Paediatric accident & emergency short-stay ward: a 1-year audit

T. F. BEATTIE & P. A. MOIR

Accident and Emergency Department, Royal Aberdeen Children's Hospital, Aberdeen

SUMMARY

A short-stay ward attached to the accident and emergency (A&E) department has opened recently. The development of this ward is described together with its operation over a 1-year period. Head injuries were the commonest reason for admission. Only 7% of children stayed longer than anticipated or were considered inappropriate admissions.

INTRODUCTION

The role of short-stay wards attached to A&E departments has been explored elsewhere (Dallos & Mouzas, 1981; Morgan, 1981). These reports have highlighted the usefulness of short-stay wards and their problems. These wards have generally been taken to function as short-stay wards for adults only.

Short-stay ward facilities for children are in short supply with only a handful of A&E departments taking ongoing responsibility for children throughout Britain. We opened what we believe is the first dedicated short-stay ward for children attached to an A&E department on 17 September 1990. This paper presents an audit of the first year of operation and discusses the role that such a ward has to play in relation to A&E care in general.

BACKGROUND

The Royal Aberdeen Children's Hospital is the children's facility for Grampian Health Board. The population served is 502 863 of whom 96 575 (19.2%) are 14

Correspondence: Mr T. F. Beattie, Accident & Emergency Department, Royal Aberdeen Children's Hospital, Cornhill Road, Aberdeen, AB9 2ZG.

years or under (Scottish Health Statistics, 1988). Approximately 50% of these live within 5 miles of the Royal Aberdeen Children's Hospital. In addition the hospital provides specialist services for the Highlands and Islands Health Boards.

The A&E department receives children primarily from the city of Aberdeen. However, children from outwith the Aberdeen area are referred for specialist opinion and for treatment of significant injuries. The annual average attendance is 16 400 new attendances with approximately 4 500 return attendances annually.

The A&E department is situated at one end of the hospital with an adjacent eight-bedded ward used previously as a Dermatology Unit. Occupancy of this unit was low, with only two or three beds being used at any one time. To make better use of this area it was converted to a childrens short-stay ward under the control of the A&E consultant.

It was agreed that dermatology patients would have first call on a bed i.e. no child could be admitted to a bed for whom dermatology had previously booked a bed.

After discussion several categories of child were identified as suitable for short-stay admission and other categories identified as unsuitable. These are detailed in Tables 1 and 2 respectively.

It is hospital policy that all children under 12 months of age are nursed on a dedicated 'baby ward', and this policy was to continue to for short-stay patients.

Table 1. Categories of injury/illness for which admission to a short stay ward was considered appropriate

Head injury
Poisoning
Fractures (not requiring reduction)
Diabetics (post-hypoglycaemia)
Seizures (post-resuscitation)
Burns and scalds (that could not be accommodated on other isolation areas)*
Social admissions (e.g. parents admitted elsewhere, transfers from other wards when full)

* Two isolation cubicles exist on this ward.

Table 2. Categories for which admission to the short stay ward was considered inappropriate

Bowel infection
Suspected meningitis
Soft tissue infections
Open wounds that were infected
Infectious diseases
Patients who would obviously on first presentation require more than 24 h nursing care
Patients for whom intensive care facilities (e.g. monitors, possible ventilation) were deemed necessary
Non-accidental injury

Consequently all children under 1 year of age continued to be admitted to this ward under the care of the appropriate consultant, but not the A&E consultant. To protect the dermatology patients on the ward children with superficial skin infections were admitted elsewhere within the hospital.

PATIENTS AND METHODS

All children admitted to the ward had their admission details documented on the ward register already being kept for dermatology patients but adjusted and adapted to cater for A&E admissions for the categories documented in Table 1. Maintenance of this register is the responsibility of the registered nurse in charge of the ward. The analysis for this paper was carried out using this register as a basis but also by cross-checking with the Central Records department data.

Outcome measures for operation of the ward were based on appropriateness of admission and the time of discharge. An arbitrary decision had been taken that the short-stay ward would be available for 24 h admissions only. Any child that stayed less than 24 h and was discharged home was deemed to be an appropriate admission. Any child who stayed more than 24 h was deemed to be inappropriate. Similarly, any child who was transferred to another in-patient facility within the first 24 h was also judged to be an inappropriate admission.

RESULTS

In the first year 829 children were admitted to the short-stay ward. During the same period 1701 children were admitted to hospital via the A&E department (including the short-stay facility). The short-stay ward therefore accounted for 48.7% of all admissions via the A&E department.

Of these, 507 (61.2%) were male. The mean age was 6.23 years (range 10 months – 14 years). Three children under 12 months of age but 10 months or over were admitted to the facility due to shortage of beds elsewhere. They were only on the ward for a maximum of 12 h each prior to their final discharge. The male predominance and the mean age reflects the general pattern of A&E department attendance.

A total of 207 children (25%) stayed less than 12 h, 576 (69.5%) stayed 12–24 h and 46 (5.5%) stayed for more than 24 h. Ten stayed more than 48 h.

