QualityWatch

Focus on: Emergency hospital care for children and young people

What has changed in the past 10 years?

Research summary

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About QualityWatch

QualityWatch is a major research programme providing independent scrutiny into how the quality of health and social care is changing. Developed in partnership by the Nuffield Trust and the Health Foundation, the programme provides in-depth analysis of key topics and tracks an extensive range of quality indicators. It aims to provide an independent picture of the quality of care, and is designed to help those working in health and social care to identify priority areas for improvement. The programme is primarily focused on the NHS and social care in England, but also draws on evidence from other UK and international health systems.

The QualityWatch website **www.qualitywatch.org.uk** presents key indicators by area of quality and sector of care, together with analysis of the data. This free online resource also provides research reports, interactive charts and expert commentary.

About this report

QualityWatch Focus On reports are regular, in-depth analyses of key topics. These studies exploit new and innovative methodologies to provide a fresh view of quality in specific aspects of health and social care. This QualityWatch Focus On looks at children and young people's use of hospitals, with particular reference to emergency admissions during the 10-year period from 2006/07 to 2015/16. This research summary accompanies a full report, which can be accessed at **www.qualitywatch.org.uk/cyp**.

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Introduction

Emergency care across the NHS in England is under great pressure. The number of people attending Accident & Emergency (A&E) departments is at an all-time high[1], demand for beds is also at record levels[2] and the four-hour A&E target (of seeing 95 per cent of patients arriving at A&E within four hours) has not been met since July 2013[3].

Discussion of the pressures on emergency care within the NHS tends to focus predominantly on older people. This is understandable – the over 65s account for the majority of emergency bed days in NHS hospitals, stay longer in A&E than the rest of the population and are more likely to be admitted to hospital in an emergency[4].

However, children and young people – defined as people under the age of 25 – are also frequent users of emergency care, attending A&E more frequently than the adult population[1]. Their healthcare needs can be very different from adults, meaning they often require specialist support, and – like older people – they can be particularly vulnerable and dependent on carers[5].

As well as an increase in emergency care activity relating to children and young people, research has also highlighted potential issues with the quality of care they receive. For example, a 2014 survey of inpatient care and day cases for children and young people (aged 8–15) found that children and their parents generally reported a very good experience of hospital care. However, the survey also highlighted a number of areas for improvement, including staff awareness of children's medical history before treatment and the quality and availability of information provided on discharge[6]. This is in addition to other evidence highlighting concerns about the quality of care that children receive[5; 7; 8; 9].

This short research summary explores how children and young people's use of emergency care has changed over the past 10 years and seeks to understand what this might mean for care quality.

What we did

Our aims were to understand how children and young people used emergency hospital care in the 10-year period from 2006/07 to 2015/16, whether the main causes for emergency admissions changed and whether the quality of care provided changed.

Our analysis drew on Hospital Episode Statistics (HES) datasets covering hospital admissions in England over the period. We looked specifically at children and young people aged 0–24. We broke down the cohort into six age bands (<1, 1–4, 5–9, 10–14, 15–19 and 20–24) as appropriate for analysis about children and young people.

Our analysis focused on both how activity changed over the period and whether markers of quality had improved or deteriorated. We chose emergency hospital admissions as our indicator of activity, and used primary diagnoses to analyse changes in the main causes that led to children and young people being admitted to hospital. We chose emergency readmissions, length of stay for emergency admissions and in-hospital mortality following emergency admission as our markers of quality.

We supplemented our analysis by also looking at A&E activity between 2007/08 and 2015/16. Data quality issues meant it could not be used extensively.

Taken together, this gives us a good picture of how children and young people used emergency care at NHS hospitals over the past 10 years, what conditions they were needing care for, and what may be happening to care quality in some areas. Our analysis did not look at other forms of urgent and emergency care.

We combined our analysis with an extensive literature review to help make sense of our findings and support the conclusions.

