

# **Circumstances of Injury in Childhood and Adolescence: Current Data and Epidemiology**

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# Aims, Methods & Sources

**Aim:** Assessment of the burden of injuries in German children and adolescents according to age group and sociodemographic status

**Method:** Descriptive epidemiological study

**Sources:**

1. Official statistics

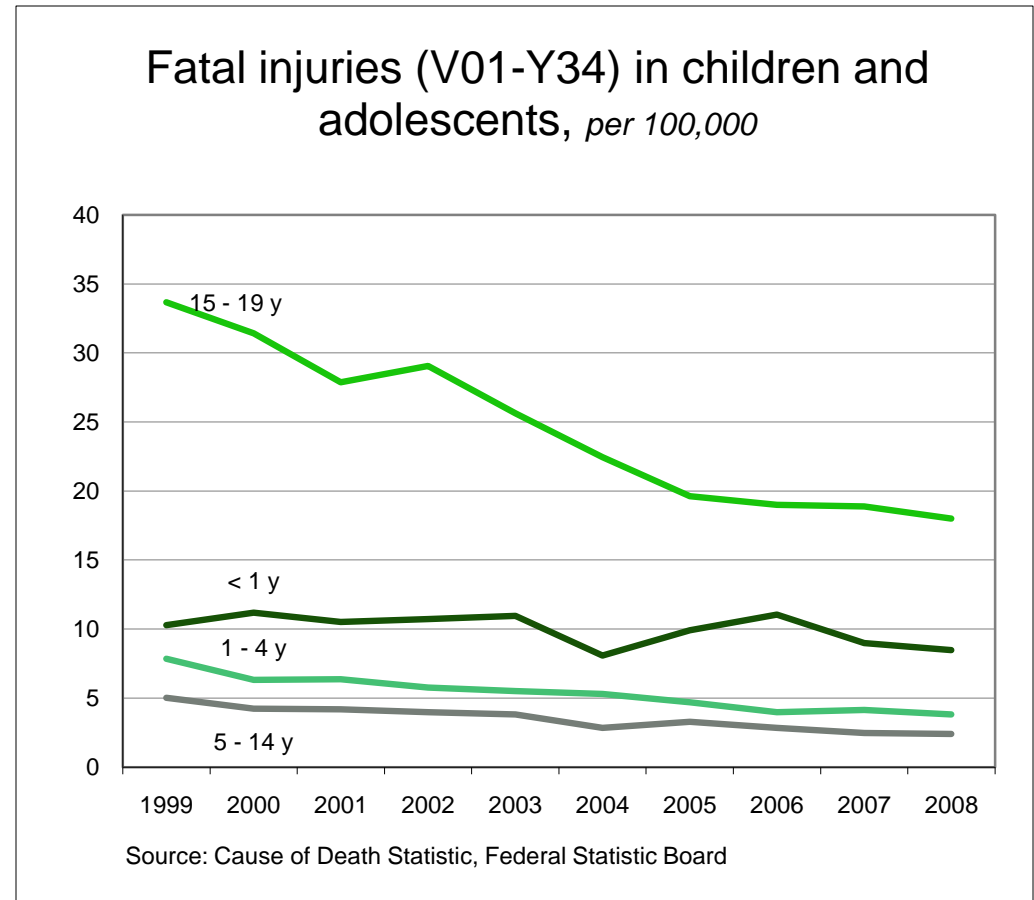
- Causes of Death Statistics: ICD-10-WHO (XX, V01-Y98)
- Hospital Diagnosis Statistics: ICD-10-GM (XIX, S00-T98, excl. T80-88)

2. Further Sources

- IDB (German Injury Data Base): inpatients & outpatients data collected firsthand by doctors in hospitals (2007-2009)
- Child and Adolescent Health Survey: section “injuries”, based on parent interviews; representative data on injured German children (aged 1-17), 2003-2006, N=2541

# Age dynamic of fatal injuries in Germany

- Highest rate of fatal injuries in adolescents
- Continuous decrease in fatal injuries in all age groups, except infants
- The persistently high rate of fatal injuries in infants reflects lack of appropriate preventative measures



