

Reducing Infant and Child Mortality in Surrey.
A 4 year report from the
Surrey Child Death Overview Panel
April 2014 –March 2018

‘The death of a child is a devastating loss that profoundly affects bereaved parents as well as siblings, grandparents, extended family, friends and others who were involved in caring for the child. Families experiencing such a tragedy need to be met and supported with empathy and compassion. They need clear and sensitive communication. They also need to understand what happened to their child, and want to know that people will learn from what happened. The process of systematically and expertly reviewing all children’s deaths is grounded in deep respect for the rights of children and their families, with the intention of preventing future child deaths.’ Child Death Review, Statutory Guidance 2017

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1. The Surrey Child Death Overview Panel (CDOP) – executive summary

Every child's death is a tragedy, as a Surrey wide multi-agency Child Death Overview Panel we can't change the outcome for the children whose deaths we review, but we can work together to look at the evidence surrounding each of these deaths and work to prevent future child deaths.

The aim of this 4 year report from April 2014 – March 2018 is to identify patterns in child deaths in Surrey and to look at how we can work more effectively together, to prevent further deaths. According to data from Public Health England¹ whilst there have been significant reductions in child deaths in the past three decades in England, **too many children are still dying unnecessarily**, so if the UK had the same childhood mortality for children aged 0-14 years as Sweden there would be **five fewer child deaths every day** and about **1,951 fewer child deaths every year**. Nationally in 2015, about **one in four** child death reviews in England were identified by CDOPs as having a modifiable risk factor.

Between 1st April 2014 and 31st March 2018, Surrey CDOP was notified of 299 deaths of which 219 were children who were resident in Surrey. It is the role of CDOP to review each child death.

Of the 219 Surrey child deaths notified to CDOP between 1st April 2014 and 31st March 2018:

- 135 were male and 84 were female
- There were 98 neonatal deaths (infants who die before reaching 28 days of age)
- A further 41 were aged between one month and one year of age.

1

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/551123/Reducing_child_deaths_in_London.pdf

2. Organisation of the Child Death Overview Panel

The Deputy Director of Public Health Surrey County Council is the Chair of Surrey CDOP and has been Chair of CDOP since early 2016. The panel members comprise of representatives from key partner agencies who together have expertise in a wide range of issues pertinent to children's well-being and are listed below:

- Designated Paediatrician for Child Deaths
- Specialist Nurse for Child Death Reviews
- Surrey Police
- Safeguarding Lead, SE Coast Ambulance Service
- Area Head, Surrey Children's Service
- Designated GP for Safeguarding Children
- Public Health
- Bereavement Social Worker
- Education
- Child Death Overview Panel Coordinator

Separate Panel Meetings are conducted to review neonatal child deaths. The representatives from key partner agencies are listed below:

- Specialist Nurse for Child Death Reviews
- Designated Paediatrician for Child Deaths
- Consultant Neonatologist
- Midwifery from all Hospital trusts
- Consultant Obstetrician
- Public Health
- Child Death Review Coordinator

3. Deaths of Surrey children

In Surrey in 2016, 22.0% of the population were aged 0-17 years (258,999 out of 1,176,549).² This compares to 21.4% for the South East region and 21.3% for England. In Surrey for the period 2014-2016 we had a better than England average rate for infant mortality and a similar to the national average rate for child mortality (1-17 years).³ Our infant mortality rate (which is the rate of deaths in infants aged under one year) is 2.5 per 1000, compared to an England average of 3.9 per 1000.⁴ There is a strong association between deprivation and the risk of death throughout childhood, with child deaths higher in more deprived areas. Based on the demographics of

² ONS

³ <https://fingertips.phe.org.uk/profile/child-health-overview/data#page/1/ati/102/are/E10000030>

⁴ <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/qid/1000044/pat/6/par/E12000008/ati/102/are/E10000030>

Surrey we would expect there to be lower infant and child mortality in Surrey compared to other areas in England.

Between 1st April 2014 and 31st March 2018, Surrey CDOP was notified of 299 deaths of which 219 were children who were resident in Surrey.

Of the 219 Surrey child deaths notified to CDOP between 1st April 2014 and 31st March 2018:

- 135 were male and 84 were female
- There were 98 neonatal deaths (infants who die before reaching 28 days of age)
- A further 41 were aged between one month and one year of age.

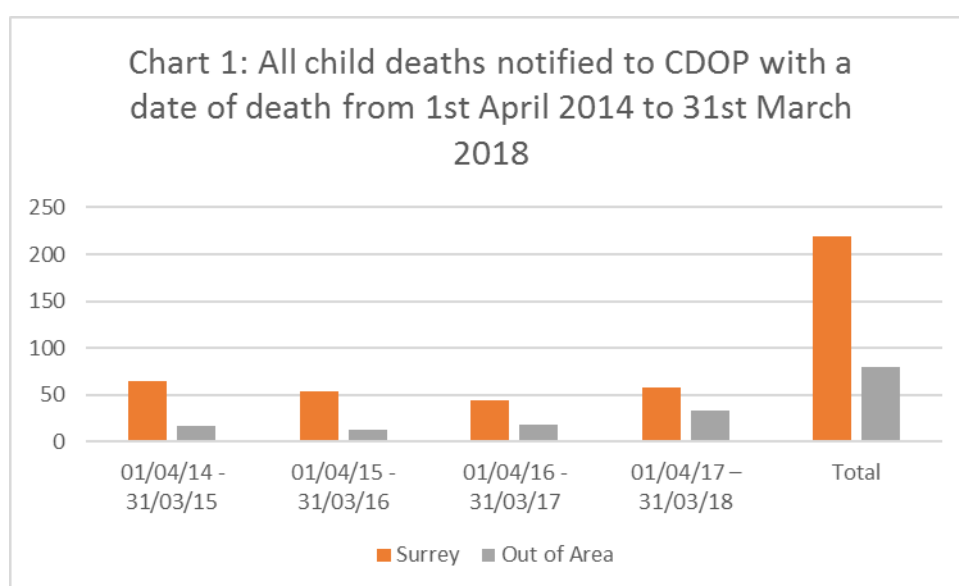


Table 1: All child deaths notified to CDOP with a date of death from 1st April 2014 to 31st March 2018⁵

Year – Date of death	1/4/14 – 31/3/15	1/4/15 – 31/3/16	1/4/16 - 31/3/17	1/4/17 – 31/3/18	Total
Surrey	64	54	44	57	219
Out of Area	17	12	18	33	80
Total	81	66	62	90	299

As shown in chart and table 1, of the deaths notified to CDOP, there was an apparent downward trend from 2014/15-2017/18 (albeit this was not statistically significant). This was despite a national increase in child deaths, particularly neo-natal deaths in the 2016-2017 period. However, there was a rise in the number of deaths in 2017/18, particularly in the out of area deaths reported.

