

# Coroners' records of accidental deaths

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## Abstract

This study set out to provide a description of the children involved in fatal accidents and to ascertain which deaths might have been prevented and by what means. The records from a convenience sample of four coroners (jurisdictions of Inner North London, Birmingham, Bedfordshire, and Ipswich) of inquests opened in 1984-8 on children aged under 15 killed in accidents were reviewed for information on the deceased, the accident, and the injuries sustained. Altogether 225 records (150 boys, 75 girls) were examined. Accidents to pedestrians were the commonest cause of death (81 cases), and road safety engineering measures were the most likely means by which most fatalities might have been prevented. The records frequently omitted information on social circumstances, family structure, ethnic group, or the use of safety equipment.

Cooperative coroners can contribute to child safety as their records are rich in information about accidents. This could be made available to parties interested in accident prevention, including community paediatricians.

Accidental death is the largest single cause of death to children aged under 15, and in the UK over 800 children are killed in accidents every year. Some of these cases are thoroughly investigated and considerable information on them is available for analysis, for example, road accidents (from police records). Other sources of data lack uniformity and detail and are not up to date, for example, the Home Accident Deaths' Database.

The only comprehensive source of detailed information on death from all accidental causes is that held in the coroners' records. As has been shown elsewhere, these records contain both basic demographic data (age/sex, etc) and detailed pathological information.<sup>1</sup> An in depth study of these records was undertaken.

Immediate objectives were to provide a detailed description of the children involved in fatal accidents and to ascertain which childhood deaths might have been prevented and by what means. This report also suggests how coroners could contribute more widely to child safety.

## Methods

Records from a convenience sample (a presumably unbiased but non-random sample) of four coroners with jurisdictions of different sizes and demographic characteristics were included in

the study. The four jurisdictions were Inner North London, Birmingham, Bedfordshire, and Ipswich.

All inquests opened in 1984-8 inclusive were analysed for children age 0-14. Cases where the verdict was 'accidental death' or 'misadventure' other than medical accidents were included. In addition, records where the verdict was 'unlawful killing', 'death by natural causes', and 'open verdict' were reviewed and included where appropriate. The following information was systematically abstracted, if available:

- The coroner: jurisdiction, record number.
- The deceased: name, address, sex, date of birth, height and weight, ethnic group.
- The family: parent's occupation, family structure.
- The accident: time, day, and date of accident, accident type.
- The injury: nature of injury, treatment received, time to die, abbreviated injury severity score.
- The verdict: cause of death as certified, verdict, notes.

## Results

A total of 225 cases was included. These covered Inner North London (87 cases), Birmingham (91 cases), Bedfordshire (42 cases), and Ipswich (5 cases).

### PERSONAL DETAILS OF DECEASED

A detailed breakdown into sex and age groups is presented in table 1.

### ACCIDENT DETAILS

The various accident types are detailed in table 1, subdivided by age group and sex. There were 91 home accidents, 103 road accidents, and 31 leisure accidents. Of the 225 children, 126 (56%) were playing at the time of the accident. Of 81 pedestrian casualties, 48 (59%) were at play, and sleep was mentioned for 18 children (49%) of the 33 killed by burns or in fires.

### POSSIBLE PREVENTATIVE MEASURES

All cases were examined to see whether there were possible measures that might have contributed towards preventing the accident. There were 38 cases where it was considered that no such measures would have been useful. This included a child struck by lightning, three older children who were strangled in accidents that were considered by the coroners to be prank

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Accepted 24 June 1991

Table 1 Type of accident by age and sex

Type	<1 year			1-4 years			5-9 years			10-14 years			All ages		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Asphyxia*/suffocation/hanging	4	4	8	6	4	10	2	1	3	7	1	8	19	10	29
Burn/scald/house fire	5	4	9	12	11	23	6	0	6	2	1	3	25	16	41
Fall	0	2	2	8	4	12	2	3	5	2	1	3	12	10	22
Drowning	0	0	0	4	3	7	5	0	5	1	1	2	10	4	14
Cutting/piercing	0	0	0	0	1	1	1	0	1	0	1	1	1	2	3
Hit by object†	0	0	0	1	1	2	1	1	2	2	0	2	4	2	6
Pedestrian	0	0	0	16	7	23	20	14	34	19	5	24	55	26	81
Cyclist	0	0	0	0	0	0	2	2	4	9	1	10	11	3	14
Passenger	1	1	2	1	1	2	1	0	1	3	0	3	6	2	8
Bite	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
Poisoning	0	0	0	4	0	4	1	0	1	0	0	0	5	0	5
Struck by lightning	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1
Total	10	11	21	52	32	84	42	21	63	46	11	57	150	75	225

\*Not in fire; †other than car.

imitations of suicide, and older children deliberately crossing major roads in the presence of barriers.

