Parental perceptions of barriers to childhood immunization: results of focus groups conducted in an urban population

L. K. McCormick¹, L. K. Bartholomew¹,², M. J. Lewis³, M. W. Brown⁴ and I. C. Hanson²,⁴

Abstract

The current US immunization rates for 2 year olds are approximately half of the goal set for the year 2000. Research studies have focused primarily on the perception of health care providers in the identification of barriers and benefits to childhood immunization. While health care providers are an important part of the immunization delivery process, the perceptions of parents are also important. In this study, qualitative methods were used to explore perceived parental barriers to childhood immunization delivery. Twelve focus groups comprising White, African-American, Hispanic, urban and non-urban people were conducted at a variety of sites, including clinics, churches, schools and work sites. The results indicated that time off from work, access to well-child care and difficulty understanding the complexity of the immunization schedule were seen as barriers to adhering to an immunization schedule. Participants emphasized problems in taking time off from work to get immunizations, sometimes without pay, and expressed fears that doing so would jeopardize promotions and raises. While some of the parental perceptions were similar to those identified in studies of health care providers in the literature, many were not. This study emphasizes the importance of gathering information from parents as well as from health care providers.

Introduction

The national goal for US immunization rates for the year 2000 is 90% appropriate immunization for all 2 year olds (USDHHS, 1990). While this goal has been met and exceeded for children entering elementary school, the rates for 2 year olds are at best half of this goal (CDC, 1992; ACIP, 1993; Zell et al., 1994). The immunization rates in major US urban centers range from approximately 27% in Los Angeles and Dallas, to 31% in Detroit and 48% in San Diego (Woods and Mason, 1992; Wood et al., 1995). In early 1993, the Houston/Harris County Consortium for Childhood Immunizations conducted a county-wide immunization prevalence survey for resident children 18–24 months of age and identified similar rates of immunization to other large urban centers; only 36% of children surveyed were fully immunized by their second birthdays (Hanson et al., 1996).

Reports have focused on the perceptions of health care providers of the barriers to immunization delivery rather than those of parents and guardians (McConnochie et al., 1992; Hutchins et al., 1993; Fielding et al., 1994). Barriers to child care delivery in private and public health care systems have been identified, and broadly
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categorized as policy issues, missed opportunities and inadequate response to immunization guidelines (McConnochie et al., 1992; Hutchins et al., 1993; Fielding et al., 1994). Policy barriers include obstructive appointment systems, long waiting times and mandated pre-immunization standards, i.e. physical examinations. Missed opportunities to immunize occur when health care providers ignore immunization status and do not take advantage of visits for other purposes, e.g. emergency room visits, younger sibling evaluation at school entry visits, interactions with social services [Aid For Dependent Children, Women Infant Children Program (WIC)]. Other problems include a dynamic immunization schedule (10 recommended vaccine doses were added from 1989 to 1992), and failure of physicians and clinics to determine true contraindications to immunization delivery.

Although these studies have identified system barriers to immunization, there is little in the literature about parents' perceptions of barriers to obtaining immunizations for their children (IOM, 1994). Programs to increase immunization rates have been developed and implemented based on untested hypotheses about why parents do or do not have their children immunized. They often focus on, or completely ignore, the knowledge, awareness, attitudes, beliefs and circumstances of the under-immunized population. Those studies that have addressed these issues have used survey research, asking for responses to a predetermined list of potential barriers (Bennett and Christopher, 1992; Abbotts and Osbom, 1993; Salsberry et al., 1993). Using a researcher-generated, rather than population-generated list may lead to many biases including the potential to miss issues that are of primary importance to the population. Before embarking on a program to enhance immunization rates, it is important to assess perceived barriers to immunization of parents as well as health care providers. In this study, we used qualitative methods to gather population-generated data about parents perceptions of barriers to immunization of pre-school children.

Methods

In order to solicit detailed information about parental perceptions of barriers to immunization and benefits of immunization, we conducted focus groups with parents of pre-school children. We felt that focus groups were an appropriate data collection method for the issues that we were addressing. As mentioned previously, we were interested in soliciting responses from the subjects that were not influenced by the opinions of the researchers. Although we could have also used individual interviews for this information, focus groups allowed an interaction that we wanted to occur between subjects (Krueger, 1988). We also wanted to identify potential ethnic differences in perceptions of immunization barriers and benefits. This methodology afforded us the opportunity to generate detailed data in the language of the target population ( Patton, 1990). These data could then be used not only to identify important points for intervention, but to generate messages in the language of the population.

