

Infections still responsible for one in five childhood deaths in England and Wales

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Infections are still responsible for one in five childhood deaths in England and Wales, with respiratory infections topping the league table of known causes, reveals an analysis of the most up to date figures, published online in *Archives of Disease in Childhood*.

This is despite sharp declines in overall <u>childhood</u> death rates over the past decade, helped in part by the introduction of new vaccination programmes, suggest the researchers.

The UK has one of the highest childhood death rates in Europe, and the researchers wanted to find out if anything had changed since they last analysed data on childhood deaths for 2003-5.

They drew on electronic <u>death</u> registrations for England and Wales, covering children from the ages of 28 days up to 15 years, for the period 2013 to 2015 inclusive.

In all, 5088 children died during 2013-15, equivalent to an annual rate of 17.6/100,000 children. This compares with 6897 deaths in 2003-5, equivalent to just under 24/100,000 in 2003-5, representing a drop of 26% in 10 years.

The proportion of deaths caused by infections fell by 31%, overall, from 1368 of the total in 2003-5 to 951 in 2013-15, equivalent to a rate of 3.3/100,000 children. In over half these deaths (55%; 523/951) the children had an underlying condition.



Compared with 2003-5, infection-related deaths fell by 45% in infants, and by 50% in young children, but they increased in older children by 22%.

Where recorded, <u>respiratory tract infection</u> was the most commonly reported presenting problem, accounting for 374 out of 876 cases (just under 43%).

Nearly two thirds of deaths caused by infection had a bacterial cause (63%), while around a third were viral (34%), and 2.5% were fungal.

The average age of the children who died of an infection was just over 12 months: around 40% of these deaths occurred in infants; 26.5% in younger children; and a third (33%) in <u>older children</u>.

By way of explanation for their findings, the researchers note: "In healthy children, there were large reductions in pneumococcal and meningococcal deaths. The UK implemented a childhood pneumococcal immunisation programme in 2006, which led to large declines in childhood pneumococcal disease."

And a meningococcal B vaccination was included in the national infant immunisation programme in August 2015.

But they highlight that Group A Streptococcus (GAS) "has emerged as a major pathogen responsible for bacterial-related deaths during 2013-15, reflecting a sharp increase in disease incidence since 2014 and reaching 33.2 cases/100 000 person years by 2016, the highest rate in almost 50 years."

Some 15%-30% of cases are associated with varicella <u>infection</u>, they point out. Countries that have included varicella vaccination into their national childhood immunisation programmes have observed reductions



of up to 70% in invasive infections.

"Varicella vaccination is currently not included in the UK national immunisation programme, but could potentially reduce the burden of chickenpox and GAS infections and deaths in <u>children</u>," they suggest.

More information: Infection associated with one in five childhood deaths in England and Wales: analysis of death registration data 2013-15, *Archives of Disease in Childhood* (2020). DOI: 10.1136/archdischild-2019-318001

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