

**Review of the Accident and Emergency Department
at
St. Colmcille's Hospital, Loughlinstown.**

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Executive Summary

This review of the functioning of the Accident and Emergency Department (A&E) at St. Colmcille's Hospital, Loughlinstown was conducted in March 1999.

The terms of reference were to:

- Profile A&E attenders and referral patterns
- Examine appropriateness of attendance
- Assess efficiency and effectiveness
- Estimate the effect of A&E workload on the hospital
- Make statistical comparisons with other A&E departments in the EHB region
- Document consumer satisfaction and the views of A&E staff on the functioning of the department.

Main Results

- The A&E department at St. Colmcille's Hospital is small and busy. It regularly becomes congested. Many patients attend with minor conditions
- Triage facilities are not available
- Compared with most other A&E departments in Dublin the rate of 'return' attenders is high in St. Colmcille's (23% in 1998)
- Staff morale is good.

The survey of all attenders over a one-week period showed:

- There were 564 attenders of whom 20% were under the age of 15
- 419 were new patients (75.2%) and 138 were return patients (24.8%)
- Most attenders live in the south-east area of Dublin and in east Wicklow
- Almost 20% of patients arrived by ambulance
- 34.7% had symptoms for over 48 hours before attending A&E.

- An x-ray was the most common investigation to be ordered; 60% of all new attenders were x-rayed
- 56.3% of new attenders had minor injuries
- 53 (9.4%) patients were admitted to hospital and 88.7% of these admissions were appropriate
- 30 (5.3%) were referred to other hospitals; 50% of these referrals were for the treatment of fractures

- Of the 419 new attenders 303 (69.3%) were self-referred
- 89.4% of all patients had a GP living in their local area
- 140 patients attempted to contact their GP prior to attending and 128 (91.4%) were successful
- The main reasons for self-referring were: the patient felt they needed an x-ray or immediate attention

- 92% of the return patients had been given an appointment by the A&E department to return. Their main reasons for returning were for dressings or for test results
- 364 (67.7%) A&E patients were appropriate and 174 (32.3%) were considered inappropriate attenders

- Inappropriate attenders were more likely to be return patients, have had symptoms for over 48 hours, have been given an appointment to return, or returned for a dressing or an x-ray review.
- **Regarding outcome:** ; only 29.1% required no further care for their condition, 25.5% were given another appointment to attend A&E and 6.7% were referred to their GP.

The views of attenders revealed:

- Most patients were satisfied with the care they received in A&E (approximately 90%)
- 86% considered the staff helpful
- Satisfaction was related to patients receiving sufficient information on their illness and its treatment, staff helpfulness and feeling that they had “peace of mind” following the visit
- The main reasons for dissatisfaction included: long waiting times and not receiving information on delays, poor facilities for children in the waiting area, lack of snack facilities and inadequate privacy.

Recommendations

Performance

1. A comprehensive computerised A&E system should be introduced. The James Connolly Memorial Hospital system should be extended to St. Colmcille’s Hospital as soon as piloting is complete. This development should enable the continuous monitoring of performance which is currently not possible.
2. Performance targets (structure, process, and outcome) should be introduced for many aspects of the A&E service including:
 - Ratio of new to return attenders
 - Re-attendance rates
 - Waiting times for nursing assessment
 - Waiting times for doctor’s consultation
 - Total time in the A&E department
 - Quality of care.
3. There is one major hospital in the East Coast Region of the Eastern Regional Health Authority and two smaller hospitals with an A&E department. All A&E departments in this region should be co-ordinated and have specialist input. To this end the A&E department at St. Colmcille’s requires the services of an A&E consultant.

Service Delivery

4. The current way services are provided in the A&E department needs to be changed. Patients with minor conditions queue in the same way as those with serious conditions. These two groups of patients need to be separated in terms of severity and type of illness. An immediate requirement is for additional space, including:
 - New space for reception, waiting area and triage facility
 - Facilities and space to treat large numbers of minor injuries.

5. Triage arrangements should be set up.
6. Patients with minor conditions e.g. dressings and minor cuts do not need to be treated in a busy A&E department. But for as long as such patients continue to attend A&E it is the responsibility of the service to develop new and creative ways to cater for their needs. Options for providing alternative care include:
 - Developing a minor injuries unit
 - Introducing an emergency nurse practitioner into an adjacent area of the A&E department to manage certain defined minor conditions
 - Employing GPs in the A&E department
 - Discharging 'return' patients back to the GP
 - Developing a primary care partnership with GPs in the area
 - Using local health centres for dressings.

The solution may rest in a combination of all of these options. Consultation of the feasibility of all options should be considered with all stakeholders. Discussions towards the development of a GP – Hospital partnership should take place as this would provide benefits to all concerned and to other hospital departments in addition to the A&E department.

7. Staffing levels in the A&E department should be on a par with other A&E departments catering for similar numbers of patients.

Paediatrics

8. The A&E department treats substantial numbers of children. It is ill equipped to deal with sick children. Paediatric care should only be delivered in the A&E department if specialist paediatric services are available with specialist back up in the hospital.

Ambulances

9. Ambulances need protected parking space and ease of access. Though ambulances must operate according to catchment areas, patients should not be brought to St. Colmcille's when the service required is not provided e.g. patients with fractured hips. Protocols should be developed between ambulance personnel and A&E departments on the most appropriate hospitals for certain conditions.

Nursing homes

10. Nursing homes in the area would benefit from greater liaison and on-going education on the management of common conditions. Special consideration should be given to the needs of nursing home clientele, who may often be best served by an alternative to the acute services of the A&E department.

SECTION 1

INTRODUCTION AND BACKGROUND

This review of the functioning of the Accident and Emergency Department (A&E) at St. Colmcille's Hospital, Loughlinstown was conducted in March 1999.

1. Terms of reference

The terms of reference were to:

- Profile A&E attenders and referral patterns
- Examine appropriateness of attendance
- Assess efficiency and effectiveness
- Estimate the effect of A&E workload on the hospital
- Make statistical comparisons with other A&E departments in the EHB region
- Document consumer satisfaction and the views of A&E staff on the functioning of the department.

2. Demography

St Colmcille's Hospital is situated in Loughlinstown, County Dublin. It serves Wicklow (excluding Baltinglass and west Wicklow) and large proportion of Dun Laoghaire/Rathdown. This latter area is also served by St. Michael's Hospital in Dun Laoghaire and St. Vincent's Hospital.

In 1986, when the current A&E department opened, the population of Dunlaoghaire/Rathdown and Wicklow (excluding Baltinglass) was 264, 478 (1986 census). In 1991 it increased to 270, 773. In 1996 it was 279,883. The percentage rise in population from 1986 to 1996 was 5.8%. This is shown in Figure 1.

Figure 1 Rise in population served from 1986 to 1996

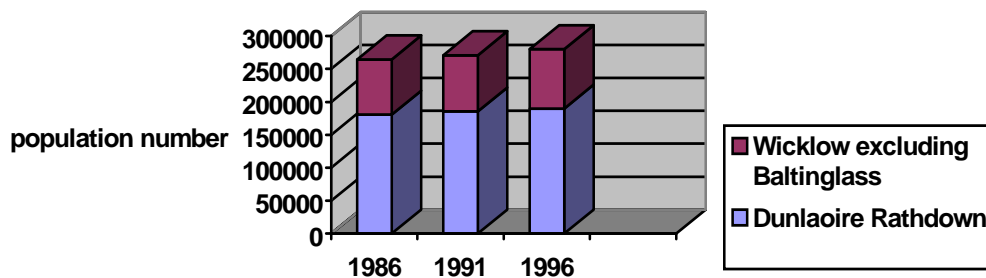


Table 1 shows this population at the time of the 1996 census by age group. A considerable percentage (22%) of the population is in the 0-14 age group and 10.9% is over 65 years.

Table 1. Age profile of Dunlaoghaire/Rathdown and Wicklow (excluding Baltinglass):1996 census.

Age group	Number	% of population
0-14	61, 875	22.1
15-24	47, 979	17.2
25-44	81, 296	29.0
45-64	58, 176	20.8
>65	30, 557	10.9
TOTAL	279, 883	100

3. Statistical data for A&E departments in the EHB region

Tables 2a and 2b show A&E attendances at hospitals in the EHB region during 1997 and 1998. Between 1997 and 1998 new attenders to A&E departments increased by 0.9% to 306,505 and return attenders fell by 12.9% to 64,423. There is a large variation in the rate of return attenders between A&E departments. This ranged from 10.3-40.96% in 1997 and from 7.9- 42.5% in 1998. Hospitals without an A&E consultant have the highest return attendance rate i.e. Naas General Hospital, St. Colmcille's Hospital, Loughlinstown and St. Michael's Hospital, Dunlaoghaire.

