The University Of Sheffield.

Perspectives on the reasons for Emergency Department attendances across Yorkshire and the Humber

Final Report | September 2017

Authors:
Professor Suzanne Mason[i] *(Professor of Emergency Medicine)*
Colin O'Keeffe[i] *(Research Fellow)*
Richard Jacques[i] *(Research Fellow – Statistician)*
Melanie Rimmer[i] *(Research Associate)*
Suzanne Ablard[i] *(Research Assistant)*

[i] Centre for Urgent and Emergency Care Research (CURE), School of Health and Related Research, University of Sheffield, Sheffield, UK

www.sheffield.ac.uk/scharr/sections/hsr/cure

Introduction

This report is based on a project funded by the British Medical Association (BMA) in collaboration with the National Institute for Health Research (NIHR) Collaboration and Leadership in Applied Health Research and Care, Yorkshire and Humber (CLAHRC YH): Avoiding Attendances and Admissions Theme (AAA).

The aim of the research was to identify patient and staff perspectives on the reasons for attendances at Emergency Departments (ED) across Yorkshire and the Humber. The work was undertaken from February 2016 to September 2016.

The CLAHRC YH: AAA Theme is undertaking a five year programme of work to better understand the reasons for rising attendances and admissions in the Yorkshire and Humber Region and investigate and pilot interventions to reduce avoidable attendances and admissions in the region.

Acknowledgements

We would like to thank all of the NHS staff working in Emergency and Urgent Care centres for generously giving their time in helping to set up the research project in their departments and for participating in the staff interviews. We would also like to thank all of the patients who volunteered to complete the survey. The information provided by both staff and patients has been invaluable. We hope this report will provide a useful overview of reasons for increasing demand and what impact this is having on EDs across Yorkshire and the Humber, as well as a starting point for discussion regarding the development of interventions to help manage demand in the future.

This report

This report presents independent research funded by the BMA. The views and opinions expressed by the authors in this report are those of the authors and do not necessarily reflect those of the BMA. Suzanne Mason, Colin O'Keeffe and Richard Jacques are funded by the NIHR CLAHRC:YH. www.clahrc-yh.nihr.ac.uk. The views and opinions expressed are those of the authors, and not necessarily those of the NHS, the NIHR or the Department of Health.

Contents

Executive Summary
Perspectives on the reasons for Emergency Department attendances

BACKGROUND

The increasing demand for care in the Emergency and Urgent Care system has been recognised as unsustainable in the long term by an NHS England review[1]. There is increasing interest from health practitioners and policymakers in understanding the characteristics of patient attendances with low acuity problems and the reasons why they choose to attend the Emergency Department (ED). This will in turn assist the development of interventions to improve the management of this demand.

KEY FINDINGS

Routine ED data analysis*

Overall rate of non-urgent attendance was 23% for adults and 31% for children.

Patient survey**

50% of patients reported that they were advised to attend by a health professional.

Awareness of alternative urgent care services ranged from 29% (Urgent Care Centre) to 89% (NHS 111).

Staff interviews

The frail elderly and 'worried well' were perceived as having the greatest impact on demand.

People have become more demanding of the healthcare system, particularly amongst younger generations.

Alternative healthcare services are overstretched making them difficult to access, causing 'overspill' into the ED.

* Non-ambulance arrivals

** These figures refer to all patients who self-presented to the Emergency Department and completed our survey (we have made no judgement about whether or not these attendances were non-urgent).

The University Of Sheffield.

CURE CENTRE FOR URGENT AND EMERGENCY CARE RESEARCH

BMA

Executive Summary
Perspectives on the reasons for Emergency Department attendances

AIM

To better understand patient reasons for attending Emergency and Urgent Care services and to identify possible solutions to the challenges associated with rising demand.

METHODS

Routine ED data analysis

A descriptive analysis was undertaken using 12 months of routine ED NHS patient data from 2014 for 19 EDs across Yorkshire and Humber (Y&H). Information from all non-ambulance arrival patients (adults and children) was analysed. The analysis identified the proportion of patients attending with non-urgent problems using a validated process based definition[2] :-

'First attendance with some recorded treatments or investigations all of which may have been reasonably provided by a GP, followed by discharge home or to GP care'

Patient survey

A survey was developed using previously administered surveys[3-4] asking patients: reasons for presenting to the ED; awareness of other local services; and perceptions of the suitability of other services to manage their health problem. Surveys were administered to patients (adults and children) at six trusts (eight EDs) across Y&H. The survey was compared with two previous studies conducted in 1997[3] and 2006[4] which included adult only patients. To ensure comparability patients under the age of 16 years were removed from our dataset for these analyses.

Staff interviews

Semi-structured interviews were conducted with ED and Urgent Care Centre staff working in the same six trusts included in the patient survey covering the following roles: ED consultant, ED doctor, ED nursing staff, ED manager, and General Practitioner (GP). An interview topic guide was developed, structured around four topics: job role; description of patients attending the ED and impact on demand; description of inappropriate attendance; current/future initiatives to deal with rising demand.

RESULTS

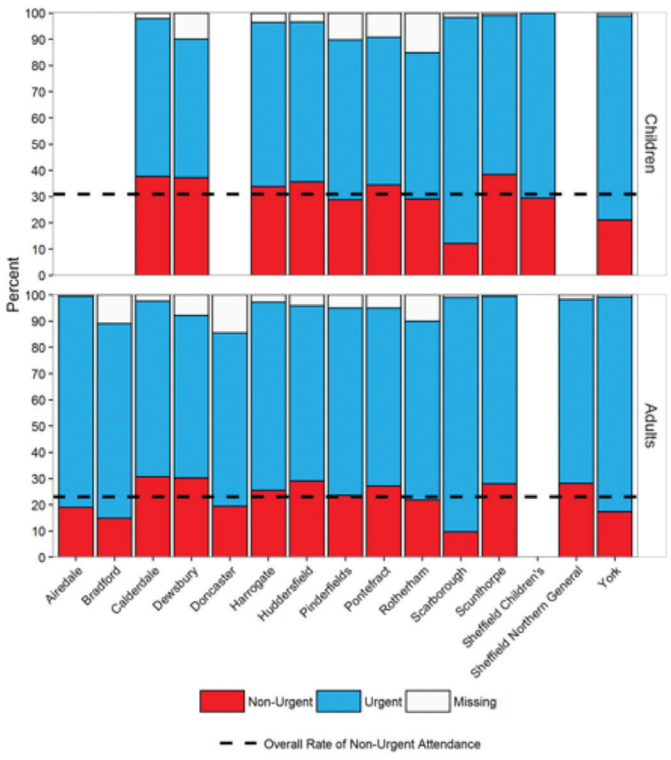
Routine ED data analysis

908,191 adult and 380,664 children's non-ambulance attendances were analysed.

The majority of adult patients were under the age of 45 years. Most patients were discharged from the ED after their episode of care, particularly so for children's attendances (60% adult and 71% children).

Overall rates of non-urgent attendances were 23% for adults and 31% for children. There was variation between EDs, ranging from 12% to 23% for children and 10% to 31% in adults (see figure 1).

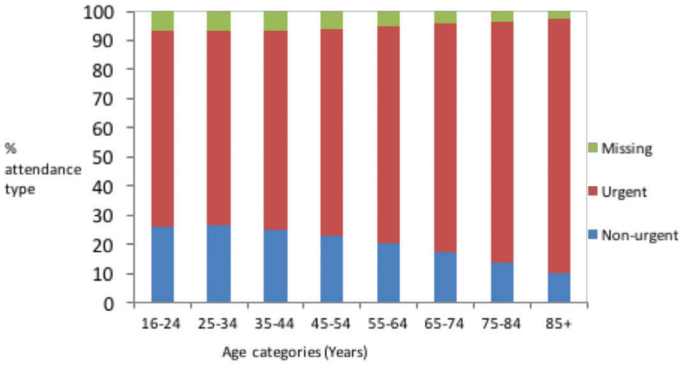
Figure 1. Non-Ambulance non-urgent attendances by ED



Results continued...
Patients attending with non-urgent problems spent the least total time of all patients attending the ED.

There was a clear relationship between age and non-urgent attendances, with decreasing rates of non-urgent attendances with increasing age (see figure 2).

Figure 2. Non-urgent attendances by age group



For all non-ambulance patients, the greatest number of attendances were in the in-hours period, with peaks in attendance around midday for adults and 18:00 hours for children across all days of the week. However, the proportion of attendances that were non-urgent peaked in the very late night / very early morning out-of-hours period across all days of the week.

Patient survey
486 surveys were completed across six trusts (8 EDs).

Compared with the previous two surveys, there has been a large increase in the number of patients reporting that another health professional had advised them to attend (31% in 1997 vs 50% in 2016). Increasing proportions of patients reported that their GP practice advised them to attend (12% in 1997, 21% in 2006 and 35% in 2016). Increases were also observed with regards to patients reporting an alternative urgent care provider (e.g. minor injuries units) advised them to attend (5% in 1997, 6% in 2006 and 18% in 2016).

Awareness of GP out-of-hours, NHS 111 and walk-in centres has increased since 2006 but the perceived appropriateness of these services to manage the urgent condition associated with the ED attendance has decreased or stayed the same.

Staff interviews
Interviews were carried out with 25 ED and Urgent Care Centre staff across six trusts.

Four themes emerged from the data:

1. Overview of demand for the ED
- Significant increase over time in terms of the number of patients attending the ED.
- The frail elderly and 'worried well' were perceived as having the greatest impact on demand.

2. Staff perspectives on why patients come to the ED
- People are more demanding of the healthcare system, particularly amongst younger generations.
- Patients regularly report difficulties getting GP appointments. Similar sentiments were expressed with regards to dentistry and mental health services.
- Alternative healthcare services refer patients on to the ED if they do not have capacity.

3. Impact of increasing demand on the ED
- Limited space within the ED to assess patients and lack of beds available on inpatient wards for ED staff to admit patients to has had a significant impact on flow through the ED.
- Difficulties experienced with regards to the recruitment and retention of staff.

4. Interventions designed to address increasing demand
- Upstream interventions (before the patient arrives at the ED): education for the public; training GPs so they are more confident in assessing and treating paediatric patients; empowering paramedics to make clinical decisions not to transport patients who could be dealt with in situ.
- In-house interventions (when the patient is in the ED): GP co-location; Patient streaming; ED hubs; Progress chasers.
- Downstream interventions (after the patient has left the ED): Fast response teams of nurses, physios and occupational therapists who conduct mobility assessments and facilitate patient discharge; Services to settle patients back home and to monitor and support them after an ED visit.

DISCUSSION

There are large numbers of patients coming to the ED with non-urgent problems that do not require the facilities of type 1 EDs*. These patients could be treated in other healthcare settings such as primary care, walk-in centres, pharmacy or through self-care. Proportionately more patients are attending out-of-hours with non-urgent problems, primarily because they choose to for convenience, they have been directed to the ED by another healthcare provider, they want immediate responses to their problem or they have been unable to access another source of care when they have tried. There seems an unwillingness or inability by patients to manage their own risk with increased concern that health problems are serious and a desire for rapid reassurance.

The increase in reported referrals by other healthcare providers suggests an unwillingness and inability to manage acute health problems and possibly to manage risk, thereby referring to the ED for care.

The changes demonstrated here could also be a reflection of a system under great strain. The fact that many providers are referring patients on to the ED, or patients themselves are reporting difficulties with accessing other services could reflect the fact that those alternatives to the ED are also under pressure making them difficult to access, causing 'overspill' into other services within the system.

Although there is increased awareness of other services that are available, there still appears to be confusion or reluctance to use these services. This could be due to difficulty accessing them, lack of knowledge about which clinical problems they will treat or being told to attend the ED by another healthcare provider.

There were a number of interventions suggested by our interviewees and, indeed many of these have an evidence base, but this is largely made up of small, non-comparative or poorly designed studies.

Limitations

Individual hospital coding systems are variable and sometimes inaccurate in relation to some fields. Efforts were made to standardise the data using recoding in conjunction with expert clinicians. It was however necessary to exclude some of the routine ED patient data received due to incompleteness or incorrect data.

We were unable to verify the nature of the patients contact with other healthcare providers. In some instances patients may have misinterpreted the advice given to them to attend the ED by health professionals, thereby overstating the role of the health professional. Further work would need to be undertaken to verify previous health professional contacts objectively.

Similarly, the staff interviews were qualitative and the data collected from them were perceptions of the issues involved. Assertions about demand and the possible factors impacting on it would also require further research.

Future research

Additional analysis outside the scope of this study is required to better understand variation in the non-urgent attendances identified in our analysis, to ascertain the impact of a range of possible factors, modifiable by services (capacity within existing services, new service models etc), and factors not modifiable by services (age, deprivation, presenting complaint). There is a need for future research to further understand drivers for demand, but more importantly to design and test interventions that can lead to improvements in the system that are acceptable to patients, do not lead to increased demand, are cost-effective and lead to more sustainable working environments.

For further information contact:
Professor Suzanne Mason. Email: s.mason@sheffield.ac.uk
Link to full report:
Please contact Suzanne Ablard. s.ablard@sheffield.ac.uk
for a copy of the full report

* Type 1 ED's are consultant-led, multi-specialty 24-hour services with full resuscitation facilities and designated accommodation for the reception of ED patients.

References:

1. Bruce Keogh. NHS England: Urgent care review 2014. https://www.england.nhs.uk/wp-content/uploads/2014/01/item11-board-0114.pdf (Accessed December 2015)
2. Lowry A, Kohler B, Nicholl J. Attendances at accident and emergency department: unnecessary or inappropriate? Journal of Public Health Medicine. 16;2:134-140.
3. Coleman P, Irons R, Nicholl J. Will alternative immediate care services reduce demands for non-urgent treatment at accident and emergency? Emergency Medicine Journal. 2001;18:6:482-487
4. Penson R, Coleman P, Mason S, Nicholl J. Why do patients with minor or moderate conditions that could be managed in other settings attend the emergency department? Emergency Medicine Journal. 2012;29:6:487-491

Authors:
Professor Suzanne Mason (Professor of Emergency Medicine), Colin O'Keeffe (Research Fellow), Richard Jacques (Research Fellow - Statistician), Melanie Rimmer (Research Associate), Suzanne Ablard (Research Assistant).

Acknowledgements:
This research report was produced from work undertaken from funding awarded to the Collaboration for Leadership in Applied Health Research and Care for Yorkshire and Humber CLAHRC YH: Avoiding Attendance and Admissions theme by the British Medical Association (BMA). The views expressed are those of the authors, and not necessarily those of the NHS, the NIHR or the Department of Health.

2 Background and aims

2.1. BACKGROUND

The increasing demand for care in the Emergency and Urgent Care system has been recognised as unsustainable in the long-term by an NHS England Review. A key part of the phase one review of NHS England was that the Emergency and Urgent Care system should be *"providing highly responsive Urgent Care services outside of hospital".*[2]

Previous literature reports wide variability on the percentage of walk-in patients to the ED amenable to treatment in Primary Care. A systematic review of evidence showed that inappropriate attendances may account for between 24 and 40% of presentations at EDs.[3] Furthermore, two previous studies conducted by the School of Health and Related Research (ScHARR) found that in 1997[4] 55% of patients presenting with minor and moderate conditions could be treated in healthcare settings other than the ED and this figure increased to 65% when the study was repeated in 2006.[5]

There is considerable interest from health practitioners and policymakers in understanding the characteristics of patient attendances with low acuity problems and the reasons why they choose to attend the ED. This will, in turn, assist the development of interventions to reduce such demand. Also, given the policy focus on improving the integration of services across a patient centred NHS,[6] understanding how the patient negotiates their way through the various Emergency and Urgent Care services and streamlining this journey is important in guiding ongoing development and innovation.

There is a fundamental lack of detailed empirical evidence about which patients use Emergency and Urgent Care services, when, why and how they use them. A critical first step to managing demand for Urgent and Emergency Care is to understand it: patient behaviour, numbers, trends, characteristics and the reasons why it is changing.

2.2. AIMS

The aims of the study were as follows:

1. To describe the demand for Emergency services through undertaking an analysis of one large region of the UK.
2. To identify the proportion of patients who could reasonably be managed in alternative healthcare settings.
3. To better understand patient reasons for attending Emergency and Urgent Care services.
4. To gain an understanding about Emergency and Urgent Care staff perspectives on why patients attend the ED.
5. To identify possible solutions to the challenges associated with rising demand.

2.3. OBJECTIVES

The objectives of the study were as follows:

1. Analyse routine ED patient data relating to Y&H for a one year period to describe:
   - Demand for EDs across the whole region
   - Changes in demand by patient demographics, geography, day of week, time of day and presenting medical conditions
   - Identify potentially unnecessary attendances at EDs
2. Use a previously validated patient survey to understand how decisions are made to attend Emergency and Urgent Care services including:
   - Patient awareness of, access to and use of other urgent care services locally
   - How referral and advice impacted on patient decision making
   - Levels of patient satisfaction with using Emergency and Urgent Care services for their health problems
3. Undertake brief interviews with a range of Emergency and Urgent Care staff in order to understand their perspective on:
   - The challenges presented by particular patient groups
   - Changes in demand presented by particular patient groups in recent years
   - How the problem of increasing demand for ED services could be better managed

3 Research design and methods

3.1. DESIGN AND SETTING

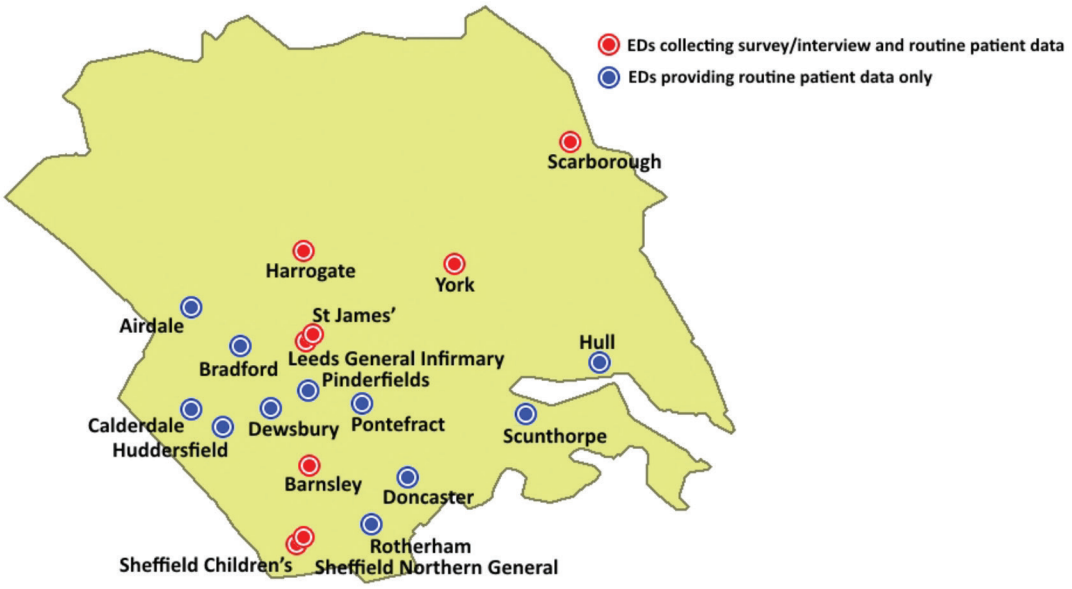
The study took place within a single geographical area (Y&H). This area represents 14 acute hospital trusts and includes 19 EDs (around 10% of EDs in England). It serves a population of 5.3 million and is a mixture of large urban, smaller urban, suburban and rural settings. In this respect we consider the setting to be generalizable to the whole UK population.