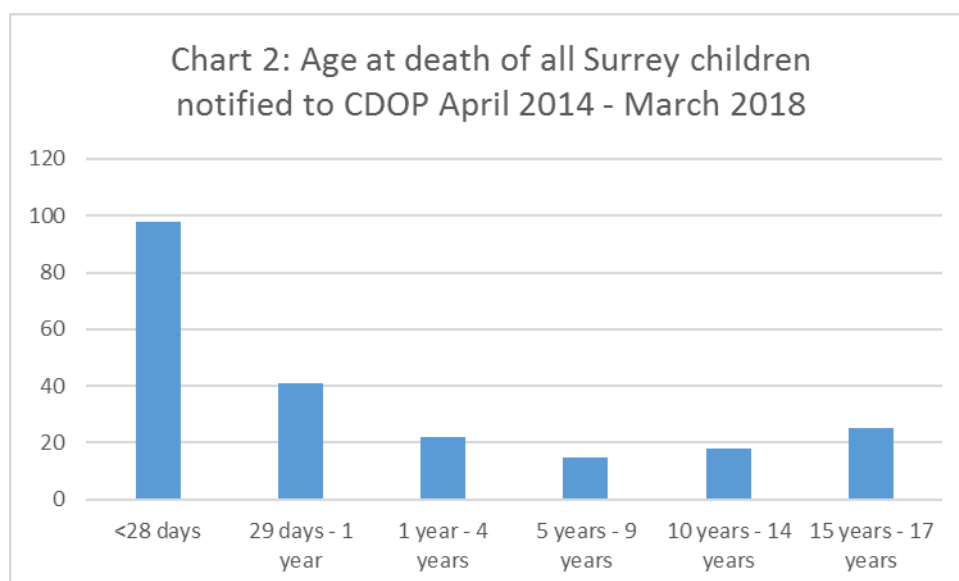


Table 2: Age at death of all Surrey children notified to CDOP April 2014 – March 2018

Age	Number of children	% of Children	Cumulative % of Children
<28 days	98	45%	45%
29 days – 1 year	41	19%	63%
1 year – 4 years	22	10%	74%
5 years – 9 years	15	7%	80%
10 years – 14 years	18	8%	89%
15 years – 17 years	25	11%	100%
Total	219	100%	

The above table and chart show that the age distribution of deaths in children in Surrey follows an expected pattern linked to national trends with most deaths being seen in children in the first month of life and $\frac{3}{4}$ of child deaths occurring before the age of five. There is then a slight rise in the percentage of deaths in the 15-17 year old age group. Nationally In 2016, the infant mortality rate increased to 3.8 deaths per 1,000 live births, compared with 3.7 in 2015. “In 2016, there were small increases in both the infant (28 days to 1 year) (3.8 deaths per 1,000 live births) and neonatal (<28 days old) (2.7 deaths per 1,000 live births) mortality rates in England and Wales from 2015 but these rates remain low in historical terms (based on death occurrences). These increases can be attributed to many risk factors, such as the mother’s country of birth, mother’s age at birth of child, birthweight and the parents’ socioeconomic status.” Vasita Patel, Vital Statistics Outputs Branch, Office for National Statistics⁶

⁶

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/childhoodinfantandperinatalmortalityinenglandandwales/2016>

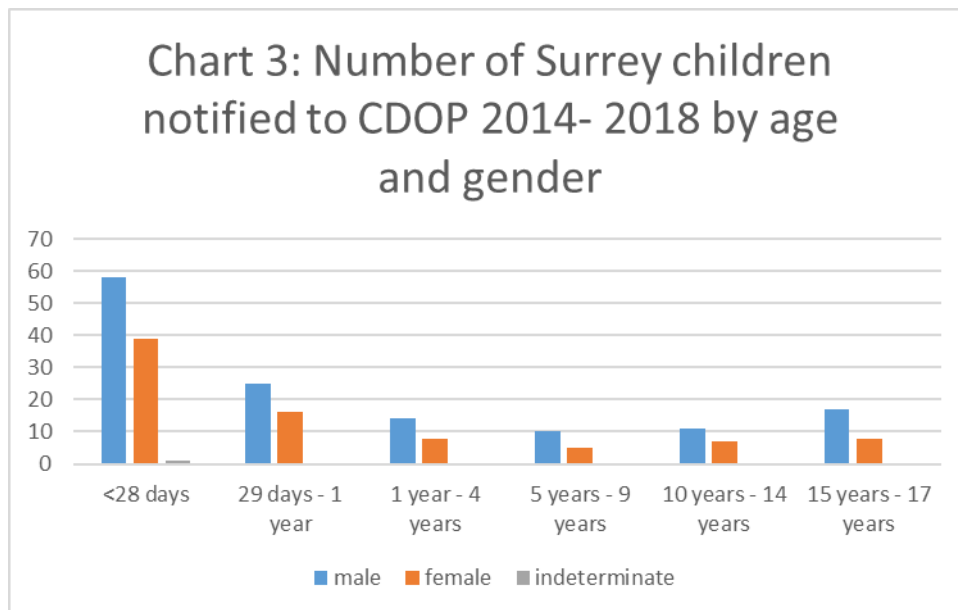


Table 3: Number of deaths of Surrey children notified to CDOP 2014- 2018 by age and gender

Age at Death	Number of Deaths		Percentage of Deaths		Percentage of Total in Age Group	
	male	female	male	female	male	female
<28 days	58	39	43%	47%	60%	40%
29 days – 1 year	25	16	19%	19%	61%	39%
1 year – 4 years	14	8	10%	10%	64%	36%
5 years – 9 years	10	5	7%	6%	67%	33%
10 years – 14 years	11	7	8%	8%	61%	39%
15 years – 17 years	17	8	13%	10%	68%	32%
Total	135	83	100%	100%	62%	38%

The gender distribution of deaths in Surrey children in chart and table 3 follows the national trend where a higher number of deaths are seen amongst males. In Surrey the highest number of deaths across each age group were male.