Table 2a

Attendances at A&E departments during 1997				
Hospital Name	New	Return	Total	Return attenders as a % of all attenders
Mater	53095	9809	62904	15.59
Beaumont	48010	10325	58335	17.69
James Connolly Memorial	27237	3592	30829	11.65
St. James	48340	5967	54307	10.98
St. Vincent's	32500	3732	36232	10.3
Meath	34138	9167	43305	21.17
Naas	19796	8422	28218	29.85
St. Colmcille's	23085	10793	33878	31.86
St. Michael's	17525	12159	29684	40.96
Total	303726	73966	377692	19.58

Table 2b

Attendances at A&E departments during 1998				
Hospital Name	New	Return	Total	Return attenders as a % of all attenders
Mater	52364	10868	63232	17.19
Beaumont	49578	10817	60395	17.9
James Connolly Memorial	26870	2831	29701	9.51
St. James	47852	5353	53205	10.06
St. Vincent's	33759	2902	36661	7.91
Tallaght (post June)	21056	2089	23145	9.03
Meath (post July)	16708	3871	20579	18.81
Naas	17543	5722	23265	24.6
St. Colmcille's	23595	7251	30846	23.51
St. Michael's	17180	12719	29899	42.54
Total	306505	64423	370928	17.37

Table 2c shows monthly attendance figures for the A&E department in St. Colmcille's during 1998. The average monthly attendance of new patients was 1966 and for return patients was 604.

Table 2c

St. Colmcille's A&E activity for 1998 by month			
Month	New	Return	Total
January	2259	607	2866
February	1756	859	2615
March	1836	933	2769
April	2169	944	3113
May	1936	877	2813
June	1900	581	2481
July	2444	544	2988
August	1869	421	2290
September	1829	443	2272
October	2276	352	2628
November	1711	386	2097
December	1610	304	1914
Total	23595	7251	30846
Average monthly attendance	1966	604	2570

SECTION 2 METHODOLOGY

There were four parts to this study:

1. Examination of the scientific literature on the functioning of A&E departments and new approaches in delivering care
2. Review of all A&E attenders to St. Colmcille's Hospital over a one week period
3. Patient satisfaction survey
4. Consultation with key hospital personnel in St. Colmcille's and observation of the A&E process.

1. Review of attenders

A profile of all A&E attenders, both new and return, who attended over a one-week period from the 18th March 1999, was conducted. Data collected included socio-demographic profile, presenting complaint as described by the patient, mode of referral, investigation, diagnosis, treatment undertaken and outcome of the visit.

The survey instrument had been used on three previous occasions to study Dublin A&E departments and was found to be useful and reliable (appendix 1). Clerical officers entered administrative data on the survey forms. Nursing and medical staff completed clinical details. Appropriateness criteria for attendance to an A&E department were previously designed by A&E consultants of the major Dublin hospitals (appendix 2). The research team assigned appropriateness based on these criteria.

Patients admitted to the hospital from A&E were followed-up on the wards and the appropriateness of a patient's admission was determined using the Appropriateness Evaluation Protocol (AEP) (appendix 3). The AEP is a diagnosis independent tool that can be used to judge whether a particular hospital admission or day of care is medically necessary. It was developed in Boston as a screening tool to identify problems with hospital utilisation. The AEP addresses whether a patient requires services in an acute care setting and whether those services are provided in a timely manner. It has been tested on many occasions in Ireland and has been found to be reliable and valid.

2. Patient satisfaction survey

A postal survey of 200 randomly selected patients who attended during the study week assessed views on various aspects of the service. The survey instrument was previously successfully used in St. James's hospital, (appendix 4). One reminder was sent to non-responders.

3. Consultation with key personnel and observation of the A&E process

Consultation took place with key personnel to obtain their views of the functioning of the A&E department and priority areas for development, including the hospital manager, medical, surgical, nursing and ambulance personnel. The research team observed the functioning and activity of the A&E department during the week of the survey.

SECTION 3 THE FUNCTIONING OF A&E DEPARTMENTS

This section comprises an examination of the scientific literature on the functioning of A&E departments and new approaches for delivering care.

1. The function of an A&E department

The main function of A&E departments is to:

- Provide for the reception and initial management of every variety of medical emergency provided the condition cannot be treated by a GP
- Resuscitate the critically ill and injured so that the best possible outcome may be obtained (1)
- Provide a diagnostic and treatment service for less seriously ill and injured patients who merit urgent hospital attention (2).

The British Association of Accident and Emergency Medicine found:

- The volume of work within A&E departments is increasing
- The Senior House Officer (SHO) is the principal source of patient care
- The roles and responsibilities of A&E nurses have expanded in recent years
- The emergency nurse practitioner has been successful in dealing with specific groups of patients
- A&E is not designed to cater for patients with primary care needs. However, as patients elect to come to A&E with minor conditions new structures should be put in place to cater for this group
- Return patients to A&E should be less than 5% of new attenders
- A&E departments should be consultant led
- A&E departments need to redefine their core activities to ensure limited resources are most appropriately used (3).

Research in the US shows that up to 50% of the care delivered in A&E departments could occur elsewhere.

2. Referral rates to A&E from general practitioners

GP referral rates to A&E departments in Ireland and other European countries were compared in a prospective survey of fifteen European Countries (4). This study found:

- Irish GPs' referral rates to A&E were almost 10 times that of their European colleagues
- Only 43.4% of Irish A&E referrals were designated for the Emergency and Trauma speciality. The remainder were mainly acute medical or surgical conditions requiring inpatient management. Large numbers of patients assigned for hospital admission pass through Irish A&E departments. This may make it difficult to manage trauma effectively. This research recommended that patients referred for inpatient medical or surgical treatment should bypass A&E, as happens in other countries, thereby reducing the inappropriate workload in A&E.

3. Alternative approaches in the use of A&E departments

Strategies being tried to ensure the most appropriate use of A&E departments include:

1. *Enhancing the Role of GPs*

i) By providing primary care services in the A&E department

A number of hospitals are developing primary care facilities on-site especially in inner cities where there may be a large transient population (5). These initiatives usually involve employing GPs and /or nurse practitioners in the A&E department. They seek to legitimise the use of A&E for primary health care rather than classifying all primary care attenders as inappropriate.

GPs working in A&E have been shown to make more efficient use of hospital resources than A&E medical staff. In Dublin, Bury found that GPs working as an integral part of the A&E department treated non-urgent attenders safely and used fewer resources than usual A&E department staff. A UK study (6) showed that GPs were less likely than hospital doctors to order investigations or to refer patients to other doctors in the hospital. A randomised controlled trial of GPs versus usual medical care in a Dublin A&E department (7) evaluated process of care, outcome, and cost of care. For “semi-urgent” patients, GPs investigated fewer patients, referred to other hospital services less often, admitted fewer patients and prescribed more often. There was no significant difference in re-attendances within 30 days or in 28-day outcome of care. Satisfaction scores were similar for GPs and hospital doctors, at 70%. In addition substantial cost savings occurred for the department. The concept of having a GP in A&E departments was considered likely to encourage patients to use their own GP more effectively in future.

ii) By providing GP-led out-of-hours treatment centres

A variety of models are being developed, including GP co-operatives. These centres are usually staffed by GPs on a rota basis with the assistance of nursing, reception and security staff. Facilities may include telephone advice to patients, attendance at the centre or home visiting. This type of service has been shown to be cheaper than the traditional deputising service. It also reduced GP stress and gave greater treatment options.

2. *Enhancing the role of nurses*

i) Triage

Triage is the term used to describe systems that allocate clinical priority to patients. Patients are seen immediately by a staff member, usually a nurse, and the need for treatment is assessed. This offers an opportunity for staff to give patients reassurance and information shortly after they arrive in the A&E department.

There are differing degrees of formality in triage; for example, training of nurses and the guidance available to them may vary considerably. One approach (8) permitted members of the public to seek guidance by telephone. A local evaluation suggested that the system may have contributed to an overall reduction in number of new patients

attending the department, as many potential patients were referred to alternative appropriate treatment sources. The U.K. Patients' Charter (9) set triage targets, which recommend that patients be sorted into priority categories in under five minutes of arrival at A&E.

Potential benefits of triage are:

- Patients see a doctor in order of clinical priority, with potential for more favourable outcomes
- Better communication with patients, e.g. on waiting times
- Patients may be advised to seek care elsewhere, thereby relieving pressure on the A&E department
- Better management of workload.

ii) The role of nurse practitioners

Nurse practitioner schemes entail the training of experienced nurses to diagnose, assess, treat and discharge certain types of patients without referring them to a doctor.

The potential benefits of nurse practitioners are to:

- Reduce patients' waiting time
- Improve quality of patient care and patient satisfaction
- Use skilled nurses more effectively
- Help reduce pressure on junior doctors.

iii) Direct access, nurse led clinics

These clinics are usually provided for common conditions e.g. asthma or diabetes. A nurse specialist runs the clinic with consultant back up, as necessary. They serve as a resource for GPs and patients and avoid unnecessary A&E visits.

iv) Off-site minor injury services with tele-medicine link

A nurse led minor injury unit aims to reduce waiting times for patients who would otherwise present to A&E with minor injuries. It also aims to divert a significant proportion of patients with minor injuries away from the A&E department, thereby allowing more appropriate use of A&E personnel. A video link with the A&E department aims to facilitate nurse practitioners in treating a wider range of patients.

Other approaches to streamline A&E workloads include:

1. Fast tracking systems

A fast track is an area within or near the A&E department to attend to the needs of specific groups of patients using dedicated staff.

A sample of US hospitals (10) found that fast tracking:

- reduced the average length of stay in the A&E
- decreased the number of patients leaving A&E before treatment
- improved patient satisfaction.