Suggested preventative measures in the other cases were broadly divided into education, engineering, and enforcement. The results are given in table 2. Totals exceed the number of fatalities reviewed, as more than one measure was possibly relevant in some cases.

Because the use of specific safety measures was rarely recorded, it is possible that safety devices were actually in use in some cases but proved ineffective.

#### MULTIPLE DEATHS

Eighteen children were killed in an accident where more than one person died. These were five house fires, one situation where two cyclists died, and one where two boys playing in a quarry were trapped by falling sand. Only one child was killed in a major disaster (one boy age 7 in the fire at King's Cross tube station).

#### UNAVAILABLE INFORMATION

Information on children's height and weight was poorly recorded in postmortem data (not available in 142 cases). Information on ethnic group was not available in 88 cases, so no conclusions as to accidents in various racial groups could be drawn. The records also contained very little information about the social and personal details of the children and their families. These shortcomings limited examination of hypotheses linking accident frequency to family size, family structure or position in the family, and social or ethnic background. Information on safety training of children was also limited (for example, cycle training was mentioned in none of 14 cycle accident cases and in cases involving swimming one drowned child was described as a non-swimmer and one as a swimmer).

#### Discussion

For this study a number of interested and

Table 2 Possible preventative measures

Education	No of fatalities	Engineering	No of fatalities	Enforcement	No of fatalities
General education about child safety:		Environmental design:		Changes in legislation/regulation:	
Adults:		Road safety engineering techniques	58	Combustion modified foam in furniture (now introduced)	14
Scalds—spillage of hot liquid	2	Water—restrict access	9	Flame retardant covers in cars	1
Steam inhalation	1	Window—restrict access	2	Flame resistant nursery products (now introduced)	1
Strangulation of infants	2	Quarry—restrict access	2	Restraints in cars (now introduced)	5
Poisoning	5	Lift—restrict access	1	Restraints for lorry passengers	1
Drowning—toddlers in bath	2	Railings—remove	1	Child resistant closures for all medicines	6
Conflagration—trapped behind locked double glazing	1	Safety products:		Swimming pool isolation	3
Children:		Smoke detectors	20	Bannister design (now introduced)	2
Play with flammable materials	6	Cycle helmets	12	Enforcement of legislation:	
Specific training:		Restraints in cars	5	Offences by drivers	21
Pedestrian safety	27	Reins for toddlers	6	Total	53
Bicycle riding and maintenance	10	Window/balcony locks	4		
Swimming	5	Stair gate	2		
Driver education	3	Fire guard	2		
Improved supervision:		Swimming pool isolation	3		
Pedestrians	23	Product design:			
Conflagration	10	Foam furniture	14		
Falls from windows or balconies	4	Bannisters	2		
Poisoning	5	Pen caps	1		
Asphyxiation/strangulation	3	Product damage:			
Hit by farm hopper	1	Electrical fault	2		
Drowning	9	Duvet—unstitched thread	1		
Knowledge of first aid:		Product misuse:			
Drowning	13	Smoker's materials (adults)	11		
Asphyxia	6	Double glazing	1		
Scald	2	Steam	1		
Penetrating wound	1				
Total	141	Total	161		

cooperative coroners were willing to open their records for research purposes. It was confirmed that the records do contain much useful information relevant to child safety.

The pattern of accidents observed was as expected from other studies.<sup>2-5</sup> This was true both for the ages and sexes of the children and the accident types. Only one child died in a major disaster, though the occasional mass incident and not the everyday steady stream of deaths receives most publicity.

There was considerable information in the records that did allow suggestions for prevention to be made. Coroners could make this information available at a local level where it could inform local accident prevention groups and community health strategies. It could contribute to a national database on accidental death.

It is inappropriate under the coroners' rules for an inquest to apportion blame.<sup>6</sup> However, inquests are open to the press who may report on the proceedings, allowing the coroner to make considered public comments that could have an important influence on promoting safety.

Coroners are able to contribute to child safety by opening their records. This should include community paediatricians and other safety workers as well as academic researchers.

The Trust would like to thank the following coroners for allowing access to their records: Dr D R Chambers, Inner North London, Dr R Whittington, Birmingham, Dr J D Harte, Bedfordshire, and Mr N StJ Watkins, Ipswich. The Child Accident Prevention Trust would also like to thank the following funders, whose financial support made this study possible: the Harold Hyam Wingate Foundation, the C A Redfern Charitable Foundation, the Grand Charity, and Mrs F Avon.

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- 3 Office of Population Censuses and Surveys. *Deaths from accidents and violence*. London: OPCS, 1990. (Quarterly Monitors DH4 Series.)
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- 6 Burton JDK, Chambers DR, Gill PS (the coroners' society of England and Wales). *Coroner's inquiries—a guide to law and practice*. Middlesex: Kluwer Law, 1985.