We used a combination of routine data collection, patient surveys and semi-structured interviews with Emergency and Urgent Care staff.

3.2. SITE SELECTION

We initially approached the lead consultant of all 19 EDs in Y&H for expressions of interest in participating in the study. We aimed to select sites to include a range of EDs and Urgent Care Services taking into account geography (urban and rural services), size of service, type of service offered (type 1 or type 3)[i] and inclusion of children's emergency services. All 19 EDs in the region were included in the study of routine patient ED data, and eight EDs (from six trusts) took part in the survey and interview studies (See figure 1 below).

Figure 1. Configuration of participating EDs across Yorkshire and Humber



[i] Type 1 EDs are consultant-led, multi-specialty 24-hour services with full resuscitation facilities and designated accommodation for the reception of ED patients. Type 2 EDs are consultant led single specialty services (e.g. dental) with designated accommodation for the reception of patients and Type 3 EDs are services which are either doctor or nurse led with the focus on minor illness and injury.

3.3. ROUTINE NHS ED PATIENT DATA ANALYSIS

3.3.1. DESIGN

A descriptive analysis was undertaken using anonymised routine ED NHS patient data sources. Information from all individual patient episodes (adult and children) presenting in the hospital setting from 19 EDs over a 12 month period was analysed. Ambulance arrival patients were removed from the dataset as these patients are sicker and much more likely to require investigations, treatment and hospital admission. The analysis focused on patients who were ambulatory and therefore eligible for our survey.

The analysis included 12 months of anonymised data for the year 2014 with selected indicators of ED service performance (i.e. total time spent in the ED, rates of admission, as well as % of unnecessary attendances to the ED) calculated for this period. These indicators are designed to identify key patterns and variation in service use.

3.3.2. INCLUDED PATIENTS

Data on individual acute patient episodes was collected from participating services. Participants were patients presenting to participating EDs during the 12 month period of the study (2014) who did not arrive by ambulance. The data was split into adults (>16 years) and children. We took an exploratory approach to the data in order to identify and understand the key groups of patients who are placing the greatest demand upon Emergency and Urgent Care systems in Y&H. An initial descriptive categorisation of the population and patient level datasets was undertaken as the first step in the analysis.

3.3.3. DATA COLLECTION

A 12 month period of data collection took place, to include the most recent service data available. A data contact in each individual acute trust was contacted by the researchers and arrangements made for the transfer of the relevant data extract to the study team. Relevant data items were detailed on a study proforma and included age, date of attendance, attendance category (either planned or first attendance), arrival mode, attendance disposal (including whether discharged, admitted or referred for follow-up), time of arrival and time discharged, clinical investigations, clinical treatments and diagnosis.

3.3.4. DATA MANAGEMENT

Data received from each ED was individually cleaned by a data manager and re-coding of original variables was undertaken in order to standardise the data across the individual EDs. Data was combined into a single standardised dataset ready for analysis. The standardised dataset included all ED episodes of care for 2014 in the Y&H region.

First time and follow up attendances (planned and unplanned)

Planned follow up attendances were identified using the existing coding within the ED datasets which flagged these attendances. Unplanned follow up attendances were not coded in the original ED datasets and were identified by the data manager as those attendances within seven days of a previous attendance which were not flagged as planned re-attendances.

Non-ambulance attendances

Attendances that were not transported to the ED by ambulance were identified via the arrival mode variable in the data and the appropriate attendances flagged.

Identification of unnecessary attendances

A validated definition of unnecessary attendance which was previously published by one of the study authors was adapted for this study.[7] As with the original definition, this was based on identifying non-ambulance patients who attended the ED (as a first attendance) but who did not receive investigations, treatment or referral that required the facilities of a type 1 ED. For the purposes of this definition all follow up attendances, whether planned or unplanned were considered necessary. The investigations and treatments included in the original definition were developed in consultation with ED clinicians from eight hospital trusts in England. This process based definition was then validated by comparison with the views of five general practitioners (GPs). The previously published definition was adapted for this study by the reclassification of a number of the investigations and treatments included in the original definition as unnecessary after consultation with an expert group in 2016, including ED clinicians and a GP. The rationale for this reclassification of selected processes was to include only those investigations and treatments agreed as not requiring the facilities of a fully staffed ED AND which could have been provided by a General Practitioner (GP) or in a primary care setting (see Table 1 below). This adapted definition re-classified the following investigations (refraction, orthoptic tests and computerised visual fields) and treatments (wound cleaning, wound closure, dressings and bandages and support) as necessary.

Table 1. List of investigations, treatments and disposal categories identifying unnecessary ED attendances.

INVESTIGATION
None
Urinalysis
Dental investigation
Pregnancy test
TREATMENT
Prescriptions
Guidance / advice only
Dental treatment
Recording vital signs
None
DISPOSAL
Discharged – following treatment to be provided by GP
Discharged – did not require any follow-up treatment
Left department before being treated

Our definition of unnecessary attendance was therefore developed as follows:

1. Not investigated in the ED (except by urinalysis, dental or pregnancy test)
2. Not treated in the ED (except by a prescription, dental, recording of vital signs or guidance or advice)
3. Discharged completely from care in the ED or referred to their GP

Thus the definition could be summarised as:

"First attendance with some recorded treatments or investigations all of which may have been reasonably provided by a GP, followed by discharge home or to GP care."

Cases recorded as either having no investigations and/or treatments in the ED or only receiving those included in our adapted definition were included as unnecessary. In addition a proportion of the treatment and investigation fields for the ED episodes were blank and it is not clear whether this denotes that no investigation or treatment took place or if the data is missing. If a treatment or investigation field was blank, but at least one other treatment or investigation code was completed, then this was interpreted as no treatment or investigation. However, where all the treatment and investigation variables have blank codes, unnecessary attendance is considered not known or 'missing'.

Patients who left before being seen have also been coded as unnecessary attenders. Irrespective of the presence or absence of treatment and investigation codes, patients who were referred to the ED or fracture clinics, were admitted, died in the ED, or left the ED having refused treatment were all classified as necessary attenders.

3.3.5. DATA ANALYSIS

A descriptive analysis was undertaken to measure three attendance types: 1) total attendances, 2) non-ambulance attendances, and 3) unnecessary attendances by non-ambulance patients. These three attendance types were also examined by variables hypothesized to influence them, as follows: Age at arrival; time of day and day of week. For the purposes of our study when analysing the impact of time of day we defined an in-hours period as 8am to 6pm Monday-Friday. An out-of-hours period was defined as 6pm to 8am Monday-Friday and all weekend (6pm Friday to 8am Monday).

3.4. PATIENT SURVEY

3.4.1. SAMPLING

Patients presenting to participating sites between May and June 2016 with low acuity problems were eligible for inclusion. Essentially these were patients who self-presented to services, although patients brought to an ED by ambulance were also eligible if they were subsequently triaged as a low acuity problem.

Patients were excluded if:

- They were unable to understand written English
- They lacked the capacity to consent, other than children (under 16 years old), when their parents or carers were approached for consent
- They had a serious injury requiring immediate resuscitation or treatment
- They were too distressed to participate in the research

3.4.2. PARTICIPANT RECRUITMENT

Patients were approached after initial triage in the waiting room of the included services on the specific sample days. Patients were invited to take part in the study and those who agreed were given the opportunity to read the information leaflet, ask any questions and given time to consider whether to participate. The initial approach to patients was made by two members of the research team.

3.4.3. DATA COLLECTION

As attendance rates and patient characteristics were expected to vary between sites, days of the week, and times of day, a pragmatic Latin Square[ii] was used to assign data collection periods for each site / service. This was intended to minimise bias introduced by over-sampling from certain sites, days, or time periods. Data was collected on all days of the week and at all times of day except for 24:00-08:00. This was a pragmatic decision because patient numbers and in particular lower acuity attendances are fewer in this period.[8]

The patient survey was composed of two parts. The first part of the survey was based upon an updated version of a similar survey administered in 1997 and 2006.[4-5] The second part of the survey was developed and modified based on a previous survey for service users of walk-in centres by Arain et al.[9] (For an example of the patient survey see Appendix 1)

Part A was completed before the patients received their definitive management. It asked patients to indicate their reasons for presenting to the relevant service, about their awareness of other local services and their perception of the suitability of the other services to manage their presenting health problem.

Part B was completed by patients after they received their treatment or consultation. This part asked patients questions regarding their encounter with the health service and their satisfaction with the care received.

The survey was piloted in two sites in Sheffield (an ED and a Minor Injury Unit) between March and April 2016 in order to test all aspects of the survey process, including recruitment of patients and administration of the questionnaire.

[ii] A latin square design is a method applied to randomly allocate data collection periods to ensure that all days of the week and hours of the day are covered to maximise the representativeness of the data collection periods.

Minor changes were made to the design of the survey to tailor it for individual service type, although the main changes arising from the pilot were in the processes for administering the second part of the survey as follows:

- The survey worked more effectively when Part A and Part B of the surveys were handed out separately only rather than together. Part A was handed out at the initial approach with instructions to fill in and return whilst waiting for treatment. Part B was handed out to participants after completion of Part A. This resulted in a much better response of Part A's returned.
- As a result of patient feedback on usability of the questionnaire separate child and adult questionnaires were created.
- The provision of pre-paid envelopes so that patients could complete and post back Part B to the research team after their episode of care was more effective than researchers tracking patients through their care process to complete on the day of care. This alternative improved the proportion of Part B's completed.
- Patients were asked to provide their contact details so that researchers could contact them to complete Part B up to 2 weeks after they had completed Part A. This was not written into the original research protocol and a major ethical amendment was successfully applied for through the Integrated Research Application System (IRAS). We received a favourable ethical opinion on 21st April 2016. Patients were also given the option to complete Part B online using our study website (http://www.paraed.group.shef.ac.uk/).

3.4.4. ANALYSIS

Three members of the research team coded the survey data and entered it into SPSS version 22 exactly as the data appeared in the surveys. A coding manual was developed to ensure consistency between the coders. A sample of data from each of the coders was checked by one member of the research team to ensure the coding manual had been applied correctly by all team members.

A descriptive analysis was undertaken to describe and classify the different reasons for patient attendance at the ED, and awareness of, access to and contact with other Emergency and Urgent Care services. All analyses were weighted so that age, gender and time period reflected that of the population of the study sites. Weights were calculated using our 2014 routine individual ED patient data.

Reasons given for attending the ED were categorised into 'strong', 'medium' and 'weak' based on a coding system developed by Coleman et al.[4] These categorisations were originally generated by three members of a panel (consisting of two non-clinical researchers and an emergency medicine registrar) who independently coded the reasons into 'strong', 'medium' or 'weak' according to whether the individual panel member felt the reason was likely to affect future health seeking behaviour. Differences between panel members were resolved through a group discussion.

Based on these categorisations if the patient had a strong reason for attending the ED, they would be unlikely to change their consulting behaviour in the future. Whereas reasons scored as medium and weak have higher potential for changing behaviour.

Further exploratory analysis of the survey data was undertaken in order to identify whether patient reasons for attending services had changed over time. This was done by comparing the current survey results with the two previous studies [4-5] using the same survey tool.

More formal analyses such as logistic regression was not appropriate considering the range of responses within the measures of reasons for attending the ED and awareness of other services in the questionnaire.

3.5. STAFF INTERVIEWS

3.5.1. SAMPLING

ED and Urgent Care Centre health professionals were subjectively selected by senior staff working at the study sites with a remit to select staff covering the following range of roles: ED consultant, ED doctor (all grades), Nurse (all grades), ED manager, and General Practitioner (GP).

We sought views of staff with experience of working in the ED lasting some months or years in order that we could capture views and ideas gathered over this period of time. With that in mind, we excluded staff with less than 3 months experience of working within Urgent and Emergency Care. Interviews were conducted between 25th April 2016 and 11th July 2016.

3.5.2. RECRUITMENT

The study was first introduced to potential interviewees by the Lead Consultant or another relevant health professional within their department. In one hospital site, a Research Nurse arranged the interviews on behalf of the research team. In five hospital trusts two members of the research team (SA and MR) arranged to visit the hospital site when the Lead Consultant was available. The Lead Consultant then identified potential interviewees from those working in the department on that day. During these visits the researchers made themselves available all day so that staff could be interviewed when it was convenient for them, so as not to disrupt staffing levels within the department. In another hospital trust, suitable interviewees were first contacted by the Lead Consultant and if they agreed to participate then they were followed up via direct e-mail by one member of the research team (SA). All interviewees were made aware that they could stop the interview at any time if clinical commitments arose. Prior to agreeing to participate in the study, potential interviewees were given an information sheet to read and given time to consider whether they would like to participate.

3.5.3. DATA COLLECTION

The interview topic guide developed for this study (see Appendix 2 for an example interview topic guide) was based on an adapted version of an interview guide developed by the NIHR CLAHRC YH:AAA theme study team, which included clinicians who are members of the AAA Theme Advisory Group. The guide was structured around four main topics:

1. Job role

Questions in this section briefly described the interviewee role in relation to service users only.

2. Description of patients attending the ED and impact on demand

These questions aimed to collect data on the cohort of patients that attended participating services, whether the types of patients attending services has changed over time and what impact these changes have had on demand.

3. Description of inappropriate attendance

To identify groups of patients that may be amenable to care away from the ED (e.g. primary care) and to explore some of the reasons why these patients attend the ED rather than alternative services.

4. Current / future initiatives to deal with rising demand

To identify initiatives already implemented within the ED / other Urgent Care Services to help deal with rising demand as well as seeking suggestions for future initiatives.

On 20th April 2014 the interview topic guide was piloted on an ED consultant working in Sheffield. Based on a suggestion made by the participant an additional question was added to the interview schedule which aimed to explore how changes in the wider healthcare system impacted on demand for the ED. Changes were also made to the layout of the interview schedule to make it easier to follow when conducting interviews.

The interviews were carried out by two researchers who are trained in interview techniques (SA and MR). Written, informed consent was obtained for all research participants before the interview started. The researcher / interviewer completed the consent procedure, explaining the study and making sure each person fully understood what they were agreeing to. All interviews were audio-recorded using an encrypted digital recorder and conducted in a private room at the participants place of work or over the telephone.

3.5.4. ANALYSIS

Data from the interviews was transcribed verbatim and analysed thematically. Framework Analysis was used to interpret the data. Framework analysis is a process for the analysis of qualitative data, such as interview data, which involves five distinct, though highly connected stages. [10] The five stages of Framework Analysis including familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation were followed in this study. NVivo software was used to help structure the analysis, with systematic efforts to check and refine developing categories of data.

Two of the researchers (SA and MR) developed a thematic framework which was used to analyse the qualitative interview data. Firstly, development of the framework involved both the researchers familiarising themselves with three interview transcripts and identifying the key themes arising from the data. Based on the key themes identified from the sample transcripts a draft version of the framework was developed. Next, the researchers independently coded three more interview transcripts using the draft framework and then met to check these codes for consistency. Where discrepancies existed between the coders these were discussed and agreed amendments were made to the framework. The rest of the interview transcripts were then coded using this framework. Once all of the interviews had been coded overarching themes were extracted from the data.

3.6. SYNTHESIS OF SURVEY, INTERVIEW AND ROUTINE DATA

The three different methods of data collection (quantitative routine data analysis, quantitative patient survey and qualitative staff interviews) were analysed separately in the first instance. We individually analysed each set of data as they were discrete pieces of work involving the collection of data from different sources (patients, staff and routine data systems) and therefore there were limitations to the degree to which the data could be synthesized. However, we used the survey and interview data to compare and contrast findings from patients and staff to provide potential explanations for any patterns emerging from the routine data analysis.

We were particularly interested in analysing those patients attending the ED with 'minor conditions' and why they chose the ED above other sources of care – both from the patient and staff perspective. Therefore, we did the following:

1. Evaluated any variation in attendance patterns by age and time period of arrival (in-hours vs out of hours) using our routine dataset and assessed the survey and interview data for possible patient and staff explanations for any observed patterns in the routine data. We hypothesized that the survey and interview data would assist in understanding the reasons driving public behaviour that is leading to increased demand for ED care.
2. Used the routine data to describe the process of care – especially focusing on important issues for patients such as time spent waiting in the ED. We looked at overall patterns both in and out of hours, and at variation by ED. Survey and interview data was used to provide insights into drivers of any patterns, and how variation in processes of care may influence decision making by patients.
3. Used a well validated 'formula' for describing patients attending the ED unnecessarily and described the overall picture and then the regional variation between ED's. We mapped these findings and the variation onto the survey findings which may explain what is driving some of the demand currently in EDs.

4. We compared the survey findings on reasons for attendance with the reasons identified in two previous studies (which had used the same survey tool) conducted in 1997[4] and 2006[5]. This helped us to understand whether patient perceptions, requirements and preferences are changing.
5. In addition to the above, the patient survey data and staff interview data were collected from the same sample of Emergency and Urgent Care services during the same time period and therefore this data was examined concurrently to explore overlapping themes. For example, the views of patients on why they present to services was compared with the perceptions of staff from the qualitative interviews around why certain patients present to the services such as the ED. In addition, issues such as patient contact with other services prior to contact with the ED was explored and compared in the questionnaire survey and staff interviews.
6. The findings from each of the study approaches were triangulated in order to generate some hypotheses that may explain what is driving the demand for care, what patient perceptions are about the need for ED care and therefore how the problem of rising demand might be managed in the future.

3.7. ETHICAL APPROVAL

A UK National Research Ethics committee (Proportionate Review Sub-committee of the Wales Rec 6) granted ethical approval (REC ref: 16/WA/0053) for the patient survey and staff interviews. Individual research governance approval was also obtained from each participating site.

Ethical (REC ref: 14/YH/1139 and CAG (CAG ref: 4/CAG/1015) approval was obtained for the routine data analysis.

