Family and client-centered approaches have become the basis for practice in pediatric health settings (Chiarello, Effgen, & Levinson, 1992). Pediatric health care providers now involve families in many aspects of program planning, including identifying needs, concerns, and problems; specifying goals; and evaluating outcomes and efficacy (Kolobe, 1992). But as health care providers, we may still not be prepared to support the notion that our clients have decision-making power and that our performance could be evaluated on the basis of our clients' expectations. If client-centered practice is to be completely implemented, we need to evaluate our performance not only through traditional quality assurance activities but through program evaluation that includes an evaluation of aspects of service that our clients have indicated they value. By adopting the notion of client empowerment in our treatment approaches, we must also adopt client-centered and client-driven methods of program evaluation.

A typical approach to this type of program evaluation is the use of client satisfaction questionnaires (Nelson & Niederberger, 1990). In the past, either the questionnaire has been developed by health professionals and administrators to address client satisfaction (Parker & Krobath, 1991; Twardon & Gartner, 1991) or previously developed questionnaires were used to generate client satisfaction data (Fisher & Mclellan, 1989; MacKeigan & Larson, 1989; Ware & Hays, 1988). In keeping with client-centered practice philosophy, it is logical to involve the service recipients in the process of developing such a program evaluation tool. Although Meterko and Rubin (1990) did modify a questionnaire already in use to better suit their clients, on the basis of clients' written comments on the completed questionnaire and information gathered in the course of three focus groups, there has not been an attempt to develop a client satisfaction tool completely based on a systematic use of the comments from the recipients of a health service.

Previous research on the determinants of client satisfaction has indicated that four variables are important: satisfaction with outcome, continuity of care, client expectations, and interpersonal communication (see Nelson & Niederberger, 1990). Earlier questionnaires have included some questions concerning access to care, administrative and financial aspects, continuity of care, technical competence, interpersonal manner, and overall satisfaction (Ware & Hays, 1988). Previous questionnaires have been designed without widespread client consultation and none have measured perceptions of quality of care in terms of initial expectations, improvement in health, or value for cost (Nelson & Niederberger, 1990).

Vuori (1987) believed that health facilities have been reluctant to ask clients about health services because clients are believed to lack the knowledge to assess the technical competence of health professionals or would be disproportionately influenced by the interpersonal pro-
The best evidence that client satisfaction surveys do have validity comes from Hall, Roter, and Katz (1988) and Willson and McNamara (1982), who found that competence influenced client decisions more than good interpersonal skills.

The purpose of this study was to develop a satisfaction questionnaire based on the needs of clients at the Seating Clinic at the Ottawa Children’s Treatment Centre in Ottawa, Ontario. These needs were discovered through a qualitative analysis of client input during individual interviews and a focus group.

Method
Seating Clinic Background
The Seating Clinic, located at the Ottawa Children’s Treatment Centre, serves clients from all over Eastern Ontario. The role of the clinic is to evaluate need and prescribe seating and mobility devices for children with physical disabilities up to the age of 18 years. The Seating Clinic Team consists of the primary caregiver and child client, primary community therapist, a physiatrist, an orthopedic surgeon, a clinical coordinator (occupational therapist), and an outside vendor (technician or orthotist) who fabricates the custom seating inserts. The process includes a preclinic information sharing session followed by the assessment clinic, at which time the insert is designed and prescribed, measurements are taken, and coordination requirements are determined. Once funding has been secured, fabrication of the insert is initiated, followed by two fittings before the final product is dispensed.

Subjects and Research Design
A variation sampling procedure was used to select 11 clients from the Seating Clinic to be included in the study. Participants had to live within 20 km of the Seating Clinic; have received one or more custom inserts through the Seating Clinic; and have received clinic services for their child within the past 18 months. The potential participants were chosen from varying socioeconomic backgrounds and home situations and their children were different in terms of medical diagnosis, age, developmental level, and gender.

After an initial telephone contact, an information package and consent form were forwarded to the potential participants. Two of those contacted declined to participate. Each subject was given the choice of participating in the focus group or of having a personal interview at his or her choice of location. Five chose individual interviews and four subjects chose to come to the focus group (only two actually attended).