What we found

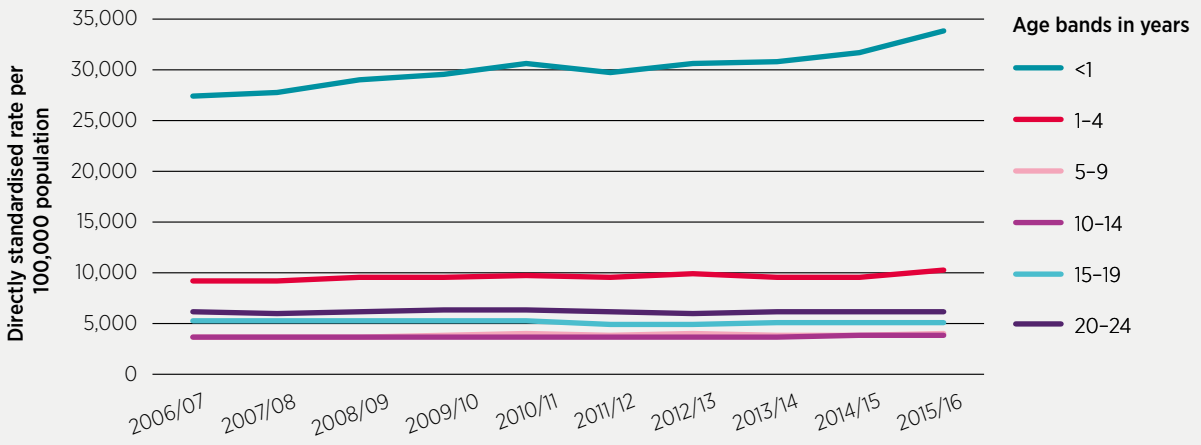
1. Over the past 10 years, children and young people's use of hospital emergency care has continued to increase but increased in particular for infants.

The number of emergency hospital admissions for the under 25s grew from 990,903 in 2006/07 to 1,124,863 in 2015/16 – a rise of 14 per cent. When this is adjusted for changes in the population within this group, the rise is just 6 per cent. Of particular concern is the rise in emergency admissions as well as A&E attendances over the most recent years.

Infants (less than a year old) experienced many more emergency admissions over the time period – a rise of 30 per cent (or 23 per cent when adjusted for population change – see Figure 1). Young children (one to four-year-olds) also experienced around a quarter more emergency admissions over the decade (or 11 per cent when adjusted for population growth). These increases were partially offset by decreases in emergency admissions among young people over the age of 15.

While any rise in emergency admissions is concerning, this must be seen against the backdrop of rising emergency admissions across the board. The total number of emergency admissions (including children and young people) grew by 20 per cent between 2006/07 and 2015/16 in comparison with 14 per cent for children and young people.

Figure 1: Emergency admission rates by age band, directly standardised rates per 100,000 population aged 0–24, 2006/07 to 2015/16

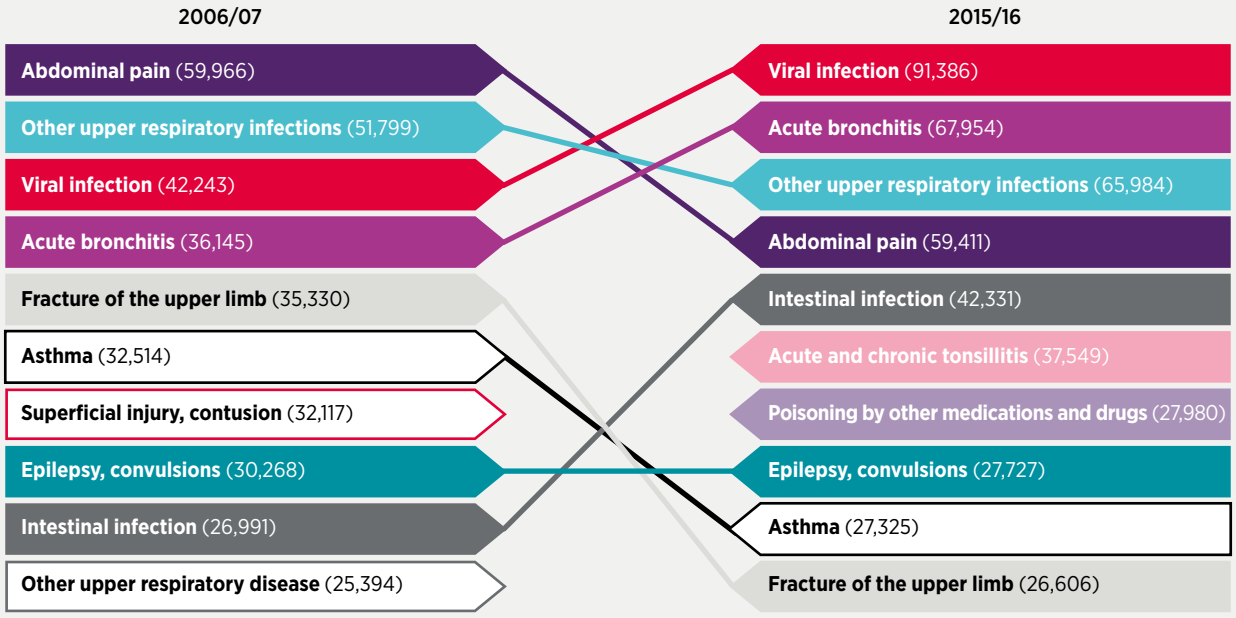


Source: Hospital Episode Statistics 2006/07 to 2015/16

2. Some of the emergency admissions are potentially preventable as they could be better treated in non-emergency settings.