4 Results

4.1. ROUTINE DATA ANALYSIS

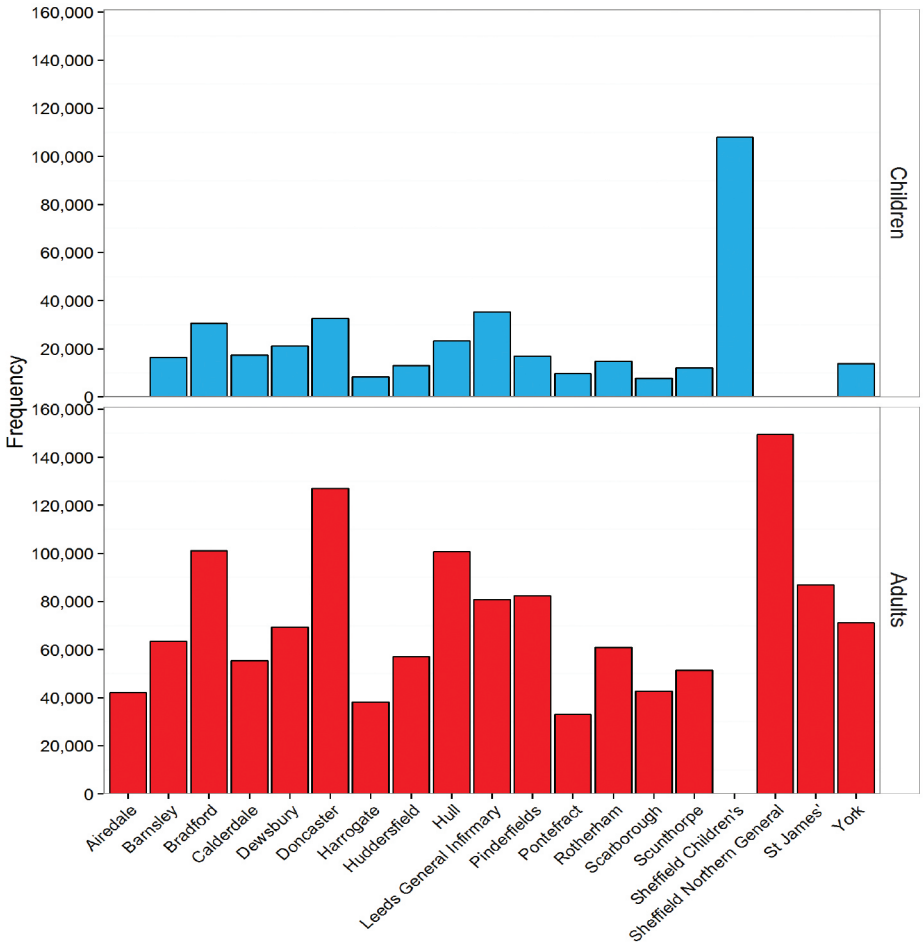
4.1.1. TOTAL ED ATTENDANCES

All 19 EDs provided routine ED data for the 12 month period.

Overall there were 1,693,203 attendances (1,312,539 adult attendances and 380,664 children's attendances).

Attendances by department are shown in Figure 2 (below), ranging from 33,060 to 149,522 for adults and 8,313 to 107,982 for children.

Figure 2. Total attendances by ED (adults and children)



Total ED attendances by age group

The age categories of total attendances (non-ambulance and ambulance) are shown in Table 2 below. Attendances for adults were characterised by a higher proportion of attendances within the younger age categories, with almost 50% of attendances in adults under the age of 45 years.

Table 2. Total ED (ambulance and non-ambulance) attendances by age group

CHILDREN		
Age Group	Frequency	Percent
0-2	118,747	31.2
3-5	77,684	20.4
6-10	87,173	22.9
11-15	97,060	25.5
Total	380,664	100.0
ADULTS		
Age Group	Frequency	Percent
16-24	234,013	17.8
25-34	229,980	17.5
35-44	181,377	13.8
45-54	180,453	13.7
55-64	135,374	10.3
65-74	126,527	9.6
75-84	130,911	10.0
85+	93,904	7.2
Total	1,312,539	100.0

The focus of this research is on patients who self-present ('walk-in patients') with low-acuity presentations to the ED (i.e. non-ambulance patients). In both the adult and children's patient groups these patients were the majority of all patient attendances (see Table 3 below).

Table 3. Total ED Attendances by Arrival Mode

	ADULTS		CHILDREN	
	Frequency	Percent	Frequency	Percent
Ambulance	404,348	30.8	40,221	10.6
Walk In	547,519	41.7	249,441 65	65.6
Other	244,920	18.7	57,377	15.1
Not Known	115,752	8.8	33,625	8.8
Total	1,312,539	100.0	380,664	100.0

4.1.2. NON-AMBULANCE ATTENDANCES

We subsequently excluded ambulance arrival patients from our analysis in order to focus the study on the experiences of patients attending the ED who were primarily ambulatory and fit to sit in the waiting room prior to being seen. There were 908,191 adult and 340,443 children's non-ambulance attendances included in the remaining analysis. Non-ambulance attendances ranged from between 24,032 to 104,532 (adults) and 7,442 to 99,049 (children) across all the sites included in the study.

Age

Within the group of non-ambulance attendances the majority of adult patients were under the age of 45 (530,655/908,191=58.4%).

Departure method

The majority of patients were discharged from the ED after their episode of care, particularly so for children's attendances (see Table 4 overleaf).

Table 4. Departure method

	ADULTS		CHILDREN	
	Frequency	Percent	Frequency	Percent
Discharged	540,385	59.5	242,461	71.2
Admitted	144,583	15.9	27,557	8.1
Referred /transferred to other Healthcare Provider	146,721	16.2	49,840	14.6
Died in Department	181	0.0	13	0.0
Left Before Treatment	34,938	3.8	5,905	1.7
Refused Treatment	4,486	0.5	575	0.2
Other - Not Specified	36,897	4.1	14,092	4.1
Total	908,191	100.0	340,443	100.0

Time of day

The majority of non-ambulance patients presented in the out-of-hours period for both adults (493,473/908,189=54.3%) and children's (198,621/340,442=58.3%) attendances (see Table 5 below).

Table 5. Non-ambulance attendances by time of day

	CHILDREN		ADULTS	
	N	%	N	%
Weekday In Hours (08:00-18:00)	141,821	41.7	414,716	45.7
Weekday Out-of-Hours (18:00-08:00)	79,739	23.4	191,665	21.1
Weekend Out-of-Hours (18:00 Friday – 08:00 Monday)	118,882	41.3	301,808	33.2
Total	340,442*	100.0	908,189*	100.0

*3 cases of missing data

4.1.3. UNNECESSARY ATTENDANCE

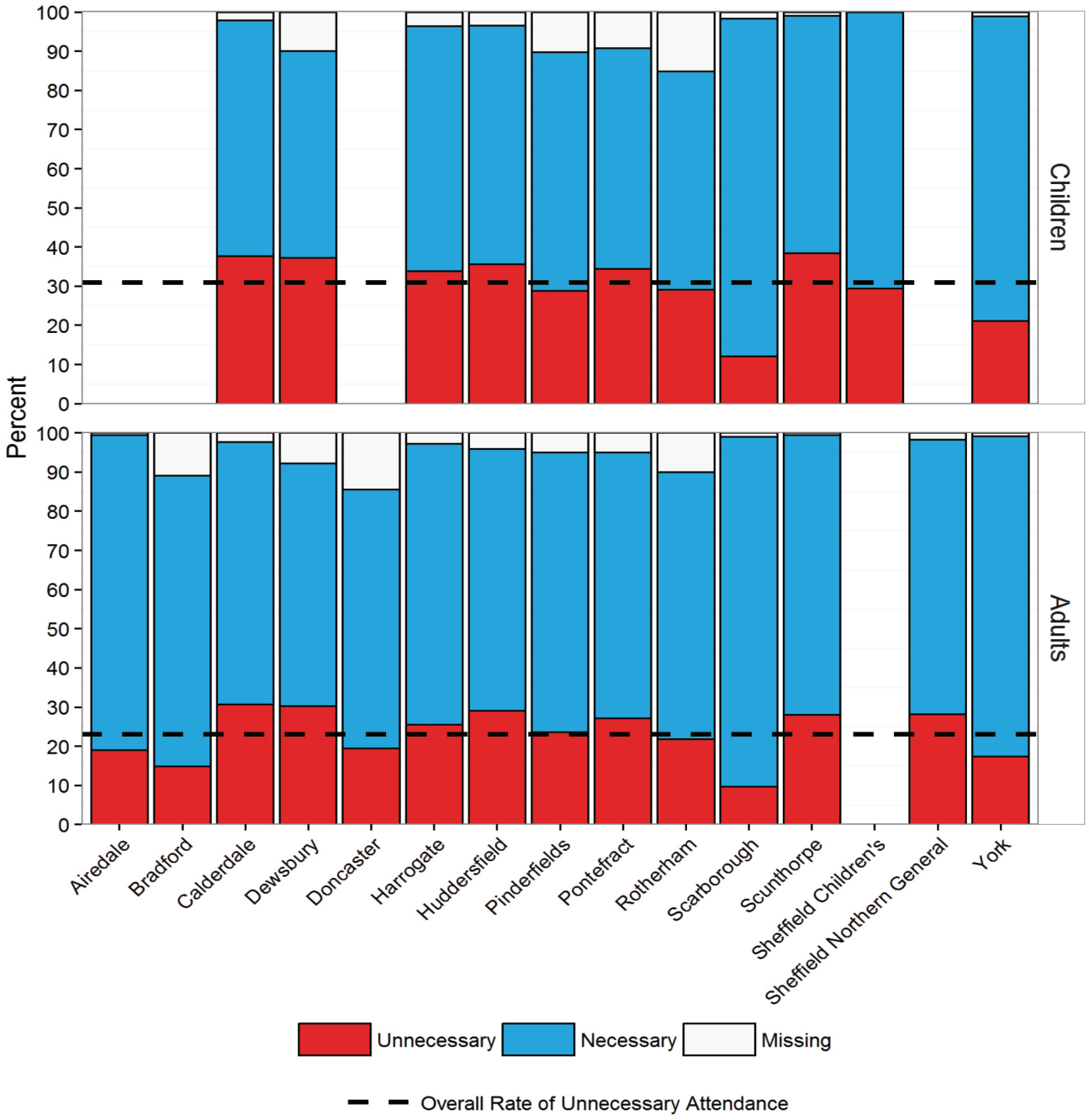
Calculating rate of unnecessary attendance

Initially unnecessary attendances were calculated for total attendances by participating ED. Some hospital trust data was characterised by a number of missing values within the treatment and investigations fields used to calculate unnecessary attendance rates. We excluded those EDs for whom greater than 15% of attendances could not be calculated as necessary or unnecessary attendances due to levels of missing data. Missing items mainly related to information that was not present regarding investigations or treatments received. As a result four EDs were excluded from the analysis (Barnsley, Hull, Leeds General and Leeds St James). We then calculated the unnecessary attendance rate for non-ambulance attendances.

Unnecessary attendance rates

After exclusion of missing data, this analysis included a total of 647,778/908,191 (71.3%) of the adult and 218,766/340,443 (64.3%) of the children's non-ambulance attendances. The overall rate of unnecessary attendance was 23% for adults and 30.8% for children. There was variation in the rates of unnecessary attendance between EDs, ranging from 12.0% to 38.4% for children and 9.7% to 30.6% in adults (see Figure 3 opposite).

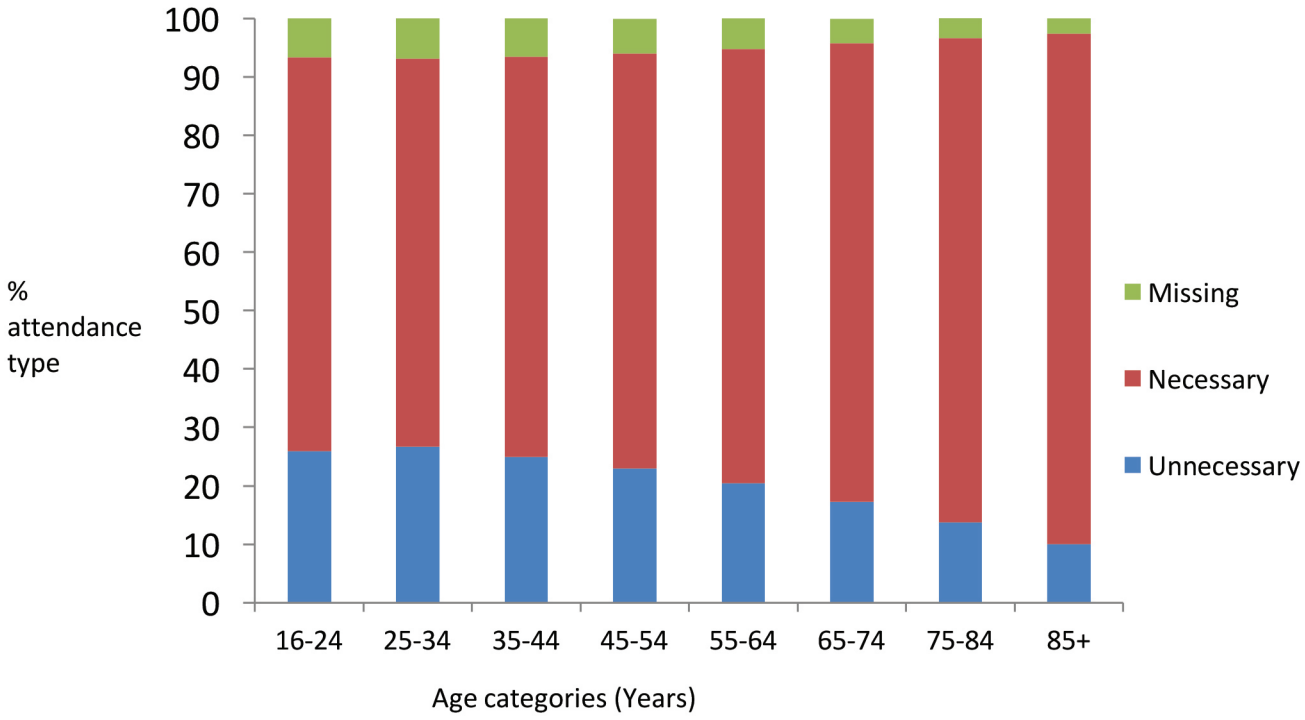
Figure 3. Non-Ambulance unnecessary attendance by ED



Unnecessary attendance by age group

There was a clear relationship between age and unnecessary attendance for both adults and children, with decreasing rates of unnecessary attendances with increasing age (see Figure 4).

Figure 4. Non-ambulance – Unnecessary attendance by age group



Unnecessary attendance by time period of arrival

For both adults and children a higher proportion of attendances were in the out-of-hours period compared to the in-hours period, with the highest proportions at the weekend after 6pm as shown in Table 6 below.

Table 6. Proportions of unnecessary and necessary attendances by time of day for adults and children

	ADULTS				CHILDREN			
	Unnecessary N (%)	Necessary N (%)	Missing N (%)	Total N (%)	Unnecessary N (%)	Necessary N (%)	Missing N (%)	Total N (%)
In Hours (Mon-Fri 8am-6pm)	63,868 (21.7)	214,380 (72.7)	16,691 (5.7)	294,939 (100.0)	25,842 (28.1)	62,760 (68.2)	3,433 (3.7)	92,035 (100.0)
Out Hours (Mon-Fri 6pm-8am)	33,064 (24.2)	95,190 (69.7)	8,295 (6.1)	136,549 (100.0)	16,294 (32.4)	32,419 (64.5)	1,582 (3.1)	50,295 (100.0)
Out of hours Weekend (8am-6pm)	27,151 (23.1)	82,639 (70.4)	7,614 (6.5)	117,404 (100.0)	12,777 (32.1)	25,446 (63.9)	1,602 (4.0)	39,825 (100.0)
Out Hours Weekend (6pm-8am)	24,970 (25.3)	68,047 (68.8)	5,869 (5.9)	98,886 (100.0)	12,473 (34.1)	23,119 (63.1)	1,019 (2.8)	36,611 (100.0)
Total	149,053 (23.0)	460,256 (71.1)	38,469 (5.9)	647,778 (100.0)	67,386 (30.8)	143,744 (65.7)	7,636 (3.5)	218,766 (100.0)

The average pattern of both all first time non-ambulance attendances and the percent which were unnecessary by day of week and time of day for adults is shown in Figures 5a and 5b below. The pattern of non-ambulance attendances showed the greatest numbers of attendances in the in hours period, with peaks in attendance around midday across all days of the week (see Figure 5a below). However, the proportion of attendances that were unnecessary peaked in the very late night /very early morning out of hours period across all days of the week (see Figure 5b below).

Figure 5a. Total number of non-ambulance attendances (adults)

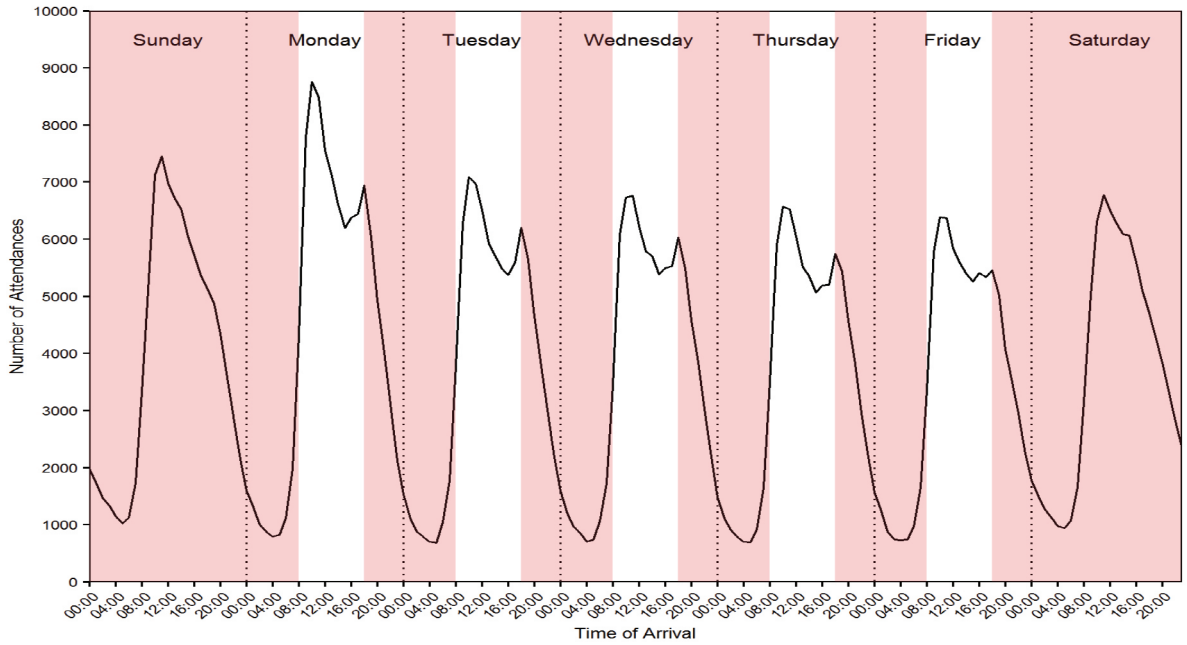
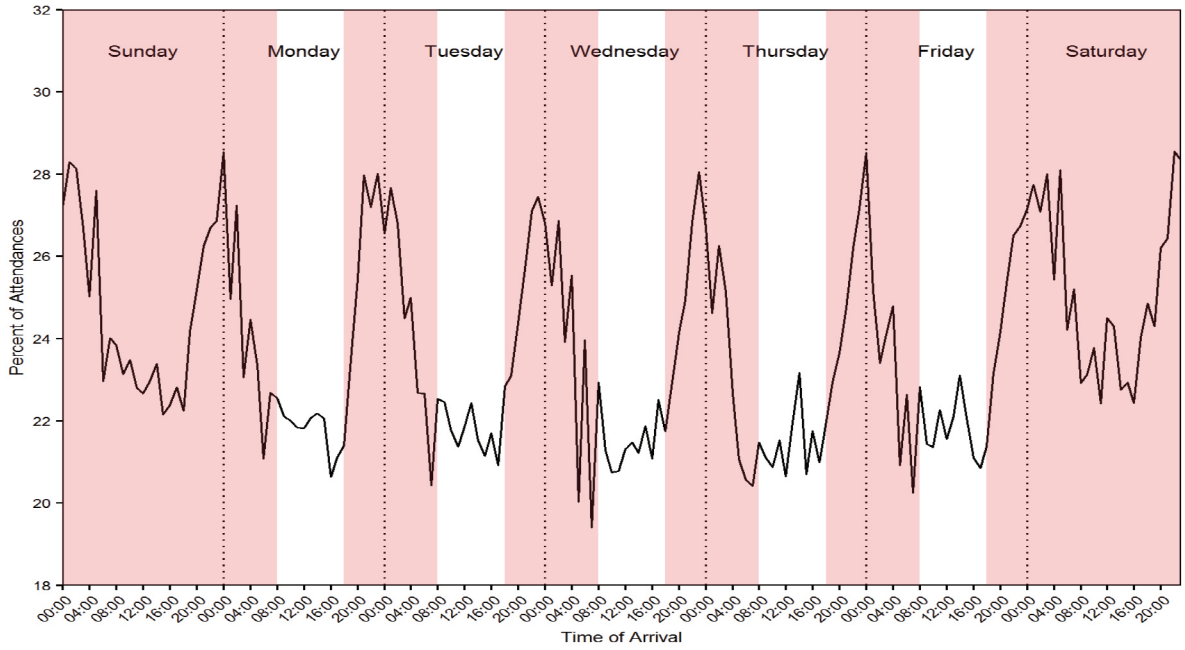


Figure 5b. Percent of attendances that were unnecessary (adults)



The average pattern of both all first time non-ambulance attendances and the percent which were unnecessary by day of week and time of day for children is shown in Figures 6a and 6b below. The pattern of non-ambulance attendances showed the greatest numbers of attendances in the in hours period, with peaks in attendance around 18:00 hours across all days of the week (see Figure 6a below). However, the proportion of attendances that were unnecessary peaked in the very late night /very early morning out of hours period across all days of the week (see Figure 6b below).