Of the seven subjects involved in the study, all were mothers of children with disabilities except for one woman who was a group home supervisor. The ages of the children ranged from 4 years to 17 years and most were in segregated classes at school. They represented single and two-parent families, rural, urban, and suburban families, mothers who worked in the home and those who were also in the paid work force. All seven children had each had at least two inserts made at the Seating Clinic.

A qualitative research design was chosen for this study to enable the researchers to gain an understanding of the issues of importance from the perspective of service recipients. One strength of qualitative research is in information gathering and understanding of unquantifiable human factors related to practice (Schmoll, 1993). Participants in qualitative research serve as informants. Information is collected, in a natural setting and from multiple people or groups. During interviewing, the researcher repeatedly restates responses to ensure accuracy in interpreting them. The data from different participants are compared to determine consistency and accuracy and all data are treated as legitimate. Researchers modify the themes and concepts to fit the data rather than discarding information that does not fit (Krefting, 1991).

Interview Process
Each of the five interviews was conducted by one investigator and one of two student research assistants. The sessions were recorded on audiotape. The interviewers guided the participants with four open-ended questions:

1. What do you think of the Seating Clinic at the Ottawa Children’s Treatment Centre?
2. How can we make this service better for you?
3. What is your feeling about the seating inserts you have had to date?
4. Suppose I were a parent with a child requiring Seating Clinic services, what would you advise me to do?

The interviewers spoke to clarify certain points or to prompt the participant for more details. Each interview lasted approximately 1 hr.

Focus Group
The focus group was jointly led by the investigator, the two student research assistants, and an adult consumer who had used seating clinic services in another city as a child. Of the four participants who said that they would attend, only two actually participated. The two clients were encouraged to interact with each other to compare and contrast their experiences with the services. The same questions were asked as in the individual interviews and this session was also recorded on audiotape.
Data Analysis

All audiotapes were transcribed and then reviewed by at least one person present at each interview to ensure accuracy. A conceptual framework was devised based on the initial review of the transcriptions. Definitions of the coding categories were established (see Table 1). The investigators coded the transcribed text using the definitions. Care was taken to represent all opinions expressed in the interviews.

Results

The themes derived from the data can be grouped into two large concepts: process and product. For this study, the process refers to all events leading up to the creation of the end product, the seating insert. The themes related to the process are communication, time, persons in the clinic, process choice, responsibility, and organization. The themes related to the product are quality, cost and value, and product choices.

Process Concept

Communication. Participants most frequently made comments related to the communication theme. All seven participants made some reference to the importance of involving the parents—caregivers and their children in seating clinic discussions and decision making. Participants wanted to be asked for input and wanted to be involved. Several barriers were identified: “They listen to you but they don’t hear what you’re saying”; “For the most part . . . they just talk around you”; “Five professionals in there talking amongst themselves . . .” “They never talk to the child when you go in. They never address him as a person at all.” Some participants did think that seating clinic professionals communicated well and involved the child: “They try and talk to them [our kids] . . . They talk to them like they’re people”; “. . . they bent over backwards to make themselves available and approachable.” Other communication issues that were discussed included the importance of team members being open-minded, flexible, and friendly, and that proper introductions are made at the Seating Clinic. Technical language used by the professionals was a concern for some participants: “They’re all finished and then they say: is that okay? and you don’t know what is okay.” The importance the participants gave to interpersonal and communication issues is evidenced by the frequency with which these issues were mentioned.

Time. The time theme was identified by the majority of the participants as a concern. Participants commented on the length of time between the assessment and delivery of the insert: “Sometimes it takes so long between the time they measure and the time you actually receive the seat that it doesn’t fit any more by the time you get it.”; “. . . the product comes out and it’s already too short for him.”

Another concern was the time allotted to the initial assessment. The comments related to feeling rushed or that not enough time was taken to assess the child: “You have 20 minutes and it should be 45.”

Persons in the clinic. Most participants believed that there were too many persons present during the seating clinic initial assessment. “I’m not sure why there are as many people at an assessment as there are”; “[It is] very overwhelming.” One participant believed that the number of persons in the clinic was adequate. “I think they all need to be there.”

Related to this issue was the confusion surrounding the roles of those present. Comments included “They introduced themselves but I had no idea what they did”; “I sometimes get a little muddled as to who is responsible for what”; “I certainly don’t know . . . what each of those people do and why they’re there.”

