Patients’ and Carers’ Satisfaction with Hospital-in-the-Home Care

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Aim: Hospital-in-the-Home Units (HHUs) offer acute care, such as the administration of intravenous antibiotic therapy, to appropriate and consenting patients in their homes. This study sought to determine the satisfaction of a group of patients and carers to a hospital in the home program in Victoria, Australia.

Method: A descriptive survey based on a telephone administered structured interview was conducted. Patients admitted to the HHU from December 1994 until the end of June 1995, and their nominated carers, were approached for their participation 2–3 weeks after their discharge.

Results: Patients: Surveys were completed for 67 of a total 79 patients (84.8%). A preference for the convenience and comfort of home was the commonest reason cited for agreeing to enter the HHU (45 or 67.2%). Almost all respondents (66) would use the service again if the opportunity arose. Benefits associated with the home environment were the commonest perceived advantages of HHU care (42, 62.3%).

Carers: Sixty-five carers from a possible 79 were interviewed. Most carers were women (spouses or mothers), and gave their occupation as home carer or retired. Sixty-two carers were confident in their role in the HHU. A similar number stated that they would act as carers again, and 61 would recommend the role to others.

Conclusion: This study demonstrates that patient and carer preference will act as an incentive in the development and acceptance of HHU care. Copyright © 1996 Elsevier Science Ltd.

INTRODUCTION

Hospital at Home is an innovation which delivers acute hospital services to appropriate patients in their own homes [1–4]. Incentives for such program development come from: rationing within the health system, the development of home-based technologies, the high standard of many home environments, and requests from patients for alternatives to traditional care [5]. Hospital-in-the-Home Units have operated in the United States for many years, and they now represent a significant part of the acute health services sector [6]. In the Australian State of Victoria, 35 hospitals have developed such units in response to state health department incentives in 1995, with fewer hospitals in nearly every other Australian state developing similar programs.

The Hospital-in-the-Home Unit (HHU) at Mornington Peninsula Hospital, established in December 1994, is predominantly a provider of intravenous antibiotic therapy to selected patients at home. Selection criteria include a stable medical condition that can be managed at home without expected emergency interventions, the availability of a carer at home, the patients’ ability to move to and from the toilet, an appropriate standard of housing, telephone...
connection, easily accessible toileting facilities and patient consent. Acute infections of soft tissue, bursae, joints, urogenital tract, lower respiratory tract, wounds, (including patients with cancer or AIDS-related disease) and complex post-operative wounds form the casemix profile of the Mornington Peninsula HHU. The characteristics of the Mornington Peninsula HHU have been described in detail previously [7]. In summary it is staffed by a medical director, a fulltime nurse director and an administrative officer. It is a hospital-based unit, and accepts referrals predominantly from the emergency department, with fewer referrals from in-patient wards and the out-patient department. The initial decision to treat any patient referred to the HHU is made by an independent medical staff member (either emergency or unit registrar or consultant). The HHU nurse assesses each referral and ensures that the unit's medical and social criteria are met.

Patients have intravenous access established and, if they consent, are taken home with a lockable kit containing drugs, dressing tray, IV replacement equipment, anaphylaxis pack, and the original hospital medical record. Patients are visited and intravenous drugs administered by the HHU nursing team. Almost every injectable antibiotic has been administered by the unit. Every patient receives a written Emergency Plan which explains the 24-hour telephone backup service. This backup is provided by a HHU nurse and the HHU Director. General practitioners are invited to undertake medical supervision while the patient is at home, and the medical director undertakes 'ward rounds' at least twice weekly. At the conclusion of treatment the patient, who has retained the status of a hospital in-patient in every way throughout the period of HHU care, is formally discharged.

Despite the expansion of such programs throughout the world, evaluation has been reported to be underdeveloped [8]. Although it is difficult to assess patient satisfaction, it has been established that it is an important outcome in the evaluation of health services [9–11]. Patient satisfaction has been reported to be high in Hospital-in-the-Home, although the parameters for the measurement of such satisfaction have not been well described [12–14]. Early Australian research also reports high patient satisfaction without offering detail on the specific patient responses or the methodology used to elicit responses [15,16].

