also purchased products at other retail stores, 37% rated the staff as “helpful.” The majority (59%), however, were less enthusiastic about the help they received from retail staff. “They couldn’t tell me which [product] was best; they could only tell me which one was cheaper,” noted one respondent. Another commented, “No one was there to explain the product, they just rang me up. That’s the difference between the store and the CSC.” When asked specifically, “Could the sales people answer the questions you had?” most CSC Non-Visitors and Visitors agreed that sales people in retail stores were not good sources of information on safety products. Responses included, “I didn’t bother to ask,” “I couldn’t find anyone to talk to,” or simply “no.” Illustrative of many retail experiences of parents, one respondent noted, “He was just a kid. He got the car seat off the high shelf for us.”

CSC marketing ideas. CSC Visitors and Non-Visitors were asked to make recommendations about ways to encourage families with young children to visit the Center. No real differences emerged between responses from Visitors and Non-Visitors. Most respondents suggested coupons and product give-aways. Other ideas centered on better advertising and included hosting “family tours or appointments to see the Center,” an “open house,” and a “monthly newsletter” highlighting the latest products and services of the CSC. Recommendations about what clinic staff, in particular, could do were also solicited from parents. Again, the idea of appointments specifically for the Center was mentioned, but this time one parent added, “The doctor should walk with [the parent] to the CSC.” Other respondents suggested continued discussion of it by the doctor during medical visits. For example, one parent suggested, “Just talk about it at every visit. After the physical, [the doctor] should ask the parent if they [have] been there.” Another respondent offered a similar response, suggesting that the doctor “bring it up at every visit.” Finally, one respondent recognized the limitations of staff referrals, noting that clinic staff “can only do so much, it’s up to [the parent] to decide if they want to go.”

Injuries prevented. As a final question, survey participants were asked if they could recall an example when “any safety product or information learned at the CSC (for CSC Visitors only) protected a child you know from an injury.” Comments such as, “Every day, when my kid is in a car seat, I feel safe,” were not really responsive to the question but are illustrative of examples received from both CSC Visitors and Non-Visitors crediting a safety product with *preventing the possibility of an injury*. Although CSC Non-Visitors provided no specific examples of product “saves”, eight CSC Visitors cited specific instances. Car safety seats were featured in three examples, including, “My daughter was in a car accident with her father the day after we got her new car

seat!” and “My sister was in a car seat when the car [was involved in an accident]. I had to have 27 stitches, but she was protected by her seat.” Another respondent described her daughter’s fall from a bicycle, noting that “the helmet protected her head,” and that she bought another helmet to replace the one that cracked as a result of the fall. Another parent described calling poison control, as taught at the CSC, during a poisoning episode in her home.

Implications

This qualitative evaluation approach was quite fruitful. The telephone survey results identified areas for improvement, provided evidence that CSC goals were being met for families who came in, revealed powerful examples of CSC successes, and suggested a number of areas for future consideration. Because the survey identified CSC hours as problematic for some parents, we extended them. The Center is now open from 10:00 a.m. to 4:30 p.m., Monday through Friday. We also now more systematically promote the CSC in the clinic with monthly events such as coupon give-aways directed to parents and coloring contests directed to children.

Qualitative evaluation results provided additional evidence that exposure to the CSC was beneficial to parents and their young children. It seemed clear that parents who visited the CSC valued this service and appreciated the advantages of having easy access to knowledgeable staff who have time to spend with them, and to low-cost safety products that can be demonstrated. Parents also commented on the important role that their pediatricians play in stimulating them to think about their children’s safety. Most visitors to the CSC reported buying or renting safety products when they visited. Perhaps more importantly, CSC visitors said they learned about safety through their interaction with CSC staff and educational materials offered there. Even those visitors who did not acquire safety products reported receiving helpful demonstrations or instructions about how to use safety products. The value of education and instruction in the correct use of products should not be overlooked. One recent survey found that 94% of child safety seats were used incorrectly, reducing the seat’s effectiveness in preventing injuries in a crash (Kohn, Chausmer, & Flood, 2000). A report by the National Fire Protection Association found that although 13 out of 14 homes have smoke alarms, most of them are not functioning (National Fire Protection Association, 2001).

Results of the qualitative evaluations will be used to consider strategies for improving the CSC and its services in the future. Recommendations under consideration include better advertising and marketing of the Center, reminders to physicians to reinforce CSC visits, and structured appointments to visit the CSC, all ideas suggested by participants in the telephone survey. The telephone survey also gave us data to compare parents’ experiences in the CSC with those at other retail stores.

Clearly, the safety knowledge of our staff and their willingness to answer questions are benefits of the CSC that can be used in promotional materials.

The qualitative evaluation also allowed us to learn about specific examples of how parents’ interactions with the CSC, through information learned there or products purchased, were responsible for protecting children from injury. The ultimate evaluation of an injury prevention program is lives saved and injuries averted. Thus, these examples not only confirm for us the benefits of the CSC, but also may be used to create compelling promotional materials to attract more families to the potentially life-saving services of the CSC.

► **DISCUSSION**

A variety of evaluation strategies were used in the CSC that facilitated its development, implementation, and sustainability. Process measures were used to capture information about who was visiting the Center and what they experienced there. Process evaluation data showed a steady increase in all activities within the Center, including increases in patient visits, safety product purchases, and telephone inquiries.

Such data do not indicate, however, any effect the CSC may have on safety behaviors. For that we turned to impact evaluation and the evaluation design of the SAFE Home Project. The strong research design and data collection activities of the SAFE Home Project provided us with ample data to understand the effect CSC use had on parents’ safety behaviors. Through the use of objective home observations (compared to the often-used self-report), reliable information about parents’ safety behaviors was collected. Moreover, the collection of descriptive data as part of the SAFE Home Project allowed comparisons between CSC Visitors and Non-Visitors.

Impact evaluation yielded promising results as well as areas in need of additional attention. CSC Visitors were more likely than Non-Visitors to have safer homes on a variety of measures. CSC Non-Visitors were more likely to have less education, earn less money, and have more people living in their home than CSC Visitors. Moreover, impact evaluation data identified that most homes still contained significant injury hazards. We turned to a qualitative evaluation strategy to provide better and more detailed information about who was accessing the CSC, and how we could better reach those who were not.

The qualitative evaluation allowed us to collect a great deal of information from both CSC Visitors and Non-Visitors. Among the CSC Visitors, we learned about their motivations for visiting the Center, their critique of their experiences there, and their ideas for strengthening the Center. From interviewing Non-Visitors we have a better appreciation of barriers to using the Center. From both groups, we are able to evaluate their experiences purchasing safety supplies from other retailers, information we can use to create a niche for

the CSC by focusing on the technical expertise of our staff. Finally, both groups offered ideas to better market the Center to other families with young children.

► CONCLUSION

A variety of evaluation techniques were employed in monitoring the CSC and demonstrating its impact. Results of each individual evaluation strategy provided important information, and taken together they paint a clearer and more comprehensive picture of the benefits of this injury prevention resource. The combined evaluation results have also helped identify future initiatives that can be undertaken to further enhance the CSC.

The CSC has grown extensively since its inception and many benefits have been realized to date. Now in its 5th year, the CSC continues to be a valuable service to the families it serves. The availability of quantitative process and impact data, along with qualitative assessments by families in our priority population, has helped with CSC sustainability as well. We frequently use these data effectively in funding proposals submitted to both internal and external sponsors.

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