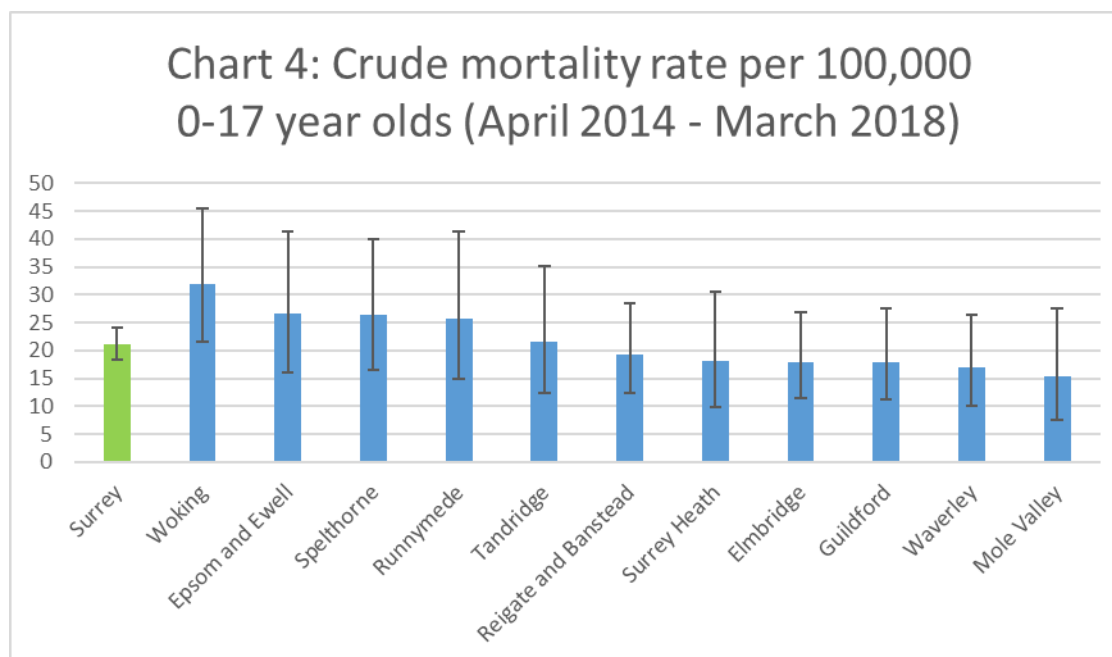


Table 4: Child mortality rate by district and borough per 100,000 0-17 year olds

Area	Deaths	0-17 2014-17 mid-year pop total	Crude rate/100,000 0-17 year olds	95% lower confidence limit	95% upper confidence limit	LCI	UCI
Surrey	218	1030856	21.1	18.4	24.1	2.7	3.0
Woking	30	94050	31.9	21.5	45.5	10.4	13.6
Epsom and Ewell	19	71655	26.5	16.0	41.4	10.6	14.9
Spelthorne	22	83331	26.4	16.5	40.0	9.9	13.6
Runnymede	17	65961	25.8	15.0	41.3	10.8	15.5
Tandridge	16	74230	21.6	12.3	35.0	9.2	13.5
Reigate and Banstead	25	130174	19.2	12.4	28.4	6.8	9.1
Surrey Heath	14	76965	18.2	9.9	30.5	8.3	12.3
Elmbridge	24	133362	18.0	11.5	26.8	6.5	8.8
Guildford	21	116880	18.0	11.1	27.5	6.8	9.5
Waverley	19	112523	16.9	10.2	26.4	6.7	9.5
Mole Valley	11	71725	15.3	7.6	27.4	7.7	12.1

Whilst both the numbers of child deaths and the rates of child death are highest in Woking and lowest in Mole Valley, there is no statistically significant differences between any of the boroughs and all are not statistically different from Surrey, as shown by the confidence intervals in Chart 4. We do not currently have enough robust data to analyse if our child death rate is higher within the areas of deprivation that exist in Surrey. We do know from national data that children from low income families are more likely to die at birth or in infancy than children born into higher income families.

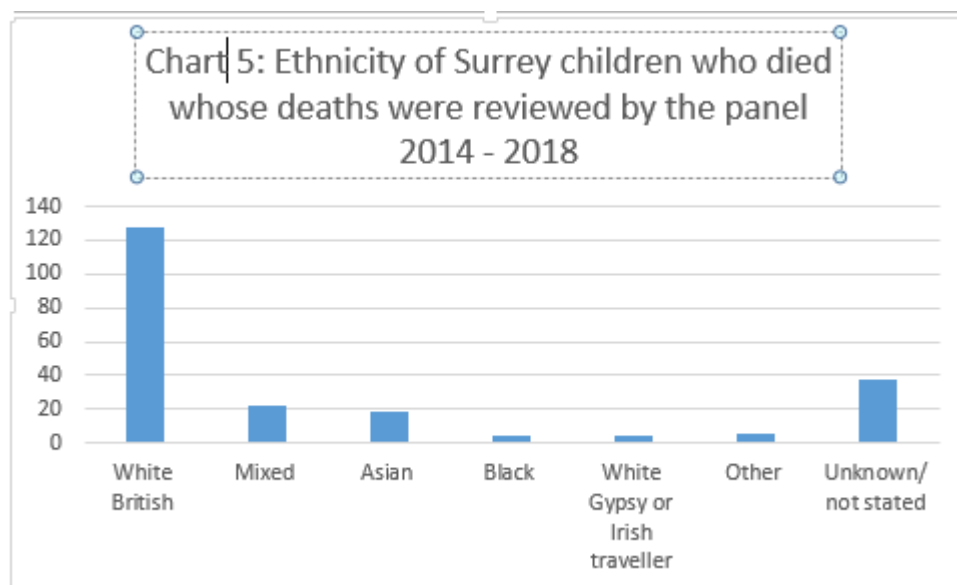


Table 5: Ethnicity of Surrey children who died whose deaths were reviewed by the panel 2014 – 2018

Ethnicity	Number of deaths*	Percentage of deaths	Percentage of Surrey population
White British	130	58%	81.7%
Mixed	20	9%	5%
Asian	20	9%	6.3%
Black	5	2%	1.1%
White Gypsy or Irish traveller	5	2%	0.2%
Other	5	2%	5.7%
Unknown/ not stated	40	18%	

***numbers rounded to nearest 5**

In Surrey 86.7% of the population aged 0-17 are White (81.7% White British), 5.0% are mixed, 6.3% are Asian/Asian British and 1.1% Black/Black British. The recording of ethnicity of children who have died is currently not sufficiently complete to be conclusive however current data could suggest that the pattern of deaths does not match the ethnic distribution within the live population.⁷ The combined percentage of child deaths from both the mixed and the Asian population in Surrey was higher than the percentage of the actual population 18% (40/219) of all child deaths reviewed in 2014-2018 compared to 11.3% of the population. We do know from national data that babies of mothers who were themselves born in India, Bangladesh and East Africa have an increased risk of death, and babies of mothers born in the Caribbean, the rest of Africa and Pakistan have double the risk compared with babies of mothers born in