Hospital-based community programs have been criticised for placing a hidden but possibly significant burden upon carers of patients [17]. Hospital-in-the-Home differs from many other community care programs in that most patients are in the program for shorter periods of time, with conditions being generally acute and expected to resolve with the treatment delivered. However, carers' attitudes, stresses and workload have been investigated only in the context of long-term care, permanent disability or terminal care [18–21]. Studies of the impact of acute hospital care, including Hospital-in-the-Home, on family and carers are lacking.

This study is a structured assessment of the satisfaction of patients and carers exposed to Hospital-in-the-Home care. As well as reporting satisfaction with this innovative model of care, the survey hopes to suggest guidelines for future assessment of patient and carer satisfaction in this area.

METHOD

A descriptive survey of patients' and carers' satisfaction with Hospital-in-the-Home care at Mornington Peninsula Hospital was undertaken. The survey was a retrospective telephone-administered structured interview, with a combination of structured and open questions and open responses. The selection of telephone-administered brief interviews over postal surveys may exert an influence on the outcomes. It is suggested that interviews result in an improved response rate, reduce the number of inadequate responses and are better able to elicit qualitative criticisms or praise [10,22,23]. Further, postal surveys may return a higher rate of negative responses, probably due to a bias in the sample of respondents towards people who have had a negative hospital experience. The interview method was chosen for this study for several reasons: response rates are critical when relatively small numbers of people are involved; the program was innovative, so flexibility and clarification of ambiguities was essential; the resources to undertake this method were available; and finally because a preliminary interview survey was felt to be a necessary step in the
construction of a self-completion questionnaire for future use.

Each patient admitted to the Mornington Peninsula Hospital-in-the-Home Unit from December 1994 to June 1995 and their nominated carer was approached 2-4 weeks after discharge, for their participation in the survey. A research assistant (attached to the Hospital at Home Unit but not known to the carers) approached each patient and carer by telephone and sought their permission to undertake a brief survey. The researcher identified herself as being attached to the hospital quality assurance office, and not to the Hospital-in-the-Home Unit, in order to avoid any halo effect in the carers' responses. The researcher delivered a standard approach and was trained to record responses as they were spoken. Confidentiality of responses was assured.

The questions asked are included in Table 1. The questions were generally open, prompting only the issues of confidence and anxiety. Specific items of patient and carer satisfaction were not raised in order to allow respondents to frame and prioritize their responses as widely as possible, and to avoid bias which may be associated with specific prompting of issues.

Responses were recorded verbatim by the research assistant. Responses were then coded and analysed according to their theme and content.

No control group was interviewed, since admission to the Hospital-in-the-Home unit was not randomized.

**RESULTS**

**Patients' survey**

Responses. Sixty-seven patients were surveyed from a total of 79 patients (84.8%). Thirty-three of the respondents (49.3%) were male, while 34 (49.7%) were female.

There were 12 non-responders. The researcher was unable to contact seven patients (of whom two were overseas), one patient was still in hospital, two patients didn't return messages left on answering machines, and two patients had hearing difficulties and could not be interviewed over the telephone. Seven were female and five male. Patients were most frequently in their third and fifth decades, however a wide

spread of ages was found (Table 2).

A preference for the convenience and comfort of home was the most commonly cited reason for agreeing to enter the HHU (45 or 67.2%). Nineteen (28.4) patients mentioned avoidance of hospitalization as a reason for entering the HHU. Nine patients (13.4%) felt that entering the HHU saved a bed for another person, with an additional three patients believing that they were not ill enough to warrant a bed. Seven patients (10.4%) felt that their choice was constrained since no in-patient beds were available at the time. Three patients entered the HHU because they felt it to be a great idea. One patient didn't wish to leave his wife alone at home.

Almost all the respondents (65 or 97.0%) would use the service again if the opportunity arose. The single patient who would decline cited
problems with the intravenous cannula. One further patient responded that it was difficult to answer, again citing difficulty with cannulation.

**Advantages of HHU care**

Benefits associated with the home environment were the most commonly perceived advantages of HHU care: patients reported feeling happier, more comfortable at home; a greater personal freedom; companionship; and less disruption for themselves and their family. These were reported by 42 respondents (62.3%).

Positive characteristics of the HHU were mentioned by 40 patients (59.7%), including the standard of medical and nursing care; the friendliness of staff; the relaxed manner in which care occurred; and the one-to-one contact with staff. Four patients were happy that the outcome of care was positive. The emergency backup was mentioned by one patient. Two patients admitted that the ability to smoke during their hospitalization at home was a perceived benefit.