2. *Streamlining the admitting process by developing:*

- ◆ *Open access chest pain clinics.* These clinics allow GPs to refer patients with chest pain of intermediate urgency for rapid assessment and diagnosis thereby reducing the need to refer such patients to A&E.
- ◆ *Admission assessment units* Admission units have become common place. Some are utilised as overnight observation units, attached to A&E and may be the focal point of all emergency admissions. The majority of observation units stipulate a 24-hour length of stay policy. They act as a buffer between A&E and inpatient wards thereby minimising disruption to wards created by unpredictable workloads.
- ◆ *Limited triage of Patients by A&E Receptionist* Receptionists are given written guidelines on how to direct patients to different parts of the A&E department depending on their care needs.
- ◆ *Observation unit* The observation area of the A&E is dedicated to holding patients for less than 23 hours, allowing low acuity patients to be observed and minimising unnecessary admissions. The Dublin Hospitals Initiatives Group (11) recommended that A&E departments develop observation units.

Other initiatives include balancing elective and emergency workloads by appointing a bed manager, developing district wide bed management, introducing same-day elective admissions, providing expansion bays on inpatient wards and providing a discharge lounge for patients waiting to go home.

4. Performance indicators for A&E departments

Performance indicators are a set of standards or ‘benchmarks’ for comparison purposes. Performances indicators ought to be measurable, reproducible, comparable and believable.

Structure, process and outcome indicators for A&E departments have been developed (12). These are derived from the UK Clinical Standards Advisory Group (13), the British Association for Accident and Emergency Medicine (3) and the UK Audit Commission National Triage standard (14). They are shown in table 3.

Table 3 Performance indicators for the A&E Department

STRUCTURE	
Re-attenders within 48 hours (excluding dressing clinic returns)	<5% of total attendance
PROCESS	
Time from registration to nursing assessment	80% seen in <10 minutes
Time from registration to doctor’s consultation	80% seen in <60 minutes
Total time spent in the department	80% <180 minutes
OUTCOME	
Patient overall satisfaction score of very satisfied	95%
GP overall satisfaction score of very satisfied	95%
GP very satisfied with communication	95%
Patients very satisfied with communication	95%

5. Waiting time in A&E

Waiting time is probably the most important process indicator in the A&E department. A study in a Dublin A&E department (15) found that the major cause of delay was the time waiting to see the A&E doctor (66%). The vast majority (95%) of patients were admitted to formal triage within 25 minutes, seen by the A&E doctor within 4.5 hours and admitted or discharged within 7.5 hours.

A 1996 study across the UK tracked 7,757 admitted patients in 30 representative hospitals from their arrival at A&E through to the first consultation with an A&E doctor and to the initial clinical action (16). The times of the admitting team first seeing the patient and definitive clinical action were recorded. Outcome at twenty-eight days after attendance was also analysed (including final diagnosis, disposal and length of stay). The cumulative mean time elapsed between arrival at A&E and being seen by a doctor was 30 minutes. In the slowest hospitals, 45% of emergency patients and 35% of urgent referrals were seen within 30 minutes. The corresponding figures for the fastest hospitals were 97% and 86% respectively.

The National Audit Office (8) of the UK National Health Service states that A&E consultants and nurse managers need information on how long patients have to wait:

- to be assessed by a nurse
- to see a doctor
- to have an X-ray
- to see a doctor from another speciality
- for admission to an A&E observation ward or another hospital ward
- to be discharged.

With such information delays can be measured and bottlenecks in treating patients can be identified and managed (8). Furthermore information on age, sex, case-mix, geographical location, social class and specific utilisation rates would permit the level and type of demand to be observed (17).

6. Staffing & training

The Irish Accident and Emergency Association (1) developed standards for staffing the A&E department. Supervision of inexperienced junior doctors is recommended (11). Consultant staffing is recommended according to patient throughput, with A&E departments serving up to 50,000 new patients annually requiring two consultants. In addition, one non-consultant hospital doctor is recommended per 3,000 new attenders (1).

7. Patient satisfaction

The most frequent source of dissatisfaction in patients attending A&E departments is the communication of information about their condition and about treatment (18). Satisfaction with the episode of care at an Irish paediatric A&E department (12) was

found to be significantly related to the waiting time for nursing assessment, medical consultation and discharge. The perceived quality of medical care and humane treatment were also significantly related.

A US study of A&E department attenders (19) found that the five most important variables were:

- ⇒ satisfaction with the length of time before being cared for in the department
- ⇒ patient rating of how caring the nurses were
- ⇒ the organisation of the departmental staff
- ⇒ patient rating of how caring the physicians were
- ⇒ satisfaction with the amount of information the nurses gave them about what was happening to them.

These studies indicate that the main factors in patient satisfaction are the quality of care, waiting time, and the provision of care in an informative and professional manner.

SECTION 4 DESCRIPTION OF THE A&E DEPARTMENT VIEWS OF KEY PERSONNEL

St. Colmcille's hospital has 150 beds. It provides in-patient and outpatient acute medical and surgical services.

1. The A&E environment

The A&E department has a small, narrow waiting area. It seats approximately 20 people on a rectangular shaped bench. A television and some reading material are available. The waiting area is directly opposite the treatment area and is separated from it by a corridor.

The reception / medical records area consists of a small room (approximately 9ft x 4ft). This area contains A&E files and all administration in relation to A&E. The receptionist registers patients here. Doctors and nurses also conduct some of their work from this area. There is a transparent Perspex sheet separating staff from patients as they register. It can be difficult to hear patients and there is little privacy when registering.

The treatment area consists of:

- i) the main treatment area i.e. three trolleys and 2 chairs
- ii) observation room with two trolleys
- iii) emergency room with two trolleys.

These three treatment areas are separated from each other by a corridor, which is used by patients, relatives and staff. At times the corridor becomes congested. The corridor adjacent to the emergency and observation rooms is sometimes used as a temporary storage area for medical equipment and appliances.

2. Reception arrangements

A patient's first contact with staff in A&E is at the reception area. Reception staff registers the patient in a "registry book". They gather routine demographic data as well as the reason for attending. These details are entered onto a casualty card. Nursing staff then call patients in order of arrival or in order of severity of presenting condition. At lunchtime the reception area is closed. During lunch-time new patients are asked to "take a number and a seat" until they are called. After 11pm patients are not registered as there are no administration staff on duty.

3. Return patients

Return patients, e.g. those for dressings, are not registered in the "registry book". It is not possible for a staff member to say from the register whether a certain patient re-attended on a particular day. Such details are documented in the patient's own casualty chart. Return patients are merely logged by a series of lines in a ledger. Therefore the number of patients entered in the casualty register does not reflect the true workload of the department. It is not possible for the department to give a breakdown of return

patients by reason for returning and outcome of the visit without examining each patient's casualty card.

4. Triage

There is no triage procedure or triage area. Receptionists said they often use their judgement to decide whether a patient can wait or should be transferred to a treatment area immediately. Some receptionists said they were uncomfortable with this. However they all said that they can call on nurses and doctors at a moment's notice to attend to a patient who may need urgent attention. Some nurses said that they were concerned with the lack of triage services. One nurse said that she recently treated a middle-aged man with chest pain who had been in the waiting area for two hours without being assessed and the nursing staff were unaware of his presence.

5. Views of key of Staff

Key members of staff were consulted on a one-to-one basis. Their views can be summarised as follows:

- Staff morale is good. Medical, nursing and clerical personnel work well together.
- The department is busy. Staff regularly work under extreme pressure. This is compounded by the small size of the department, which was built at a time when the catchment area was smaller as was the A&E throughput
- Staff were unanimously of the opinion that the department requires additional space urgently
- When the waiting area is full patients often have to wait around the reception area. This creates congestion.
- Frequently all the trolleys in the treatment area are occupied for long periods by patients who are either being investigated, observed or awaiting admission. At these times medical and nursing staff cannot call new patients to the treatment area because of lack of free trolleys and chairs. This is unsatisfactory as staff may have the time to treat additional patients but no place to treat them. On one occasion there were 14 patients to be seen in the A&E waiting area. As all the trolleys were being used no other patient could be called for treatment. At the same time it appeared that there was little activity required of the nurses and they could have seen additional patients, especially those with minor conditions. This is an obvious inefficiency.
- Many of the patients have minor injuries that could be treated elsewhere.
- A large proportion of patients are asked to return for additional treatment usually dressings.

SECTION 5

PROFILE OF ATTENDERS: SURVEY RESULTS

There were 564 attenders to the A&E department during the week commencing 18th March 1999. All were surveyed prospectively. In addition to the attenders there were 16 (2.8%) patients who did not wait to see the casualty officer and three patients were brought in dead or died in A&E.

1. Socio-demographic profile

Table 3 gives the socio-demographic profile. It shows that 334 (59.2%) were male and 112 (20.8%) were children under the age of 15. Of attenders who were over 18 years 38.9% were married. Social class data were not recorded in 69.5% of cases. Patients with a GMS card accounted for 39.6%. The majority lived in county Wicklow (62.5%). Of the 193 county Dublin residents, 185 (95.8%) lived in the south-eastern area of the county.