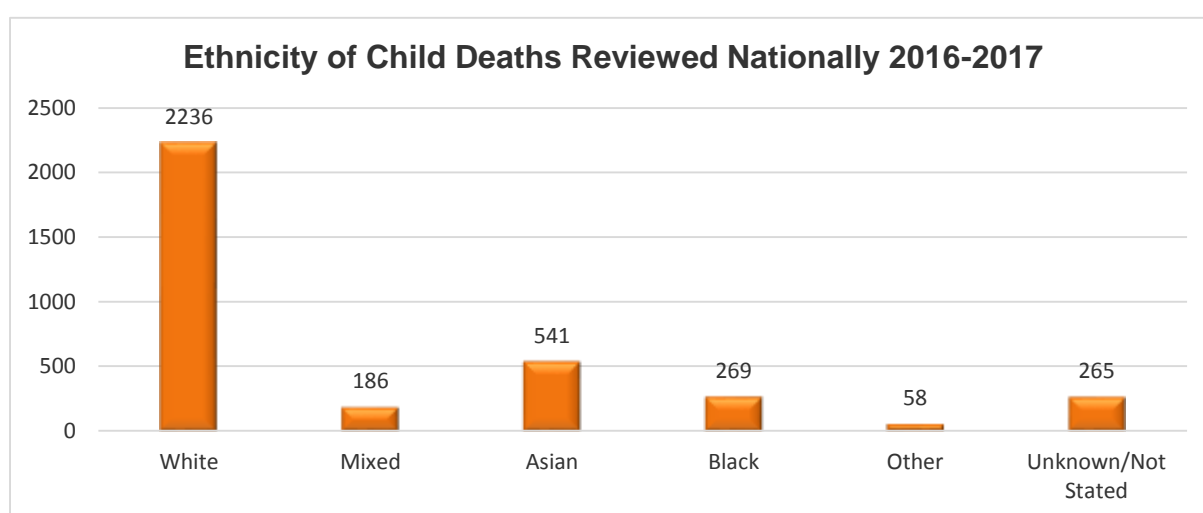
⁷ Office for National Statistics Census 2011 data from table (DC2101EW: Ethnic group by sex by age)

the UK (ONS data). Whilst we do not have data for Surrey, we also know from national data that infant mortality in the Gypsy Roma Traveller community is three times higher than in the rest of the population.

In Surrey the percentage of deliveries to mothers from black and minority ethnic (BME) groups in 2015/16 was 10.2% in Guildford and Waverley CCG, 23.5% in North West, 27.9% in Surrey Downs, this compares with a national rate of 29.8% and a local rate in the South East of 20.2%.

Nationally for babies born in 2015 with a known gestation, the lowest infant mortality rate was to babies in the white other ethnic group at 2.2 deaths per 1,000 live births.

Chart 6: Ethnicity of Child Deaths Reviewed Nationally 2016-2017⁸



As chart 6 shows, national reviews of deaths of children from a white background account for around two thirds of reviews completed where the child's ethnicity was recorded. By contrast, 16% of the deaths reviewed, where the child's ethnicity was recorded, were for children from an Asian background. This is in contrast to the child population as a whole, where 79% of children are from a white background and 10% are from an Asian background.

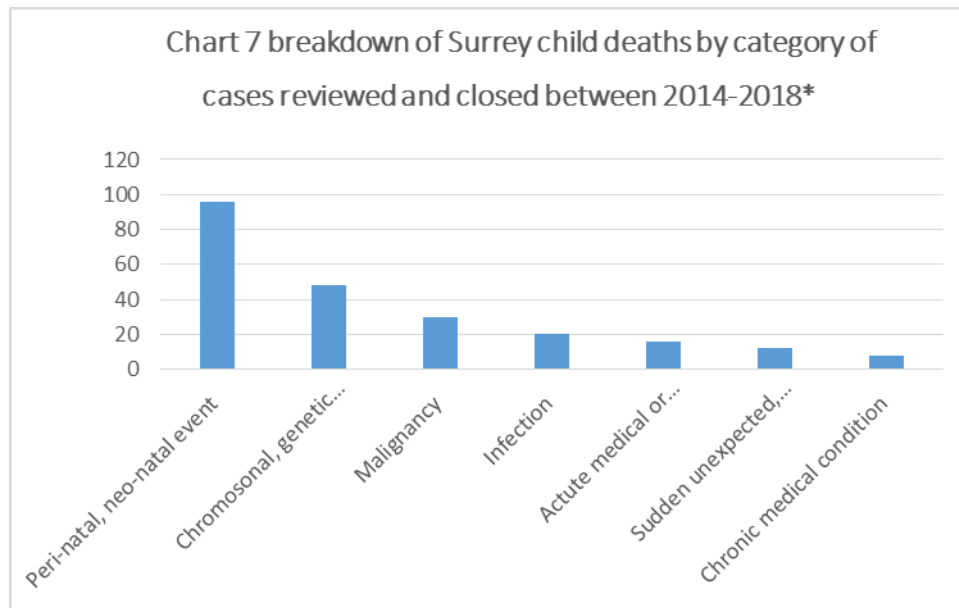
4. Causes of child death in Surrey

In Surrey during 2014-2018 the top four causes of death for all children were:-

1. Peri-natal or neo-natal event
2. Chromosomal, genetic and congenital anomalies
3. Malignancy
4. Infection

⁸ In the year ending 31 March 2017, nationally there were 20 deaths (1%) where panels had insufficient information to determine if there were modifiable factors in the child's death. These deaths have been excluded from the table. In some cases this was because it was not possible to gather further information, for example if the coroner was unable to conclusively determine the cause of death and in other cases it was because of difficulties in obtaining accurate information, for example when a child died abroad and limited information was provided to the panel..

For the first three causes, this is reflected in the national picture of child deaths. SUDIC (Sudden Unexpected Death in Infancy and Childhood) is the fourth most common cause of child death nationally.

