

the first 3 years of treatment with stimulant medication. Whether this is associated with delay in the rate of skeletal maturation is unknown. Our aim was to investigate the effect of stimulant medication on bone age, height and weight.

Methods Prospective longitudinal study of the first 3 years of treatment with stimulant medication in children with ADHD compared with their unaffected siblings. X-rays of the non-dominant wrist and hand were taken at baseline and 3 years. The films were read independently by 2 radiologists blinded to date, age and group allocation. The bone age was calculated using Tanner and Whitehouse version 3 which uses staging of the radius, ulna and 11 small bones of the hand to compile a RUS score which is converted to bone age using gender specific reference data. Height and weight were monitored. The dose of stimulant medication (dexamphetamine or methylphenidate) was titrated with the aim of achieving the best clinical response with the lowest possible dose of medication. Groups were compared using independent samples t-tests. Correlations used Pearson's r.

Results From 2003–2009, 70 children with ADHD and 36 siblings aged 2.5–11.6 years had baseline X-rays, repeated after 3 years in 40 and 20 respectively. The correlation between the reporting of the radiologists was $r = 0.96$, $p < 0.001$. Over 3 years the ADHD children grew significantly more slowly than their sibling controls (5.2 ± 1.0 and 6.7 ± 1.2 cm/year, $p < 0.0001$; 2.9 ± 1.9 and 4.6 ± 2.5 kg/year, $p = 0.005$). The bone age progression was not significantly different between groups for either radiologist. The bone age changed by 2.90 ± 0.85 years in the subjects and 3.13 ± 1.07 years in the controls, $p = 0.4$ (calculated from the average of the 2 radiologists' scores).

Conclusions Despite significant differences in growth rates, the children with ADHD showed no significant delay in their rate of skeletal maturation compared to a group of healthy siblings. A slower growth rate in association with a normal rate of maturation could have adverse implications for growth potential.

P11 INVESTIGATION INTO PAEDIATRIC N-METHYL-D-ASPARTATE RECEPTOR (NMDAR) ENCEPHALITIS: RESULTS OF THE BRITISH PAEDIATRIC NEUROLOGICAL SURVEILLANCE UNIT (BPNSU) STUDY

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Aims NMDAR-antibody encephalitis presents in adults and children with neuropsychiatric features, seizures, movement disorders and autonomic instability. This BPNSU study aimed to report the clinical features, management and neurological outcomes of UK paediatric patients.

Methods An initial and follow-up questionnaire was sent out to physicians following voluntary reporting of confirmed cases of NMDAR-antibody encephalitis through the BPNSU. Out of 35 cases notified, 31 met the case definition.

Results The majority of patients were female (23/31; 74%; age range 22 months to 17 years) most presenting in pre-school and teenage years. Male patients only presented from school age (age range 6 to 17 years), which was significantly different to the female presentation age range ($p = 0.03$). 55% of the patients were Caucasian. The most common presenting symptoms were neuropsychiatric (28/31), behavioural change (27/31), and seizures (21/31). Movement disorder was present in 67% of patients (21/31); in 3 patients this was the only symptom. Atypical or

monosymptomatic presentations (e.g. neuropsychiatric features only) occurred in 7 patients. EEG was the most frequently abnormal investigation (28/21; 93%). An ovarian teratoma was found in one patient. First-line immunotherapy was used in all cases. The most commonly used 2nd line agents were cyclophosphamide (3), rituximab (3) or both (3). Most patients showed a response to immunotherapy within 30 days. Thirteen patients required ICU admission (13/31; 42%). The average in-patient stay was 80 days (range 10 – 365 days). Patients required, on average, the involvement of 4 additional health professionals to the admitting team. Only 1 patient in the retrospectively diagnosed group ($n = 7$) made a full eventual recovery, compared to 78% (18/23) of the prospective group ($p = 0.003$). 7 patients suffered a relapse; 3 of these had an atypical presentation, making relapse more common in this group (3/7; 43%) compared to the patients with a more typical presentation (4/19; 21%).