Table 3 Socio-demographic characteristics

Variable	Number	%
Sex	No. (N=564)	%
Male	334	59.2%
Female	230	40.8%
Age	No. (N=539)	%
< 5	23	4.3%
5-9	28	5.2%
10-14	61	11.3%
15-19	71	13.2%
20-29	105	19.5%
30-39	63	11.7%
40-49	57	10.6%
50-59	41	7.6%
60-69	30	5.6%
70-74	15	2.8%
75-79	17	3.2%
80+	28	5.2%
Marital Status (>18 years)	No. (N=338)	%
Married	151	38.9%
Single	175	45.1%
Widowed	38	9.8%
Separated/divorced	15	3.9%
Unknown	9	2.3%
Social Class	No. (N=172)	%
1 – 3	117	68%
4 – 6	55	32%
Medical Eligibility	No. (N=536)	%
G.M.S.	212	39.6%
VHI/BUPA	156	29.1%
Other	168	31.3%
County of Residence	No. (N=547)	%
Wicklow	342	62.5
Dublin	193	35.2
Other area	12	2.3

2. The presenting problem and referral process

Patients' presenting problems as described by themselves are shown in table 4. The most common problems were conditions affecting the limbs. Almost half of attenders, 45.4%, attended within 12 hours of the onset of the problem but 34.8% waited for over 48 hours before attending. Private transport was the most common mode of transport, (71%). Almost 20% of attenders arrived by ambulance.

Table 4 Patients' presenting problems

Variable	No.(N=564)	%
Injury / illness of the:		
Arm /hand	144	25.5
Leg / ankle/ foot	119	21.1
Head/ face/ neck	85	15.1
Chest	63	11.2
Abdomen	57	10.1
Back / buttock	35	6.2
Collapse faint / fit	17	3.0
Not documented	44	7.8
Time lapse since onset of condition to arrival at A&E	No. (N=564)	%
<12 hours	256	45.4
13-24 hours	68	12.0
25-48 hours	22	3.9
>48 hours	196	34.8
Not recorded	22	3.9
Mode of transport to A&E	No. (N=564)	%
Private transport	401	71.1
Ambulance	111	19.7
Bus	22	3.9
Taxi	9	1.6
Walk	7	1.2
Other	2	0.4
Unknown	12	2.1
Category of patient	No. (N=557)	%
New	419	74.3
Return	138	24.5

New and return patients

New patients accounted for 419 (74.3%) of A&E visits and 138 (24.5%) were return visits. The majority of return patients, 127 (92%), had been given an appointment to return by A&E personnel. The main reasons for returning to A&E were:

-For a dressing	76 (55.1%)
-Still sick	20 (14.5%)
-X-ray review	19 (13.8%)
-Asked to return (other reason)	19 (13.8%)
-Results of tests	3 (2.2%)
-Further investigations	1(0.7%)

Referral Source

Of the 419 new A&E attenders, the majority, 303 (69.3%), were self-referred: Ninety-three (21.3%) were referred by GP with a letter, 28 (6.4%) were referred by GP without letter, and 13 (3.0%) were referred from other sources.

Most patients, 504 (89.4%), said they had a GP and could name the GP. Their GP's area of practice was broadly similar to the address of the patient. Only 140 (32.6%) new patients attempted to contact their GP prior to attending A&E. Of those 128 (91.4%) were successful in contacting the GP and 109 (77.9%) did attend the GP.

The main reason for self-referral in new patients were: the view that an x-ray was needed (39.6%) and the need for immediate attention (33.2%), table 5.

Table 5 Reasons for self-referring to A&E

Reason	No.	%
Thought x ray was necessary	120	39.6
Thought immediate attention was needed	107	33.2
Prefer hospital for this condition	23	7.6
Already under hospital care for this condition	15	5
Thought GP would refer anyway	12	4
Other reason	26	8.6

Only 29 (9.6%) self referred patients had seen their GP prior to attending A&E. Of those 11 (37.9%) thought they needed immediate attention and 10 (34.5%) wanted a second opinion. Six of this group, (20.7%), said they had been told by GP to go to A&E if there were further problems.

3 A&E process

3.1 Investigations

Details of investigations conducted are given in tables 6. The majority of all investigations, 516 (93.6%) were carried out on new patients; 60% of new patients received an x-ray and this was the most common type of investigation.

Table 6 Investigations performed on new and return patients

	New patients (N=419)		Return patients (N=138)	
	No.	%	No.	%
Radiology	255	60.9	13	9.4
Haematology	85	20.3	8	5.8
Biochemistry	73	17.4	4	2.9
E.C.G.	55	13.1	2	1.4
Urinalysis	30	7.2	1	0.7
Bacteriology	8	1.9	3	2.2
Toxicology	2	0.5	0	0
Other	8	1.9	4	2.9

Diagnosis

The main diagnoses for new patients were injuries, (table 7). The majority, 56.3%, were minor injuries i.e. sprains and strains of joints, lacerations and simple fractures. However, there were some more significant conditions, 5.3%, which were referred to specialist hospitals. In addition a significant proportion, 9.4%, presented with acute medical and surgical conditions e.g. myocardial infarction, pulmonary emboli, head injuries and acute abdominal pain (see table 10). Return patients were most likely to have open wounds which required dressing.

Table 7 Diagnosis

	New patients (N=419)		Return patients (N=138)	
	No.	%	No.	%
Closed soft tissue injury	135	32.2	30	21.8
Fracture / dislocation	52	12.4	7	5.1
Open wounds	49	11.7	69	50.0
Abdominal symptoms	20	4.8	4	2.9
Back pain / injury	14	3.3	1	0.7
Cardiovascular symptoms	22	5.2	1	0.7
Head injury	12	2.9	1	0.7
Burns	8	1.9	3	2.2
Respiratory symptoms	16	3.8	1	0.7
Urinary symptoms	4	1.0	1	0.7
Cerebro-vascular symptoms	3	0.7	1	0.7
Other	67	16.0	7	5.1
Unknown	17	4.1	12	8.7
Total	419	100	138	100

Treatment

For new patients the most common treatments were strapping for limb injuries and prescriptions whereas for return patients it was the cleaning and dressing of wounds, (table 8).

Table 8 Treatment

	New patients (N=419)		Return patients (N=138)	
	No.	%	No.	%
Strapping	96	22.9	17	2.3
Plaster cast	23	5.5	3	2.2
Clean / dress wound	40	9.5	63	45.7
Sutures (< 3)	3	0.7	1	0.7
Sutures (> 2)	6	1.4	2	1.4
Formal toilet / repair of wound	2	0.5	1	0.7
Inhalation Therapy	11	2.6	0	0
Prescription	102	24.3	19	13.8
Prophylaxis e.g. tetanus injection	7	1.7	1	0.7
Observation	51	12.2	2	1.4
Other treatment	68	16.2	11	8.0

Outcome

Table 9 shows that 25.5% of new patients and 37% of return patients were given another appointment to return to A&E. Only 29.1% of all attenders required no follow up. Only 36 patients (6.5%) were referred to their GP for follow-up.

Table 9 Outcome

	New patients (N=419)		Return patients (N=138)	
	No.	%	No.	%
Home: no follow-up care required	116	27.7	46	33.3
Appointment to return to A&E	107	25.5	51	37.0
Referred to OPD	48	11.5	10	7.2
Admitted to hospital	52	12.4	2	1.4
Put on waiting list for admission	17	4.1	19	13.8
Other	37	8.8	5	3.6
Referred to GP	32	7.6	4	2.9
Home: results of investigations to follow	10	2.4	1	0.7

4. Appropriateness of A&E Attendance

Using the appropriateness criteria for A&E attendance, (appendix 2), 364 attenders (64.5%) were appropriate and 174 (30.9%) were inappropriate: Seventy-nine (18.9%) new attenders were inappropriate as were 95 (68.9%) return patients. In 26 (4.4%) cases it was not possible to apply the criteria because there were insufficient details documented in the patient's casualty chart.

Characteristics of inappropriate attenders

Compared with all attenders inappropriate patients were more likely to be:

- ◆ return patients
- ◆ have symptoms for more than 48 hours
- ◆ have an appointment to return
- ◆ attend for a dressing
- ◆ return for review of an x-ray
- ◆ return for results of tests
- ◆ more likely to be discharged home with no follow-up.

Hospital Admissions and Referrals

There were 53 (9.4%) admissions from A&E to the hospital. Of these, data were available for 50; 47 of the admissions (88.7%) were appropriate (88.7%) using the AEP protocol. Three (5.7%) admissions were inappropriate because the procedures undertaken could have been done as an outpatient.

Regarding the 50 admissions:

- ◆ The majority, 92.5%, were admitted by a senior house officer
- ◆ None had been admitted within the previous month
- ◆ The main medical diagnoses were respiratory and vascular related
- ◆ The main surgical diagnoses were acute abdominal conditions, table 10.