Figure 6a. Total number of non-ambulance attendances (children)

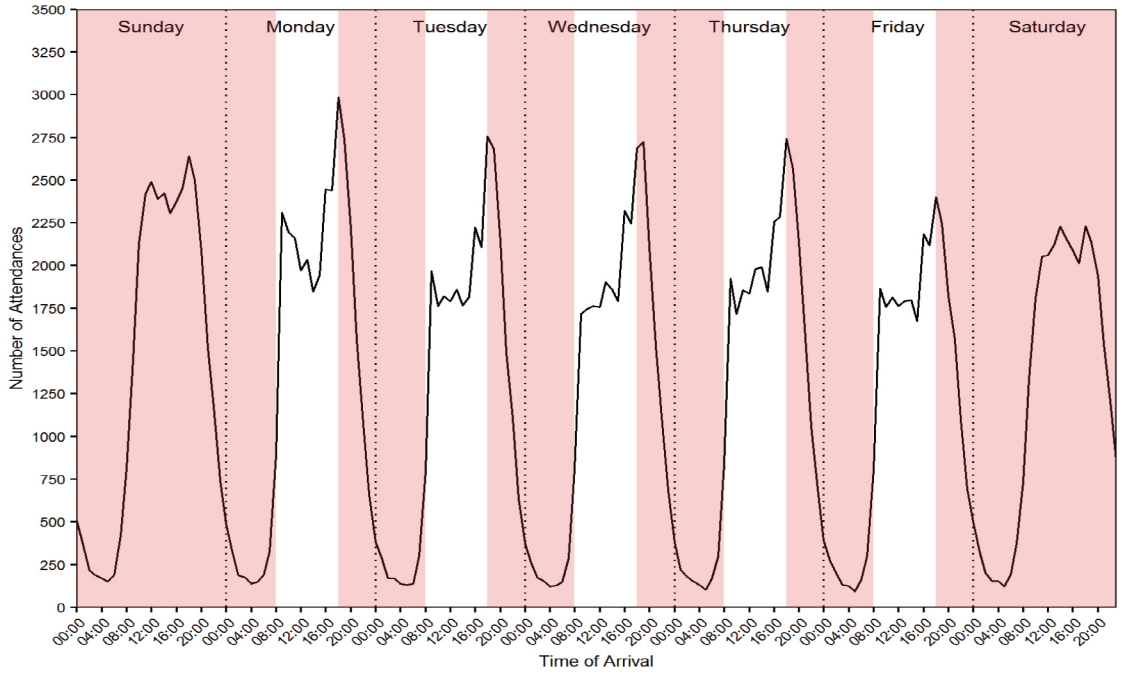
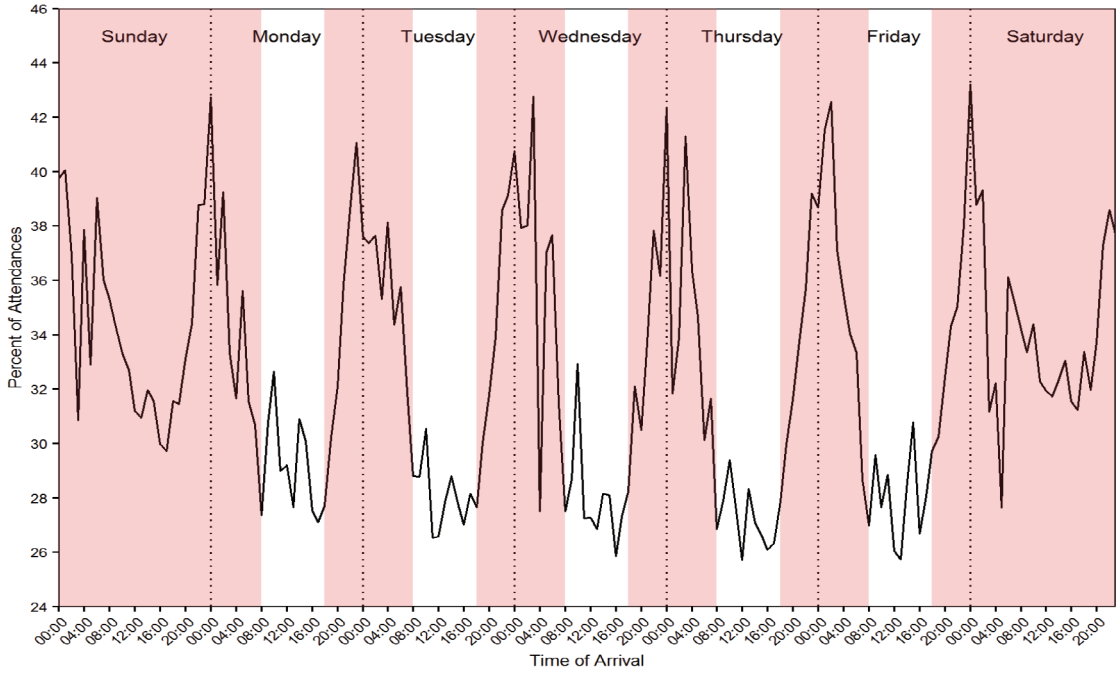


Figure 6b. Percent of attendances that were unnecessary (children)



Unnecessary attendance by season

The pattern of both all non-ambulance attendances for adults and the percent of these attendances that were unnecessary by month is shown in Figures 7a and 7b below. Non-ambulance attendances peaked in the summer months (see Figure 7a below). However, the proportion of attendances that were unnecessary peaked in late spring (see Figure 7b below).

Figure 7a. Total number of non-ambulance attendances (adults)

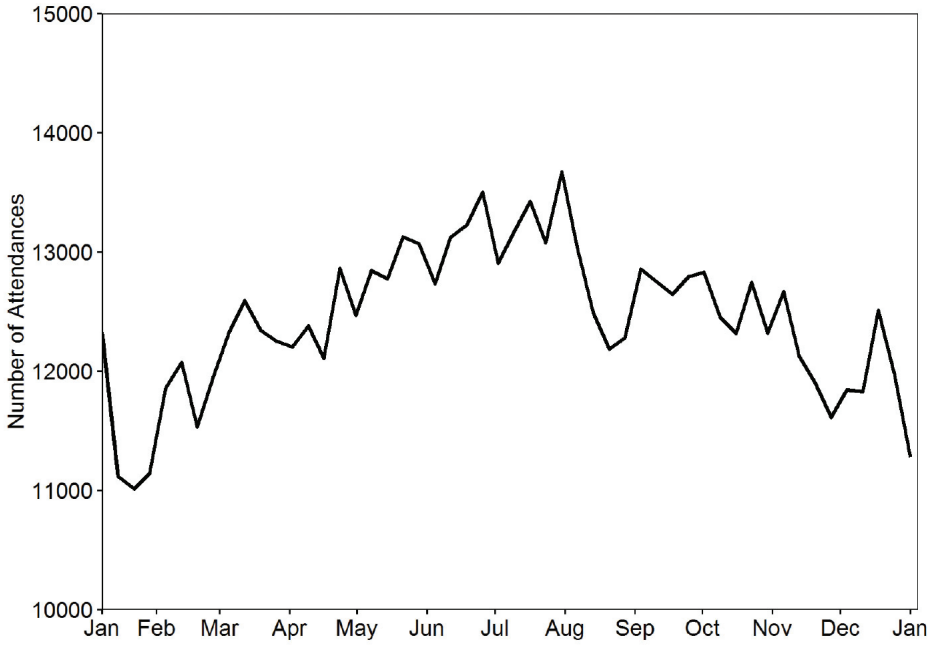
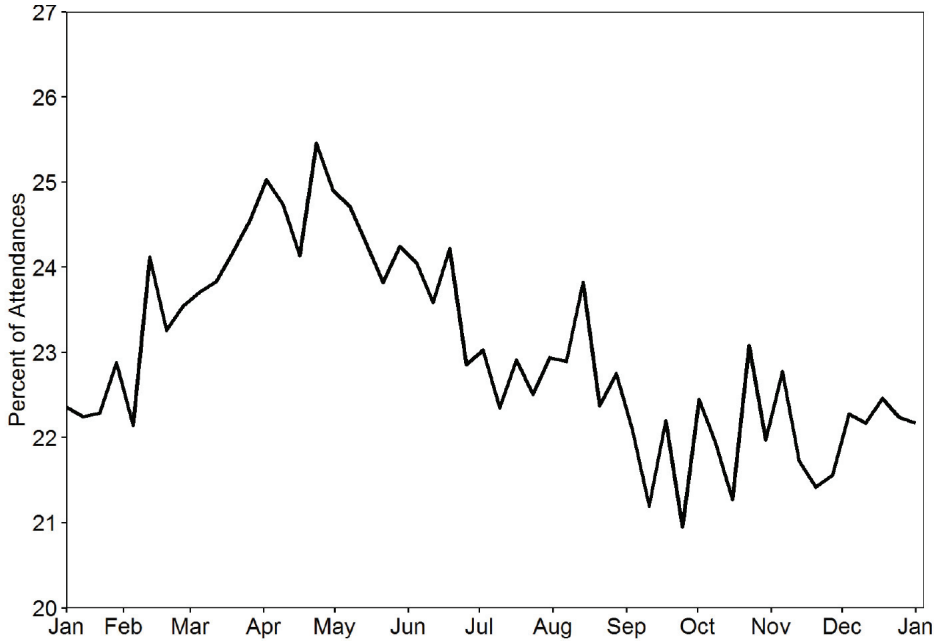


Figure 7b. Percent of attendances unnecessary (adults)



The pattern of both all non-ambulance attendances for children and the percent of these attendances that were unnecessary by month is shown in Figures 8a and 8b below. Non-ambulance attendances had a more variable pattern across the year than adults, which may reflect school holidays and seasonal illness (see Figure 8a below). The proportion of attendances that were unnecessary also showed variable pattern over the year (see Figure 8b below).

Figure 8a. Total non-ambulance attendances (children)

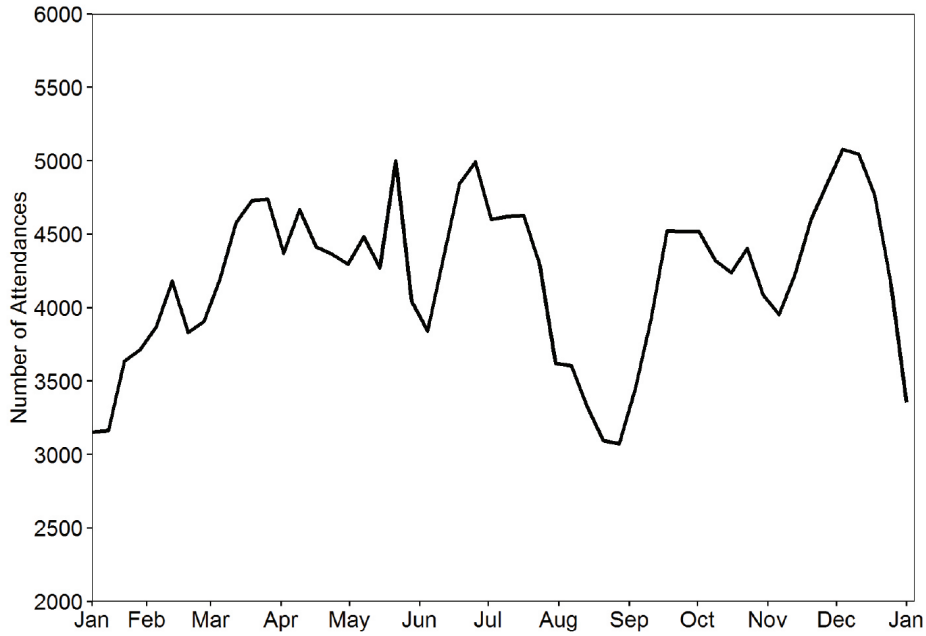
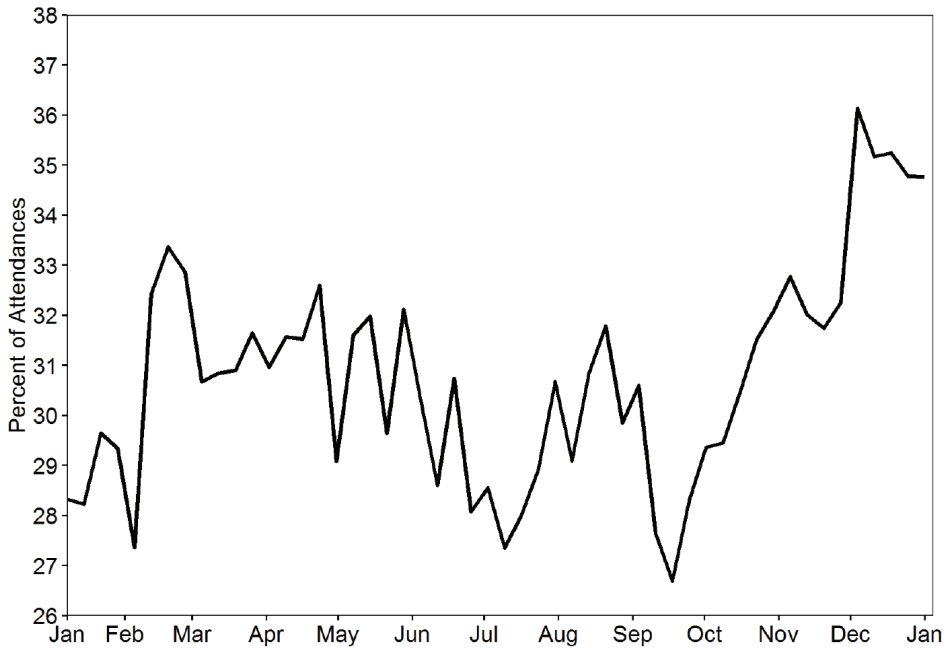


Figure 8b. Percent of attendances unnecessary (children)



4.1.4. TOTAL TIME SPENT IN DEPARTMENT

We calculated the total time spent in the department for all attendances, non-ambulance attendances and unnecessary attendances. The lowest mean and median total times in department were for the unnecessary attendances (see Table 7 below).

Table 7. Total time spent in department by attendance type

	ALL ATTENDANCES			NON-AMBULANCE			UNNECESSARY		
	N	Mean (SD)	Median (IQR)	N	Mean (SD)	Median (IQR)	N	Mean (SD)	Median (IQR)
Children	230,421*	107.9 (66.2)	96.0 (58.9 – 146.9)	207,707	105.3 (64.9)	93.9 (57.0 – 142.9)	63,123	94.3 (54.6)	84.9 (52.9 – 126.0)
Adults	827,226*	151.1 (102.9)	140.0 (79.0 – 207.0)	569,034	126.7 (83.5)	115.0 (64.0 – 178.0)	126,032	100.7 (64.3)	90.0 (49.0 – 142.0)

*Children analysis excludes Barnsley, Bradford, Doncaster, Hull, LGI and Scunthorpe

*Adult analysis excludes Barnsley, Bradford, Hull, LGI, Scunthorpe and Leeds

4.2. PATIENT SURVEY

4.2.1. PARTICIPATING SITES

A total of 9 of 14 Acute Trusts responded to the initial approach in Yorkshire and the Humber (Details of Trusts and Associated EDs in the region are included in Appendix 3). Six Trusts were included in the study based on the provision of a range of Emergency and Urgent Care services (ED, Minor Injuries and Urgent Care Centre) within them.

The surveys were administered by 2 researchers (SA and MR) from 16th May to 27th June 2016 (see Appendix 4 for details of sampling dates). Overall, 486 Part A surveys and 158 Part B surveys were collected (see Table 8 for a breakdown of the six trusts included and the number of surveys collected within each one).

Table 8. Completed surveys according to site

TRUST SITES	SERVICE TYPE	N PART A'S COLLECTED	N PART B'S COLLECTED
Sheffield (Adults)	Type 1 ED	100	39
Harrogate	Type 1 ED	34	15
York	Type 1 ED	36	10
	Type 1 ED	8	4
Barnsley	Type 1 ED	75	29
Leeds	Type 1 ED	77	13
	Type 1 ED (children)	37	17
	Type 1 ED	35	15
Sheffield Children's	Type 1 ED	84	16
	Total	**486**	**158**

4.2.2. DESCRIPTION OF THE SAMPLE

Table 9 shows the demographics of the study sample. In cases where N is less than the figures quoted above, this is as a result of missing weights or missing data from partially completed questionnaires.

As shown in Table 9 (below), over 80% of patients were under the age of 45 years (with a mean age of 27 years).

There were slightly fewer women than men (42.7% vs 57.3%). The majority of patients were white and were employed. Approximately 60% of our sample was recruited during the in-hours period. Almost 50% of patients reported their overall health as being 'good' and a quarter of patients reported that it was 'excellent'. In terms of presenting complaint, more patients in our sample presented with an injury compared to an illness.