# Age-specific dynamics: important for injury prevention

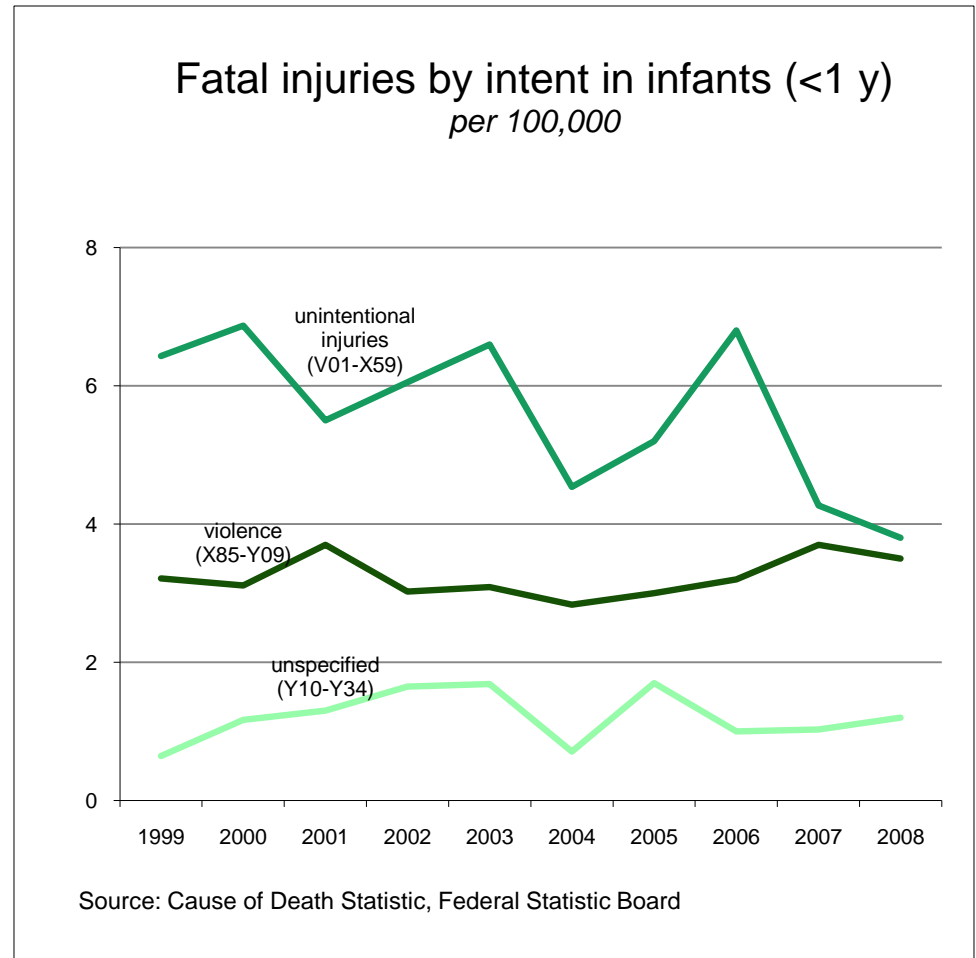
 Detailed example in the following

German findings

Injury category	Age specific dynamic	Year 2008: injury (n) per 100,000	
		Cases per 100,000 age group related	average
<b>Fatal injuries due to violence</b>	Highest rate in infants (<1 y)	4	0.3 (1-19 ys)
<b>Fatal unintentional injuries</b>	Highest rate (15-19 ys)	18	2.3 (1-14 ys)
	Highest rate of road traffic injuries (15-19 ys)	10.5	1.0 (1-14 ys)
	Highest rate of domestic injuries in children (< 5 ys)	1.7	0.2 (5-19 ys)
<b>Suicide</b>	Second most common cause of death in (15-19 ys)		4.6 (15-19 ys)
	Male adolescents 3x more likely to commit suicide than female	6.8	2.2 (15-19 ys)
	Highest hospitalisation rate due to poisoning by drugs in female (15-19 ys)	89	31 (15-19 ys)
<b>Non fatal injuries</b>	Highest hospitalisation rate in infants, increasing since 1999, but decreasing for all other age groups	3,047	1,554 (15-19 ys)
	Highest hospitalisation rate for brain injuries in infants	1,315	454 (15-19 ys)
	Highest hospitalisation rate of thermal injuries in children (<5 ys)	110	15 (15-19 ys)