Table 10

Diagnosis

Medical

Respiratory	13 (24.5%)
Cardiovascular	7 (13.2%)
Cerebrovascular	5 (9.4%)
Renal	2 (3.8%)
Overdose	2 (3.8%)
Haematology	1 (1.9%)
Alcohol psychosis	1 (1.9%)
Neurology	1 (1.9%)
Metabolic	1 (1.9%)
Sub-total	33 (60%)

Surgical

Abdominal symptoms	9 (17.0%)
Abscess	2 (3.8%)
Injury	2 (3.8%)
Fractures	2 (3.8%)
Missing data	5 (9.4%)
Subtotal	22 (40%)

Six patients (11.3%) required surgery / surgical procedures:

- surgical drainage of an abscess 1 (1.9%)
- appendectomy 4 (7.5%)
- gastroscopy 1 (1.9%)

Referrals to other hospitals

There were 30 (5.3%) patients referred to other hospitals:

- 6 to children's hospitals, (2 fractures, 1 head injury, 1 acute appendix, 1 passing blood per rectum and 1 with alcohol intoxication)
- 6 to St. James's Hospital (3 burns, 2 crushed fingers, 1 fractured mandible.)
- 9 to St. Vincent's Hospital (7 fractures, 1 acute neck swelling, 1 hand injury)
- 4 to the Eye and Ear Hospital (2 with conjunctivitis, 2 with nasal fractures)
- 2 to the National Maternity Hospital (both with possible pelvic inflammatory disease)
- 3 were referred back to other district hospitals, which they were already attending.

SECTION 6

VIEWS OF A & E ATTENDERS

A random sample of 200 A&E attenders were sent questionnaires by post approximately one week after they attended A&E. The aim was to obtain their views of the A&E service. Patients who were admitted to hospital or referred to other hospitals were excluded as these may have been difficult to follow-up. The response following a reminder was 73 (36.5%). All questions on the survey form were not always answered. Thus the following findings may not be representative but do give valuable descriptive results.

General results were:

- ◆ 62 (88.5%) were satisfied with the treatment they received at the A & E Department
- ◆ 65 (90.3%) were satisfied with the quality of care
- ◆ 54 (77.1%) said that their health / peace of mind had improved as a result of the visit
- ◆ 66 (94.3%) felt safe during their time in the department.
- ◆ The presence of other patients or relatives caused some problems for 17 (24.6%) patients
- ◆ 6 (8.5%) patients said they would not come to this A&E department again.

Table 11 shows that age and medical eligibility of these respondents was broadly similar to the total number of attenders.

Table 11 Profile of respondents

Profile of attenders		
Age	No. (N=69)	%
< 2 years	3	4.3
3-12 years	10	14.5
13-17	12	17.4
18-40	18	26.1
41-64	19	27.5
65+	7	10.1
Medical eligibility	No. (N=73)	
GMS	29	39.7
Cover from work	5	6.8
VHI/BUPA	23	31.5
No cover	8	11.0
Other	5	6.8
Not stated	3	4.1

The main reasons for attending A&E were:

- Treatment following an accident 34 (47.2%)
- Thought an x-ray was necessary 33 (45.8%)
- Referred by GP 20 (27.4%)
- Emergency treatment 15 (20.8%)
- GP not available 12 (16.7%)
- Felt GP would refer anyway 5(6.9%)
- Wanted second opinion 2(2.8%)
- Prefer not to use locum / deputising service 3 (4.2%)
- Needed stitches 3 (4.2%)
- For a dressing 2 (2.7%).

This subgroup of patients was broadly similar to all attenders surveyed in relation to their reason for attending.

Arriving at A&E

The majority, 52 (72.2%) came by private transport, 12 (16.7%) by ambulance, 5 (6.9%) by public transport, 1 (1.4%) walked, and 2 (2.8%) came by other transport.

- 68 (97.1%), found the A&E department easily
- 44 (62.0%) said they had been there previously
- 16 (22.5%) said that sign posting was clear
- 10 (14.1%) stated that the person they were with knew the way
- 66 (95.7%) had no problems finding the reception desk but
- 15 (20.5%) had difficulty speaking to the staff at the reception desk and
- 3 (20.0%) said they could not hear the receptionist
- 7 (46.6%) considered that there was not enough privacy at the reception area
- 3 (20.0%) said the reception was empty on their arrival.

Waiting

Fewer than a quarter, 17 (23.6%), waited less than 2 hours to be seen, 38 (52.8%) waited between 2 and 4 hours, 17 (23.6%) waited more than 4 hours.

- 57 (79.2%) stated that it was not made clear to them how long they would have to wait to be seen
- 35 (48.6%) considered that they should be given an approximate waiting time
- 15 (20.8%) reckoned that the A&E department should keep them updated on waiting times
- 17 (23.6%) said that the A&E department cannot be expected to give a waiting time
- 5 (6.9%) felt it is better not to give a time as it might be wrong.

In actual practice, 60 (84.5%) were not kept informed of reasons for delay. The majority, 55 (78.6%), understood the queuing system; 42 (77.8%) of those who were sent for x-ray were clear where they had to go. Of the 55 who went for x-ray 42 (76.4%) waited less than 30 minutes, 11 (20%) waited 31-60 minutes and 2 (3.6%) waited more than 1 hour.

Satisfaction with the waiting area

Table 12 gives satisfaction levels with the waiting area.

Table 12 Satisfaction with the waiting area

	Satisfied	Dissatisfied
Toilets	49 (89.1%)	6 (10.9%)
Refreshment	36 (66.7%)	18 (33.4%)
Reading material	33 (55.9%)	26 (44.1%)
Seating	40 (59.7%)	27 (40.3%)
Lighting	51 (77.2%)	15 (22.8%)
Décor	46 (69.7%)	20 (30.3%)
Noise Level	48 (75.0%)	16 (25.0%)
Cleanliness	48 (69.6%)	21 (30.4%)
Heating	56 (83.6%)	11 (16.5%)
Facilities for children	15 (29.4%)	36 (70.6%)

Table 13 gives satisfaction with the treatment area

Table 13 Satisfaction with Treatment Area

	Satisfied	Dissatisfied
Cleanliness	67 (95.7%)	3 (4.3%)
Privacy	43 (66.2%)	22 (33.8%)
Décor	55 (79.7%)	14 (20.2%)
Seating	41 (60.3%)	27 (39.7%)
Lighting	65 (92.8%)	5 (7.1%)
Sign posting	64 (95.5%)	3 (4.5%)
Heating	63 (91.3%)	6 (8.6%)

Information on the illness

- 54 (75%) considered they were given sufficient information on their condition
- 56 (82.4%) stated that they received sufficient information on the treatment
- 59 (81.9%) understood information given by nurses and doctors
- 55 (88.7%) were clear about what they had to do to help improve their condition.
- 53 (72.6%) were prescribed medication but 8 (15.1%) of these did not understand what it was for
- 58 (79.5%) required subsequent treatment and 16 (27.6%) of these were unclear about the arrangements for this
- If further advice was required 33 (70.2%) said they would contact their own GP, 11 (23.4%) would contact A&E and 3 (6.4%) would contact other services.

Staff helpfulness

- 54 (75.0%) said they were treated like a person but 18 (25.0%) considered that they were treated like a number
- 63 (86.3%) patients stated that staff were helpful
- 66 (91.7%) said they were treated with respect
- 59 (83.1%) said staff listened to what they had to say
- 62 (87.3%) felt staff were reassuring
- 57 (86.4%) of patients were confident that the staff knew what they were doing.

Privacy during treatment

Patients felt they did not have enough privacy when:

- Talking to the nurse 32 (51.6%),
- Talking to the doctor 37 (56.9%)
- While being treated 40 (65.6%)
- At x-ray 4 (8.3%)
- Getting undressed 11 (25%)

Factors affecting satisfaction with visit to A&E department

Patients were significantly more likely to be satisfied with their visit if they:

Received sufficient information on their condition	p<.0005
Received sufficient information on treatment	p<.05
Felt they were treated like a person and not a number	p<.005
Found all the staff helpful	p<.0001
Felt all the staff treated them with respect	p<.05
Considered all the staff listened to them	p<.0001
Found all the staff to be reassuring	p<.0001
Considered that their health / peace of mind had improved after visit	p<.0005.

Following Doctor's Advice

Regarding compliance with the doctor's advice, 48 (73.8%) said they would follow it completely; 11 (16.9%) would follow it partly and 6 (9.2%) not at all.

Respondents to the postal questionnaire were invited to comment on the following:

- ◆ How to improve overall care in this A&E department
- ◆ The waiting area
- ◆ Information they were given on their illness
- ◆ A&E personnel.

The comments received are outlined. Due to the small number of respondents in each section, the responses cannot be considered representative. However, in many cases the comments mirror those already expressed by staff and judging from the researchers' observation of the A&E department many can be considered relevant.

How to improve overall care in A&E

Most patients felt they were well treated well by medical and nursing staff but they felt:

- “Extra staff is needed”
- “A fast tracking system is necessary especially for those needing a x-ray”
- “The reception area needs to be improved or moved as it is too small lacks privacy”
- “The elderly should be given priority”
- “A staff member needs to assess the illnesses of patients waiting”
- “A separate area for dressings is needed”
- “Staff should be qualified in paediatrics”
- “Minor conditions should go to GP initially”
- “English lessons for some doctors would be useful”
- “ ‘Take a number at reception’ is not acceptable”
- “Cannot hear number being called”

The waiting area

- “Layout and design are poor, there is a lack of space, wheelchair users need to be considered”
- “There is litter around”
- “Need facilities and possibly a separate area for children”
- “Relatives of accident victims should have a separate room”
- “Healthy snacks should be available and cool drinks during a long wait and access to sandwich machine at night”
- “The department needs redecoration, proper TV and a system for providing information on length of wait.”