Table 9. Description of the sample

AGE (IN YEARS)	N = 439 (%)
0-15	124 (28.1)
16-24	94 (21.5)
25-34	77 (17.6)
35-44	78 (17.9)
45-54	34 (7.8)
55-64	11 (2.6)
65-74	12 (2.6)
75-84	7 (1.7)
85+	**1 (0.3)**
GENDER	**N = 439 (%)**
Male	252 (57.3)
Female	188 (42.7)
EMPLOYMENT STATUS	**N = 425 (%)**
Employed	283 (66.6)
Student	42 (9.8)
Unemployed	62 (14.5)
Other	38 (9)
ETHNIC GROUP	**N = 427 (%)**
White	371 (87.1)
Mixed / multiple ethnic groups	11 (2.5)
Asian / Asian British	29 (6.9)
Black / African / Caribbean / Black British	9 (2.0)
Any other ethnic group	7 (1.5)
SELF-REPORTED RATING OF OVERALL HEALTH	**N = 430 (%)**
Excellent	114 (26.5)
Good	212 (49.3)
Fair	71 (16.6)
Poor	24 (5.6)
Very poor	9 (2.0)
HEALTH PROBLEM THAT BROUGHT THE PATIENT TO THE ED	**N = 422 (%)**
Illness	156 (37.0)
Injury	266 (63.0)
ARRIVAL TIME	**N = 439 (%)**
In-hours (08:00-18:00)	267 (60.7)
Out-of-hours (18:00-08:00)	172 (39.3)

Over 60% of patients travelled to the ED by car and the self-reported mean travel time (regardless of mode of arrival) was 24.5 minutes. Over half of the problems experienced by patients occurred at home (see Table 10 below). Almost half of the patients sampled attended the ED on the same day the health problem occurred but over 30% waited more than one day before attending the ED.

Table 10. Place of incident

PLACE OF INCIDENT	N = 435 (%)
Home	229 (52.7)
Work or school	102 (23.6)
Public place	68 (15.6)
Other	35 (8.1)

4.2.3. RESULTS FROM PART A OF THE SURVEY

Previous health professional advice

51.5% of patients self-reported that a health professional had advised them to attend the ED. Of those patients, over one-third reported that a GP practice had advised them to attend (see Table 11 below).

Table 11. Alternative services which advised the patient to attend the ED

		N = 209 (%)
GP Practice	- My GP or other doctor at my GP practice - The receptionist at my GP practice - The nurse at my GP practice	79 (38.0)
NHS 111	- NHS 111	43 (20.6)
Other urgent care	- MIU - Walk-in centre - Urgent Care Centre - Ambulance staff -A&E	42 (19.9)
Other Healthcare Provider	- A doctor not at my GP practice - Nurse or first aider at work - Social services - Pharmacist / chemist - Dentist - Other	57 (27.2)

(There were 3 people who said that a health professional had not advised them to attend but then proceeded to make a response in the second part of the question which asked them who they had contacted. These patients were removed from the analysis and are not reported in table 11)

Awareness of how to access alternative urgent care services

The proportion of patients who reported that they are aware of how to access alternative urgent care services ranged from 28.9% (Urgent Care Centre) through to 89% (NHS 111).

The proportion of patients who perceived that the advice and treatment they received from ED could have been provided by an alternative urgent care service ranged from 21% (out-of-hours GP) to 37.9% (Minor Injuries Unit) (see Table 12 below).

Table 12. Awareness of alternative urgent care services and perceived appropriateness

	Awareness N (%)	Appropriateness N (%)
OUT-OF-HOURS GP		
Yes	292 (67.8)	89 (21.0)
No	73 (16.9)	227 (53.4)
Don't know	53 (12.3)	101 (23.9)
I don't think this is available in my area	13 (3.0)	7 (1.7)
Total	**431 (100)**	**424 (100)**
NHS 111		
Yes	379 (89.0)	93 (22.0)
No	23 (5.4)	250 (59.4)
Don't know	23 (5.5)	74 (17.6)
I don't think this is available in my area	0 (0)	4 (0.9)
Total	**426 (100)**	**420 (100)**
MINOR INJURIES UNIT		
Yes	219 (52.2)	158 (37.9)
No	112 (26.8)	139 (33.4)
Don't know	73 (17.3)	112 (26.9)
I don't think this is available in my area	15 (3.7)	7 (1.7)
Total	**419 (100)**	**416 (100)**
WALK-IN CENTRE		
Yes	317 (74.3)	130 (30.8)
No	52 (12.3)	180 (42.7)
Don't know	40 (9.3)	103 (24.5)
I don't think this is available in my area	18 (4.1)	8 (2.0)
Total	**426 (100)**	**421 (100)**
URGENT CARE CENTRE		
Yes	120 (28.9)	100 (24.3)
No	165 (39.9)	108 (26.2)
Don't know	95 (23.0)	189 (45.7)
I don't think this is available in my area	34 (8.2)	16 (3.9)
Total	**414 (100)**	**414 (100)**

Reasons for attendance at the ED

As part of the survey patients were provided with examples of reasons why people attend the ED and they were asked to self-select all of the reasons they felt applied to them. The most common reasons for attendance were; 'I was advised to attend by someone else' (44.9%) and 'I thought I needed an x-ray' (28.6%). The least cited reason was 'I didn't want to bother my GP' (See Table 13 opposite).

Table 13. Self-reported reasons for attending the ED

Reason	N (%)	Strength of reason
AVAILABILITY OF OTHER SERVICES		
I don't have a GP	9 (2.1)	Medium
My GP was not available	47 (11.0)	Medium
Nowhere else has 24 hour open access	38 (8.9)	Weak
AWARENESS OF OTHER SERVICES		
I don't know where else to go	30 (7.1)	Weak
I am not aware of other services	29 (6.7)	Weak
I don't know what other services are open	19 (4.4)	Weak
I don't know if my GP is available	11 (2.5)	Weak
PATIENT PREFERENCES		
I didn't want to see my GP	6 (1.4)	Medium
I can't always see the GP I would like	14 (3.3)	Medium
I don't want to bother my GP	0 (0)	Medium
I wanted to see a nurse practitioner	15 (3.5)	Medium
POSITIVE EXPERIENCES OF THE ED		
I've used the ED before and was happy	65 (15.1)	Strong
I'm confident in the ED system	56 (13.0)	Strong
PROCESSES AND PATIENT'S TIME		
My GP would refer me here anyway	53 (12.5)	Medium
I would have to wait for a GP appointment	52 (12.2)	Medium
I think I will be seen quicker here	21 (4.8)	Medium
CONVENIENCE OF ACCESS		
The ED is nearer than any other service	22 (5.1)	Medium
It's easier to get to than any other service	12 (2.9)	Medium
PERCEPTIONS OF SERIOUSNESS		
I wanted to see a specialist	26 (6)	Strong
I consider the condition to be an emergency	80 (18.7)	Strong
I wanted to see a doctor ASAP	84 (19.6)	Strong
I thought I might need to go into hospital	41 (9.5)	Strong
I don't know whether it is broken or not	**85 (19.8)**	Strong
SEEKING REASSURANCE		
I need reassuring that it is not serious	87 (20.4)	Medium
I wanted a second opinion	29 (6.9)	Medium
OTHER DIRECTED		
I was advised to attend by someone else	192 (44.9)	Strong
SEEKING PARTICULAR SERVICES		
I thought I may need an x-ray	122 (28.6)	Strong
I thought I might need a tetanus injection	17 (4.0)	Medium
I thought I might need a blood test	24 (5.6)	Medium
I thought I needed wound treatment	46 (10.7)	Medium
OTHER		
Other	56 (13.0)	

Applying the same criteria used in two previous studies,[4-5] each reason for attendance was categorised into ''strong'', ''medium'' and ''weak" (See Table 13 above). As shown in table 14, 65.1% of patients reported at least one strong reason for attendance at the ED. This suggests that the majority of patients, if provided with information about alternative urgent care services that they could have attended during this episode, would be unlikely to change their health seeking behaviour in the future if they experience a similar health problem.

Table 14. Strength of reason for attendance at the ED

STRENGTH OF REASON	N= 408 (%)
Weak	9 (2.3)
Medium	133 (32.6)
Strong	266 (65.1)

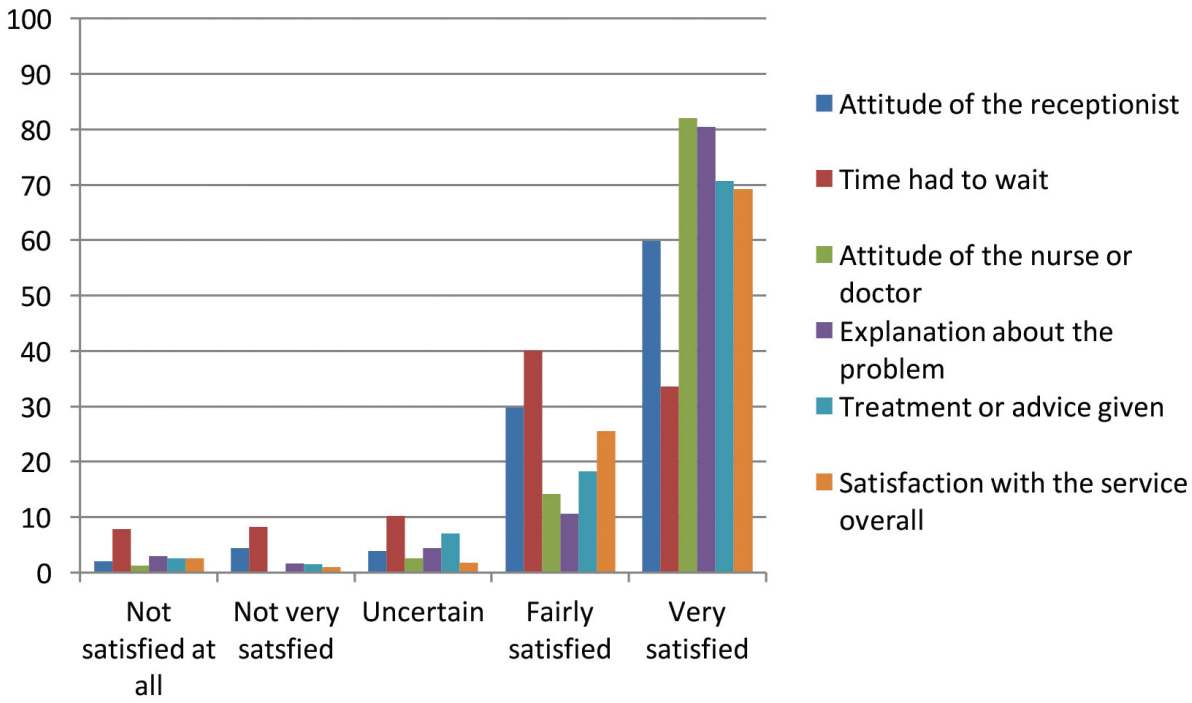
4.2.4. RESULTS FROM PART B OF THE SURVEY

A total of 158 people completed or part-completed Part B of the survey.

Satisfaction with the service and future health seeking behaviour

Patients were asked a series of questions about how satisfied they were with the service they received (See Figure 9 below). Patients were most satisfied with the ''attitude of the nurse and doctor'' (82% - very satisfied) and ''the explanation they received about the problem'' (80.4% - very satisfied). They were least satisfied about the ''time they had to wait to be seen by someone who treated them'' (33.6% - very satisfied). Satisfaction with the service overall was high (69.2% - very satisfied). Furthermore, 65.7% reported that they would use the ED again if they had the same or similar problem in the future.

Figure 9. Satisfaction with the ED



Treatment outcomes

Table 15 shows the patient self-reported treatment outcomes. The majority of patients were sent home (54.2%) and/or given information (41.4%) with only a small number of patients being admitted to a ward (7.2%).

Table 15. Patient self-reported treatment outcomes

TREATMENT OUTCOME	N= 129 (%)
Sent home	70 (54.2)
Given information	53 (41.4)
X-ray or scan was taken	50 (38.7)
Given treatment other than medication	28 (21.6)
Given medication	23 (17.9)
Blood samples taken	23 (17.7)
Other	23 (17.7)
Given a prescription	14 (10.8)
ECG was done	14 (10.6)
Asked to come back to A&E	11 (8.6)
Admitted to a ward	9 (7.2)
Referred to a GP surgery	9 (7.0)
Referred to other healthcare provider	7 (5.7)
Referred to the psychiatric team	3 (2.1)
Referred to the alcohol liaison team	2 (1.8)
Referred to social care	0 (0)

4.2.5. COMPARISONS ACROSS TIME

Data from the current study was compared with the results from two previous studies utilising the same survey tool.[4-5] However, there are a number of differences between our study and the previous studies which need highlighting:

- The sample recruited in the two previous studies was based on patients aged 14 years and over whereas the current study included children (under 16 years) and adult patients. To ensure comparability between the current study and the two previous studies, all patients under the age of 14 years were removed from our dataset before any analyses comparing the current survey with the two previous studies was undertaken.
- The two previous studies were conducted in a single type 1 urban ED whereas the current study included multiple sites, both urban and rural
- The two previous studies included a notes review of patients sampled as well as collecting survey data whereas the current study only collected survey data

Description of the sample

Table 16 compares the demographic profile of our study with the two previous surveys conducted in 1997 and 2006. The samples were broadly similar in the distribution of demographic variables with some differences apparent in the age of patients in 2006, gender in 1997 and self-reported health status in 2016.

Table 16. Comparison of sample across years

	1997	2006	2016
Age	**N = 255 (%)**	**N = 262 (%)**	**N = 321 (%)**
14-34	150 (58.8)	108 (41.2)	177 (55.1)
35-55	85 (33.3)	77 (29.4)	114 (35.4)
55 and over	20 (7.8)	77 (29.4)	30 (9.5)
Gender	**N = 255 (%)**	**N = 261 (%)**	**N = 321 (%)**
Male	173 (67.8)	140 (53.6)	164 (51.0)
Female	82 (32.2)	121 (46.4)	157 (49.0)
Employment status	**N=255 (%)**	**N = 226 (%)**	**N = 312 (%)**
Yes	184 (72.2)	152 (67.3)	207 (66.3)
No	71 (27.8)	74 (32.7)	105 (33.7)
Health status	**N = 251 (%)**	**N = 258 (%)**	**N = 316 (%)**
Excellent	59 (23.5)	65 (25.2)	47 (15.0)
Good	159 (63.3)	135 (52.3)	175 (55.6)
Fair	30 (12.0)	46 (17.8)	61 (19.5)
Poor	3 (1.2)	12 (4.7)	23 (7.1)
Very poor	0 (0)	0 (0)	9 (2.8)

Previous health professional advice

There has been an increase in the number of patients self-reporting that a health professional advised them to attend the ED over the last 19 years (rising from 31% in 1997 to 50.1% in 2016).

In terms of which health professional advised the patient to attend, the number of patients self-reporting that their GP practice advised them to attend rose from 12% in 1997 to 35.2% in 2016. There has also been an increase in the number of people self-reporting that other urgent care services such as Minor Injuries Units (MIU) and Walk-in centres advised them to attend the ED (5.3% in 1997 vs 18.2% in 2016). Fewer people over time reported that a nurse or first aider at work advised them to attend (37.3% in 1997 vs 1.3% in 2016) (See table 17 below).

Table 17. Alternative health services which advised the patient to attend

		1997 N=75 (%)	2006 N=47 (%)	2016 N=159 (%)
GP Practice	- My GP or other doctor at my GP practice - The receptionist at my GP practice - The nurse at my GP practice	9 (12)	10 (21.3)	56 (35.2)
NHS 111	- NHS 111	0 (0)	10 (21.3)	33 (21)
Other urgent care	- MIU - Walk-in centre - Urgent Care Centre - Ambulance staff - A&E	4 (5.3)	3 (6.3)	29 (18.2)
Nurse or first aider at work	- Nurse or first aider at work	28 (37.3)	5 (10.6)	2(1.3)
Other Healthcare Provider	- A doctor not at my GP practice - Nurse or first aider at work - Social services - Pharmacist / chemist - Dentist - Other	34 (45.3)	19 (40.4)	39 (24.5)

Reasons for attendance at the ED

Table 18 shows some of the key changes observed over the last 19 years with regards to patient reasons for attendance.

There has been a reduction in the number of people reporting that the reason why they have attended the ED is because ''nowhere else has 24 hour open access.''. There was also a reduction in the number of people reporting that they don't know about alternative services and how to access them. Positive experiences of the ED have also declined since 1997. The number of people who reported that they "wanted to see a doctor as soon as possible" has remained high over the last 19 years. However, the number of people who reported that they were "advised to attend the ED by someone else" has increased. People now also have a greater sense of urgency regarding their condition compared to previous years with 18.5% of people in 2016 reporting that they "considered their condition to be an emergency" compared with only 11% in 1997.

Table 18. Self-reported reasons for attending the ED

Reason	1997 N = 255 (%)	2006 N = 254 (%)	2016 N = 313 (%)
AVAILABILITY OF OTHER SERVICES			
I don't have a GP	7 (2.7)	5 (2.0)	9 (2.8)
My GP was not available	12 (4.7)	43 (16.9)	36 (11.6)
Nowhere else has 24 hour open access	77 (30.2)	63 (24.8)	35 (11.2)
AWARENESS OF OTHER SERVICES			
I don't know if my GP was available	20 (7.8)	12 (4.7)	10 (3.3)
I don't know where else to go	38 (14.8)	38 (15.0)	24 (7.6)
I am not aware of any other services	42 (16.5)	31 (12.2)	21 (6.7)
I don't know what other services are open at this time	59 (23.1)	42 (16.5)	18 (5.9)
POSITIVE EXPERIENCES OF THE ED			
I've used A&E before and was happy with it	98 (38.4)	59 (23.3)	46 (14.8)
I'm confident in the A&E system	81 (31.8)	73 (28.9)	42 (13.5)
OTHER DIRECTED			
I was advised to come to A&E by someone else	109 (42.7)	97 (38.2)	151 (48.3)
PERCEPTIONS OF SERIOUSNESS			
I wanted to see a doctor as soon as possible	60 (23.5)	86 (33.9)	73 (23.5)
I consider the condition to be an emergency	28 (11.0)	30 (11.9)	58 (18.5)

As shown in table 19, there has been a large decrease in the number of patients reporting at least one ''strong'' reason for attendance at the ED.

Table 19. Strength of reason for attendance at the ED

Strength of reason	1997 N = 250 (%)	2006 N = 243 (%)	2016 N = 301 (%)
Weak	3 (1.2)	8 (3.3)	6 (1.9)
Medium	14 (5.6)	36 (14.8)	103 (34.4)
Strong	233 (93.2)	199 (81.9)	192 (59.7)

Awareness of how to access alternative urgent care services

There was no available data from 1997 with regards to awareness of alternative urgent care services. Therefore, the comparison with our study is based on 2006 data only.

Awareness of GP out-of-hours, NHS 111/NHS Direct and walk-in centres has increased since 2006 but awareness of minor injuries units has slightly decreased. In terms of the perceived appropriateness of these services for the patient's condition, in most instances this has either stayed the same or decreased since 2006 (see Table 20 below).