Of the 36 children who stayed between 24 and 48 h, 24 were head injuries who were slow to recover fully, three were social admissions (relatives had been admitted elsewhere in the Aberdeen hospital complex and the children were waiting for other relatives to come and collect them) and nine were children with lower limb plasters who stayed for physiotherapy.

Of those that stayed for more than 48 h, seven had fractured tibiae and were slow to mobilize on crutches or other walking aids. The other three had head injuries, of whom two had associated viral infection. These were transferred to

medical wards after 2 days. Their lengths of stay were 5 and 6 days in total respectively. The third went for CT scan which proved normal and he subsequently recovered over a further 24 h.

Of those who stayed less than 24 h, 11 were transferred to another in-patient facility. Nine of these had viral infections and had presented initially with a head injury. The other two were children who had been involved in road traffic accidents. Both children had been admitted initially for head injury observations but one developed haematuria and the other developed abdominal pain. These were transferred to a surgical ward for observation. Neither required laparotomy although one did have renal contusion diagnosed by ultrasound examination. Admission was considered inappropriate therefore in 57 cases (6.9%).

The categories of child admitted are detailed in Table 3. Head injuries predominated in all age groups. All had Glasgow Coma Scores of 14 or 15 (or equivalent in younger children). Most of these were admitted following a history of vomiting, drowsiness, headache or lassitude.

Virtually all the poisonings occurred in the 0–5 age group which is in keeping with the general trend for such accidents. All the poisoned children over 10 years of age were admitted following deliberate abuse of alcohol, drugs or solvents. One boy and two girls over the age of 10 made deliberate suicide attempts. These were referred promptly to the child psychiatry service. The other seven were referred to the social work department for follow-up.

DISCUSSION

Our use of the short-stay ward facility compares well with that reported by Dallos & Mouzas (1981). They recommended that one bed was required for each 5000 A&E attendances. They admitted 3.5 and 4.3% respectively of their total A&E admissions to short-stay wards attached to two separate departments. Our average admission rate was 2.5 children per day which equates to approximately 5.4% of our total attendances. The beds available to us varied between none and seven

Table 3. Categories and numbers of admissions to the short stay ward at RACH over 1 year

Cause	Age band		0–5 years		6–10 years		11+ years		Totals
	Sex		Male	Female	Male	Female	Male	Female	
Head injury			107	69	108	73	90	32	479
Poisonings			63	50	3	1	4	6	127
Fractures									
POP for drying			14	23	30	18	23	17	125
Soft tissue injury			2	0	6	4	4	2	18
Social/transfers			16	12	13	5	4	3	53
Diabetics/convulsions			1	2	2	1	4	1	11
Burns/scalds			4	3	3	0	0	0	10
Allergic reactions/stings			2	0	3	0	1	0	6
Totals			209	159	168	102	130	61	829

depending on the number of dermatology patients already admitted. Our figures suggest one bed per 5000 attendances is also adequate for children.

On only 3 days over the 12-month period were no beds available to A&E due to it being full of dermatology patients. There is no record of children denied admission because of this.

The predominance of head injuries in each age group must cause concern. This is the commonest single area damaged when children fall, primarily due to the top heavy nature of children. The vast majority of these stayed for less than 24 h with only one proceeding to CT scan. Those that did not either remain on the ward for 24 h or stayed longer than 48 h almost invariably had concomitant viral infections which can mimic many of the symptoms of head injuries. This is in keeping with the findings of Sainsbury & Sibert (1984).

The predominance of the under 5s in the poison group is not surprising when one considers that this is the group most at risk from accidental poisoning. Of perhaps more concern are the 10 children over the age of 10 who presented with deliberate self-poisoning. Three of these had attempted suicide and there was a strong suspicion in at least two of these that child sexual abuse was implicated.

Some difficulty was experienced with physiotherapy services over the weekend with relation to mobilizing children with lower limb fractures. It can be difficult for children under the age of 6 to manage crutches and consequently they tend to be mobilized on rolators. These are only available through the physiotherapy department and consequently some of these children stayed longer than was necessary. However this was not a significant burden and did not place an undue pressure on beds. It certainly does not warrant employment of a physiotherapist to mobilize the children at weekends.

There were several children in the post-ictal and post-hypoglycaemic state as these children usually present to the wards directly bypassing the A&E department, unless an ambulance was called.

It was not anticipated that social admissions would form such a large percentage of the workload. These were mainly transfers from other wards of children within 24–48 h of normal discharge. The fact that our ward was available fully staffed 24-h a day meant that these children could be safely transferred to a low dependency unit. This created extra space for acute admissions both pre-operatively and post-operatively on the higher dependency areas on the surgical and medical wards.

The development of the short-stay ward has added an extra dimension to the care of children in the A&E department. Doctors feel more comfortable admitting children to this ward for a few hours than to other specialties, mainly because the children get to a comfortable bed much more quickly. Nursing staff have commented on the increased awareness they have of simple pathology and this applies also to the junior medical staff.

It is concluded that the short-stay ward is a success. It is believed that the patients are genuine short-stay patients and it is recommended that more units be developed where staffing arrangements are adequate.

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