NOTTINGHAM UNIVERSITY HOSPITALS NHS TRUST

REPORT TO THE JOINT HEALTH SCRUTINY COMMITTEE
9TH DECEMBER 2008

EMERGENCY PATHWAY
DATA COLLECTION EXERCISE 2008

BACKGROUND

The Emergency Department (ED) at NUH is large and complex with around 3000 attendances a week, which result in over a 100 acute admissions a day. For many patients and carers this will be their first experience of the Trust. It is a national requirement that over 98% of patients are dealt with within 4 hours of first arrival at the ED Department. This flow of unscheduled work provides an external interface with General Practices, the East Midlands Ambulance Service, Walk in Centres, Nottingham Emergency Medical Service (NEMS) and NHS Direct. Internally, the flow of unplanned emergency care impacts on bed usage hence planned care. It is vital that the processes underlying this activity meet and contribute to the Trust corporate objectives. This data collection exercise was undertaken to reach a shared understanding of the current state of these processes.

STRUCTURE

The week beginning 7th July was chosen to predate the onset of winter pressures and change over dates for junior medical staff to enable us to look at the process in "steady state". Three activities were undertaken:

- Tracking — All activities recorded from time of arrival to discharge or admission/transfer for individual patient journeys
- Observation — Individuals were placed in specified areas and observed activities, individuals, processes and the environment
- Interviews — Open interviews were conducted with patients and carers to record their experiences.

Over 160 individuals were involved in the data collection including Directors, Senior Consultants, Senior Nurses, Senior Management and Patient Representatives with a lot of experience of the Nottingham healthcare system. The exercise was conducted by the Service Improvement Team (Kate Pound, Jacqueline Butterworth and Rachel Flynn), assisted by the Audit Department and analysis provided by Jo Baddeley from the Department of Clinical Haematology.

THE WEEK

The week was typical of activity during the summer months and indistinguishable from those 4 weeks either side of it. We had 3,028 attendees and 41 breaches hence 98.6% of attendees were dealt with within the 4 hour target. The pattern of activity seen in ED attendance is consistent. The number of arrivals rises steadily from 08:00 to peak at 15-35 an hour by midday then dips during the afternoon with a second peak in the early evening giving 15-35 arrivals an hour again by 18:00 which subsides gradually to midnight after which 0-10 arrivals an hour continue through the night. This gives a total of 0-30 patients an hour in the department in the early hours, rising to and sustained at 30-65 an hour until after 22:00. There is a consistent pattern of activity through the week (Fig 1).

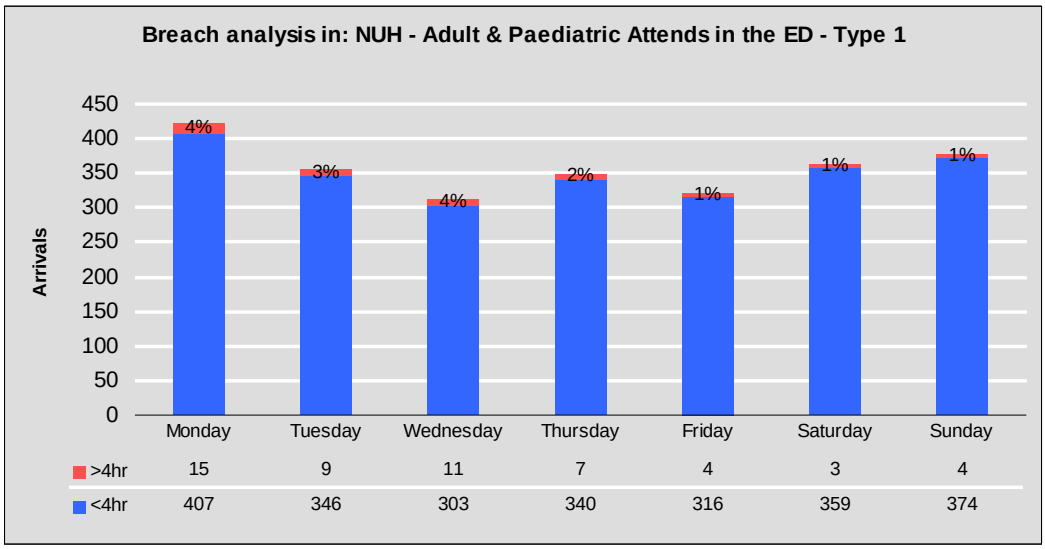

Figure 1. ED Attendances (total column) by day of week from 07.07.08 and the proportion breaching the 4hr target (red).

The number of breaches was the same on the busiest and quietest days of the week whilst the breaches were relatively low at the weekend when the hospital is less staffed. This indicates that breaches are not simply a function of volume. The number of breaches tends to be higher in the early hours of the morning.
If we consider the journey for attendees with minor injuries, major problems treated and not needing admission and admissions, the average time on the department differs (Fig 2).