Table 20. Awareness of alternative Urgent Care Services and perceived appropriateness

Response	Awareness		Appropriateness	
	2006 N (%)	2016 N (%)	2006 N (%)	2016 N (%)
GP out-of-hours				
Yes	132 (51.6)	201 (63.8)	48 (19.9)	70 (22.4)
No	96 (37.5)	62 (19.8)	109 (45.2)	158 (50.3)
Don't know	28 (10.9)	39 (12.5)	84 (34.9)	79 (25.2)
I don't think this is available in my area*	-	12 (3.8)	-	7 (2.1)
Total	256 (100)	315 (100)	241 (%)	313 (100)
NHS Direct (2006) / NHS 111 (2016)				
Yes	179 (69.6)	270 (87.2)	57 (23.7)	68 (22.2)
No	57 (22.2)	21 (6.7)	109 (45.2)	178 (57.8)
Don't know	21 (8.2)	19 (6.1)	75 (31.1)	58 (18.9)
I don't think this is available in my area*	-	0 (0)	-	3 (1.1)
Total	257 (100)	310 (100)	241 (100)	308 (100)
Minor Injuries Unit				
Yes	136 (54.2)	154 (50.4)	119 (49.0)	120 (39.1)
No	90 (35.9)	84 (27.6)	46 (18.9)	97 (31.5)
Don't know	25 (10.0)	55 (18.1)	78 (32.1)	83 (27.2)
I don't think this is available in my area*	-	12 (3.9)	-	6 (2.1)
Total	251 (100)	306 (100)	243 (100)	307 (100)
Walk-in centre				
Yes	173 (68.1)	226 (72.2)	97 (39.4)	100 (32.1)
No	55 (21.7)	46 (14.8)	61 (24.8)	131 (42.2)
Don't know	26 (10.2)	27 (8.7)	88 (35.8)	74 (23.6)
I don't think this is available in my area*	-	14 (4.3)	-	6 (2.1)
Total	254 (100)	313 (100)	246 (100)	311 (100)

*This response was not available in the 2006 study.

4.3. STAFF INTERVIEWS

4.3.1. PARTICIPANTS

Interviews lasting between 14 minutes and 53 minutes were carried out with 25 ED and Urgent Care staff across six trusts. 23 interviews were carried out face to face and 2 by telephone. The detail of the role of interviewees in each site is included in table 21 below.

Table 21. Job roles of interviewees

PARTICIPANT JOB ROLE	Number
ED Sister	4
ED Nurse	5
ED Consultant	6
ED Doctor	3
Advanced Nurse Practitioner/ Advanced Care Practitioner	2
Manager	4
General Practitioner (co-located with the ED)	1

4.3.2. THEMES ARISING FROM THE STAFF INTERVIEWS

Framework Analysis of the staff interview transcripts was undertaken in order to identify overarching themes within the data.[10] Four themes were identified from the analysis: (1) Overview of demand for the ED, (2) Staff perspectives on why patients come to the ED, (3) Impact of increasing demand on the ED, and (4) Interventions designed to address increasing demand. Table 22 provides an overview of the main themes identified and their subthemes. Themes and subthemes are repeated patterns – ideas which recur multiple times independently. For example multiple interviewees mentioned a belief that patients want convenient access to care. Illustrative quotes have been selected for this report which exemplifies each theme or subtheme. All quotes are given verbatim, from the transcript of the contemporaneous audio recording of the interview. An idea or opinion which was only expressed once or twice would not be coded as a theme or a subtheme, however striking. For each quote, some information about the interviewee is given afterwards in brackets, e.g. their role or grade. This is to contextualise the quote, and to demonstrate that quotes have been chosen from a variety of interviewees.

It is in the nature of qualitative interviewing that the data obtained represents the interviewee's thoughts and responses to the questions at the time of the interview. Interviewees may make accidental errors, for example one of our interviewees mentioned the "2006 GP contract" although this was in fact implemented in 2004. Interviewees also give their opinions and recollections, which cannot be verified as being factually accurate. However we have no reason to believe the interviewees wished to deliberately mislead us; we believe what they told us is an accurate reflection of their opinion or recollection at the time of the interview.

Table 22. Overview of results from the staff interviews

Overview of demand for the ED	Staff perspectives on why patients come to the ED		Impact of increasing demand on the ED	Interventions designed to address increasing demand
	Patient factors	Structural factors		
1) Groups of patients that attend the ED	1) Patient expectations about the ED 2) Lack of patient education / health literacy	1) GPs 2) NHS 111 3) Mental Health / Dentists 4) Pharmacies / MIU 5) Social Care	1) Physical environment 2) Bed availability 3) Staffing 4) Staff morale	1) Upstream interventions (before the patient arrives at the ED) 2) In-House interventions (whilst the patient is in the ED) 3) Downstream interventions (after the patient has left the ED)
	"The ED has high brand awareness" Open 24/7... They will see anything ... ED has access to all of the diagnostic tests ... ED is the gateway to healthcare – one stop shop for all of your healthcare needs.			

A more detailed version of this table can be viewed in Appendix 5.

4.3.3. OVERVIEW OF DEMAND FOR THE ED

ED staff reported a significant increase over time in terms of the number of patients attending the ED.

> *"Definitely over the last couple of years it's been a massive influx of patients per year."* (ED Nurse)

> *"I think we have seen an increase of about 20% over Friday, Saturday and Sunday, which is real increasing activity."* (Manager)

There were a number of patient groups identified as contributing to increasing demand (e.g. migrants, dentistry, mental health and trauma) but the groups perceived as having the greatest impact on the ED were the frail elderly and the 'worried well':

> *"When I first started here, if you saw anybody in their nineties it was very rare. Now, people in their nineties are quite common. You even see people, you know, over a hundred and I would, if someone over the age of a hundred came to the department in 2004 it would be, that would be a real shock but now, it's not, you don't bat an eyelid."* (ED Consultant)

> *"I can remember looking at patients who were coming at weekends and during the week, and how many of them were actually considered to be primary care patients and I found that during the week, it was around about ten/ twelve percent of patients who were coming (this was back in 2008/2009 probably), coming with primary care problems and then at the weekend and bank holidays, it shot up to about a quarter, nearly a quarter."* (ED consultant)

4.3.4. STAFF PERSPECTIVES ON WHY PATIENTS COME TO THE ED

From the staff interview data two interacting elements were identified which help explain why patients attend the ED: (1) Patient factors, and (2) Structural factors. Patient factors describe how patient beliefs, knowledge and education about the wider healthcare system can influence their patterns of health seeking behaviour. Whereas structural factors are related to how the organization and accessibility of the wider healthcare system impacts on the patient's ability to get the advice and treatment they are seeking for their health needs from the most appropriate health care service.

1. Patient factors

There was a view that people have become more demanding of the healthcare system, particularly amongst younger generations. 'Convenience' was a phrase regularly used by health professionals to describe why people attend the ED. People want easy access to healthcare, at a time which suits them and the ED is believed to serve this purpose.

> *"I mean this is more a feeling than a knowledge but there is a lot of the um instant gratification that ''I want it now'', sort of brigade. There are people that will turn up knowing that it's not an emergency, knowing it's not important, knowing that they could wait but they won't because everything else is so fast in life, you know you can get Amazon deliveries within 24 hours"* (Manager)

Some of the participants interviewed explained that people now have a much lower threshold for seeking emergency care. They have observed an increase in the number of people presenting with minor illnesses that could be treated elsewhere.

> *"I think their expectation is you know I need to be seen now. That's what we're finding really but they come with things that perhaps you know my mother's generation wouldn't have even thought to come you know just sort of put a plaster on it will be okay sort of thing but they do come readily and expect to be seen"* (Advanced Nurse Practitioner)

It was highlighted that patients often have a mistaken view about the severity of their health condition. This may be influenced by things the patient reads on the internet or through listening to health messages projected through the media.

> *"I think people obviously have access to the internet and therefore diagnose themselves and then come into A&E because that's what it says on the internet"* (ED Doctor)

Navigating the health system has also become more complicated. There are now multiple urgent health care services to choose from and it is often not clear what the different services can offer. This makes it difficult for patients to decide which health service is the most appropriate for their health problem.

> *"I think expecting them to make decisions where you've got lots of different options is actually relatively unreasonable I think. It should be a relatively simple decision over whether is this a problem I expect my GP to sort out or is this a problem where I need to see somebody else and I think that's as simple as we should try and make it for patients."* (ED Consultant)

In contrast, the ED has 'high brand awareness'; patients understand how to access it and they know that it is available 24 hours a day, 7 days a week. It was also suggested by some ED staff that patients may believe that ED doctors are more experienced than their local GP, which is not necessarily true.

> *"I think that the emergency medicine is a bit of a success story. So we're treating people more effectively. We're getting a better reputation. There is media coverage of Emergency Departments far more than there ever has been. There is a recognition of what we do and a bit of an understanding of what we do, and there is this perception that we actually know what we're talking about."* (ED Consultant)

However, the junior doctor strikes of March and April 2016 were reported by interviewees to have had an effect on demand via influencing patient expectations:

> *"...When we had the doctors' strike and the public were aware that resources were going to be tight, we had about sixty percent of the numbers that we would normally see. Patients, the public realised that if they came up to the department, they, with something that wasn't serious, then that was not a good thing to do. But it showed me that when patients are aware of what's happening, they actually do use their common sense."* (ED Consultant)

2. Structural factors

- Access to GPs

During the interviews, most ED staff said that patients often report that the reason they have attended the ED is because they were unable to get a GP appointment. However, several health professionals said that availability of GP appointments in their local area was good, leading one health professional to question whether or not patients can get access to GP appointments but just not at a time which is convenient to them.

> *"I feel that a lot of it is kind of some people, they say they can't get a GP appointment but what they actually mean is they can't get a GP appointment to suit them or they decide that today is the day they're going to get their cough sorted out, the cough they've had for 4 weeks and on this day they can't get a GP appointment, therefore they will come to A&E because they want it sorting out today!"* (ED Doctor)

A GP interviewed in this study highlighted that in General Practice their workload has increased exponentially. Therefore, they are finding it increasingly difficult to keep up with demand.

> *"When I say there's no, not enough appointments in General Practice is because we're just asked to do so much now in General Practice ... Individual patients are treated much, much better. And you do avoid complications. The cost of that is having a GP spending a lot more time on a lot of occasions doing all that. And it means there's not enough appointments."* (General Practitioner)

Many health professionals said that they had noticed an increase in the number of patients attending the ED with minor illnesses after the GP contract was changed in 2004, allowing GPs to opt out of out-of-hours working. The ED is now the only place where it is guaranteed that patients can be seen by a healthcare professional 24 hours a day, seven days a week.

> *"I think the main thing that I've noticed is that when the GPs opted out of working their out-of-hours, so weekends, evenings and they paid other organisations – locum companies to, to do it, or co-operatives, that's when we started to see this, this major shift. And if you look at the trend, there's this big spike. I can't remember when it was – 2005/2006, of attendances that coincided with GPs deciding that they weren't going to do their own out-of-hours"* (ED Consultant)

- NHS 111

Since the changeover of NHS Direct to NHS 111 clinicians interviewed in this study have described an increase in the number of people being re-directed to out-of-hours and emergency services with a proportion of these patients being inappropriate referrals. It was noted that NHS 111 uses non-clinically trained call-handlers who use a computer algorithm to determine what support a patient needs. There was a suggestion that the algorithms produced outcomes that were over cautious in many instances.

> *"111 we get a lot of referrals from them I think some of them are appropriate and some of them aren't but it's a telephone triage system so it's not going to ... you're not going to see you can't see your patient, you can't assess things like I had a girl who'd torn her nail and she had false nails and she was brought in by NHS 111 because she'd told them that her nail was hanging off and it wasn't she'd just torn her false nail"* (ED Nurse)

NHS 111 has become the gateway to alternative urgent care services such as GP out-of-hours. One clinician said that NHS 111 requires you to answer multiple questions before a decision is made about the best treatment for you. Under these circumstances some patients may find it easier to go straight to the ED rather than phone NHS 111.

> *"I do hear that they can be frustrated with the 111 service you know the numerable questions and all that can be frustrating you know when they don't want to answer reams and reams of questions ... so that can be frustrating for patients so instead of ringing 111 they just come here."* (Advanced Nurse Practitioner)

- Social Care

Interviewees described how cuts to social care funding have led to an increase in the number of people being admitted to hospital who may have previously been cared for in the community. This is particularly prevalent within the elderly population.

> *"I think there's a degree of community services are overstretched. Sometimes people come to the Emergency Department because I don't know, the person who comes every day to change their dressing can't make it that day so they come to the Emergency Department. So I think the impact of what's going on in the community is a big impact for us as well. If community services and things aren't working well patients end up in the Emergency Department."* (ED Consultant)

ED staff suggested that problems relating to inappropriate attenders are associated with alternative health care services being overwhelmed. There was a view that if a service does not have the time or capacity to see a patient, then it would be safer to refer them on to the ED for assessment, even if this is not the most appropriate place for them to be seen, to ensure they were seen by someone.

> *"It's a lot easier for these people to say: ''Do you know, just go to hospital'' because they're taking the view A, it doesn't go on our workload and B, if the patient takes the advice then it's they are getting some kind of medical advice, or treatment, or whatever and that's safe for the patient, you know. And I do think that is part of the issue, is the resource is not there."* (ED sister)

The fear of litigation was also an important determinant with regards to referring people on to the ED. In some instances, Health Care workers would rather refer people on to the ED for a full assessment rather than taking the risk of getting it wrong.

> *"And the one thing that gets nurses and doctors really twitchy, twitchy, twitchy, is if they've been involved in a clinical incident and it looks like, you know, they've made a mess, or they did something they shouldn't have done. That really does throw doctors, nurses, paramedics"* (ED Consultant)

> *"Again this culture of, ''I don't want this patient to die'' and someone to come along and say: ''Well why didn't you do something''."* (ED Consultant)

4.3.5. IMPACT OF INCREASING DEMAND ON THE ED

ED clinicians interviewed in this study described what impact increasing demand is having on the department they work in.

1. Physical environment / bed availability

The numbers of patients attending the ED has increased, but the size of the ED has not changed; there is not enough space to assess patients.

> *"I mean other people might mention constraints and space as being a major issue for us, you know we don't feel that we can necessarily see the patients in the timely way that we would like to see them. I mean we do well on our performance targets but I think we could do better if we didn't have such an issue around space."* (Manager)

Lack of bed space on hospital wards and in the community also has an impact on the ED. For example, there has been an increase in the number of social admissions and due to social care funding cuts it has become increasingly difficult to discharge these patients. With fewer hospital beds available for ED staff to admit patients to, ED clinicians described a backlog of patients developing within the ED, further impacting on their lack of space.

> *"So cuts in social care funding has meant that there are, is less availability of social care packages to get people out of hospital. That's caused exit block for us, which means that more people are staying, so we've got good evidence that more people are staying for longer, waiting admission in the Emergency Department. We've only got ten majors cubicles and three resus bays. So you know, if we've got six people awaiting admission, then that's a problem for us."* (ED Consultant)

2. Staffing

Many of the staff interviewed in this study said that their ED is struggling to recruit and retain staff. The ED is no longer an attractive speciality to many because of the increased pressures due to rising demand. It was highlighted that current staffing levels in many EDs are not sufficient to meet current demands.

> *"So in the last 12 months we, our workload at the weekend has gone up by 20 percent, which for a department of this size is just not sustainable in the long-term with the staffing that we've got."* (ED sister)

3. Staff morale

Most of the participants in this study emphasised how much pressure they are currently under due to increasing demand for emergency services. As a result, many people are leaving the profession to seek alternative careers which they believe will provide them with a better work / life balance. Equally, staff who have remained in the profession cannot see things improving in the near future which makes it difficult for them to persuade their colleagues to stay.

> *"I've loved every minute of it but I wouldn't say to my daughters, you know: ''why don't you be a nurse'', yeah. I always thought I would but no, I wouldn't actually, yeah. It's a shame isn't it cos it's a, it's a very rewarding job nursing and working in A&E is brilliant. I think it's brilliant. You know you work with some great people but the pressure is getting the better of lots of us really. You know even the toughest because you're a certain, I think you're a certain personality to work in A&E. You're no shrinking violet. You've got to be able to take the pressure but even, even we're feeling it, our sort of, hard-skinned level, you know it's tough stuff."* (ED Sister)

Despite the current pressures, it was noted that the staff have remained fully committed to providing excellent care to patients within their department, regularly working additional hours to ensure patients are not left in distress.

> *"I don't know of any of the staff out there that don't work more than the hours than they should. They never get off on time. They would never leave a patient in distress. I mean their commitment to the patients is, is absolutely to be, you know, held up and praised because you watch them some days and you think these are young girls, and how do they do that ... They're amazing people."* (ED sister)

4.3.6. INTERVENTIONS DESIGNED TO ADDRESS INCREASING DEMAND

We asked ED staff two questions about initiatives to manage demand; we asked whether their department had implemented any initiatives to manage demand, and we asked whether they had any ideas about how to deal with rising demand. The interventions they told us about fell into three broad categories, depending on whether the intervention applied before the patient arrived at the ED (upstream interventions), whilst the patient was at the ED (in-house interventions), or after the patient had left the ED (downstream interventions).

Because we wished to capture the breadth of ideas for how to manage demand (rather than searching for consensus or recurring themes) the qualitative analysis of this theme was conducted slightly differently. Rather than only coding recurring patterns, we coded all responses in this category including unique responses.