**Disadvantages of HHU care**

Two patients mentioned disadvantages of HHU care. One cited difficulty with veins. The other reported that, on one occasion, an agency nurse seemed haphazard in her approach.

**Potential improvements**

The overwhelming majority of respondents felt that they could offer no suggestions that would improve the service (66 or 98.5%). However, one respondent mentioned that use of agency nursing staff contributed to a feeling of discontinuity of care, and that all nursing staff should be from the central HHU team.

**Worry and confidence**

Seven patients recalled feeling worried during their admission in the HHU. Their comments are included in Table 3.

When asked whether they felt confident during their time in the HHU, all 67 patients, including the seven patients who reported feeling worried, responded positively. Nineteen patients (28.4%) gave reasons for this confidence, the commonest being the 24-hour contact numbers provided for emergency backup.

**Comments on nursing and medical care**

Sixty-one patients gave positive comments on the quality of nursing care. Two patients stated

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### TABLE 2. Age of survey respondents

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Female patients</th>
<th>Male patients</th>
<th>Total patients</th>
<th>Female carers</th>
<th>Male carers</th>
<th>Total carers</th>
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<tbody>
<tr>
<td>16–20</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21–30</td>
<td>10</td>
<td>3</td>
<td>13</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>31–40</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>41–50</td>
<td>6</td>
<td>4</td>
<td>10</td>
<td>12</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>51–60</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>10</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>61–70</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>71+</td>
<td>8</td>
<td>5</td>
<td>13</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

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### TABLE 3. Respondent patients' worries during their admission in a Hospital at Home

| Only because it seemed to take a while for my leg to improve |
| I was worried about my condition but was reassured by the nurse |
| A bit concerned when my IV tissued but didn't feel worried enough to ring. It was taken out the next morning and was OK |
| Only about my asthma, but I had medications and a 24-hour emergency number |
| Only that I might take a turn for the worse and have to go back to hospital |
| Only because of problems with my veins |
| Yes, my mother-in-law couldn't come to stay but the staff were right on to the problem and had someone come to stay |
their preference for all the nurses to be hospital based.

Fifty-nine patients gave positive comments on the quality of medical care. One patient felt that the timing of medical visits was sporadic, and one patient felt concerned that a different opinion was expressed by the hospital doctor and the HHU general practitioner.

**Traditional hospitalization**

The most common response to the question "what do you like about hospitals" was "nothing" (31 or 46.3%). Thirteen patients (19.4%) responded that hospitals were desired only when absolutely necessary, such as after major operations or illnesses. Thirteen patients were completely satisfied with their experience in hospital, four further patients cited friendliness among nursing staff, and three patients mentioned the security of being in hospital. One patient noted that more rest is possible in hospital if one has children.

When dislikes of traditional hospitalization were sought, 20 patients (29.9%) mentioned the lack of rest and discomfort caused by contact with other patients. Twelve patients (17.9%) mentioned the regimented nature of the hospital, including the lack of privacy and personal attention. Unfamiliarity and separation from family was mentioned by seven respondents. Grumpy or overworked staff were mentioned by three patients. The following aspects were raised by one or two patients each: variety of doctor; waiting; boredom; inability to smoke; bedpans. However, 18 respondents felt that they disliked nothing in particular about hospitalization (26.8%).

**CARERS' SURVEY**

**Response rate**

The study group compared the carers of the first 79 patients to be admitted to the HHU. Sixty-five carers (82.3%) agreed to participate. Forty-six (70.8%) respondents were female, and 19 (29.2%) were male. The carers' age and sex are described in Table 2. Most carers were either spouses (35 or 53.8%) or mothers (13 or 20.0%) of the patients. 47.7% (31) gave their occupation as home carers and 15.4% (10) gave retired as their occupation. Eleven carers (16.9%) were white collar workers, while 9 (13.8%) held blue collar positions. Four carers (6.1%) were either unemployed, invalid pensioners or students.

There were 14 non-responders. Eleven not reached or did not return calls. One was too unwell, and two were interstate or overseas. Twelve were female and two were male.

