



INTRODUCTION

- There are no published 'comprehensive' UK incidence figures for childhood burns.
- Estimates are predominantly derived from Hospital Admissions (HA), yet children present to Emergency Departments (ED), Primary Care and are treated at home (non-medically attended).

AIMS

To estimate the annual incidence of childhood burns amongst UK children (aged 0-15 years) which were medically attended, according to the setting where they were treated, and those which were non-medically attended.

METHODS

Data were collected from routine healthcare datasets and available epidemiology data collection systems.

Non-medically attended burns

Self-reported household burns were derived from ALSPAC, a birth cohort study, that provided data for children 0-11 years. from 1991-2002.⁽¹⁾ Following a RCT measuring the effect of the Family Nurse Partnership (Building Blocks Trial)⁽²⁾, self-reported non-hospitalised burns were obtained from a retrospective analysis of data for children 0-2 years, born to first-time teenage mothers between 2009 and 2014.

ED attended burns

All invited members of the Paediatric Emergency Medicine Research Network (PERUKI), (44 EDs) contributed data from *England, Scotland and Northern Ireland* for burns in children aged 0-15 years for the calendar year 2014.

Wales: Data were obtained from all 24 EDs in Wales from National Wales Informatics Services (NWIS) for children aged 0-15 years for financial year 2014-15.

Hospital Admissions

Data across all hospital's provided by Health and Social Care Information Centre (HSCIC, *England*), National Services *Scotland* for children 0-15 yrs. NWIS (*Wales*) and *Northern Irish* Social Services and Public Safety for children 0-19 years for financial year 2014-15.

HAS to burn services of children 0-15 years were from IBID (International Burn Injury Database) for *England and Wales* for financial year 2014-15

Deaths

Office for National Statistics (ONS) (*England and Wales*), *Northern Ireland* Statistics and Research Agency (NISRA) and National Records of *Scotland* for calendar year 2013-2014 for children 0-14 yrs. Age-specific 2013 and 2014 mid-year ONS population figures enabled estimation of annual incidence (2015 not available).

RESULTS

Non-medically attended burns

The ALSPAC cohort (n=5089) gave an estimated incidence of burns of 299/10,000 person-years for children aged 0-11 years, with a peak incidence of 719/10,000 person-years for 0-2 year olds. Building Blocks data for children aged 0-2 years recorded 840/10,000 children/year.

ED attended burns

- In *Wales* burns account for 0.8% (1600/203144) of all 0-15 year old children attending ED, of which 61.3% (990/1600) were aged 0-4 years
- In 38 *English* PERUKI EDs (representing 15.6% of all 244 *English* EDs), burns accounted for 0.9% (9356/1,004,965) of all 0-15 year old children attending ED. HSCIC estimate 3,877,983 annual child ED attendances in 0-15 yr. olds.
- In 5 *Scottish* PERUKI EDs (representing 15.6% of all 32 *Scottish* ED), burns accounted for 0.85% (1214/142,561) of all children aged 0-15 years attending ED. National Services for Scotland estimate 264,392 total ED attendances in children 0-15 years old.
- In 1 *Northern Irish* PERUKI ED (representing 9.1% of all 11 ED in *Northern Ireland*), burns accounted for 0.9% (232/24,641) of all children aged 0-15 years attending ED. There were no data available for total ED attendances for Northern Ireland.

Hospital admissions

- England* had the highest rates of HA at 6.0 per 10,000 children per year compared to an estimated 3.0 per 10,000 children in Scotland and Wales and 2.8 in *N Ireland* (NB in *N Ireland* data were only available for children aged <20 years).
- Across the UK 6,776 children were admitted to hospital as a result of a burn in 2014-15.
- In *England* 2208 and in *Wales* 69 children aged 0-15 years were admitted to burn services; rates of 2.1 and 1.2 /10,000 children/year respectively

Deaths

Between 2013 and 2014 there were 6 fatal burns in *England and Wales* and 1 in *Scotland* amongst children aged 0-14 years.

	England	Wales	Scotland	Northern Ireland
Non-medically attended /10,000 person-years (1991-2002) (0-11 years)	299			
ED attendances/10,000 children/year (2014) (0-15 years)	33.9	28.8	26.1	
Hospital Admission/10,000 children/year (financial year 2014/2015)	6.0 (0-15 years)	3.1 (0-15 years)	3.0 (0-15 years)	2.8 (0-19 years)
Deaths/1,000,000 children/year (2013-2014) (0-14 years)	6		1.2	0

Table 1. Estimated annual incidence rates of paediatric burns by UK region

CONCLUSION

- Whilst different coding systems, sources, ages and time periods were used, conservative estimates suggest that 1-6 UK children <15 years old die, 6,780 are hospitalised, (one third in burns units/centres) and 40,000 attend ED due to burns annually.
- This represents significant morbidity with potential long term health consequences, and extensive health service utilisation.
- Burns are preventable and knowledge of the rates of childhood burns can inform, and provide a baseline, for monitoring prevention efforts.

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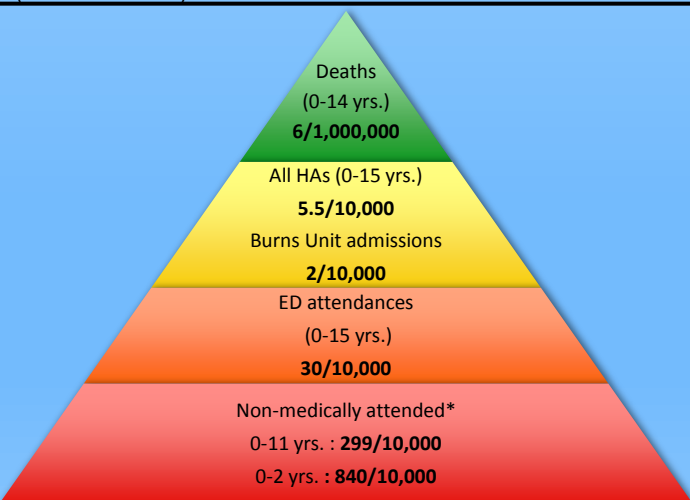


Figure 1. UK annual incidence estimates for childhood burns per 10,000 child population, mortality/ million *Non-medically attended rates for 0-11 years are self-reported from the ALSPAC cohort 1991-2002 and 0-2 years from Building Blocks ⁽²⁾.

REFERENCES (1) <http://www.bristol.ac.uk/alspac/>
(2) [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(15\)00392-X/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)00392-X/abstract)

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