1. Upstream interventions

Some interviewees felt that upstream demand management interventions were the most likely to yield results:

> *"I think it's difficult to manage demand once the patients get to the front door. The demand aspect has to be addressed before the patient comes."* (ED Consultant)

Many ED staff mentioned the need to re-educate the public about what is an appropriate attendance at the ED. Examples of these types of education based demand-management interventions included:

- patient leaflets
- poster campaigns
- advertising in the press
- TV campaigns
- advertising on Facebook
- lobbying the government to educate the public
- including health literacy in the school curriculum

These kinds of upstream demand management interventions are all aimed at changing patient behaviour through education and information. Staff who proposed these sorts of interventions seemed to believe that ED demand could be reduced by patients making better-informed choices about when and where to seek medical help. However some ED staff felt that patient education campaigns were not effective in the long term. For example one manager remembered a similar campaign:

> *"That did seem to have a bit of an impact, it did look like the numbers of people coming in for things such as minor injuries was decreasing during that time. But that ... started to increase again since that campaign settled again."* (Manager)

As mentioned earlier some ED staff felt that other healthcare services were contributing to unnecessary attendances either because they were sending patients to the ED unnecessarily or because patients came to the ED when other more appropriate services were unavailable. One interviewee suggested that extending GP opening times may help reduce demand for the ED:

> *"Maybe extending GP opening times, maybe earlier in the morning, being a bit more flexible ... people get sick 24 hours a day, 7 days a week, 365 days of the year, it's not Monday to Friday, 9 to 5"* (ED Sister)

Other interviewee suggestions included:

- training GPs so they are more confident in assessing and treating paediatric patients themselves
- more mental health acute assessment centres
- nursing homes handling end-of-life care without transporting dying patients to ED
- Advanced Care Practitioners in the community
- empowering paramedics to make the clinical decision not to transport some patients who can be dealt with in situ

2. In-house interventions

The majority of demand management interventions mentioned by ED staff were in-house interventions. Examples of in-house demand management interventions are described below:

- Patient streaming

Patient streaming is the practice of sending patients to different parts of the ED following triage, for example a patient with a low triage category may be streamed to the waiting room, one with a moderately high triage category may be streamed to a trolley, or one with a very high triage category may be streamed to resus. There were mixed views about patient streaming for managing demand. One interviewee felt that streaming works "on the whole" but that some patients are inevitably placed in the wrong stream, and that this was difficult to fix:

> *"So how can you make streaming better? I don't know. I think on the whole it works well, but there's always the odd one that slips through. And as I say the ones that slip through, I don't think you're going to pick up just by that quick, simple, stream process. Because if you go into the other things, then you're examining them, you're taking a full history, you're actually doing the whole consultation. Which then isn't streaming by definition, it's consultation."* (General Practitioner)

Different locations had different models for streaming. For example some units used a triage nurse to carry out initial observations and then stream patients either to the ED or else to a co-located GP service or in-house urgent care centre. One member of staff spoke of an initiative in another centre:

> *"...which would involve a very quick 2, 3 minute chat and just eyeballing the patients. I don't think they were even going to do any observations. And then signposting the patient from there to either ED, urgent care, GP out hours, or back to pharmacist, their own surgery."* (General Practitioner)

But the interviewee felt that was problematic because:

> *"If you just look at someone, have a quick chat with them and then signpost them elsewhere, that's a hell of clinical responsibility to take on. To actually send someone away to go, well you had to go and see your GP. When you know there isn't any appointments. Round here you're waiting 2 weeks to get an appointment. And if something happens in that 2 week period, well that's your fault."* (General Practitioner)

Similar sentiments were expressed by other interviewees, of clinical responsibility for the presenting patients. A tendency to risk-aversion amongst staff was noticeable.

- GP co-location

GP co-location was on the whole viewed positively, although both GPs and ED staff sometimes expressed frustration with logistical matters. For example in some units patients could be triaged to the GP but in other systems patients could only see the GP when referred via NHS111. One ED consultant spoke of a system in which the co-located GPs could refer patients to the ED, but the ED could only refer two patients per hour to the co-located GP. The interviewee described that as "ridiculous" and "nonsense" but when asked whether the system had helped in terms of demand management, agreed that "it definitely helps".

- ED hubs

Several interviewees mentioned an ED Hub. Commonly they argued that trying to educate patients to use alternative services wasn't working, so instead the services should be located at the place where the patients are turning up anyway:

> *"I think actually what we should do, is we should just go: "Right, that's great. We'll act as the front door for everything and we'll triage elsewhere"."* (ED Consultant)

The sorts of services envisaged as being part of the ED Hub included:

- ED proper
- Urgent Care
- Fracture clinic/orthopaedic clinic
- GP out of hours
- Pharmacy

It was envisaged as all being part of the same department with one front desk where patients would book in and then be clinically triaged by a senior clinician to the most appropriate part of the service.

Staff foresaw some disadvantages to this, for example estate difficulties and increased costs. It was also seen as being contrary to the policy of locating services in the local community, but this was expressed as a trade-off between expertise and convenience.

- Advanced Nurse Practitioners (ANP)

ANPs were a relatively new role which had been introduced into EDs. Once fully trained, ANPs are able to independently assess patients who present with undifferentiated and undiagnosed problems using highly-developed nursing skills and knowledge not usually exercised by nurses. Due to their distinct role within the ED, ANPs are able to alleviate some of the pressures experienced by ED doctors.

> *"From my point of view, I can take some of the hard work off the doctors by seeing some of the minor injuries and stuff and they can focus on the more dramatic things. I can cannulate, I can suture so if they're tied up, I can go and do the jobs that they would ordinarily do."* (ED Sister)

During the interviews it was apparent that their exact role within the ED has not been fully established. One ED doctor highlighted that there should be clear boundaries with regards to the types of patients ANPs should assess to avoid duplication of work.

> *"Sometimes they can spend an hour with a patient seeing them, reviewing them, investigating them and you have to sort of go and start again just because patients with headaches and other conditions are very complex and you can't make a decision...There's a clinical feel from years of experience you need ... if it's got your name on it you want to make sure you feel comfortable with that so that's less efficient that way so that's why it would be better if they chose cards where they might be able to do the full episode themselves rather than have somebody duplicate it."* (ED Consultant)

An ED nurse highlighted that ANPs are beneficial because unlike junior doctors they do not rotate into other specialities but instead they remain in the ED permanently. Furthermore, in many instances ANPs are more experienced than junior doctors and so they can encourage and support new junior doctors arriving into the department.

> *"we've got a lot more experience than some of the junior doctors have; they need encouragement and support as well so and we're here all the time, 24 hours a day, 7 days a week, whereas they rotate round, so we're permanent members of staff you know so we support them as well."* (ED sister)

- Progress chaser

One centre told us they had recently implemented a progress chaser role, an administrative member of staff whose role is to track patients who have been waiting a long time with no clinical contact. The interviewee spoke about the disconnect between the perceptions of passing time from the point of view of a member of staff (for whom time seems to fly) compared to a patient (for whom time seems to drag).

> *"that mismatch of time perception, I think is a big problem in ED. I think it's, it leads to, you know, people getting angry, frustrated and other people are going: "Oh wow, it's two hours since I saw that person", which is potentially dangerous but if we've got, if we've got the, um, chaser role in there, they can actually say: "Ooo, it's been an hour, I best get on, I best do something with that". They're probably doing something with other people but it just brings you back in to focus. So, er, and it's trying to do that in a nice way, so people don't feel put upon, or pressured in to, you know, we're just chasing the time to the targets"* (Manager)

But they told us that difficulties in staffing this role all the time meant it was difficult to evaluate its effectiveness. On a recent bank holiday weekend the unit had ensured the progress chaser and clinical navigator roles were both fulfilled and found that they reached the 4-hour target for 95% of patients on all three days of the long weekend.

3. Downstream interventions

Downstream interventions are those which occur after patients have left the ED, for example to reduce unnecessary return visits, or to improve throughput.

As mentioned earlier, some ED staff described exit blocks caused by lack of social care in the community so patients cannot be discharged home, and exit blocks caused by lack of beds in the hospital so patients must wait in the ED until they can be admitted. Better discharge planning was proposed as one solution to problems associated with exit block.

> *"Sometimes it's not so much the numbers of patients that are coming in, it's what you actually do with them. So if we have a number of patients who are being admitted to beds and there's no beds for them to go to, then that has a knock on effect on the rest of the workload that we have. So it's a case of they're looking at, looking at ways of improving the discharge process, would have a massive impact on how the flow through this department works."* (Manager)

Other obstacles to discharging patients included lack of transport:

> *"We don't have transport out of the hospital on a Sunday in the summer months. So unfortunately if it's a person that ... hasn't got their own transport or isn't safe to go home in a taxi we've no other way of transporting them home so they've got to come into hospital."* (Manager)

ED staff cited a need for services to settle patients back home and to monitor and support them after an ED visit. These sorts of services were provided, or could be provided, either by NHS, social care services, or 3rd sector organisations such as British Red Cross or Age UK.

Other downstream interventions mentioned included:

- Nurse led ambulatory infusion (IV) service
- ambulatory care wards
- fast response teams of nurses, occupational therapists, and physios who conduct mobility assessments and facilitate patient discharge
- field teams who come to ED and do assessments to try to get patients up and about and referred to specialities
- end of life care pathways in clinical decision units, instead of patients in resus rooms "... lingering with lots of noise and buzzers"

5 Discussion

This study used mixed methods to identify drivers for demand at EDs across Y&H. A combination of routine patient level data, patient surveys and staff interviews were performed.

The findings from the routine patient level data show that attendances for 2014 varied across the region from 33,000 to 150,000 for adults and from 8,000 to 108,000 for children per annum. The particular focus of the study was on patients who are ambulatory presenting to EDs. For this we restricted our routine data analysis to non-ambulance arrivals which formed 69.5% of adult patients and 89.6% of paediatric attenders. Of the non-ambulance arrival patients, 60% of adults were 16-44 years old, and 50% of children were 0-5 years old, totalling almost 70% of all non-ambulance arrivals.

When applying a formula for unnecessary attendances to all non-ambulance arrival patients, we found that 23% of adults and 30% of children did not require the facilities of an ED for their problem. There was wide variation between EDs in the proportion of these unnecessary attendances. This may reflect variability in the availability of alternative emergency services that patients can directly access either on site, adjacent to or within the area. It may also be due to the fact that some EDs have robust strategies for redirecting patients to other sources of care. There were also higher rates of unnecessary attendance amongst adults in the out-of-hours periods, suggesting that patients prefer to use the EDs when they are not working, at times that are more convenient to them. These patterns of unnecessary attendance may also reflect the availability of (or patient knowledge of) alternative services in the out of hours periods. We also found that patients attending unnecessarily were spending less time in the ED when compared to all attendances and non-ambulance arrivals. This is likely to be because of the less serious nature of their condition and the fact that they were less likely to need investigations or treatment. The shorter times may act as a perverse incentive not only for patients to keep attending the ED but also for NHS Trusts to keep seeing them, as they may actually improve the performance of that hospital against the four-hour target. Our interviews with ED and urgent care staff supported this idea of patients increasingly coming to the ED with primary care type problems that could be treated elsewhere. They were often motivated by the convenience of accessing care at a time of their choice, not having barriers put in their way and not being required to wait. They also reported that patients came because of the 24/7 nature of the service which had 'high brand awareness'.

The survey and interview data were conducted in seven of the hospitals we obtained routine data from. The survey was repeated from two previous surveys conducted over the last 19 years, [4-5] which allowed a comparison of findings over time. In the present survey just over half of patients reported that a health professional had advised them to attend, and in over a third of these cases it was their primary care provider. In just over 20% of cases it was NHS 111. The proportion of patients who reported that they were advised to attend by either a health professional or a GP also increased substantially over the 20 year period. There was also a marked increase over the 20 year period in awareness of other urgent and emergency care services. The interviews with staff also reported on perceptions by patients that hospital doctors are more 'specialised' or experienced than GPs. This is certainly the case for some conditions such as minor injuries, but for many others would not be the case. There were staff perceptions of difficulties in making appointments with some primary care services especially out-of-hours, the overwhelming demand being faced in primary care by patients and the use of NHS 111 as a gateway to other services sometimes leading to inappropriate referrals being made. Other noticeable changes over time were an increase in the perceived availability of other services, whilst at the same time a reduction in the positive experience of the ED. However, patients still want to see a doctor as soon as possible and had a greater sense of urgency regarding their condition over the 20 years.

We analysed the reasons for attending as being weak, medium or strong. Overall the strength of reason had fallen from 93% having a strong reason in 1997, to 59% in 2016. These results indicate that while the existence of other services is more widely known to patients now, the patient's perceptions of the seriousness of their illness may have changed so that there was a lower threshold now for them to demand that their condition was managed immediately.

Staff interviews reported on the downsides to the increasing demand being placed on the ED in terms of the physical environment becoming crowded, noisy and impersonal; the reduced bed availability leading to patients waiting for long periods in the ED before being able to move along in their journey; the difficulties in staff recruitment and retention leading to a vicious cycle of low morale and further attrition.

Staff were also asked for suggestions about solving the problem of rising demand. These were divided into upstream, in-house and downstream interventions. They ranged from education and training of patients, GPs and other healthcare professionals in order to offset some of the demand, increasing the level of care provided by ambulance staff and improving the confidence and ability of nursing home staff. There is some evidence that these interventions can work in

reducing demand.[11-14] In-house solutions included co-locating GP services, use of senior doctors at the front door of the ED, bringing specialist staff closer to the front door and improved mental health liaison teams. To date, there is no evidence to suggest that any of these interventions would improve flow and therefore reduce the burdens placed on EDs currently.[15-16] However, larger and better designed studies are needed to address some of these questions.

5.1. LIMITATIONS

The study was limited to one area of the UK. However we believe the findings would be generalizable to the UK, given the area included in the study was large with 19 EDs and a mix of urban, rural and suburban locations. The 1) routine ED patient data and 2) survey and interviews data were necessarily collected at different time periods and therefore limited the opportunity to integrate the data from different sources.

Routine ED patient data

The routine data was obtained directly from hospital trusts and in some cases contained anomalies and missing items. Individual hospital coding systems are variable and sometimes inaccurate in relation to some fields. Every effort was made to standardise the data using recoding in conjunction with expert clinicians. It was however necessary to exclude some of the data we received (due to incompleteness or incorrect data), which may have impacted on some of the findings, such as the accuracy of the overall rate of unnecessary attendance. Undoubtedly, the planned uniform data coding to be introduced with the emergency care dataset would greatly benefit the quality of data in such routine ED patient data analysis.

Survey and interviews

The patient surveys involve patients self-reporting their previous Emergency and Urgent Care contact with health professionals prior to their ED contact. It is not possible to verify the nature of their contact with health professionals, such as GPs, prior to their ED visit. It is therefore possible that in some instances patients misinterpreted the advice given to them by a health professional prior to their ED attendance, thereby overstating the role of the health professional in their contact with the ED. Further work would need to be undertaken to verify previous health contacts objectively. Similarly the staff interviews were qualitative and the data collected from them were perceptions of the issues involved and assertions about demand and the possible factors impacting upon it would also require further research. A larger set of surveys from more EDs and more subjects for interviews would have increased the reliability of the findings. However, the study was limited both by time and funding constraints. The study team ensured that the EDs selected for the survey and interviews represented a range of sizes and locations in order to maintain representativeness.

5.2. SUMMARY AND FURTHER RESEARCH

This study has found that there are large numbers of patients coming to the ED with ambulatory clinical problems. Of these we have found there is a large proportion that could be treated in a number of other healthcare settings such as primary care, urgent care centres, walk-in centres, pharmacy or indeed through self-care. These patients present an additional burden for EDs, taking resources away from patients who are sicker and require the specialist resources of an ED. Proportionately more patients are attending out of hours with ambulatory and unnecessary problems, primarily because they choose to for convenience, they have been directed to the ED by another healthcare provider, they want immediate responses to their problem or they have been unable to access another source of care when they have tried. There certainly seems increasing unwillingness or inability by patients to manage their own risk, increased concern that health problems are serious and a desire for rapid reassurance.

In the same way the change in referral patterns may indicate an unwillingness and inability of healthcare providers to manage risk, therefore referring to the ED as the 'last resort' in order to ensure patient safety and manage risk aversion.

The changes we have demonstrated in the way patients and other healthcare providers are using EDs could also be a reflection of a system under great strain. The fact that many providers are referring patients onto the ED, or patients themselves are reporting difficulties with accessing other services could merely reflect the fact that those alternatives to the ED are also under pressure making them difficult to access, thereby causing 'overspill' into other services within the system.

Although there is increased awareness of other services that are available, there still appears to be confusion or reluctance to use these services. This could be due to difficulty accessing them, lack of knowledge about which clinical problems they will treat, or being told to attend the ED by another healthcare provider. Despite declining over time, nearly two thirds of patients still reported a 'strong' reason for attending ED, suggesting that patient behaviour is unlikely to change in the near future, even when other options are presented to the user. There are a number of interventions suggested by our interviewees and, indeed, many of these have an evidence base, but it is largely made up of small, non-comparative or poorly designed studies.

Future research

Additional analysis outside the scope of this study is required to better understand variation in unnecessary attendance identified in our analysis, to ascertain the impact of a range of possible factors, modifiable by services (capacity within existing services, new service models, GP co-location, urgent care centres etc) and factors not modifiable by services (age, deprivation, presenting complaint). There is a need for future research to further understand the drivers for demand, but more importantly to design and test interventions that can lead to improvements in the system that are acceptable to patients, do not lead to increased demand, are cost-effective and lead to more sustainable working environments.

6 References

1. Bruce Keogh. NHS England: Urgent care review 2014. https://www.england.nhs.uk/wp-content/uploads/2014/01/item11-board-0114.pdf (Accessed December 2015)

2. Ben Dyson. Improving General Practice – Phase One Report 2014. https://www.england.nhs.uk/wp-content/uploads/2014/04/emerging-findings-report.pdf (Accessed November 2016)

3. Ismail SA, Gibbons DC, Gnani S. Reducing inappropriate accident and emergency department attendances: a systematic review of primary care service interventions. *British Journal of General Practice.* 2013;63(617):e813-e820.

4. Coleman P, Irons R, Nicholl J. Will alternative immediate care services reduce demands for non-urgent treatment at accident and emergency? *Emergency Medicine Journal.* 2001;18:6:482-487.

5. Penson R, Coleman P, Mason S, Nicholl J. Why do patients with minor or moderate conditions that could be managed in other settings attend the emergency department? *Emergency Medicine Journal.* 2012;29:6:487-491

6. NHS England. Five Year Forward View 2014. https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf (Accessed January 2017)

7. Lowry A, Kohler B, Nicholl J. Attendances at accident and emergency department: unnecessary or inappropriate? *Journal of Public Health Medicine.* 16;2:134-140.

8. Nicholl J, Coleman P, Knowles E, et al. Emergency and urgent care systems. Final report to Department of Health 2006–2010. Sheffield: Medical Care Research Unit, 2009.

9. Arain M, Nicholl J, Campbell. M. Patients' experience and satisfaction with GP led walk-in centres in the UK; a cross sectional study. *BMC Health Services Research.* 2013;13:142.

10. Spencer L, Ritchie J, O'Connor W. Analysis: Practices, principles and processes, In Qualitative Research Practice: A guide for social research students and researchers. Edited by Ritchie. J, Lewis, J. London: SAGE, 2003: 199-218.

11. Mason S, Coleman P, O'Keeffe C, Ratcliffe J, Nicholl, J. The evolution of the emergency care practitioner role in England: experiences and impact. *Emergency Medicine Journal.* 2006;23(6):435-439.

12. Mason S, O'Keeffe C, Coleman P, Edlin R, Nicholl J. Effectiveness of emergency care practitioners working within existing emergency service models of care. *Emergency Medicine Journal.* 2007;24(4),239-243.

13. Dixon S, Mason S, Knowles E, Colwell B, Wardrope J, Snooks H, Nicholl J. Is it cost effective to introduce paramedic practitioners for older people to the ambulance service? Results of a cluster randomised controlled trial. *Emergency Medicine Journal.* 2009;26(6):446-451

14. Mason S, O'Keeffe C, Knowles E, Bradburn M, Campbell M, Coleman P, Patterson M. A pragmatic quasi-experimental multi-site community intervention trial evaluating the impact of Emergency Care practitioners in different UK health settings on patient pathways (NEECaP Trial). *Emergency Medicine Journal.* 2012;29(1):47-53.

15. Abdulwahid M A, Booth A, Kuczawski M, Mason S. The impact of senior doctor assessment at triage on Emergency Department performance measures: systematic review and meta-analysis of comparative studies. *Emergency Medicine Journal.* 2015:33(7); 504-513.

16. Ramlakhan S, Mason S, O'Keeffe C, Ramtahal A, Ablard S. Primary care services located with Emergency Departments – A review of effectiveness. *Emergency Medicine Journal.* 2016;33:495-503.