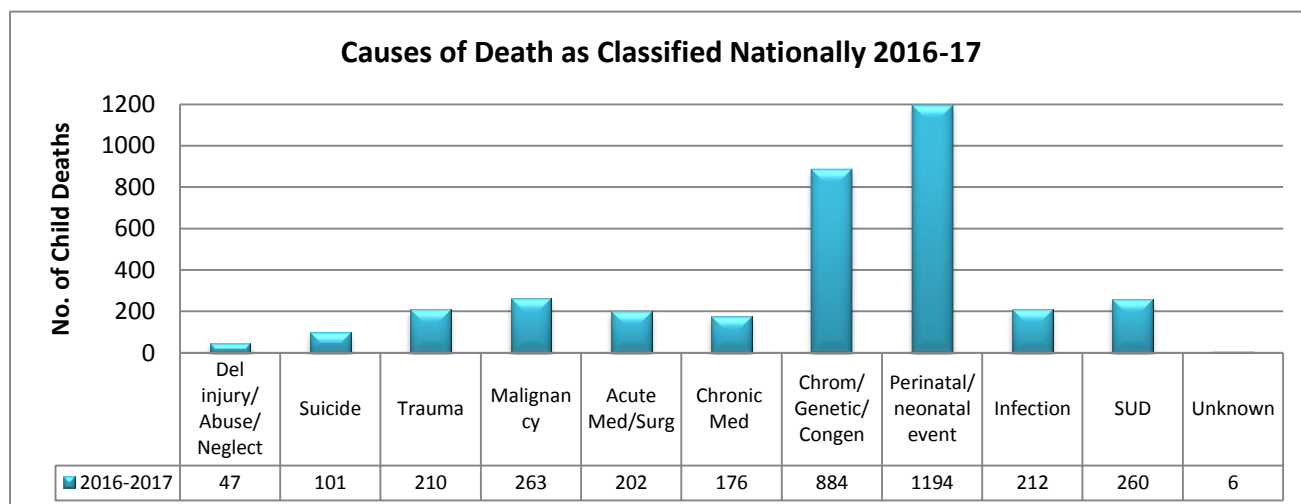


*not all deaths between this time, only cases reviewed and closed

Table 7: Breakdown of Surrey child deaths by category of cases reviewed and closed between 2014-2018*

Peri-natal, neo-natal event	96
Chromosomal, genetic and congenital anomalies	48
Malignancy	30
Infection	20
Acute medical or surgical condition	16
Sudden unexpected, unexplained death	12
Chronic medical condition	8

Chart 8:



4.1 First year of life

Over half of the deaths in childhood occur during the first year of a child's life.

4.1.1 Neo-natal deaths

Several different factors are associated with increased risk of infant death and these vary according to age at death. For example, the effect of prematurity and low birthweight is greater in the first 28 days. Despite the downward trend in the infant mortality rate, evidence in the Marmot Review: Fair Society, Healthy Lives⁹ noted that factors, including births outside marriage, maternal age under 20 years and deprivation, were independently associated with an increased risk of infant mortality. The review went on to say that, "low birthweight in particular is associated with poorer long-term health outcomes and the evidence also suggests that maternal health is related to socio-economic status".

Of the 98 neonatal deaths between 2014-2018, 16 of those were under 22 weeks gestation and 71 were born <37 weeks gestation. 55 of the 98 babies had prematurity stated as the cause/ a factor in the cause of death, 16 did not, but were born before 37 weeks and 24 were term babies. The highest recorded causes of neonatal mortality in Surrey were extreme prematurity and hypoxic ischaemic encephalopathy.

Births in Surrey are characterised by relatively low rates of teenage pregnancy but high rates of live births in older mothers (aged 35+) compared to the rest of the country. 29.9% of women giving birth in the area in 2012/13 were aged 35 or above, this has risen to 31.3% in 2015 and compares to 19.2% nationally in 2012/13. Whilst neonatal deaths are lower than the national average, the proportion of high risk and complex pregnancies continues to grow due to an increase in maternal age as well as raised body mass index and a number of long term conditions.

Of the 71 babies born prematurely (<37 weeks gestation), 22 (31%) of their mothers were aged over 35 years old. (The age of 15 out of the 71 mothers is not recorded on

⁹ <https://www.parliament.uk/documents/fair-society-healthy-lives-full-report.pdf>

any paperwork). In addition to maternal age, maternal obesity and smoking are also risk factors. It is important for women to be a healthy weight and have good nutrition during pregnancy in order for a child's growth, development and long term health to be good. CDOP have started to collect mothers' BMI and for the 2014- 2019 report we will have reportable data. At the present time we only have data for 15 mothers whose babies died in the neonatal or perinatal period, 7 of these had a BMI over 30 and were classified as obese.

Smoking is the single most important modifiable factor in pregnancy. Smoking during pregnancy increases the risk of premature birth and still birth up to two fold and is also associated with SUDI, the slowing of foetal growth, depressing of infant birthweight and an increased risk of pregnancy loss. Babies born to women who smoke weigh, on average, 200 grams less than babies born to non-smokers.

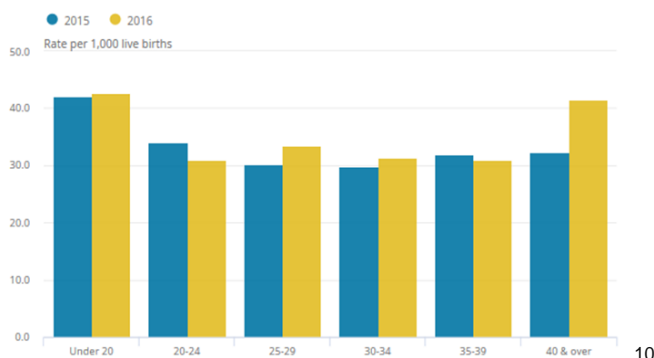
Currently we do not record maternal smoking, we will look to collate these figures in the future. We do know smoking at time of delivery actual figures by CCG for 2016/17.

Table 9: Smoking at time of delivery by Surrey CCG for 2016/17

	Number of maternities	Number smoking at time of delivery	%
East Surrey	1927	129	6.7%
G&W	2045	110	5.4%
NW Surrey	3814	212	5.6%
Surrey Downs	2831	131	4.6%
Surrey Heath	914	68	7.4%
England average			10.6%
	Total births to mothers who smoke	650	

Whilst Surrey compares favourably in terms of percentages to the national figures for women smoking at time of delivery, when we look at the actual numbers there are still 650 women smoking at time of delivery.

Chart 9: Infant mortality rates for low birthrate babies by age of mother 2015-2016 for England and Wales



4.1.2 Babies aged 29 days – 1 year

41 babies died over the four year period, aged between 29 days and 1 year. Of those 41 babies cause of death in six cases was recorded as Sudden Infant Death Syndrome (SIDS) and for five of the babies cause of death was recorded as necrotising enterocolitis.

4.2 Chromosomal, genetic and congenital anomalies

Chromosomal, genetic and congenital are the second most common cause of child deaths both locally and nationally. 48 of the child deaths in Surrey fell into this category.

The risk of stillbirth and infant mortality is known to be higher amongst communities where marriages occur between consanguineous couples (i.e., couples with at least one shared ancestor: great grandparent or closer). Estimates can be found of the increased risk of congenital anomaly related stillbirths and infant mortality amongst consanguineous couples. We would need more data over the coming years in order to analyse this further and identify if there is a pattern or theme emerging.