A&E personnel and Information

- “Nursing staff are very helpful”
- “The nurse explained that St Columcille's is not a paediatric hospital”
- “The casualty seems to be under-staffed”

- “I was prescribed an antibiotic at midnight; I could not get it until the following day”
- “I was not given a diagnosis or if further treatment was necessary”
- “The process was too rushed”.

SECTION 7 CONCLUSIONS

A. The External Environment

The population around St. Colmcille's Hospital has grown by almost 6% since the current A&E department was opened in 1986. There are many new housing estates in the area. New industries, particularly in Bray and Sandyford, have developed. Road improvements have occurred. Additional new housing is planned and a new Science and Technology Park will employ 7,000 people. The N11 road to Wicklow remains one of the busiest and most dangerous in the country. All these factors contribute to increasing activity in the A&E department. Most A&E attenders live locally.

The external environment around the hospital has changed markedly over the past 13 years. However, the structure and delivery of A&E services has changed relatively little over the same period. A&E services should evolve to meet the needs of patients.

B The Internal Environment

1. Physical capacity and layout of the A&E department

The waiting area is often crowded. Patients and relatives also wait in the corridor. The reception area is small and cramped. The treatment area easily becomes congested with patients who are being investigated or awaiting admission. The corridor between treatment areas is used for storing equipment. Ambulance trolleys and wheelchairs have difficulty negotiating corners.

Car parking is a problem. Ambulances often have to compete for parking space with private cars when attempting to deliver a patient to A&E. Ambulance personnel may have to wait in A&E with patients until they are transferred from the ambulance trolley to an A&E cubicle. This may take up to 30 minutes. Unnecessary waiting is a concern for ambulance personnel.

2. Staff Morale

Staff morale appears to be good. All groups of staff work well together. Staff members are genuinely interested in providing an excellent service and in putting the needs of patients first. However, staff work extremely hard. With greater streamlining of patients and more physical space it could be possible to organise and deliver services in a 'smarter' way, for example the provision of a minor injury unit, a dedicated dressing area or the development of the position of nurse practitioner.

3. A&E activity

- The A&E department always appears busy. Many attenders have minor injuries that do not require to be treated in an A&E department; (30% during the study week)

- During the study week there were 564 attenders; 56% of these had minor conditions and 60% received an x-ray
- Of the 419 new attenders 70% were self-referred. However, of patients who attempted to contact their GP 91% were successful, indicating that GPs are available to treat patients with primary care needs
- 24% of patients were 'return attenders' and 92% of these were given an appointment to return; this group of patients were most likely to be inappropriate A&E attenders (68.9%), and many could have been treated by a GP, by a nurse, or by themselves.
- Unnecessary attenders were more likely to have their condition for over 48 hours. They were less likely to have attended a GP although the majority had a GP who lived in their own neighbourhood
- During the survey period over 28% of all attenders were asked to return to A&E and only 6.5% were referred back to their GP. The volume of return attenders contributes to high level of activity in the department and to all staff being very busy all of the time.
- Lack of triage is a important issue that needs to be addressed. Nurses are concerned that seriously ill patients may not be identified quickly.
- 9.4% of A&E attenders were admitted and 89% of these admissions were appropriate.
- Consideration should be given to a developing minor injury unit to reduce stress on the A&E department and to allow staff to focus on seriously ill patients.

4. Paediatric services

Over 20% of patients attending A&E are children. They generally attend with injuries though medical conditions are not unusual and referral to a children's hospital is sometimes necessary. The department is not geared physically nor from the point of view of providing specialist paediatrics for catering for this population. It must be borne in mind that almost 62,000 children under the age of 15 live in the area, that is, 22% of the population. A Review on the Provision of Paediatric Services in Dublin is currently planned. Hopefully, this will make recommendations on the provision of paediatric services.

5. Measuring Performance

5.1 Information Systems

The manual medical records system is inefficient, incomplete and cumbersome. As a result it is difficult for the hospital to monitor activity, profile attenders and measure performance. An A&E information system is being piloted in James Connolly Memorial Hospital. This should be made available in St. Colmcille's as soon as possible to enable routine performance measurement.

The policy of not recording 'return attenders' in the casualty register appears to be an artificial mechanism to underestimate the recording of return attenders to the department. This current policy does not give a proper indication of the activity in the A&E department. Return attenders should be properly logged.

5.2. Links with other hospitals in the region

St. Vincent's hospital will be the major acute hospital in the East Coast Area Health Board of the Eastern Regional Health Authority. Structured links between St. Vincent's and St. Colmcille's A&E departments would be very beneficial. These links should include the provision of shared A&E consultant personnel. This should lead to the development of common protocols and procedures between the two A&E departments, including referral of fractures and serious conditions and the development of performance indicators.

5.3. Satisfaction with services

Most attenders were satisfied with the care they received in A&E but recommended greater privacy, better reception, waiting and cafeteria facilities. Most patients waited between 2-4 hours to be seen and most were not kept informed of reasons for delays.

Section 8 Recommendations

Performance

1. A comprehensive computerised A&E system should be introduced. The James Connolly Memorial Hospital system should be extended to St. Colmcille's Hospital as soon as piloting is complete. This development should enable the continuous monitoring of performance which is currently not possible.
2. Performance targets (structure, process, and outcome) should be introduced for many aspects of the A&E service including:
 - Ratio of new to return attenders
 - Re-attendance rates
 - Waiting times for nursing assessment
 - Waiting times for doctor's consultation
 - Total time in the A&E department
 - Quality of care.
3. There is one major hospital in the East Coast Region of the Eastern Regional Health Authority and two smaller hospitals with an A&E department. All A&E departments in this region should be co-ordinated and have specialist input. To this end the A&E department at St. Colmcille's requires the services of an A&E consultant.

Service Delivery

4. The current way services are provided in the A&E department needs to be changed. Patients with minor conditions queue in the same way as those with serious conditions. These two groups of patients need to be separated in terms of severity and type of illness. An immediate requirement is for additional space, including:
 - New space for reception, waiting area and triage facility
 - Facilities and space to treat large numbers of minor injuries.
5. Triage arrangements should be set up.
6. Patients with minor conditions e.g. dressings and minor cuts do not need to be treated in a busy A&E department. But for as long as such patients continue to attend A&E it is the responsibility of the service to develop new and creative ways to cater for their needs. Options for providing alternative care include:
 - Developing a minor injuries unit
 - Introducing an emergency nurse practitioner into an adjacent area of the A&E department to manage certain defined minor conditions
 - Employing GPs in the A&E department
 - Discharging 'return' patients back to the GP
 - Developing a primary care partnership with GPs in the area
 - Using local health centres for dressings.

The solution may rest in a combination of all of these options. The feasibility of all options should be considered with all stakeholders. Discussions towards the development of a GP – Hospital partnership should take place as this would provide

benefits to all concerned and to other hospital departments in addition to the A&E department.

7. Staffing levels in the A&E department should be on a par with other A&E departments catering for similar numbers of patients.

Paediatrics

8. The A&E department treats substantial numbers of children. It is ill equipped to deal with sick children. Paediatric care should only be delivered in the A&E department if specialist paediatric services are available with specialist back up in the hospital.

Ambulances

9. Ambulances need protected parking space and ease of access. Though ambulances must operate according to catchment areas, patients should not be brought to St. Colmcille's when the service required is not provided e.g. patients with fractured hips. Protocols should be developed between ambulance personnel and A&E departments on the most appropriate hospitals for certain conditions.

Nursing homes

10. Nursing homes in the area would benefit from greater liaison and on-going education on the management of common conditions. This could reduce the rate for referral from nursing homes.

REFERENCES

1. Standards for Accident and Emergency Departments in Ireland. Irish Accident and Emergency Association, 1997.
2. The Way Ahead. British Association for Accident and Emergency medicine, 1997.
3. Performance indicators in Accident and Emergency. British Association for Accident and Emergency Medicine 1998.
4. Dobbs F. Referrals to Irish Accident and Emergency departments. *Ir med j* 1995;88:2:54-55
5. Ward P, Huddy J, Hargreaves S, Touquet R, Hurley J, Fothergill J. Primary care in London: an evaluation of General Practitioners working in an inner city accident and emergency department.
6. Dale J, Green J, Glucksman E, Higgs R. Providing for primary care: progress in Accident and Emergency. London: 1991. Department of General practice and Primary Care, King's College Scholl of Medicine and Dentistry.
7. Murphy A, Bury G, Plunkett PK, Gibney D, Smith M, Mullan E, Johnson Z. Randomised controlled trial of General practitioner versus usual medical care in an urban accident and emergency department: process, outcome and comparative cost. *Br Med J* 1996;312:1135-1142
8. NHS Accident and Emergency Departments in England. Report by the Comptroller and Auditor General. National Audit Office, 1992. HMSO, London.
9. The Patients Charter. Department of Health, 1992. H.M.S.O.
10. Average length of stay in the Emergency room. The Advisory Board Company 1995.
11. Report of the Dublin Hospital Initiative Group (the Kennedy Report). The Department of Health. Dublin 1991.
12. Boland M Audit of a paediatric Accident and Emergency Department. M.F.P.HM.I. thesis 1998.
13. Urgent and Emergency admissions to Hospital. The report of a Clinical Standards Advisory Committee. 1995. HMSO London.
14. By Accident or Design. Improving Accident and Emergency services in England and Wales. Audit Commission 1996. HMSO. London.
15. O' Flanagan D, Leonard C. St James' Hospital Emergency Medicine Research Project. 1993, Dublin.