The most common conditions resulting in emergency admissions for children and young people changed little over the decade, but the rate (not shown) and number of emergency admissions for certain conditions increased (see Figure 2). These included viral infection (a rise of 116 per cent over the period) and acute bronchitis (a rise of 88 per cent).

Figure 2: The 10 most common conditions diagnosed on emergency admission for 0 to 24-year-olds, 2006/07 and 2015/16



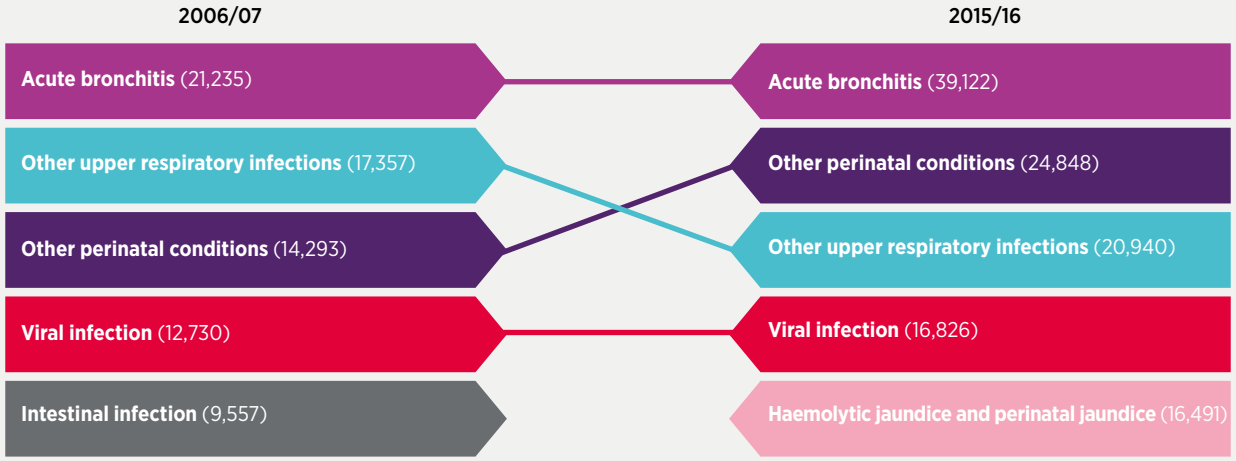
Source: Hospital Episode Statistics 2006/07 to 2015/16

Three of the most common conditions resulting in emergency admission were those for which effective management and treatment could have prevented admission (known as 'ambulatory care sensitive conditions'). These were asthma, epilepsy and acute tonsillitis. A proportion of the emergency admissions for these conditions could have been prevented. While the numbers of admissions for asthma and epilepsy declined over the decade, acute and chronic tonsillitis experienced a 68 per cent rise, with over four-fifths of these diagnoses being for potentially preventable acute tonsillitis in 2015/16.

There were also persistently high numbers of emergency admissions for poisoning by other medications and drugs for the older age groups and concerning numbers of readmissions following emergency admission for this condition.

Looking specifically at infants, certain other conditions saw larger rises. Emergency admissions for jaundice* more than doubled over the decade, from 8,186 cases in 2006/07 to 16,491 cases in 2015/16 (see Figure 3). Similarly, emergency admissions for conditions categorised as other perinatal conditions, which include digestive system disorders and feeding problems, increased by almost three-quarters, from 14,293 in 2006/07 to 24,848 in 2015/16.

Figure 3: The five most common conditions diagnosed on emergency admission for infants, 2006/07 and 2015/16



Source: Hospital Episode Statistics 2006/07 to 2015/16

3. Short stays have become increasingly common for children and young people.

In 2015/16, children and young people were spending less time in hospital following emergency admission than in 2006/07. The average length of stay over the period declined by almost a fifth: from 1.99 days to 1.64 days. This decline is partly related to a rise in short-stay emergency admissions, where children and young people are admitted as an emergency and then discharged on the same day. Same-day discharges increased by 20 per cent between 2006/07 and 2015/16 and now represent nearly half of all emergency admissions.