4.3 Malignancy

Nationally cancers remain the most common cause of death for children aged 1 to 15 years, accounting for 20.6% of deaths in 2016.¹¹ In Surrey they accounted for just

1010

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/childhoodinfantandperinatalmortalityinenglandandwales/2016>

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<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/childhoodinfantandperinatalmortalityinenglandandwales/2016>

over 10% of deaths during 2014-2018. The Surrey percentage is probably lower due to the small numbers of children who have died over the four year period, meaning that the difference between the Surrey and the national figure isn't statistically significant. In adults, lifestyle-related risk factors, such as weight, diet, exercise, smoking and alcohol play a major role in many types of cancer. Lifestyle factors usually take many years to influence cancer risk; this is not replicated in childhood cancers. There is some evidence to show that breastfeeding reduces the risk of certain childhood cancers. A few environmental factors, such as radiation exposure, have been linked with some types of childhood cancers but most childhood cancers are not thought to be caused by environmental exposures.. Some studies have also suggested that some parental exposures (such as smoking) might increase a child's risk of certain cancers, but more studies are needed to explore these possible links.¹²

4.4 Infection

20 children died in Surrey from infection during the four year period.

4.4.1 Sepsis

Sepsis is a common and potentially life-threatening condition triggered by an infection which causes the body's immune system to go into overdrive, and if it not treated quickly, it can lead to multiple organ failure and death. According to ONS, in 2016 Sepsis accounted for 7% of deaths in England in under 19 year olds.¹³ There are four high risk category of patients who may develop sepsis:

1. Pregnant women
2. Elderly (over 65, and especially over 85)
3. Immunosuppressed
4. Under one year

4.4.2 Necrotising Enterocolitis (NEC)

NEC is an infection predominantly affecting preterm infants which can cause sepsis and death. For example, in England, from 2007 to 2009, 27% of preterm infants admitted to neonatal units who were born at <28 weeks gestational age were estimated to have been treated for NEC. Of these, 67% died.

4.4.3 Meningococcal disease

Meningococcal disease is a notifiable disease in England and Wales. Nationally we are seeing an increase in meningococcal group W (Men W) cases, with these now accounting for 24% of all cases. Nationally the numbers have increased from 30 cases in 2011-12 to 225 cases in 2016-17 (cases are counted from July one year to June the next year).

MenW cases, which were previously reported mainly in older adults, are causing deaths in infants, toddlers and adolescents, including university students. Older

¹² <http://www.who.int/ceh/capacity/cancer.pdf>

¹³ <https://www.nomisweb.co.uk/query/asv2htm.aspx>

teenagers and young adults are more at risk of getting meningitis and septicaemia from MenW.

There is emerging evidence locally and nationally that children with Men W are presenting with mostly nonspecific symptoms or signs and the conditions may be difficult to distinguish from other less important infections presenting in this way. Clinical presentation with predominantly gastrointestinal symptoms – and diarrhoea, in particular – appears to be rare and currently associated with the hypervirulent ST-11 group W strain which, in teenagers at least, leads to rapidly progressive, severe disease and high case fatality.

4.5 Other causes of child death in Surrey during 2014 – 2018



4.5.1 Sudden Unexpected Death

There have been ten sudden unexpected deaths (SUD's) between 2014 -2018 of these seven have been reviewed and closed and five had modifiable factors such as prematurity, smoking, alcohol, drugs, not breastfeeding and co-sleeping in unsafe environment (bed & sofa).

4.5.2 Accidents and suicide

Nationally accidents and suicide are the fourth most common cause of death in children where there are modifiable factors. In Surrey they are the second most common cause of death in cases with modifiable factors reviewed and closed during 2014-2018 accounting for 16 children who died. Hospital admissions caused by unintentional and deliberate injuries in children aged 0-14 years in Surrey in 2016-2017 was 97.8 per 10,000 children, making Surrey similar to the national average, for young people aged 15-24 years it was 135.8 per 10,000 children making Surrey significantly worse than the national average.

Table 10: Data on hospital admissions in Surrey children¹⁴

2.07i - Hospital admissions caused by unintentional and deliberate injuries in children (aged 0-14 years)	2016/17	↓	2,127	97.8	96.6	101.5	190.5		43.3
2.07ii - Hospital admissions caused by unintentional and deliberate injuries in young people (aged 15-24 years)	2016/17	↑	1,782	135.8	137.4	129.2	254.8		64.0

4.5.2.1 Head injuries

In Surrey over the four years there have been a small number of deaths from head injuries (less than five); nationally death from a head injury is the most common cause of death in people aged under 40.

4.5.2.2 Death from drowning

There were a small number of deaths from drowning in rivers and lakes in Surrey during 2014-2018 (less than five).

¹⁴ <https://fingertips.phe.org.uk/search/injuries#page/0/gid/1/pat/6/par/E12000008/ati/102/are/E10000030>

4.5.2.3 Road traffic accidents

During 2014-2016 there were a number of children killed or seriously injured on Surrey's roads, these were not all Surrey children, this totalled 96 children, with a rate of 14 per 100,000 compared to the national average rate of 17 per 100,000. Surrey is statistically significantly better than the rest of England.¹⁵ Of these children who were from Surrey, causes of death included driveway deaths and road traffic accidents.

4.5.2.4 Deaths from fires

There have been a small number of deaths from fire in Surrey across the 4 year period (less than five).

4.5.2.5 Suicides

In the UK, suicide is the leading cause of death in young people, accounting for 14% of deaths in 10-19 year olds.¹⁶ Surrey CDOP has participated in the 'National investigation into suicide in children and young people' which is being undertaken by the University of Manchester. The purpose of the study is to try and identify the common themes in the lives of young people who die by suicide. Two reports from the national inquiry are available on the University of Manchester [website](#).

4.6 Modifiable factors

The purpose of the CDOP review is to determine whether the death was deemed preventable, that is a death in which modifiable factors may have contributed to the death. If this is the case the panel must decide what, if any, actions could be taken to **prevent** such deaths in future.

Since 1/4/2014 253 deaths in total have been reviewed by the Surrey Child Death Overview Panel and classified as to cause of death. Of the 253 deaths reviewed between 2014 and 2018, 60 (24%) have been identified as having factors which may have contributed to the death and could be modified to reduce the risk of future deaths.

There were also 89 unexpected Surrey child deaths during 2014 – 2018. An unexpected death is defined as the death of an infant or child (less than 18 years old) which was not anticipated as a significant possibility 24 hours before the death; or where there was a similarly unexpected collapse or incident leading to or precipitating the events which lead to the death.