# Example: Age specific development of fatal injuries by intent - infants

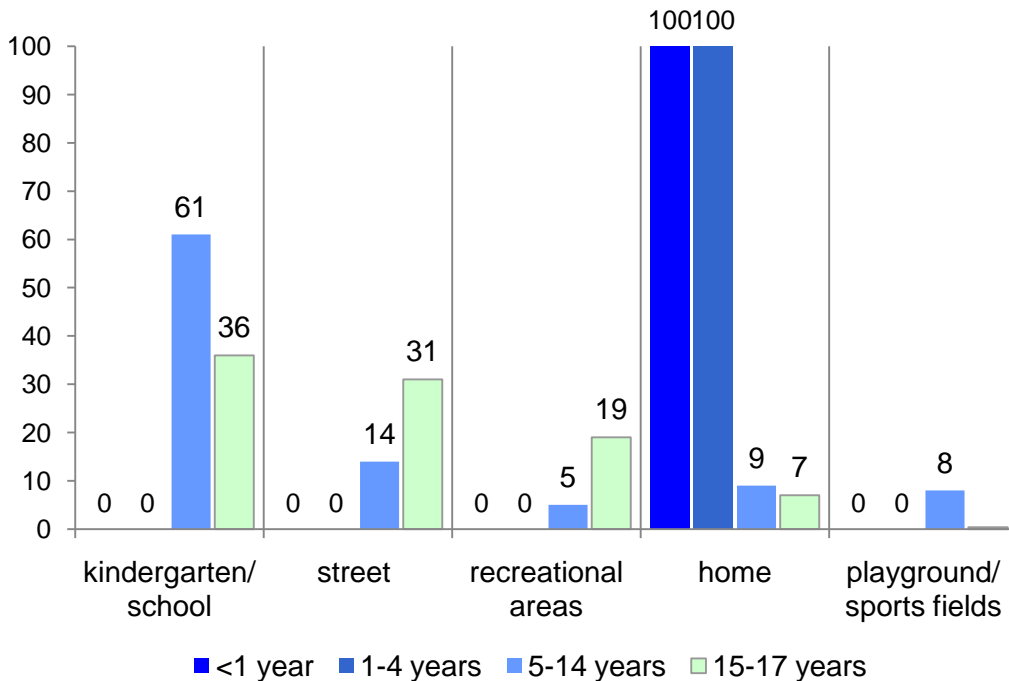
- Fatal unintentional injuries: downtrend in infants
- Fatal injuries due to violence remain at a high level. In 2008 rate of injury due to violence almost equal to rate of injury by accident
- Deeper insight into injuries due to violence is necessary to promote preventative measures



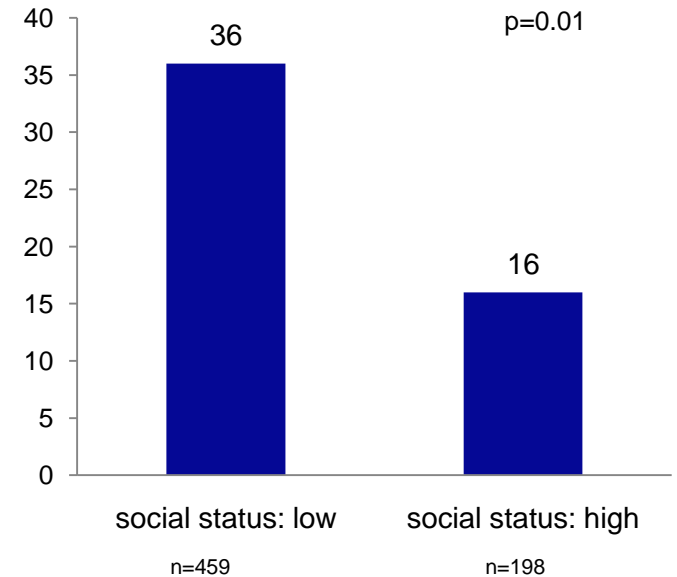
# IDB - Domestic violence predominantly affects infants

## - Highest risk in children from disadvantaged families

**Injuries due to violence (N=2,186) according to location and age group, 2007-2009, in %**



**Child injuries due to violence (N= 1,262) related to social status of parents, 2007-2009, in %**



Hospitals in Leipzig and Cottbus, injuries in children (<18 ys), 2007-2009 (N=31.107)