Appendix 1. Patient survey

Site code:	Questionnaire number:

The University Of Sheffield.

BMA

Survey of patient reasons for attendance at Emergency Services and awareness of availability and accessibility of other services

(Adult Survey)

Dear patient,

The University of Sheffield is conducting a survey of patients visiting emergency departments in Yorkshire and Humber. These are questions about yourself and your visit to this emergency department.

This is a two part survey. Please complete Section A **before your appointment.** Once you have completed Part A the researcher will hand you Part B to complete. Part B is to be completed **after your appointment.**

The study is explained in the attached Information Sheet. If you have any other questions about this research, please ask the researcher who handed you this form or contact

Mr Colin O'Keeffe

Health Services Research, (ScHARR),

School of Health & Related Research,

University of Sheffield,

Sheffield S1 4DA

United Kingdom

Email: c.okeeffe@sheffield.ac.uk

Phone: 0 114 222 0780

The University Of Sheffield.

BMA

Survey of patient reasons for attendance at Emergency Services and awareness of availability and accessibility of other services

All information is strictly confidential and will not affect your treatment and will not be used in any way that identifies you.

You can complete **Section A before** your appointment

Part A – *what brought you here today*

1. Who is the patient?

☐ Myself ☐ My Child ☐ Other dependent

(Please describe) _____

2. What is the health problem that brings you to A & E today? (Please describe)

_____

_____

3. (A) Before coming to A&E today, have you contacted another health service within the last week about this health problem?

☐ Yes ☐ No

If yes, please tick the box for all those you have contacted in the last week.

☐ My GP or another doctor at my surgery
☐ A doctor not at my surgery
☐ The receptionist at my GP's surgery
☐ The nurse at my GP's surgery
☐ NHS 111
☐ Minor Injury Unit
☐ Urgent care centre
☐ Nurse/first aider at work
☐ Friends/family/workmates
☐ Social services
☐ Pharmacist/chemist
☐ Dentist
☐ Walk-in-centre
☐ Ambulance staff
☐ Other (please describe)

_____

3. (B) Did a health professional advise you to come to the A&E department about the health problem you are here for today?

☐ Yes ☐ No

If yes, which health professional advised you to come? (Please describe)

---

4. Did anyone else (e.g. friend / relative) advise you to come to A&E today? (Please tick one)

☐ Yes ☐ No

If yes, who advised you to come to A&E? (Please describe)

---

5. How did you get to A &E today? (Please tick one)

☐ Private car ☐ Walked
☐ Taxi ☐ Ambulance
☐ Public transport ☐ Other

6. Approximately how long did it take you to travel here today?

Hours _____ Minutes _____

7. Where were you when the problem first occurred? (Please tick one)

☐ Home ☐ Work / school
☐ Public place ☐ Other (please describe) _____

8. When did the problem occur?

Time: _____ am/pm Date: ____/____/____

9. When did you arrive at A&E?

Time: _____ am/pm Date: ____/____/____

10. Below are lots of reasons that people have given for attending A&E rather than anywhere else.
(Please tick the boxes below for all which apply to you)

I came to A&E today because:

- ☐ I don't have a GP
- ☐ My GP would refer me here anyway
- ☐ No-where else has 24 hour open access
- ☐ I don't know where else to go
- ☐ I am not aware of any other services
- ☐ I don't know what other services are open at this time
- ☐ I wanted to see a doctor as soon as possible
- ☐ I don't want to see my GP
- ☐ I've used A&E before and was happy with it
- ☐ I need reassuring that my illness/injury is not serious
- ☐ I wanted a second opinion
- ☐ I thought I needed wound treatment
- ☐ I thought I might need a blood test or other tests
- ☐ I think I will be seen quicker than at other services
- ☐ I was advised to come to A&E by someone else
- ☐ Other (please specify) _____

- ☐ I can't always see the GP I would like
- ☐ My GP was not available
- ☐ I would have to wait for an appointment to see the GP
- ☐ I don't know if the GP is available
- ☐ I didn't want to bother our GP
- ☐ A&E is nearer than any other service
- ☐ I am confident in the A&E system
- ☐ I wanted to be seen by a nurse practitioner
- ☐ I thought I needed an X-ray or scan
- ☐ I don't know whether it is broken or not
- ☐ I thought I might need a tetanus injection
- ☐ I wanted to see a specialist
- ☐ I consider the condition to be an emergency
- ☐ I thought I might need to go into hospital
- ☐ It is easier to get to than any other service

11. Are you aware of how to access the following emergency services in your area?
(Please tick one box for each service)

Out of hours GP	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area
NHS 111	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area
Minor injuries unit	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area
Walk-in centre	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area
Urgent care centre	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area

12. Do you think you could get the advice or treatment you are seeking about the same health problem from the following services? (Please tick one box for each service)

Out of hours GP	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area
NHS 111	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area
Minor injuries unit	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area
Walk-in centre	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area
Urgent care centre	☐ Yes	☐ No	☐ Don't know	☐ I don't think this is available in my area

Background information about you

13. Are you

☐ Male ☐ Female

14. What is your age? _____

15. What is your employment or student status?

☐ Employed or self-employed as (please describe your occupation)
☐ Student
☐ Unemployed
☐ Other (please describe) _____

16. Choose one option that best describes your ethnic group or background?

White

☐ English/Welsh/Scottish/Northern Irish/British ☐ Irish ☐ Gypsy or Irish Traveller
☐ Any other White background, please describe _____

Mixed/Multiple ethnic groups

☐ White and black African ☐ White and black Caribbean ☐ White and Asian
☐ Any other Mixed/Multiple ethnic background, please describe _____

Asian/Asian British

☐ Indian ☐ Pakistani ☐ Bangladeshi ☐ Chinese
☐ Any other Asian background, please describe _____

Black/ African/Caribbean/Black British

☐ African ☐ Caribbean
☐ Any other Black/ African/Caribbean background, please describe _____

Any other ethnic group

☐ Arab ☐ Any other ethnic group, please describe _____

17. At home, do you have the use of the following? (Please tick all that apply)

☐ Car ☐ Internet ☐ Telephone

18. How would you rate your general health?

☐ Excellent ☐ Good ☐ Fair ☐ Poor ☐ Very poor

19. Do you have someone you can/ do speak to about your health in general
(e.g. friend, carer, relative)?

☐ Yes ☐ No

Contact details

Would you be willing to provide your name and e-mail address or telephone number so that a researcher can contact you within 2 weeks to complete Part B of the survey? Part B will ask you about how satisfied you were with the service you received in the Emergency Department today - **This is optional.**

Your personal details will be separated from the survey before analysis commences to ensure your survey responses remain anonymous.

Alternatively, you can complete Part B of the survey in the Emergency Department today **after you have been seen by the medical team** and post it back to the research team using a freepost envelope.

If you have any questions then please speak to the researcher who handed you this questionnaire.

Name _____

E-mail _____

Telephone _____

The University Of Sheffield.

BMA

Please fill in the rest of the questions **after** you have been treated by the nurse or doctor. Once you have completed the survey please post it back to the research team using the prepaid envelope or hand it into reception when you leave.

Section B – *Your consultation*

1. Did you see:

☐ A Doctor ☐ A Nurse ☐ Both a Doctor and a Nurse ☐ Other

(Please describe) _____

2. How long did you have to wait before you were seen by someone who treated you?

Hours _____ Minutes _____

3. How satisfied are you with the following: (Please tick a box on each line)

	Not satisfied at all	Not very satisfied	Uncertain	Fairly satisfied	Very satisfied
A The attitude of the receptionist?	☐	☐	☐	☐	☐
B The time you had to wait before you saw a nurse or doctor?	☐	☐	☐	☐	☐
C The attitude of the nurse or doctor?	☐	☐	☐	☐	☐
D The explanation the nurse or doctor gave you about your problem?	☐	☐	☐	☐	☐
E The treatment or advice you were given?	☐	☐	☐	☐	☐
F Overall, how satisfied were you with the service you received?	☐	☐	☐	☐	☐

4. When you saw the nurse or doctor, were you: (Please tick all that apply)

☐ Sent home
☐ Given information
☐ Blood samples were taken
☐ ECG (heart trace) was done
☐ X-ray or scan was taken
☐ Given medication
☐ Given a prescription
☐ Given treatment other than medication
☐ Admitted to a ward
☐ Referred to a GP surgery
☐ Referred to psychiatric team
☐ Referred to alcohol liaison team
☐ Referred to other health provider
☐ Referred to social care
☐ Asked to come back to A&E
☐ Other (Please describe)_____

6. Now that you have seen the nurse/doctor are you able to look after the problem yourself?
(Please tick one)

☐ Yes ☐ No

If NO, are you going to:

☐ Come back to A&E
☐ Make an appointment with your GP
☐ Visit /make an appointment with another Health service
☐ Other (Please describe) _____

7. Would you use this A&E again if you had the same or similar problem in the future?

☐ Definitely not ☐ Probably not ☐ Not sure ☐ Probably yes ☐ Definitely yes

Do you have any other comments about your visit to the A&E department today?
(Please use this space to write your comments)

Thank you for completing the survey

Appendix 2. Staff interview schedule

INTRODUCTION:

We are carrying out a study examining why people attend the ED. We are particularly interested in why patients decide to come to the ED and their perceptions around the availability or suitability of alternative services to deal with their problem. We have explored these issues in a recent survey of patients to compare understanding and views on these issues. We are now carrying out a number of interviews with ED staff across Yorkshire and Humber to understand the views of clinicians around reasons for attendance to the ED so we can compare perceptions of patients and staff.

1. JOB ROLE

- Please tell me briefly about your current job role
  - o Numbers of years in practice, number of years in Emergency Medicine, Hospital site

2. DESCRIPTION OF PATIENTS ATTENDING THE ED AND IMPACT ON DEMAND

- From your experience, can you describe some of the groups of patients that attend your ED
  - o E.g. chronic conditions, mental health, substance abuse
- In your experience have the groups of patients that attend your ED changed over time?
  - o Probe on how they have changed
- Has demand for emergency care services such as the ED changed in your experience?
  - o Probe on reasons behind rising demand for emergency and urgent care
- Are there specific groups of patients that could be contributing to rising demand in EDs?

3. DESCRIPTION OF INAPPROPRIATE ATTENDANCE / ROLE OF THE WIDER HEALTHCARE SYSTEM

- Are there patients who attend your ED who may be amenable to care elsewhere (e.g. MIU / Urgent care centres)?
  - o Probe on who these patients are (e.g. demographic / complaints)
  - o Probe on what their needs might be (e.g. social, care of the elderly)
  - o Probe on the types of alternative support services that are available to this group of patients
  - o Probe on why they think these patients attend the ED instead of alternative healthcare services (e.g. access issues, ED has high brand awareness)
- Have you had any experience of patients who attend the ED after not being dealt with elsewhere, such as primary care, other hospital departments?
  - o If yes, ask participant for an example
- Have changes in the wider healthcare system (e.g. primary care, social care) had an impact on demand in the ED?
  - o Probe on what changes have had an impact

4. CURRENT / FUTURE INITIATIVES TO DEAL WITH RISING DEMAND

- Have you implemented any initiatives in your ED to help deal with rising demand?
  - o If yes, did it work? (Why/why not) (e.g. barriers, input costs, assessments)
- Do you have any other ideas about how issues associated with rising demand in the ED could be dealt with?

5. ADDITIONAL THOUGHTS

- Would you like to make any other comments or suggestions?

Appendix 3. Details of all sites in Yorkshire and the Humber approached for participation in the patient survey

Trust ID	Trust name	Site ID	Site	Response to invitation	Agreed to participate	Included in survey
1	Airedale NHS Foundation Trust	1	**Airedale General Hospital**	No		
2	Barnsley Hospital NHS Foundation Trust	2	**Barnsley Hospital**	Yes	Yes	Yes
3	Bradford Teaching Hospitals NHS Foundation Trust	3	**Bradford Royal Infirmary**	No		
4	Calderdale And Huddersfield NHS Foundation Trust	4	**Huddersfield Royal Infirmary**	Yes	No	No
	Calderdale And Huddersfield NHS Foundation Trust	5	**Calderdale Royal Hospital**	Yes	No	No
5	Doncaster And Bassetlaw Hospitals NHS Foundation Trust	6	**Doncaster Royal Infirmary**	Yes	No	No
6	Harrogate And District NHS Foundation Trust	9	**Harrogate Hospital**	Yes	Yes	Yes
7	Hull And East Yorkshire Hospitals NHS Trust	10	**Hull Royal Infirmary**	No		
8	Leeds Teaching Hospitals NHS Trust	11	**Leeds General Infirmary**	Yes	Yes	Yes
	Leeds Teaching Hospitals NHS Trust	12	**St James's Hospital**	Yes	Yes	Yes
9	Mid Yorkshire Hospitals NHS Trust	13	**Pinderfields Hospital**	No		
	Mid Yorkshire Hospitals NHS Trust	14	**Dewsbury and District Hospital**	No		
	Mid Yorkshire Hospitals NHS Trust	15	**Pontefract Hospital**	No		
10	Northern Lincolnshire And Goole NHS Foundation Trust	16	**Diana, Princess of Wales Hospital, Grimsby**	No		
	Northern Lincolnshire And Goole NHS Foundation Trust	17	**Scunthorpe General Hospital**	No		
11	Sheffield Teaching Hospitals NHS Foundation Trust	18	**Northern General Hospital**	Yes	Yes	Yes
12	The Rotherham NHS Foundation Trust	19	**Rotherham General Hospital**	Yes	Yes	No
13	York Teaching Hospital NHS Foundation Trust	20	**York Hospital**	Yes	Yes	Yes
	York Teaching Hospital NHS Foundation Trust	21	**Scarborough General Hospital**	Yes	Yes	Yes
14	Sheffield Children Hospitals NHS Foundation Trust	22	**Sheffield Children Hospitals**	Yes	Yes	Yes

Appendix 4. Data collection days of survey

Monday 16th May	Tuesday 17th May	Wednesday 18th May	Thursday 19th May	Friday 20th May	Saturday 21st May	Sunday 22nd May
Leeds General Infirmary 08:00-16:00		Leeds St James Hospital 08:00-16:00				
Monday 23rd May	Tuesday 24th May	Wednesday 25th May	Thursday 26th May	Friday 27th May	Saturday 8th May	Sunday 29th May
		Northern General Hospital, Sheffield 16:00-00:00		Scarborough ED / Urgent Care Centre 12:00-20:00		
Monday 30th May	Tuesday 31st May	Wednesday 1st June	Thursday 2nd June	Friday 3rd June	Saturday 4th June	Sunday 5th June
Bank holiday	York Hospital 12:00-20:00		Barnsley Hospital 12:00-20:00			
Monday 6th June	Tuesday 7th June	Wednesday 8th June	Thursday 9th June	Friday 10th June	Saturday 11th June	Sunday 12th June
	Northern General Hospital, Sheffield 08:00-12:00		Sheffield Children's Hospital 12:00-20:00	Leeds children's ED 08:00-12:00	Harrogate Hospital 08:00-12:00	Leeds General Infirmary 12:00-20:00
	Northern General Hospital, Sheffield 20:00-00:00			Leeds children's ED 16:00-20:00	Harrogate Hospital 16:00-20:00	
Monday 13th June	Tuesday 14th June	Wednesday 15th June	Thursday 16th June	Friday 17th June	Saturday 18th June	Sunday 19th June
			Minor Injuries Unit, Sheffield 08:00-12:00			
			Minor Injuries Unit, Sheffield 16:00-20:00			
Monday 20th June	Tuesday 21st June	Wednesday 22nd June	Thursday 23rd June	Friday 24th June	Saturday 25th June	Sunday 26th June
			Barnsley Hospital 08:00-16:00			
Monday 28th June	Tuesday 29th June	Wednesday 30th June	Thursday 1st July	Friday 2nd July	Saturday 3rd July	Sunday 4th July
Sheffield Children's Hospital 08:00-16:00						

Appendix 5: Detailed overview of results from the staff interviews

Overview of demand for the ED	Staff perspectives on why patients come to the ED		Impact of increasing demand on the ED	Interventions designed to address increasing demand
	Patient factors	Structural factors		
1). Groups of patients that attend the ED: -Elderly -Primary Care patients -Migrant patients -Dentistry -Chronic Long-term conditions (e.g. asthma) -Mental Health -Trauma **2). Changes in demand for the ED over time:** -Significant increase in the numbers of patients attending, particularly elderly and primary care patients. -There has been a significant increase in the numbers of patients attending at weekends and overnight.	**1). Patient expectations about the ED:** - People want convenient access to care - People are not prepared to wait to see a health professional - People believe they have a right to healthcare and they should be able to choose where to be seen. - There is a perception that ED doctors are more experienced than your local GP which is not necessarily true **2). Lack of patient education / health literacy:** - Patients find it difficult to risk manage their own health condition - People don't know what other health services are available	**1). GPs:** - Patients are unable to get GP appointments, particularly during out-of-hours. Linked to the change in GP contract. But there is variation between GP practices. - GPs are overwhelmed **2. NHS 111:** - Sig. increase in inappropriate attendances compared to NHS Direct. - NHS 111 is the gateway to alternative services such as GP OOH - NHS 111 is staffed by non-clinical call handlers. **3. Mental Health / Dentists:** - Difficulties accessing these services in community **4. Pharmacies / MIU:** - Lack of public awareness about these services **5. Social Care:** - This has received funding cuts therefore social problems end up as health problems (e.g. social admissions) **Other health services refer people into the ED if they are unable to assess the patient themselves. **Due to the risk of litigation other services refer people into the ED	**1). Physical environment:** Increasing numbers of patients but nowhere to assess them – ED too small **2). Bed availability:** Increasing number of social admissions. Social care funding has been cut and therefore delays in discharging these patients. Lack of mental health beds available in community so they take up a hospital bed. **3). Staffing:** There is variation across sites with regards to the recruitment and retention of staff. It is a stressful environment and so people are reluctant to work there. **4). Staff morale:** Staff feel like they can't deliver the service they want to because they do not have enough staff / space. They are demoralised and can't see a way out of the pressures they are facing apart from to leave the profession.	**1). Upstream interventions (before the patient arrives at the ED)** - Training for GPs in terms of assessing and treating paediatrics. - Education for patients about alternative health services / improve health literacy - Ambulance staff could do more to re-direct patients - Nursing homes could do more for patients on end-of-life care pathways **2). In-House interventions (Whilst the patient is in the ED):** - Patient streaming - GP co-location - Mental Health Liaison Team - Specialist staff - Senior doctor triage - Rapid Assessment Team **3). Downstream interventions (After the patient has left the ED):** - Better discharge planning (e.g. Fast response team) **Mixed views on whether an intervention should try and stop people attending the ED (e.g. through patient education) or whether we should let the patients come and stream them when they arrive (e.g. ED hub)**

"The ED has high brand awareness"
Open 24/7... They will see anything ... ED has access to all of the diagnostic tests ... ED is the gateway to healthcare – one stop shop for all of your healthcare needs.

The University Of Sheffield.

www.sheffield.ac.uk/scharr/sections/hsr/cure