Twelve focus groups were conducted between October 1993 and January 1994 with parents of local children 5 years and younger. Participants and sites were selected to allow for collection of information by subgroup: race/ethnicity (White, African-American and Hispanic) and residency (within city limits or outside of city limits). Distribution of focus groups by race, site and number of participants is presented in Table I. The number of participants in each group ranged from three to 12 (mean of six). The data from the one group with only three participants was used to supplement the focus group data, since we felt that a minimum of five participants was necessary for our focus groups. Focus group sites included local public health department well-child and immunization clinics, WIC clinics, work sites (industrial/manufacturing companies), churches, and elementary schools. While participation was voluntary, we used incentives such as meal, food or movie coupons to encourage participation (fair market value $5). The project was approved by the university committee for human subjects and
Table I. Focus groups by subgroup, site and number of participants

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Site</th>
<th>No. of participants</th>
</tr>
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<tbody>
<tr>
<td>Hispanic (Spanish speakers)</td>
<td>church/community group (city)</td>
<td>7</td>
</tr>
<tr>
<td>Hispanic (Spanish speakers)</td>
<td>well-child clinic (county)</td>
<td>8</td>
</tr>
<tr>
<td>Hispanic (English speakers)</td>
<td>church/community group (city)</td>
<td>3^*</td>
</tr>
<tr>
<td>African-American</td>
<td>well-child clinic (city)</td>
<td>7^*</td>
</tr>
<tr>
<td>African-American</td>
<td>school parent group (city)</td>
<td>6</td>
</tr>
<tr>
<td>African-American</td>
<td>immunization clinic (county)</td>
<td>7</td>
</tr>
<tr>
<td>White</td>
<td>immunization clinic (county)</td>
<td>7</td>
</tr>
<tr>
<td>White</td>
<td>WIC clinic (county)</td>
<td>6^*</td>
</tr>
<tr>
<td>At work</td>
<td>administrative staff (city/county)</td>
<td>12</td>
</tr>
<tr>
<td>At work</td>
<td>customer service representatives (city/county)</td>
<td>10</td>
</tr>
<tr>
<td>At work</td>
<td>administrative staff (city/county)</td>
<td>5</td>
</tr>
</tbody>
</table>

*Less than five participants in these groups.
^Supplemented with individual interviews (five in the African-American group and two in the White group).

Each participant provided consent to participate. Confidentiality of responses and anonymity of subjects was discussed at the beginning of each group meeting.

A focus group moderator recruited participants on-site immediately before conducting the groups. Contacts at church and work sites recruited participants in advance of the focus group. Experienced moderators used a question guide to lead the groups in English or Spanish. Focus group questions explored knowledge, attitudes, beliefs and behavior related to childhood immunizations.

All focus groups were tape recorded and transcribed. Analysis of the focus group data was conducted independently by two members of the research team. One individual (who was involved in the development and conduct of the focus groups) reviewed the focus group transcripts and her own notes, and wrote a summary of the results, using quotes to illustrate her findings (Krueger, 1988). The second analyst (who did not participate in the conduct of the focus groups) reviewed and coded the transcripts from each focus group. Both predetermined or deductive themes included in the interview protocol and inductive themes or issues not specified in the protocol were coded (Patton, 1990). The Ethnograph computer software program was used to assist with data reduction and analysis of the coded data (Seidel, 1988). The results of the two analyses were compared and were found to be fairly consistent, although the results of the coded analysis were more detailed. The research team met and discussed differences to develop consensus based on the data.

Results

Themes determined from the content analysis of the focus groups are presented here and illustrated by selected quotations (Merriam, 1988).

Private pediatrician versus public health clinic

Although all women relied on the medical system as their primary source of information, the extent of that reliance, the extent of perceived support by the system and the frustrations experienced by women seeking or considering immunizations for their children differed slightly by their source of medical child care. Women with private pediatricians relied on them for initiating immunizations. Other women reported keeping their children's schedules. Parents of children receiving services in a public health clinic setting reported taking greater personal responsibility for scheduling their children's immunizations than the parents receiving services from private physicians. Parents using private physicians transferred
responsibility to the physician to immunize their child at the appropriate times. Some women who have private pediatricians for ‘sick-child’ care use public health clinics for their ‘well-child care.’

...I just go to the doctor on a regular basis. I ask them what’s the next check-up I need to come to and will I get a shot. I depend on my doctor.

You can’t be up on everything so you have to trust your doctor’s opinion.

I think it’s just like anything else in health care. It really depends on your doctor’s opinion. A lot of it is not based on, you know, it’s just what they do. They have their favorite drugs they like to prescribe and it’s the same the way they do immunizations.

Time off from work

Working parents expressed concern about the time available to them to leave work for child care. Although at least two work sites from which focus group participants were recruited had policies allowing family leave time, some focus group participants expressed concern that taking time off for immunizations could negatively affect performance, promotions and raises. Many parents said they tried to save leave time for when their child was sick instead of using it to get immunizations. Working parents who did not have paid leave reported lost income when they left work to take a child for immunizations.