Injuries in children (<18 ys) related to social status, 2007-2009 (N= 22.922)

# IDB: information on injury mechanisms enabling implementation of specific measures

- Shaken baby syndrome a severe consequence of domestic violence against infants
- Preventative measures developed in co-operation with health insurers, midwives and paediatricians
- Midwives and paediatricians inform parents of newborns that shaking a baby may cause brain damage
- Stressed parents are informed to contact family counselling centers



**Please, don't shake me!**

Liebe Eltern,  
mit einem Baby zu leben, ist wunderschön, leider aber nicht immer leicht. Viele Eltern kennen das Gefühl der Erschöpfung, der übergroßen Müdigkeit oder auch der Verzweiflung:  
Ihr Baby schreit und schreit, es scheint eine Ewigkeit zu dauern. Sie tragen es herum, wechseln seine Windeln, geben ihm zu trinken: Nichts hilft. Das geht an die Nerven und ist manchmal nicht zu ertragen. Sie würden Ihr Baby am liebsten kräftig schütteln, um endlich Ruhe zu haben. Tun Sie es niemals! Dann hört es nämlich nicht auf und Sie bringen Ihr Kind in Gefahr. Das Gehirn eines kleinen Kindes ist sehr empfindlich. Schon ein kleiner Schlag auf den Kopf kann zu schweren Verletzungen führen.

Hilfer! Mein Baby hört nicht auf zu schreien.  
Ein Ratgeber für Eltern



# Results: injuries related to social risk factors

- Road traffic injuries occur more frequently in disadvantaged families (Child and Adolescent Health Survey 2007)

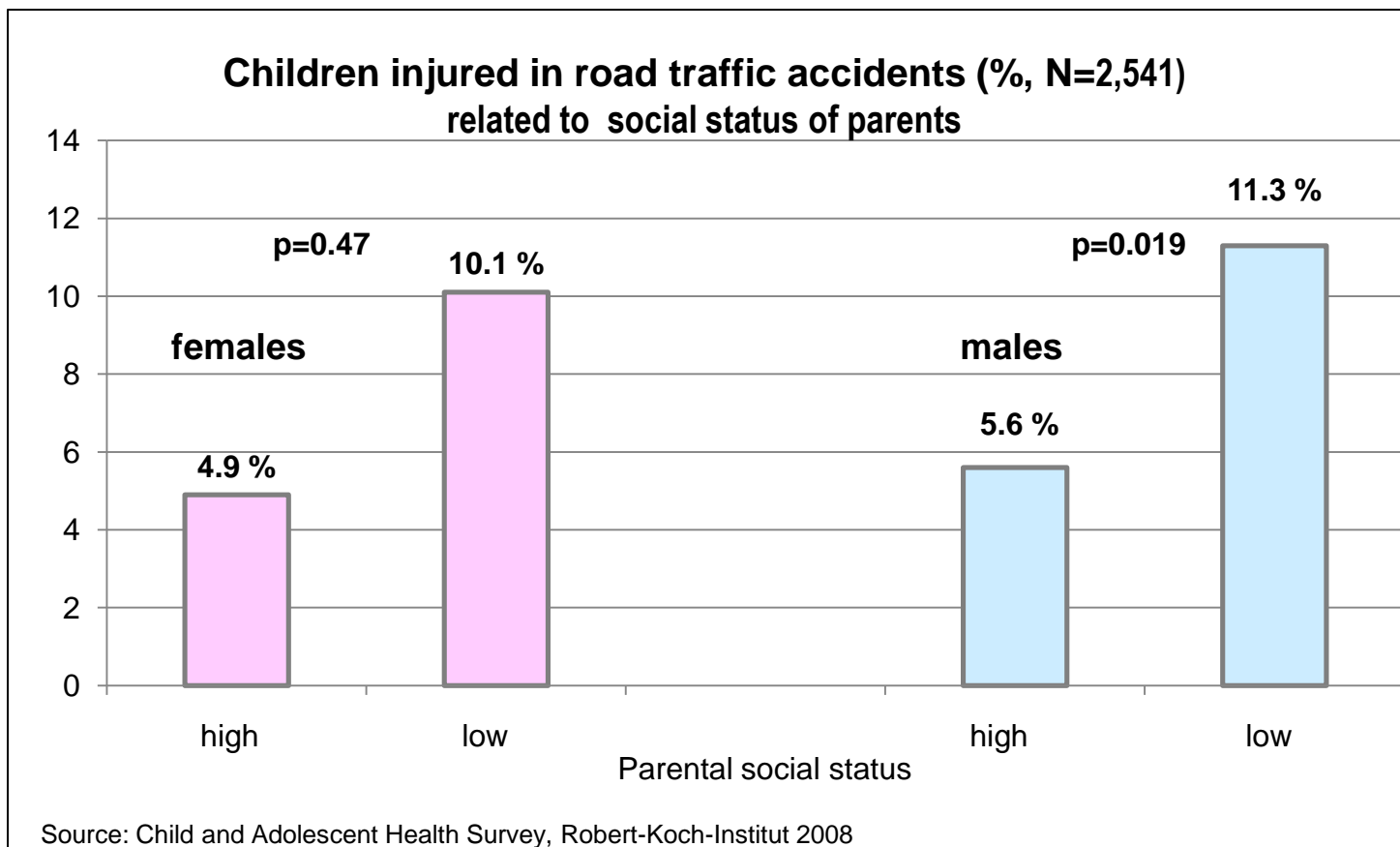
Kahl H, Dortschy R, Ellsäßer G (2007) Kahl H, Dortschy R, Ellsäßer G (2007) Injuries among children and adolescents (1-17 years) and implementation of safety measures.