16. West R, Rosen M. United Kingdom study of urgent and emergency admission to hospital. *Health Trends* 1996;28:1:13-19
17. Chambers J, Johnson K. Predicting demand for accident and Emergency services. 1986. *Comm Med*; 8293-103.
18. Carr-Hill R. The measurement of patient satisfaction. *J Public Health Med* 1992; 14:3:236-249
19. Bursch B, Beezy J, Shaw R. Emergency department satisfaction: what matters most? *Ann Int Med* 1993;92:586-591
20. Emergency Department Issue Tracking. Health Care Advisory Board EDI-004-002. 1994

Appendix 1

Survey No. 1 - 3

Accident & Emergency Survey

Administration staff to complete this section (2 pages) please circle answer

Name-----

Address (residence) 4 - 6

County _____ 7 - 8

Address (incident) 9 - 11

County _____ 12 - 13

Age Last Birthday 14-16

Sex 1. Male 17
2. Female

Marital Status 1. Married 18
2. Single
3. Widow
4. Separated/
divorced

Occupation 19

Medical Eligibility

1. GMS 20
2. VHI/BUPA
3. Other

THIS VISIT

Date of Attendance 3/99 21-22

Presenting Problem 23-24

Time elapsed since onset 25

1. less than 12 hours
2. 13 - 24 hours
3. 25 - 48 hours
4. 48 hours +

Transport to A & E today 26

1. Ambulance
2. Taxi
3. Private Transport
4. Bus/Train
5. Walked
6. Other

New or Return patient with this condition 27

1 = new 2 = return

IF RETURN

1. Appointment to return 28
2. Self decided

Reason: for return 29

1. Dressing
2. Still sick
3. Investigation
4. Asked to return
5. Review x-ray
6. Results

Has Patient a G.P. Yes No 30

Name of GP _____

Address. 31-33

County _____ 34-35

Prior to coming to A&E did patient

Attempt to contact GP Yes No 36

If yes date attempted contact 37-38

If yes time attempted to contact GP
(24 hour clock nearest hour) 39-40

Successful in contacting GP 41

Yes No

Attended GP Yes No 42

Date attended GP 3/99 43-44

Time attended GP 45 46
(24 hour clock nearest hour)

Referral Source

- 47-48
1. Self
 2. GP without letter
 3. GP with letter
 2. Deputising Service
 3. Educational Service
 4. Occupational
 5. Nursing home + Gp letter
 6. Nursing home without GP letter
 7. Other

Self Referred Patients only

If self referred and had

not seen GP/other doctor 49-50

Why did patient come directly?

1. Thought GP would refer anyway
2. Thought needed x-ray

3. Thought needed immediate attention
4. Prefer hospital for this condition
5. Hospital more convenient
6. GP told patient call ambulance go to A & E
7. Hospital cheaper
8. Considered he/she under hospital care
9. Other, specify _____

If self referred and

had seen GP/other doctor 51

Why did the patient come?

1. Wanted second opinion
 2. Thought needed immediate attention
 3. GP told patient go to A & E if further trouble
 4. Had OPD appt, wanted earlier opinion
 5. Tried but failed to contact GP again
 6. Insufficiently organised to see GP again
 7. Other, specify _____
-

Urinalysis 61

Toxicology 62

Other, specify _____ 63

Casualty Officer to complete this page. Please circle answer

Date seen by Casualty Officer 52-53

Time seen
(24 hour clock Nearest hour)

Brought in dead/died in Department
Yes No 54

Patient did not wait Yes No 55

Investigations Radiology 56

ECG 57

Haematology 58

Biochemistry 59

Bacteriology 60

FOR OFFICE USE

A&E appropriateness criteria met 83

Override: not met but appropriate 84

Treatment

Strapping 64

Plaster cast 65

Clean and dress only 66

Sutures, up to 2 67

Sutures, more than 2 68

Formal toilet, repair, exploration 69

Standard prophylaxis 70

Removal foreign body – Eye/ENT 71

Inhalation therapy 72

Prescription issued 73

- Observed in A & E 74
- Other, specify _____ 75
- Outcome** (choose one only) 76
1. Home no follow up
 2. Home: investigations to follow
 3. A & E return
 4. Refer OPD
 5. Refer to GP
 6. Admission
 7. Waiting list for admission
 8. Other e.g. Physiotherapy

Provisional diagnosis

- 1 ----- 77-79
- 2 _____ 80-82

Part B Appropriateness of admissions from A&E during study period

Survey number _____

Chart No. 85-92

Date admitted 93- 96

Time admitted 97 - 98
(Nearest hour 24 hour clock)

Admitting Doctor 99

- | | |
|---------------|-----------|
| 1. Consultant | 3. SHO |
| 2. Registrar | 4. Intern |

Ward _____

Inpatient with this problem within 1 month Yes No 100

Patient condition factors on admission

1=yes 2=no

Sudden onset unconsciousness /disorientation 101

Pulse rate < 50 or > 140 102

BP Systolic < 90 or > 200; Diastolic < 60 or > 120 103

ECG evidence acute Ischemia 104

Severe electrolyte or blood gas abnormality 105

Active bleeding 106

Persistent fever /PUO) 5 days 107

Acute loss sight or hearing 108

Acute loss of ability to move Body part 109

Acute / progressive sensory/motor dysfunction 110

Services required

IV medication and/or fluids 111

Surgery/special procedures. within 24 hours 112

Cardiac monitor/vital signs 4 hourly 113

ICU care 114

IM/SC injections BD at least 115

Intermittent/cont. use of respirator 116
Inhalation RX/Bronchial drainage
at least BD 117

Continuous traction 120
Isolation nursing 121
Failure of OPD therapy 122
Referred to Specialist hospital 123

Criteria met for Admission

1. **Appropriate** 124
2. **Inappropriate**
3. **Override** – to inappropriate
4. **Override** – to now appropriate

Reasons for inappropriate admission

- | | | |
|--------------------------------|--------------------------------|--------------------------------|
| 1 <input type="checkbox"/> 125 | 4 <input type="checkbox"/> 126 | 7 <input type="checkbox"/> 127 |
| 2 <input type="checkbox"/> 128 | 5 <input type="checkbox"/> 129 | 8 <input type="checkbox"/> 130 |
| 3 <input type="checkbox"/> 131 | 6 <input type="checkbox"/> 132 | 9 <input type="checkbox"/> 133 |

Surgical procedures 134

Specify, _____ICD_____ 135 - 136

Final DX ___ICD___ 137 - 138

Date of discharge 139- 140

Appendix 2:

APPROPRIATE CONDITIONS FOR A&E DEPARTMENT ATTENDANCE

1. INJURIES

Multiple & serious injuries
Shock
Definite or suspicion of fracture/dislocation
Severe and/or penetrating soft tissue injury
-Joints
-Chest
-Neck
-Abdomen
Extensive and/or dirty and/or complicated wounds
Hand injuries
Suspicion of retained foreign body
Superficial burns more than 1% or 2%
Superficial burns of the face or perineum
Deep burns
Head injury with period of unconsciousness/amnesia

2. SURGICAL EMERGENCIES

Abdominal pain with positive physical signs
Haemorrhage from the GIT and GU
Haematemesis
Substantial blood PR
Melaena
Haematuria
Threatened or inevitable abortions
Sudden organ enlargement
Large abscesses (ischio-rectal)
Abscess in special areas (face, neck)
Incarcerated haemorrhoids
Strangulated or obstructing hernias
Acute cold/pulseless limb
Suspected torsion of testis
Acute spinal problem with positive neurological signs.

3. ENT

Retained foreign bodies
-Throat
-Oesophagus
-Nose
-Ears
Tonsillar abscess
Uncontrollable nose bleeds
Trauma to ears (blast) or throat (noxious inhalations).

4. OPHTHALMOLOGICAL EMERGENCIES

Retained foreign body
Acute painful eye

Sudden blindness or impaired vision
Suspected penetrating wounds
Acute chemical or other physical trauma.

5. MEDICAL EMERGENCIES

Cardiac arrest
Anaphylaxis
Sudden loss or impaired consciousness
Severe chest pain
Unexplained or uncontrollable hypertension
Unexplained hypotension
Unexplained anaemia
Unexplained severe dyspnoea at rest
Dyspnoea unresponsive to usual medication
Significant haemoptysis
GP referred pyrexia of unknown origin
Unexplained sudden organ enlargement
Anuria and renal failure
Jaundice
Unremitting headache/signs of meningism
Acute and unexplained loss of body function
Uncontrolled/complicated diarrhoea/vomiting
Acute pain/loss of function/sensation function of limb
Acute limb swelling
Acute major neurological disorder
Poisoning
Unexpected or sustained fits/blackouts
Hypothermia
Non-organic (functional) disorder causing severe systemic upset

6. OTHER EMERGENCIES

Injury associated with alleged rape
Non-accidental injury
Attempted suicide
Acute psychoses.