4. The numbers of children and young people being readmitted to hospital after an emergency admission have risen, with striking increases in readmissions for poisoning by other medications and drugs.

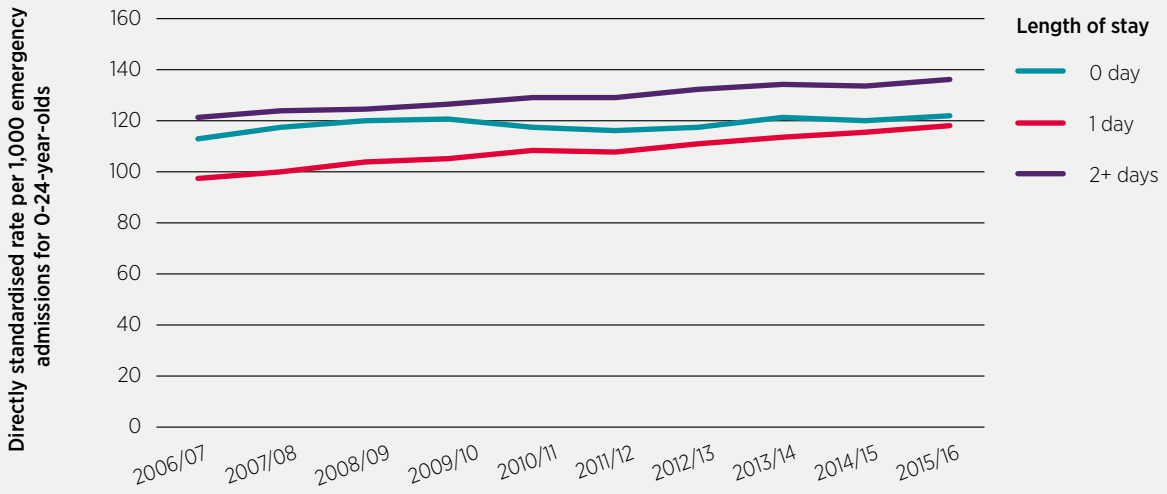
In 2006/07, around one in 10 children who had experienced an emergency admission were readmitted to hospital within 30 days. By 2015/16 this had grown to around one in eight – a rise of 12 per cent. For 15 to 19-year-olds and 20 to 24-year-olds, the increases were larger, at 17 per cent and 15 per cent respectively.

* Haemolytic and perinatal jaundice.

Perhaps most worryingly, compared to other conditions the analysis revealed a larger rise in emergency readmissions following emergency admission for acute and chronic tonsillitis (27 per cent) and poisoning by other medications and drugs (25 per cent) for children and young people.

Emergency readmissions increased for all lengths of stay but increased the least for those who stayed in hospital for less than a day (see Figure 4). Readmissions were highest among children and young people who had a longer initial stay in hospital. For children who had been in hospital for two days or more following an emergency admission, the readmission rates in 2015/16 were 11 per cent higher than for those with a stay of less than a day.

Figure 4: 30-day emergency readmission rates following emergency admission for 0 to 24-year-olds by length of stay, directly standardised rate per 1,000 emergency admissions, 2006/07 to 2015/16



Source: Hospital Episode Statistics 2006/07 to 2015/16

5. It remains very rare for children and young people to die in hospital following an emergency admission, but progress in reducing in-hospital mortality has slowed.

In-hospital mortality following emergency admissions for children and young people is, thankfully, a rare event. Rates declined from one death per 1,274 admissions in 2006/07 to one death per 1,923 admissions in 2015/16. However, this decline happened largely between 2007/08 and 2011/12, and rates have remained constant ever since.

What this means

Children and young people are frequent, and often vulnerable, users of emergency care. The amount of hospital-based emergency care they received over the past decade grew at a slower rate than the amount of this care received by the population as a whole. However, of particular concern is the increase in both emergency admissions and A&E attendances in the most recent years and large increases in emergency admissions for certain groups, particularly infants.

Overall, the rise in emergency admissions can be explained largely by population growth – when we adjust for population changes, admissions rose fairly slowly over the 10-year period. However, by digging a little deeper our analysis highlights some clear areas of concern not accounted for by population growth, which themselves contain implications for policy.

1. While the emergency hospital setting is the right place for very sick children and young people, improving access to high-quality care outside of this setting could help to reduce some admissions.