¹⁵ <https://fingertips.phe.org.uk/profile/child-health-overview/data#page/1/ati/102/are/E10000030>

¹⁶ Office for National Statistics (ONS) Suicide in the United Kingdom, 2014 Registrations. *Statistical Bulletin* 2016:1-33.

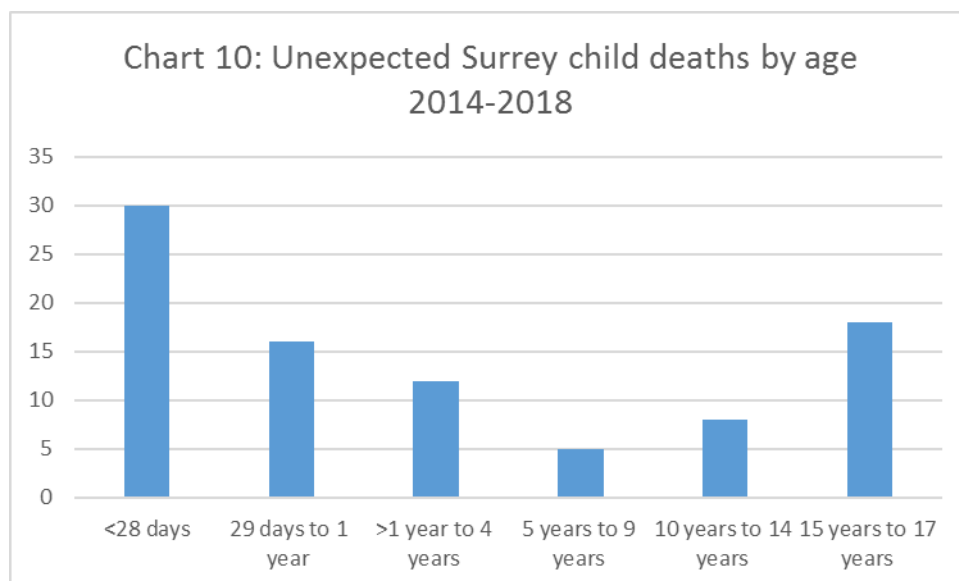


Table 10: Unexpected Surrey child deaths by age: 2014-2018

Table 7: Unexpected Surrey child deaths by age – 2014-2018		
Age	Number of children	Percentage of children
<28 days	30	34
29 days to 1 year	16	18
>1 year to 4 years	12	13
5 years to 9 years	5	6
10 years to 14 years	8	9
15 years to 17 years	18	20
Total	89	100

In the above chart and table we can see higher numbers in the <28 year olds and then a reduction in numbers, with a rise in the 15 – 17 year old age group.

4.7 Deaths of children subject to child protection plans

The numbers of deaths of Surrey children subject to child protection plans are too small to report. We know from national data that as a percentage the majority of child who die from modifiable factors do not have a child protection plan in place.¹⁷

¹⁷ <https://www.gov.uk/government/collections/statistics-child-death-reviews>

5 Preventing future child deaths in Surrey

CDOPs have a responsibility to make recommendations where actions have been identified which may prevent future child deaths or promote the health, safety and wellbeing of children. Where a serious incident report is completed within the NHS or a serious case review within the Council, the chair of CDOP writes to the appropriate organisation to ask for assurance that the actions (where identified) have been completed.

5.1 Breastfeeding

The 2014/15 rates of breastfeeding initiation (Public Health Outcomes Framework) across Surrey, were above the national average at 85% (England 75%). Initial breastfeeding duration information (at 6-8 weeks – sourced from Health Visitor Mandated Dataset) is currently 57.8% (England 43%).

Breastfeeding is a protective factor for infant survival, particularly for infants born preterm; therefore it is vital that women are supported to breastfeed. There is evidence to show that breastfeeding is a protective factor in terms of preventing SUDI. Surrey has a five year breastfeeding strategy¹⁸ with the aim of increasing rates of breastfeeding in the County, four out of five of our acute hospitals, all community providers and children's centres are fully accredited with the Unicef Baby Friendly Initiative accreditation (the final hospital is working towards full accreditation.) Neonatal units becoming BFI accredited forms part of the Surrey Breastfeeding Strategy action plan.

5.2 Immunisations

Pregnant women are more likely to develop complications from flu, including pneumonia. It has also been shown that flu can increase the risk of miscarriage, low birth weight and in extreme cases stillbirth or death in the first week of life; therefore, it is vitally important that pregnant women are offered a flu vaccination.

Preventable neonatal deaths and avoidable admissions to acute paediatric units with pertussis infections still continue to be reported nationally. Uptake of the pertussis vaccine by CCG varies between 62% and 72%, which is slightly higher than the regional average (Surrey and Sussex) of 62.9%.

Uptake of childhood immunisations in Surrey remains below the national recommended levels. CDOP carried out a review of Men W and the implementation of the new ACYW vaccine during 2014-2018 and supported distributing communications with schools and colleges to increase uptake.

5.3 Paediatric High Volume Care Pathways across Surrey, Sussex and Kent

Pathways for acute and high volume conditions in children and young people in Kent, Surrey and Sussex started to be developed in 2011 when West Sussex began to work with the Institute for Innovation and Improvement on Emergency and Urgent Care. Dr

¹⁸ <https://www.surreyi.gov.uk/dataset/surrey-breastfeeding-strategy-building-a-happy-baby-2016-2021>

Tim Fooks and Lorraine Mulroney led on this work and then widened implementation across Kent, Surrey and Sussex. This work aimed to both improve quality of care and reduce variation in health outcomes for children and young people for a number of conditions: asthma, wheezy child, bronchiolitis, D&V, head injuries and fever. Surrey CDOP supported this work and supported production of a resource for parents on head injuries which included a care pathway for children with head injuries, this resource has been disseminated widely across Surrey. The leaflet can be found here. <https://www.healthysurrey.org.uk/your-health/seasonal-advice/health-advice/head-injuries-leaflet>

5.4 Sudden Unexpected Death in Infancy (SUDI)

There are a number of factors which need to be addressed to reduce SUDIs. These include ensuring safer sleeping practices for babies. Health professionals are in a unique position to educate parents about safer sleep advice. It is very important that health professionals' work together to ensure safer sleep messages consistently reach all families. Sometimes parents fall asleep accidentally or without meaning to. The risks are well documented; particularly if risk factors are present (such as prematurity, smoking, alcohol, drugs, not breastfeeding) or if this happens on a sofa or armchair. It is therefore important that all parents have accurate information about co-sleeping even if they don't plan to do so, as some parents do co-sleep with their baby or fall asleep accidentally.