Appendix 3 APPROPRIATENESS OF ADMISSION PROTOCOL (AEP) ADULT MEDICAL/SURGICAL CRITERIA

Severity of Illness Criteria

1. Sudden onset of unconsciousness or disorientation (coma or unresponsiveness)
- 2.1 Pulse rate of less than 50 per minute
- 2.2 Pulse rate greater than 140 per minute
- 3.1 Systolic less than 90 or greater than 200mmHg
- 3.2 Diastolic less than 60 or greater than 120mmHg
4. Acute loss of sight or hearing
5. Acute loss of ability to move body part
6. Persistent fever equal to or greater than 100f (37.7c) oral or greater than 101f (38.3c) rectal for more than 5 days.
7. Active bleeding
8. Severe electrolyte/blood gas abnormality (any of the following)
 - 8.1 Na < 123 mEq/L
 - 8.2 Na > 156 mEq/L
 - 8.3 K < 2.5 mEq/L
 - 8.4 K > 6.0 mEq/L
 - 8.5 CO₂ combining power (unless chronically abnormal) < 20 mEq/L
 - 8.6 CO₂ combining power (unless chronically abnormal) > 36 mEq/L
 - 8.7 Arterial pH < 7.30
 - 8.8 Arterial pH > 7.45
9. ECG evidence of acute ischaemia – must be suspicion of new MI
10. Wound dehiscence or evisceration

Intensity of Service

1. Intravenous medications and/or fluid replacement (does not include tube feedings)
2. Surgery of procedure scheduled within 24 hours requiring:
 - 2.1 General or regional anaesthesia or
 - 2.2 Use of equipment, facilities, and procedure only available in a hospital.
3. Vital sign monitoring every 2 hours or more often (may include telemetry or bedside cardiac monitor)
4. Chemotherapeutic agents that require continuous observation for life threatening toxic reaction.
5. Intramuscular antibiotics at least every 8 hours
6. Intermittent or continuous respirator use at least every 8 hours.

REASONS FOR INAPPROPRIATE ADMISSIONS

- 1) Any needed diagnosis and/or treatment can be done on an outpatient basis
- 2) Patient admitted for diagnostic testing and/or treatment because patient lives too great a distance from a hospital for it to be done on an outpatient basis.
- 3) Patient admitted for diagnosis and/or treatment because it was not possible to be scheduled on an outpatient basis (although, aside from scheduling, testing and treatment could have been done on an outpatient basis)
- 4) Patient needs institutional care, but at a level lower than an acute care hospital
- 5) Patient needs care in a chronic disease hospital
- 6) Patient needs care in a skilled nursing facility

- 7) Patient needs care in a non-skilled nursing facility
- 8) Premature admission – a day or more before an inpatient procedure already scheduled.
- 9) Other, specify.

Appendix 4 Views of attenders (Postal Survey)

If someone is completing this form on your behalf, please indicate the relationship:

1. The person completing this form is my:

Spouse Relative/Friend Other (please explain.....)

FOR THE FOLLOWING QUESTIONS, PLEASE TICK THE ANSWER(S) WHICH BEST DESCRIBES YOUR SITUATION:

2. AGE: under 2 3-12 13-17 18-40 41-64 65+

3. I came to the Accident and Emergency Department because:

Please tick ALL ANSWERS that describe your reasons for coming to A & E

I was referred by a doctor I had an accident

I had an appointment It was an emergency

I needed dressing I needed stitches

I thought the local doctor would send me to the hospital

I wanted a second opinion I thought an x-ray was needed

I don't have a local doctor My own doctor was not available

I chose not to use the deputising G.P. service

4. I have: A medical card VHI Cover from work No cover
Other (please explain.....)

5) How long did you spend overall in the Accident & Emergency Department?

Less than 2 hours Between 2 and 4 hours More than 4 hours

6) Did you find your way easily to the hospital? Yes No
If yes, was this because: (Choose one answer)

The sign posting was clear

I'd been here before

The person I was with knew the way

Other (please explain.....)

7) Once you were at the hospital, was it easy to find the Accident & Emergency Department?

Yes No Choose one answer

If yes, was this because: The sign posting was clear

I had been before

The person I was with knew the way

Other (please explain.....)

If no, what difficulty did you have?

Please explain.....

8) How did you get to the hospital? Ambulance Private Transport (car, etc.)

Public Transport (bus, taxi, etc) Walked Other: please explain.....

9) If you travelled by car, did you find it easy to park? Yes No

Not Relevant If no, please explain difficulty

10) On first entering the department, did you, or the person who went to give your details, have any problems find the reception desk?

Had problems Did not have problems Comments

11) Did you, or the person who gave your details, have any difficulty speaking to the staff at the reception desk.

Yes No

If Yes, was this because

Tick as many answers as necessary: a) You could not hear the receptionist

b) There was not enough privacy

c) The reception was empty

12) How satisfied were you with the following WAITING ROOM features of the Accident and Emergency department/

Please tick <input checked="" type="checkbox"/>	Very Satisfied	Fairly satisfied	Somewhat dissatisfied	Very dissatisfied
Toilets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refreshments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reading material	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Décor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Noise level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleanliness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilities for children	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you wish to make any comments, or identify any facilities that you consider to be lacking, please do so here

13) How satisfied were you with the facilities in the TREATMENT AREA?

Very Satisfied Fairly satisfied Somewhat dissatisfied Very dissatisfied

Cleanliness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Décor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sign posting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you would like to make any other comments or suggestions for improvement please do so:

14) Was it made clear to you from the start approximately how long you would have to wait?

Yes No Did not apply Comments

15) Some patients say that they want to be given an idea of how long they will have to wait. Which of the following best describes your view?

Choose one answer:

Casualty cant be expected to give a time

Its better not to give a time as it could be wrong

They should give an approximate idea of the waiting time,
and inform you if it changes

They should tell you how long you might wait, and inform you if it changes

16) During your wait, were you kept informed of the reasons for delays?

Yes No Did not wait Comments

17) Did you understand how the queuing system worked (i.e. emergencies and urgent cases come first)?

Yes No Comments

18) Did you feel confused about what was happening at any time during your visit to the department?

Yes No If yes, when was this

19) If you were sent for an x-ray, was it clear where you had to go?

Yes No Did not apply Comments

How long were you waiting in the x-ray queue?

Less than 30 minutes

31- 60 minutes

More than 1 hours

20) Do you feel that the doctor and or nurse you saw

(a) gave you enough information about what was wrong with you?

Yes No Comments

(b) Gave you enough information about the treatment you received?

Yes No Comments

21) Did you understand the information that was given to you by the nurses and/or doctors?

Yes No If no, please explain

22) Was it made clear to you what you have to do to help improve your condition?

Yes No Does not apply Comments

23) If you needed further treatment, were you clear about the arrangements for this?

Yes No Didn't need further treatment Comments

24) If you wanted further advice about your condition after your visit who would you contact for help?

25) Do you feel that you were treated like a person or number?

Like a person like a number comments

26) Did you find all the staff you saw helpful?

Yes No

If no, please describe the circumstances

27) Did all the staff you see treat you with respect?

Yes No

If no, please describe the circumstances

28) Did you find that all the staff you saw listened to what you had to say?

Yes No

If no, please describe the circumstances

29) Did you find all the staff reassuring in their manner to you?

Yes No

If no, please describe the circumstances

30) Were you confident that all the staff you saw knew what they were doing?

Yes No Comments

31) Did you feel that you had enough privacy to talk so that you could not be overheard when (please answer all the questions):

Being seen by the nurse for the first time Yes No

Being seen by the doctor for the first time Yes No

Being treated Yes No

Having an x-ray Yes No Didn't have x-ray

32) Did you feel that you had enough privacy when undressed?

Yes No Wasn't undressed

If no, please describe circumstances

33) did the presence of any of the other patients/relatives waiting cause you any problems?

Yes No

34) Did you feel safe during you time in the department?

Yes No

If no, please explain

35) How satisfied were you with

a) the MEDICAL TREATMENT at the department?

Very satisfied Quite satisfied Not very satisfied Dissatisfied

How satisfied were you with

b) the overall QUALITY OF CARE you received at the department?

Very satisfied Quite satisfied Not very satisfied Dissatisfied

36) in your view, has your health and/or peace of mind improved as a result of your visit(s)?

Yes No comments

37) Did you follow the doctor's advice/instructions?

To the letter Partly Not at all Does not apply

38) If you needed to come to an Accident and Emergency department again, would you use St. Columcille's

As a matter of choice If it was the closest Never again

39) Would you recommend St. Columcille's Accident and Emergency Department to your friends/family?

Yes No comments

40) Listed below are ideas suggested by patients to improve A & E Departments. Please read these ideas:

- The ability of the nurses and doctors
- Getting good quality information on my injury/illness
- Being listened to and treated kindly by all the staff
- Good follow-up and/or information to my own doctor
- My health and/or peace of mind improving as a result of my visit
- Improve the queuing system
- Improve waiting/changing facilities at x-ray
- Provide estimates of waiting time and information on delays
- Provide more privacy during consultation
- Improve car parking and sign posting
- Improve the refreshment facilities
- Improve the waiting facilities e.g. better seats, have magazines
- Increase privacy during registration
- Reduce the waiting times

Which of the above ideas do you think are the most important? Please number your choices 1, 2, and 3 in order of importance.

1 = Most important 2 = next most important 3 = third most important

Do you have any suggestions how we can improve the care and treatment we provide in the department? Please use the space below to make your comments