Hospital emergency care is undoubtedly appropriate for many children and young people. But we found three conditions (asthma, epilepsy and acute tonsillitis) in the 10 most common conditions diagnosed on emergency admission that, in some cases, could be better managed with high-quality appropriate care outside of an emergency care setting. This suggests that problems in how these conditions are cared for both inside and outside the hospital may be leading to higher than necessary numbers of emergency admissions for these conditions.

While there is no nationally available data on the quality of primary care received by children and young people, evidence suggests that there are potential problems. These include the lack of capacity, accessibility and paediatric expertise of general practitioners (GPs), combined with a concentration of paediatricians in hospitals (rather than in the community)[5; 7; 10; 11; 12].

There is, therefore, room for improvement in treating and managing potentially preventable conditions – in particular through better access to staff with appropriate paediatric expertise in the community[5; 13].

2. The rise in emergency admissions among infants raises some questions about maternity and community care.

Our analysis revealed that emergency admissions for infants rose more than emergency admissions for other age groups. There were concerning rises in emergency admissions for jaundice and feeding and respiratory problems for infants. The reasons behind these trends are complex and further research is required to shed light on them. Some of the increases in admissions may be down to more infants with complex disabilities surviving and requiring more intensive healthcare support or possibly the premature discharge of mothers and their babies.

However, the quality of community and maternity services may be linked, especially with a recent review by NHS England highlighting the need for improved breastfeeding and follow-up support to new mothers in the community, focusing on conditions including jaundice[14].

3. The rise in same-day discharges and slower increase in readmission rates for this group may suggest that appropriate care is being provided in hospital.

Our analysis found that short-stay emergency admissions (less than a day) have become increasingly common for children and young people. This suggests that hospitals have been reducing the amount of time many children and young people stay in hospital, which may be a result of speeding up the discharge process. Alternatively, it might be a sign that hospitals are increasingly admitting children and young people with less severe conditions to paediatric short-stay units. These units allow for short-term observation, which can lead to fewer full inpatient admissions and can provide a more efficient clinical service[15]. The trend we observed of increasing admissions for viral infection and acute bronchitis, which can be severe conditions but sometimes require only short-term observation, perhaps supports this.

At the same time, the readmission rates following short stays have not been increasing as rapidly as readmission rates for those staying in hospital for longer (one or more days). This means that care delivered to children and young people during these short-stay admissions may be appropriate. However, a different question is whether this observation should be based in hospital, or whether it could be more appropriately provided in a community setting, under the assumption that the appropriate skills and resources to provide effective and safe care are available.

4. Readmission rates for poisoning by other medications and drugs among older children are of particular concern.

The consistently high numbers of emergency admissions for 15 to 24-year-olds for poisoning and the growth in readmissions following emergency admission for this condition could suggest that this group may not be receiving optimal care. This may be related to the quality of care in the community and in mental health services, as well as the quality of emergency hospital care.

We know that children and young people are having increasing difficulty in getting access to specialist mental health services, and there is wide variation in how long they have to wait for care[16]. While it was not possible for this analysis to make a direct link between this and the rise in emergency admissions in this age group, the trends are concerning.

What could be done?

Based on the indicators we looked at, our analysis highlights that the quality of emergency hospital care has been maintained with some early signals of deterioration or potential changes in the way care is delivered to children and young people. However, it also highlights potential issues in the accessibility and quality of care outside of the emergency hospital care setting, including hospital outpatient, primary, maternity and mental health care, alongside other issues including the lack of support for deprived families.

Numerous new models of care across child health are currently in development, which offer promising ways forward for some of these problems. These range from paediatric hotlines, nurse-led children's walk-in centres and child health GP hubs involving paediatric consultants and other child health experts, through to evidence-based tools to help parents care for acutely sick children, and training programmes for GPs[5].

A recent review of these new care models highlighted common principles[5], which could be adopted more systematically to improve the quality and availability of care for children and young people. These included:

- understanding the general and specific needs of children, young people and their families, and organising care to meet these needs
- strengthening early and easy access to appropriate expert paediatric/child health assessment in the community
- linking up information, data, communication and care (different forms of integration)
- improving the health literacy and education of families as well as professionals.

It is widely accepted that early intervention is an essential part of keeping children and young people healthy. Our analysis has shown that, despite growing pressures on emergency care in England, children and young people are having increasing but not disproportionate numbers of emergency admissions. However, within this we have identified a number of areas of concern, which highlight potential inadequacies in the level of care and support this group is receiving outside the emergency hospital setting. If the NHS does not have adequate resources or sufficient alternatives to emergency hospital care, it may become difficult for the service to address these concerns and improve quality of care for children and young people.

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