**Requirements of hospital at home care**

In response to a request to estimate the time required to be a carer, a variety of responses were found. Thirty carers (46.2%) stated that the role required no extra, minimal or not much extra effort to their usual duties. Nineteen carers (29.2%) stated that they had to stay home or be available all day. Four carers responded that they "just had to be there". Five carers reported having to cook meals and do household chores. Sixteen carers offered an estimate of the amount of time required. Four carers (6.2%) estimated 1/2 or 1 hour, six (9.2%) carers estimated 2 or 3 hours, four carers estimated 4 or 5 hours, and two carers (3.1%) reported 10 or 12 hours involvement. One carer responded that the input was difficult to quantify.

Carers were also asked to describe what they thought would constitute the minimum requirements for carers in such a program. Responses are shown in Table 4. Most commonly, respondents stated that there were no special skills required, or only common sense or everyday skills. Twenty-three respondents felt that carers needed only to be able to follow instructions given by the HHU team.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No special skills, commonsense, everyday skills</td>
<td>40</td>
<td>61.5</td>
</tr>
<tr>
<td>Be able to follow instructions</td>
<td>23</td>
<td>35.4</td>
</tr>
<tr>
<td>Self-confidence, responsibility</td>
<td>5</td>
<td>7.7</td>
</tr>
<tr>
<td>Basic health care skills</td>
<td>3</td>
<td>4.6</td>
</tr>
<tr>
<td>Depends on patient's illness</td>
<td>2</td>
<td>3.1</td>
</tr>
<tr>
<td>Miscellaneous: driver's licence; not squeamish; ability to stay home; training in specific condition</td>
<td>4</td>
<td>6.2</td>
</tr>
</tbody>
</table>
Confidence

Sixty-two carers (95.4%) stated they were confident in their role in the Hospital-in-the-Home. Two replied that they were initially concerned, but were reassured once the admission proceeded. One carer replied that she was not confident in her role, since the patient had been very demanding during the admission.

Satisfaction

Sixty-two carers (95.4%) responded that they would act as carers again. One responded that they would "probably" do so, while one responded that she would not act as carer while she had a young child.

Sixty-one respondents (93.8%) stated that they would recommend the role to others. Two responded "maybe" and one carer responded that he would not recommend it to others, since the patient probably did more than they should have and that not all carers would have the knowledge of medical care required.

Advantages of HHU

Forty-three carers (66.2%) stated that the main advantages of HHU centred on the benefit to the patient of being at home. Aspects such as patient comfort, psychological state, food quality, ability to rest, improved healing process, and companionship were mentioned. Thirty-four carers (52.3%) mentioned that the program made it easier for the carers and the family, 30 of whom specified that it saved the inconvenience of visiting the hospital (one carer quantified the saving of a 30 km round trip each visit) especially with children. Five carers were pleased with the personalized attention received and the quality of care. Three were interested to observe the process of care and the patient's progression through the illness. Three carers felt that the backup and support were an advantage. One carer mentioned the reduction in their own worry in having the patient home, and finally, one carer felt that the existence of a follow-up survey was an unexpected advantage.

Disadvantages of HHU

Eight carers mentioned a specific dislike or problem during their experience with HHU. Two carers mentioned the inconvenience caused by having to remain at home with the patient. Two carers mentioned difficulties with the contracted nursing staff: in one case they were not always on time, and in the other, the nurse demonstrated a disorganized approach to the patient. One carer explained that they were given no choice due to lack of beds. One carer was concerned with some conflict in the medical opinions expressed. One carer felt that more nursing visits were required and that weekend coverage could be improved. The final carer suggested that the program existed for cost containment reasons, recovery might be compromised if the patient was tempted to do too much, and that the contracted nurses were not always on time.

Of these eight carers, six reported being confident in their role, being willing to be involved again, and five would recommend it to others.

DISCUSSION

This survey found a highly positive response by patients and carers to the delivery of acute hospital care at home. It confirms that patient and family preferences can act as an incentive to develop well organized alternatives to acute hospital care. Patient selection by the HHU and self-selection by patients (through the consent procedure) are clearly important in producing this outcome. However, this selection process, far from dismissing the value of these highly positive results, reassures the HHU that the requirements of the medical and social eligibility criteria together with the self-selection of patients who enter the program are able to define an appropriate target group for this type of care.