You know, you don’t take vacation time just because you need a day off. You have to save all your vacation time to take when your children are ill.

If you do take time off work having it be a mark on your record, that’s when it scares you.

If you took sick leave for a 2 month, 4 month and 6 month shot for a child you would probably get, you know, a talking to.

Although the women acknowledged that immunizations were important and believed that they were immunizing their children according to schedule, the time available in their schedule for these activities was clearly problematic.

Access to well-child care and immunization

Both those parents who used public health clinics and those who used private physicians said that sick-child care was more available than well-child care. Even those participants who said this was not a problem for them personally thought it could be a problem for others, especially those who worked. The most frequently suggested solution was for clinics to be open on weekends or have evening or late afternoon hours. While all parents acknowledged that after-hour and emergency care for sick children was a greater priority than well-child care, they still found the limited hours of immunization clinics to be inconvenient and potentially prohibitive.

I love the fact that they do have after-hour care for emergencies but I wish they would have it [well-baby check-ups] in the after hours. That would be a lot more convenient.

It’s a problem because [the clinics] close at 5:00...it’s a real hassle to take a day off work and wait all day long, and when you’ve got to be back at work at a certain time...that could be a bummer.

Long waits at clinics were seen as a barrier to getting children immunized. Interestingly parents reported this as both a real and perceived clinic barrier to immunization delivery.

They only have two times...and if it fills up you can’t get in. This is a problem, waiting. If a person is waiting, and the time is over, they won’t give the shot.

The immunization schedule

There appear to be several issues involved in adherence to the immunization schedule. The largest barrier seems to be knowing exactly what the immunization schedule is, or is supposed to be. Responses to the question ‘How often should
you have your child immunized?’ varied greatly between each of the focus groups and among the members of each focus group. While parents recognized that there is a schedule and that children need to have different shots at different times, they had little understanding of the schedule parameters. They focused on having children immunized before school enrollment which is mandated by law. It seemed difficult to confine the conversation to the subject of immunizations for pre-school children—many parents talked about having their children immunized at school. They did not seem to fully understand that children receive the majority of their immunizations by age 2, well before they enter school.

Sources of immunization information

Parents who were interviewed at clinic sites reported a broader range of sources for information about immunizations than parents who received immunizations from private providers. ‘The clinic’ and ‘clinic nurses’ were the primary sources of information about the timing and potential side-effects of immunizations for public health clinic patients. Family members involved with the medical professions were also mentioned: mothers and sisters who were or had been nurses, and one baby’s father who ‘graduated from the health professions’ provided information about immunizations.

Other relatives were rarely cited as information sources, although members of the Hispanic focus group discussed family involvement in a baby’s upbringing more often than did other groups. This may have been a function of the mother’s age rather than ethnicity, however; the Hispanic women interviewed were younger and more likely to be living with their parents than the members of the other focus groups.

The media were also identified as sources of information relating to childhood immunization. Specific radio channels were identified as having broadcasted the importance of and locations for childhood immunizations. Magazine articles were also mentioned as sources of information. One woman carried an immunization calendar that she had clipped from a popular women’s magazine.

Immunization risks

Television talk shows and news shows focusing on the sensational negative side-effects from immunizations were mentioned in several of the focus groups. Most individuals identified the shows as sensational, although the topic generated a lively discussion of potential immunization risks. No focus group member said that these potential risks were sufficient to keep her from having her child immunized, although the risk could keep others from immunizing their children.

Cost

Cost of immunization was not a universal problem. Participants who were recruited from health department clinic settings reported that the vaccines given in the clinic cost only a few dollars and this was not a barrier to immunization. For parents who had their children immunized in a private setting, cost was a potential barrier.

...people that are on Medicaid don’t realize that if you bring your Medicaid card up here you don’t have to pay and a lot of people think Medicaid won’t cover it.

I know by going to my family doctor it’s a whole lot more expensive than if I went to one of the clinics but that’s just my preference...insurance doesn’t cover it.

I mean even if you didn’t have to pay for the office visit, if you could just pay for the vaccine, you know.

Parents recognized that the cost of the actual immunization was not the only cost involved. ‘But you know the cost isn’t always the cost of the shot. It could be the cost of the parent losing a day at work.’

Understanding of disease

In general, parents exhibited no understanding of the nature of the diseases immunizations protect against. They knew that immunizations are given to prevent diseases and could name most of the acronyms for vaccines, e.g. DPT. However, they less often knew what was included in combination
vaccines or which diseases the immunizations prevented.

Other barriers

Several anticipated barriers were mentioned in the interviews, but were less salient than those previously described. Although transportation was an acknowledged problem for some, overall the respondents said that parents who want to have their children immunized should not find transportation to be a significant barrier. Some parents expressed previous frustration when they took their child to be vaccinated according to schedule, but were refused because the child had a cold or other illness. Many women mentioned that local, neighborhood immunization sites such as grocery stores or mobile vans might increase the immunization rate.