Process choice. The process choice theme included the offering of choices by seating clinic staff members and flexibility around service delivery options, as opposed to product choice, which was having choice of materials or inserts available. Flexibility was mentioned in relation to choices; it overlaps with the communication theme. If the comment about flexibility directly concerned choices, it was included in the process choice theme. Comments included “So they’re not open-minded enough to look at something that maybe they haven’t seen or haven’t done

<table>
<thead>
<tr>
<th>Theme</th>
<th>Operational Definition</th>
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<tbody>
<tr>
<td>1. Persons in the clinic</td>
<td>Number, role or purpose of those present in the clinic</td>
</tr>
<tr>
<td>2. Communication</td>
<td>Technical language, including children and parents in discussion, considering client input</td>
</tr>
<tr>
<td>3. Time</td>
<td>Concerns about waiting time for product, time taken for evaluation, time concerns in general</td>
</tr>
<tr>
<td>4. Choice</td>
<td>Choices offered for process or product, flexibility around options</td>
</tr>
<tr>
<td>5. Responsibility</td>
<td>Comments related to who is responsible and accountable for clinic or product or both</td>
</tr>
<tr>
<td>6. Organization</td>
<td>Comments about organizational structure of clinic and structure of related services</td>
</tr>
<tr>
<td>7. Quality</td>
<td>Materials, workmanship, and design of product</td>
</tr>
<tr>
<td>8. Cost and value</td>
<td>Comments related to value for money, ultimate cost of product, etc.</td>
</tr>
<tr>
<td>9. Choice</td>
<td>Choice of materials and inserts available</td>
</tr>
</tbody>
</table>
Cost and value were mentioned by so many that the cost was considered too high for the value that they received. "It’s not worth the money we paid for it," "I wouldn’t pay that much money for that thing."  

Responsibility. Responsibility for the end product was a concern for some of the participants. "Who is responsible for the end product?" "I have to take responsibility because no one else is." Sometimes you feel like if something goes wrong it’s really your fault." This question may relate to lack of communication or understanding of the organization of the clinic or it may be related to an actual difficulty in responsibility and accountability in the organizational structure.

Organization. Organization of the clinic within the Treatment Centre was a source of confusion for some clients: “Seating clinic . . . rehab centre . . . it’s hard to know where the separation is”; "It seems to us a little bit complicated to understand the whole structure and where the whole place fits into.

Product Concept

Quality. Several points concerning the quality of the end-product were identified: materials, workmanship, and design. Participants made numerous comments about the materials used for the inserts: "Plastic washers . . . always coming undone. We’re always repairing things"; "The frog buckles pop"; "He [the child] broke the back in two"; "It’s not wearing the way it should, like the quality is not there"; "the material that they’re getting is just not of as good quality"; "the rest of it has held up quite nicely"; "(the foam) holds up. It has been good"; "It’s very durable"; "easy to clean"; "I’ve never had any problems with the quality."

Workmanship was also a concern. "Workmanship is not as good as it was a year or two ago"; "It was the last time that I felt the workmanship was shoddy."  

The design of the insert was frequently mentioned. "Straps fall down and get caught in the spokes of the wheelchair"; "We have yet to come up with a satisfactory trunk harness."

Cost and value. It is interesting that concerns over cost and value for money were mentioned by so many participants, even though for the most part the families were not paying for the seating insert themselves (75% of the cost is covered by the Assistive Devices Program in Ontario and the other 25% is usually covered by insurance or social service agencies). Most participants considered the cost too high for the value that they receive. "No one understands why the cost is so high"; "They are so expensive—why can’t it be done right?"; "But for this much money, you would think that this [insert] could be better made"; "If it were my own money and I paid for it, I wouldn’t pay that much money to get that thing."

Using Concepts and Themes to Develop the Questionnaire

One aim of this study was to gain an understanding of the concerns of the participants as they phrased them. A questionnaire was developed that reflected the themes and concepts generated (see Table 2). Section 1 of the questionnaire (37 questions with a Likert response scale) was formulated so as to reflect the chronological sequence of events typical of Seating Clinic services. The wording of the questions reflects the wording used by the study participants. Important factors considered in the development of this questionnaire included using non-technical vocabulary and respecting the knowledge of respondents; keeping the questions clear and specific to one point; keeping the questionnaire as short as possible; and giving respondents a comment section to accurately reflect their opinion (Woodward & Chambers, 1983). The questionnaire also includes nine questions in a separate section related to demographic variables.