Conclusions In the UK, paediatric NMDAR-antibody encephalitis presents mainly in females with neuropsychiatric features, behavioural change and seizures, usually supported by an abnormal EEG. Tumours are uncommon. Monosymptomatic presentations exist and frequently relapse. Patients do better if diagnosed at the time of presentation. Prolonged hospital admission is common and requires a multi-disciplinary approach.

Association of Paediatric Emergency Medicine

G12 WHAT ARE THE RESEARCH PRIORITIES OF PAEDIATRIC EMERGENCY MEDICINE CLINICIANS IN THE UNITED KINGDOM & IRELAND? AN INTERNATIONAL SURVEY

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Aims Paediatric Emergency Research in the UK and Ireland (PERUKI) is a research collaborative that was established in August 2012. It consists of 40 centres from England, Ireland, Northern Ireland, Scotland and Wales, and aims to improve the emergency care of children through the performance of robust collaborative multicentre research within Emergency Departments (EDs).

A study was conducted to establish the research priorities of PERUKI, in order to direct potential projects and to share these priorities with funding agencies to inform future calls for study proposals.

Methods A 2-stage modified Delphi survey was conducted of all PERUKI members via an online survey platform. Round 1 allowed each member to submit up to 12 individual questions in "PICO" format that they identified as priorities for future research. From this total bank of responses, a list of all unique research questions was compiled, grouped by subject area/topic.

A shortlist of eligible questions was then drawn up by the PERUKI Executive Committee during a teleconference analysis discussion. Questions were considered to be eligible for further consideration if they were unanswered in the current literature and if they lent themselves to multi-centre research within EDs.

Abstracts

In Round 2, members reviewed each of the shortlisted questions and rated each on a 7-point Likert scale of relative importance to clinical practice in Paediatric Emergency Medicine. Questions were then ranked according to total priority score.

Results Round 1:

Response rate = 46/91 (51%)

Total questions	249
Total unique questions	206
Shortlisted eligible questions	60

Round 2:

Response rate = 58/95 (61%)

After ranking, the top 10 priorities included questions on biomarkers for serious bacterial illness, major trauma, intravenous bronchodilators for asthma, and decision rules for fever with petechiae, head injury and atraumatic limp.

Conclusion Research priorities of PERUKI members have been identified. We are dovetailing this with the next step of identifying relevant funding bodies to progress research in these areas of Paediatric Emergency Medicine.

G13 TRENDS IN ADMISSION AND DEATH RATES DUE TO PAEDIATRIC HEAD INJURY IN ENGLAND AND WALES 2000–2012

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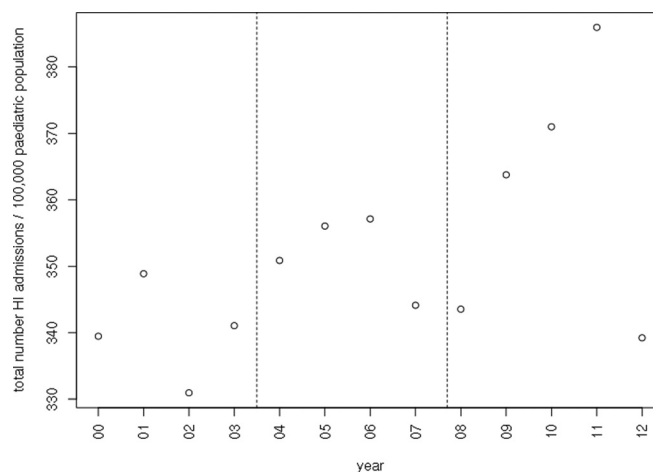
Over the last ten years there has been a steady rise in short paediatric admissions. This is likely to be multi-factorial but is in part attributed to the introduction of the four hour Emergency Department (ED) target and changes in primary care provision. Head injury is the most common paediatric injury presentation. The National Institute for Health and Care Excellence (NICE) published guidance for head injury management in 2003 and 2007. Both prioritised early definitive diagnosis by early brain imaging although paediatric practice often includes a period of observation. We aimed to establish whether introduction of national guidance resulted in significant change of death or admission rates.