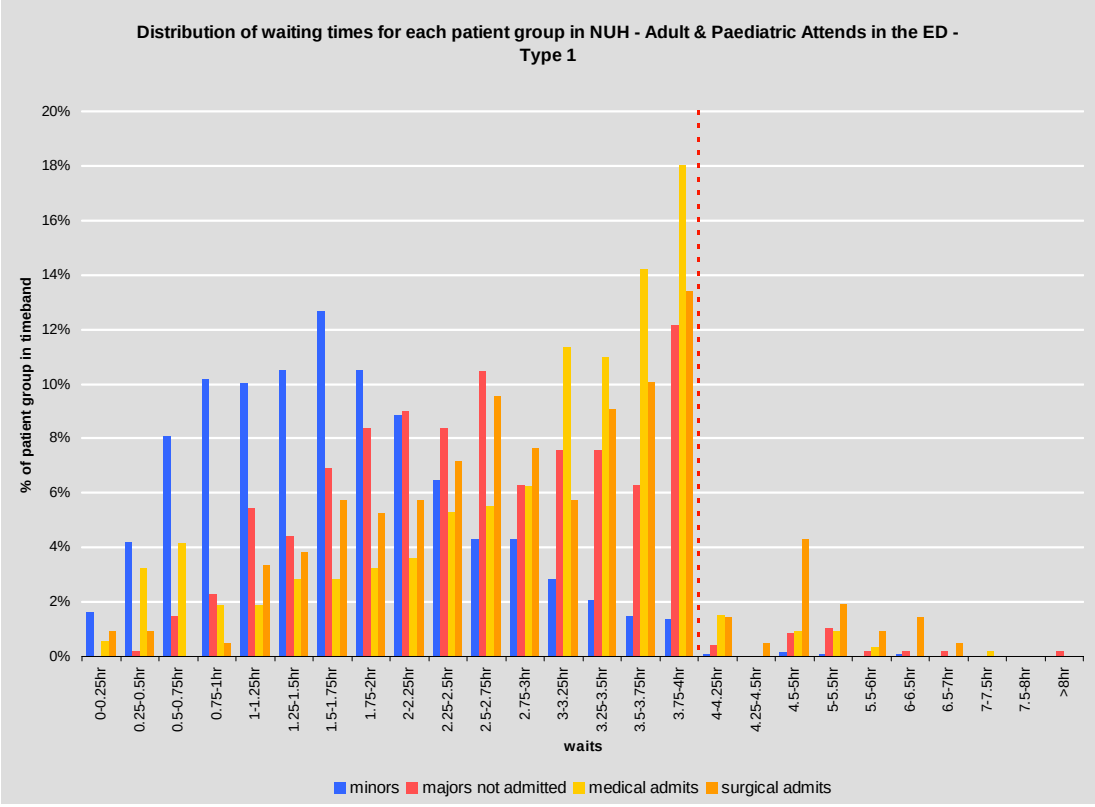

Figure 2. Proportion of patients dealt with by time after arrival up to and beyond 4 hours for minors, majors not admitted, medical and surgical admission.

It can be seen that most of the minors are dealt with by 2 hours whereas 50% or more of the other three categories are dealt with between 3 and 4 hours.

THE EMERGENCY DEPARTMENT

The following areas were involved in the prospective exercise:

Area 1	Resuscitation and critical care for emergencies needing lifesaving interventions. Patients are delivered here by ambulance
Area 2	Walking wounded needing medical assessment
Area 3	Stretcher patients brought in by ambulance, needing full medical assessment and more intervention than Area 2
Streaming	Walk in patients are assessed by nurses and directed to the appropriate area
Emergency Nurse Practitioners	Patients seen and treated by experienced nurses

During the week we captured data on 270 patients, which represented 1:10 of the attendees to the department, and adequate data was captured in all of the above areas. The median duration of stay in the ED department was approximately 3 hours hence 50% or more of patients in Areas 1, 2 and 3 were discharged, admitted or transferred beyond this time point after arrival. The time to review by a medic is shown in Figure 3:

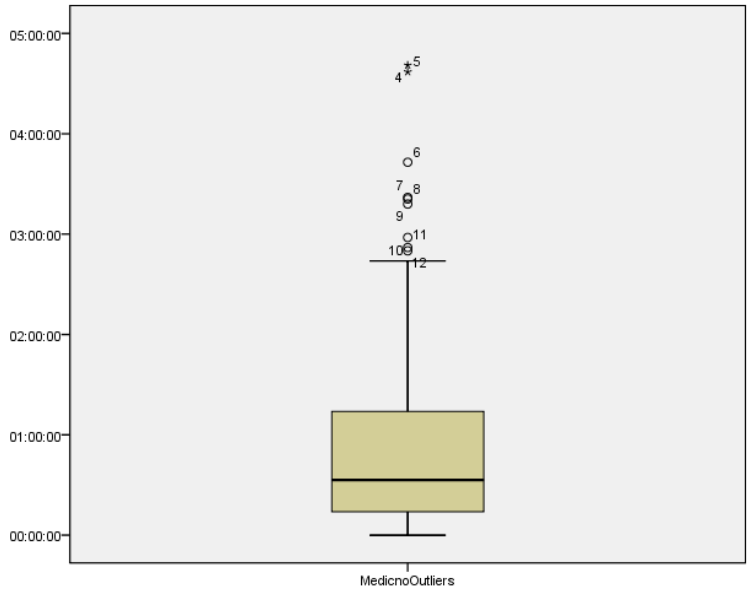

Figure 3. Time to review by medic in ED. The horizontal line is the median; the box contains 25-75% of the patients and the individual numbered circles the most extreme cases.