Validation of the Questionnaire

A draft copy of the questionnaire was distributed to a panel of five professionals and to all seven participants for review and feedback. Professionals identified for the review panel were all employees at the Treatment Centre, were familiar with the Seating Clinic to varying degrees, and had worked at the centre for periods ranging from 6 months to 10 years. All evaluators (professionals and participants) were asked to comment on four aspects of the questionnaire (format, reading ease, clarity, and time to complete). In addition, participants were asked how well the questionnaire reflected the information and issues they raised during the interview.

Six of the seven participants provided feedback on the questionnaire. Participants tended to focus more on the actual content and wording of questions and possible omissions than the professionals. Questions were either modified or added to reflect these perceived omissions in all cases (e.g., warranty information, flammability issues, choices regarding optional or additional components available, ease of getting child in and out of insert). Some feedback from both participants and professionals suggested that issues were not relevant (e.g., in-
novative designs, aesthetics); however, these questions were not removed because some participants raised these issues several times during the interviews. One participant requested that a question regarding language preferred in the clinic be added after the one asking which language was spoken at home. This addition was made.

Two professionals suggested that some questions could be combined. However, we thought that the questionnaire would not then adequately reflect the different issues raised by the participants during the interviews (e.g., questions on workmanship, quality of materials, durability), so separate questions related to these topics were retained.

Discussion
The satisfaction questionnaire was developed through a process that included client involvement. The questionnaire that resulted is different from other client satisfaction questionnaires in three respects: (a) it asks about value for cost; (b) it focuses on interpersonal communication and quality of product; and (c) it addresses competence of professionals in terms of effort and understanding of clients’ needs by professionals and quality of final product.

The strength of the process is derived from involving clients in the development of the questionnaire, thereby reflecting the issues of most concern to them. Professionals can only guess about the components that are part of client satisfaction when questionnaires are made without client input. The assumption of the biomedical model of service delivery is that health professionals know what is best for their clients and how to ask them if they are satisfied (Labonte, 1993). Clients are now demanding to have more input into their health care and professionals are encouraging this input (McComas & Carswell, 1994).

Client-centered practice includes valuing the person, having a holistic view of the person, and using a model of occupational performance based on interacting spheres of the person (Canadian Association of Occupational Therapists, 1991). Increasingly, persons with disabilities are demanding services that reflect principles such as the inherent worth of the person, individual responsibility,
personal control, and consumers as consultants (McPherson, 1990). The process we have described is one way that occupational therapists can become more accountable to their clients. This process is relevant not only to clinicians involved in adaptive seating. Similar methods could be used to develop program evaluation tools for other occupational therapy programs.

Study Limitations
This study had three main limitations. First, the limited number of participants in the interviews and focus group may mean that some concerns have not been addressed in the questionnaire. When the questionnaire is in general use, it will be important to pay particular attention to the general comments section to ensure that common concerns are identified and the questionnaire modified accordingly. It would have been preferable to have four people attend the focus group. The presence of the adult consumer greatly facilitated the atmosphere, and the two students were mainly observers of the process. Even with only two participants, the focus group did provide much useful information.

Second, clients of the Seating Clinic are the children and their parents or caregivers. The process did not include asking the children themselves if they were satisfied and including their concerns in the questionnaire. One of the reasons we included in the focus group an adult who had been a seating clinic user in her childhood was to try to gain a direct consumer perspective. Parents were also encouraged to ask their children about the clinic and their seating insert before being interviewed.

Third, the usefulness of the questionnaire for other services and settings has not been established. It will be important to determine whether clients from other districts identify similar components of satisfaction by replicating these results with clients from different seating clinics before this questionnaire can be recommended for widespread use in other settings. It is also important to test the questionnaire in the seating clinic and to determine test-retest reliability.

Conclusion
Using a qualitative method to gather information relevant to the satisfaction of clients of a seating clinic, we developed a questionnaire that reflected the concerns of the clients of the seating clinic, not just what professionals thought should be asked. This approach could be used to develop other tools to measure client satisfaction for a variety of services.

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