Bundesgesundheitsbl – Gesundheitsforsch – Gesundheitsschutz 5/6: 718-727

Ellsäßer G, Böhm J (2004) Thermal Injuries Among Children (<15 years) in Relation to Social Risk. Kinderärztliche Praxis 2: 34-38

Ellsäßer G et al (2002) Soziale Ungleichheit und Gesundheit bei Kindern. Ergebnisse und Konsequenzen aus den Brandenburger Einschulungsuntersuchungen. Kinderärztliche Praxis 4: 248-257

# Child and Adolescent Health Survey: close relationship between road traffic accidents in children and social status of parents



## Results: injuries related to social risk factors

- Road traffic injuries occur more frequently in disadvantaged families (Child and Adolescent Health Survey 2007)
- Burns and scalds are 10 (females) to 16 (males) times more frequent in migrant children under 5 years compared to Germans of the same age group (Ellsäßer & Böhmman 2004)
- Scalds occur more frequently in families with => 2 children than in families with one child (Ellsäßer 2002)

Kahl H, Dortschy R, Ellsäßer G (2007) Kahl H, Dortschy R, Ellsäßer G (2007) Injuries among children and adolescents (1-17 years) and implementation of safety measures.

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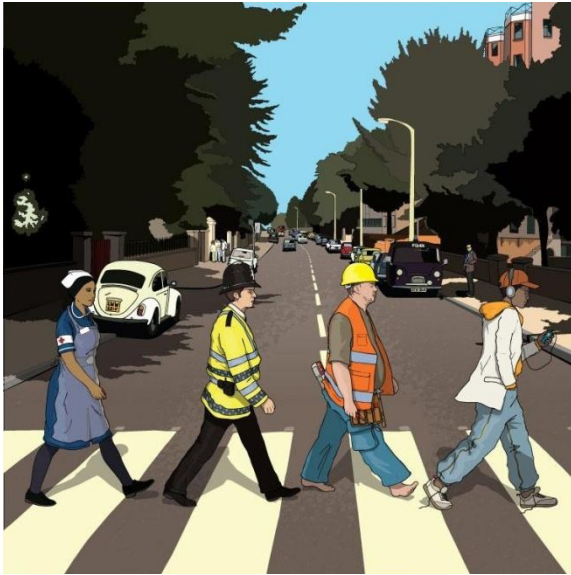
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## Conclusion

- Injuries display an age-specific dynamic
- Recognition of age specific dynamic important for injury prevention
- Strong influence of social factors on the likelihood of road traffic injury and scalds
- IDB (Injury Data Base) collected firsthand by doctors in hospitals, provides detailed information needed to implement age-specific measures

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