Discussion

The qualitative research methodology of focus groups was used to gain information about parental perceptions of barriers to childhood immunization. This methodology provided important information that may not have been obtained through a quantitative approach such as a written or telephone survey. The open-ended process provided participant-generated, rather than researcher-generated, information regarding barriers to immunization. Table II summarizes and compares the findings from this preliminary study to findings from other studies.

There is little in the literature about parent perceived barriers to obtaining immunizations for their children (IOM, 1994; Bates et al., 1994; Lannon et al., 1995). Ongoing and epidemic-related outreach and educational efforts to increase immunization rates have only met with partial success (IOM, 1994). Methods have included health fairs, education campaigns to the general population and to schools, day care centers, private/public pediatric clinics and hospitals, ongoing public service announcements, and reminders distributed at birth, clinic visits and hospitalizations (Szilagyi et al., 1992; ACIP, 1993; Asch-Goodkin, 1993; Robbins et al., 1993). Many of these campaigns seem to be based on the assumption that having information about immunization schedules and availability is the most important determinant for insuring immunization delivery (IOM, 1994).

Results of our focus group discussions with parents suggest that the predominant issues related to immunization did not differ across ethnic groups. Instead, the most striking differences in the content of the focus group discussions occurred between parents who worked outside the home and those who did not. The problems of leaving work outweighed any other perceived barriers for the work site groups. In a society where an increasing proportion of mothers work outside of the home, this is a major barrier to immunization delivery. Members of the groups at sites other than work sites seemed to give more importance to traditionally identified barriers, such as transportation, forgetting, clinic hours and waiting time. This type of information was not available in any of the quantitative, survey research that we reviewed in preparing for the conduct of these focus groups.

In our study, parents who used private physicians tended to rely on their physicians for information about immunizations, especially immunization schedules. Physicians have reported that they perceived that forgetting immunizations or not knowing when immunizations were due are significant parental barriers (Salsberry et al., 1993). It is important to note that these were private medical practitioners, lending further support to our finding that barriers may differ between more and less affluent populations. Salsberry et al. (1993) also found that the most commonly reported barriers to immunization were cost and failure of insurance to cover immunization. Again, these barriers were reported as important among our focus group participants using private health care, but not as important among those using public health clinics.

Minor illnesses are not a contraindication for immunization (Abbotts and Osborn, 1993). A previously published survey reported that parental beliefs that children with a minor illness could not be immunized was a major barrier to immunization. Several parents in our study reported attempts to have their children immunized resulting in denial.
Parental perceptions of immunization barriers

Table II.

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Current study</th>
<th>Parent subjects</th>
<th>Parent and provider subjects</th>
<th>Provider subjects</th>
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<tbody>
<tr>
<td>Time off work</td>
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<td>Access to well-child care</td>
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<td>Immunization schedule</td>
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<td>Immunization risks</td>
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<td>Sources of information</td>
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<td>Cost/insurance</td>
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<td>Long office waits</td>
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<td>Understanding of disease</td>
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<td>Transportation</td>
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<tr>
<td>Missed visits</td>
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<td>Missed opportunities</td>
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<td>Incomplete shot records</td>
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<td>Poor tracking system</td>
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<tr>
<td>Parental refusal</td>
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because their children were ill. They expressed confusion as to why a cold or an earache would prevent immunization. Although we believe that the ‘sick-child’ prohibition was due to a desire to separate sick children from well children waiting for immunizations, it was apparent that our population did not share this belief.

One limitation of our study is the inability to generalize to a larger population, since the sampling process was non-random. Another limitation is the degree of structure of the focus group moderator guide. While the highly structured interview guide allowed systematic coverage of issues across groups, it may have prevented some informal (and useful) dialog among participants. Although we did not see evidence of this in the transcripts, we acknowledge it as a potential study limitation.

In an optimal research paradigm this qualitative study would be an early step in the development of further survey and intervention studies of barriers related to immunization delivery. Other questions in need of answers include: How important is each of the suggested determinants of immunization behavior (i.e. a correlational study)? Are there differences between ethnic groups? Are there differences between parents who work outside the home and those who do not? Do parents who are interviewed in a public clinic setting differ from parents interviewed in another setting (church, work)?

An important message is suggested from this preliminary data, i.e. addressing issues beyond general information or knowledge in the traditional sense (distribution of infant immunization schedules, clinic sites, etc.) may be necessary to provide public education regarding infant immunizations that results in changes in parent behavior. Investment in strategies that identify and personalize the salience of childhood immunizations and that acknowledge social/environmental barriers may improve educational efforts to increase childhood immunization delivery.

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