Methods A retrospective observational study of admissions and deaths due to paediatric head injury between 2000 and 2012 was performed using Hospital Episode Statistics and Office for National Statistics publications.

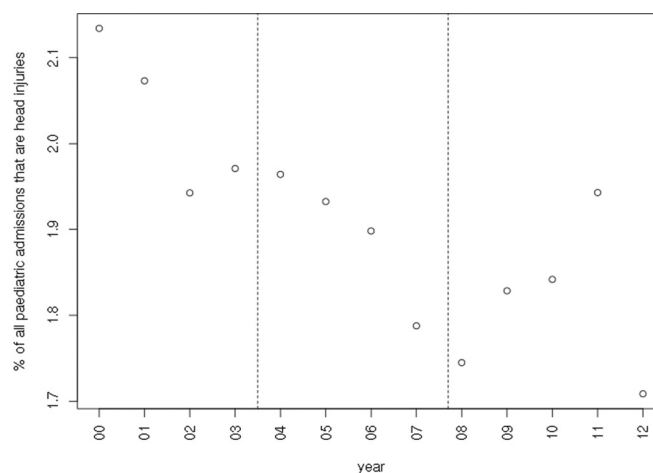
Results – See Figures 1–3.

Correcting for changes in population size, per 100,000 children aged 0–14 years there is a downward trend in mortality (Figure 1) ($R^2 = 0.7$ $p < 0.001$) but an upward trend in admission rates (Figure 2) ($R^2 = 0.3$ $p = 0.05$). Admission rates for paediatric head injury as a percentage of all admissions decreased (Figure 3) ($R^2 = 0.65$ $p < 0.001$).

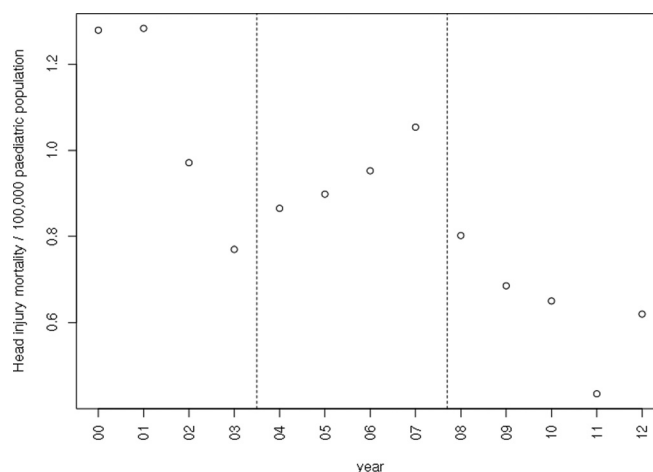
Conclusion We have found statistically significant changes in rates of death and admission due to paediatric head injury over this time period. However even accounting for implementation delays, the trends that we have demonstrated do not directly correlate with the timings of national guidance, ED targets or changes to primary care provision. For a more complete understanding of the impact of the guidelines this analysis should now be expanded to incorporate ED attendance rates and length of stay. However these existing data provide a useful benchmark against which to compare the effect of the 2014 update to NICE guidance.



Abstract G13 Figure 1 Annual number of head injury admissions per 100 000 paediatric population 2000–2012.



Abstract G13 Figure 2 Percentage of paediatric admissions due to head injury (HI) 2000–2012.



Abstract G13 Figure 3 Annual number of head injury deaths per 100 000 paediatric population 2000–2012.

G14 ARE HEALTHCARE PROFESSIONALS ABLE TO ESTIMATE THE SURFACE AREA OF A BURN IN A CHILD?

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G12 What are the Research Priorities of Paediatric Emergency Medicine Clinicians in the United Kingdom & Ireland? An International Survey

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