Most patients are seen quickly but 25% took more than an hour to be seen indicating variation in the process. The majority of breaches in this week came from this tail of patients who were delayed in their initial assessment. Analysis of the medical rotas for the week showed two issues:

- The number of junior doctors actually on duty was less than planned reflecting a national issue in ED departments where there is a shortage of medics and locums
- The number of doctors scheduled reduced in the evening before the observed fall in the number of attendees contributing to a backlog of patients

There was significant variation between Areas in the time to get basic investigations done and reviewed particularly for Area 3. The average values were good but again a tail of patients experienced delays. We need to understand this variation and define acceptable timings.

In general some patients had an excellent experience; the very sick patients received high quality care, which was organised and well delivered as did many requiring expert clinical input from specialist nurses or doctors. The detailed patient tracking has highlighted the need to develop more standardised pathways and streamline the process after a decision to admit has been made.

Observers commented on a lack of information about wait times, a lack of confidentiality in some environments, areas where relatives were unable to accompany patients, relatives left standing, delays to transfer, inconsistent uniform policy and a “cold” customer service. These were reflected in patient interviews where requests were made for more information, better privacy, improved car parking, clearer uniforms, reduced waits, a reduction in repeated requests for the same information, more chairs for relatives and better people skills.

WARD B3 ASSESSMENT

This is an acute medical area for the triage of GP referrals and should have an expected length of stay significantly less than 24 hours and should close overnight.
We captured 132 patients, 40 of whom were transferred from the ED and 89 were admitted from General Practice. The median duration of stay was 3 hours but 25% of patients were on the unit for 5-24hrs. The median time to be seen by a doctor was an hour, but again 25% of patients waited between 2 and 9 hrs for review.

This reflects junior doctor staffing levels out of hours when they cover a wide area of the hospital and large numbers of patients. Senior and Specialist doctors reviewed patients in a timely manner. The nursing staff were pleasant and efficient but lacked consistent input from Clinical Support Workers and transfer teams. This was reflected in the time to get blood samples taken and ECG’s performed which showed wide variation relating to staffing.

The Domestic input was good with food and drinks offered. Observers commented that the area was short staffed with long waits on trolleys for doctors and waits for medications delaying discharge. Patient interviews concurred with these views.

The nature of patients referred here, opening hours and process in this area need to be reviewed.

WARD B3

This is an acute medical area where patients are admitted with an expected length of stay less than 48 hours. We captured 52 patients admitted from ED and B3 Assessment with 17 transferred to specialist medical areas. The same observations made on B3 Assessment regarding variation in time to investigations applied here. Observers found the staff pleasant and caring but noted some delays at mealtimes

and waiting for discharge medications. Patients concurred with this and asked for a better choice of food and drinks. Patients commented on the long walk from the ED to B3.

WARD D57

This is an acute medical area where patients are admitted with an expected length of stay of 72 hours or longer. Only observation occurred in this area so no patient tracking was performed. The ward was well organised with good team working, good staffing levels, good communication and a good Domestic presence.

The uniform policy was thought to be unclear. Observers commented on the large distances between ED, B3 and D57 as parts of the acute medical admissions process.

In total 163 patients were interviewed aged 20-90yrs, a quarter with disabilities and a full range of ethnicity. They were asked about their experience, health care input in the week before attendance, transport in to NUH, experience with staff and the process from their viewpoint. All were asked, “what went well?” and “what could we have done better?”

Staff from the areas reviewed were invited to workshops to give their feedback and all the individuals involved in the exercise were asked to comment on their experience. Generally those taking part found the exercise interesting and valuable, some considered this a valuable tool to look at their own processes.

WHAT HAPPENS NOW?

All staff that attended the process-mapping day in July were invited to the data feedback day. The data will also be shared with Senior Medical staff, junior doctors, nursing staff and managers in the relevant areas, PCT’s and the Service Improvement Steering Group.

A programme structure will be established to co-ordinate the projects that will be undertaken in the various areas. We are in discussion with an external company to provide expertise and support in delivering the required changes.

The productive ward project has started in this area, which will provide a mechanism for engaging the ED staff and providing them with the tools and techniques for implementing the Lean methodology.

The projects along the emergency pathway will include, looking at matching capacity to the demand, reducing avoidable variation, removing unnecessary steps, creating better pathways to divert unnecessary attendance to ED and also to streamline admission to specialities, reduce unnecessary investigation, maximise early senior clinician input, discharge patients in a timely manner, create a better environment and patient experience.

These projects will meet the corporate objectives to deliver timely, high quality, safe and efficient care which will in turn better use resource and improve staff satisfaction.