This study reports that patients have an understanding of the rationing pressures placed on hospital resources, and are willing to try alternatives that might reduce such pressure. However, as is again demonstrated in the results, there is a fine line between patients being aware of rationing pressures and feeling pressurized to accept alternatives because of such pressures. Although bed availability has no influence on the selection of patients into the HHU, units must be aware that some patients will feel
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Patients and their carers value uniformity and constancy of approach in the management of acute medical conditions, and they may be more aware of differences in the HHU setting. This can be a challenge where a HHU episode involves hospital medical and nursing staff, HHU staff, general practitioners and contracted community nursing staff. Consistency of approach can be achieved with the systematic inclusion of communication requirements at various points in the service delivery model and the adoption of a teamwork approach that encourages individual communication at every opportunity. Some of the specific criticisms of the HHU relate to the use of contracted agency nursing staff. Where such arrangements are in place, the importance of communication between the HHU and its agencies is critical in ensuring a uniform approach. The Mornington Peninsula HHU has taken steps to ensure that its contracted nursing service draws its HHU staff from a small pool of nurses who will attend the parent HHU for training and updates. This allows a cultural transfer to occur, as well as assisting information transfer. It has also subsequently decided to allow any HHU patient's general practitioner who is willing to comply with the requirements of the HHU process to become directly involved in management. HHUs should expect patients to worry about their condition, its treatment and the processes behind the HHU itself. These concerns can be mostly allayed with demonstrated backup, explanation, education and reassurance. However, HHUs should not underestimate the novel nature of the service they are providing and should constantly address the practical reality that staff may not always be present at the moment worry arises. An emergency plan, including an arrangement for 24-hour backup, accessible by telephone, was seen as vital by patients and carers in alleviating worry. The formal continued link to the hospital was also helpful in this regard. Opportunities for patients to express worry should be given freely and prompted by staff during their attendances; unsolicited telephone calls from the HHU to check on the patient's status might be useful in this regard.

The lack of research into the impact of traditional hospitalization on carers has been highlighted. Many carers of HHU patients clearly feel that the visiting of patients in hospital is disruptive to family and personal routine, adds costs in terms of time and travel, and results in stress, loss of companionship and perhaps isolation. It may be that men do not appreciate some of these difficulties in having their spouse in hospital, or are less inclined to take leave from work to overcome them.

In the Mornington Peninsula HHU it is the patient who is offered HHU care and signs the consent form. The carer must agree to be available, but no formal assessment or consent is usually sought from the carer. Thus, the patient's wishes may lead to pressure on carers, especially female carers, to be involved in the program. Hospital at Home Units must be attuned to such understated pressures, and as a result of this study the Mornington Peninsula HHU aims to discuss the admission into the HHU with the nominated carer independently of the patient. The role of the carer is, at present, within the scope of most of those who were involved. Expansion of the role of carer should proceed carefully, on a case-by-case basis. In the HHU described here carers could volunteer or be invited to be involved in the dressing of wounds, or the recording of simple observations such as patient temperature. However, in the U.S. carers are often expected to undertake the infusion of antibiotics. Such involvement holds ethical considerations as well as legal issues around technical competency and the hospital's responsibility for care. To pressure carers into such involvement might cause many to shy away from involvement in HHUs.

Not all of the increased patient freedom is desirable. Patients' freedom to smoke while in the HHU circumvents attempts by hospitals to create a healthy patient environment. However, enforcement of non-smoking policies in hospitals may offer false reassurance that patient smoking is being addressed actively by hospitals, and remove it from the eyes of the medical and nursing staff. Hospital at Home Unit staff can take the opportunity to instil the non-smoking message in patients' homes. Similarly, the HHU may be unaware of patient non-compliance with the instructions given to patients. Such restrictions should be established and enforced with
the patient's agreement that they offer the best chance for a positive outcome.

Patients' and carers' satisfaction with health programs may be influenced by perceived community or personal expectations of the program [11,24]. This survey benefits from being conducted prior to any widespread community knowledge or expectation of acute hospital at home services in the Australian community and as such, this variable has probably not had significant effect on the patients' responses. Although patients and carers were given both written and verbal information on the HHU service at the time of giving informed consent, expectation is a much wider concept. The repetition of such a study in the future may yield interesting comparons. If factors that influence community understanding of HHU care (such as the attitude of the media, government policy, opinion leaders among the medical community) can be recorded prospectively, this may provide insight into the process of introducing health service innovations, that can act as a model for future planning. The potential for hospital in the home care from the perspective of relevant consumers with little prejudice has been demonstrated here. With criticism of hospital in the home programs already beginning to form in some circles of the Australian medical hierarchy [25], these early views should not be overlooked.

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