It is only through consistent and regular discussions with parents about safer sleep that health professionals can empower parents to change behaviour and adopt safer sleep practices in order to protect children and prevent future deaths. CDOP oversaw the implementation of a safer sleep assessment in the red child health record books. The implementation of this assessment has been audited by the CDOP nurse. The purpose of this audit was to:

- Measure completion, effectiveness and quality of the safe sleep assessment
- Identify good practice
- Identify areas for improvement
- Provide assurance that the lessons learnt from Child Death Reviews are embedded in practice to protect other children and prevent future deaths

Results and recommendations from this audit have been widely distributed across Surrey. They recommended that Healthcare practitioners ensure that they understand and can explain information about the association between co sleeping and SIDS, and that they give this information to women, their partners or the main carers of babies at every postnatal contact

Public Health England have made recommendations on actions that can be taken to reduce SUDIs and Surrey CDOP are in the process of publishing a multi-agency action plan to address these.

Sudden Unexpected Deaths in Infancy (SUDI)

Risk factors for SUDI



Low birth weight increases the likelihood of death in the first year after birth by 27 times.

In Surrey 1 in every 10 children live in poverty.



Whilst the rates are lower than England, it still means that in Surrey 17,945 children under the age of 16 are living in poverty.

Infant mortality is 44% higher in babies born to a young mother.



Rates for teenage pregnancy are currently at their lowest with 11.2 per 1,000 in Surrey and England average of 18.8.












Babies are at greater risk of unexpected death when a mother smokes during pregnancy or, if there is smoking in the home.



The percentage of women smoking at time of delivery in Surrey is lower than that of England, but in 2016-17 there were still 688 women who were smoking at time of delivery .

91% of babies who die from SUDI have one or more of these (and other) risk factors present. 75% have 2 or more risk factors present.

Actions to reduce child death - reducing SUDI

Risk factors for SUDI* include:	Actions to reduce SUDI	Useful resources
 Low birth weight 5x higher risk	 Ensure safer sleeping practice for babies	 Useful resources <ul style="list-style-type: none"> ✓ www.bestbeginnings.org.uk/baby-buddy ✓ www.gov.uk/government/uploads/system/uploads/attachment_data/file/431396/London_sudden_deaths_in_infancy_update_factsheet.pdf ✓ www.lullabytrust.org.uk ✓ National Institute for Health and Care Excellence (2014) NICE guideline PH26 Quitting smoking in pregnancy and following childbirth ✓ Public Health England London (2014) The health and wellbeing of children and young people in London: an evidence-based resource
 Smoking 5x higher risk	 Reduce parental smoking	
 Deprivation 3.5x higher risk	 Encourage and support mothers to breastfeed	
 Bed sharing 2.7x higher risk		
 Mothers <20 years 2.5x higher risk	 Change knowledge and behaviour through clear communication of risk factors	 References <ul style="list-style-type: none"> • PHE London (2015) Reducing infant mortality in London: an evidence-based resource

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5.5 Reducing suicides amongst children and young people

Surrey, Sussex and Kent have a CDOP learning day in January 2019 to identify approaches to reducing suicides in children and young people across the locality. Surrey Suicide Prevention Partnership are consulting on the Surrey Suicide Prevention Strategy, a draft of which can be found here.

https://www.surreysays.co.uk/adult-social-care-and-public-health/suicidepreventionstrategy/supporting_documents/Consultation%20document%20DRAFT%20Surrey%20Suicide%20Prevention%20Strategy.pdf

5.6 Reducing accidents amongst children and young people

5.6.1 head injuries

As well as the work around high volume pathways, CDOP has also supported work to raise awareness of the importance of wearing cycling helmets. Internationally the use of cycling helmets has been associated with a 63–88% reduction in the risk of head, brain and severe brain injury for all ages of cyclists involved in accidents.²⁰ According to the 2012 annual report of Chief Medical Officer only 17.6% of children were wearing helmets in 2008 in Great Britain, and about 10% of severe Traumatic Brain Injury (TBI) in children aged 0–14 are attributable to cycling injuries, research suggests that

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/551123/Reducing_child_deaths_in_London.pdf

²⁰ <https://www.ncbi.nlm.nih.gov/pubmed/10796827>

interventions promoting the use of helmets has the potential to reduce the number of severe TBIs in children.²¹

5.6.2 fire safety

CDOP members have worked to raise awareness with midwives, health visitors and social work teams that assessments of the home environment need to include fire safety. Referrals to the Fire Service for a safe and well visit can be made on behalf of the family or they can self-refer. <https://www.surreycc.gov.uk/people-and-community/fire-and-rescue/keeping-safe-from-fire/what-to-do-before-and-after-a-fire>

5.6.3 water safety

In Surrey water safety awareness and life-saving courses take place in schools and in the community, in a number of different venues including leisure centres. This includes information around swimming in dangerous rivers. As part of the government PE and Sport Premium funding, swimming is now a fundamental element of the reporting, from the 2017 to 2018 academic year there is a new condition requiring schools to publish how many pupils within their year 6 cohort are meeting the national curriculum requirement to swim competently, confidently and proficiently over a distance of at least 25 metres, use a range of strokes effectively and perform safe self-rescue in different water-based situations.

5.6.4 Road traffic accidents

There are a number of interventions taking place in Surrey, they include road safety awareness courses delivered in schools in Surrey, cycling proficiency courses in Primary schools and Safe Drive, Stay Alive, a partnership initiative, led by Surrey Fire & Rescue Service, aims to positively influence the attitude of young drivers, and their passengers, by making them aware of the consequences of poor or irresponsible driving and their responsibilities when they get into a car.

These consequences are presented, through live speakers and film, to young people in a way for them to make an informed choice about how they decide to drive on Surrey's roads.

Since April 2005, 126,000 young people have attended one of 211 performances at Dorking Halls. Live performances are delivered every November.

5.6.5 Safety around nappy sacks

Nappy sacks have recently been identified as causing suffocation and choking of babies under one-year-old. Authorities in the UK have become aware of at least 18 deaths associated with individual nappy sacks. Information around nappy sacks and safety is provided by midwifery and health visiting services through conversations with mothers and in the red book.

²¹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/252653/33571_2901304_CMO_Chapter_3.pdf

5.7 Carbon monoxide poisoning

CDOP raised awareness of this issue both locally through the Surrey safe guarding board digital newsletter and nationally by contacting other CDOPs.

5.8 Early recognition of Sepsis

Deaths from sepsis can be reduced if symptoms are recognised early. Along with the high volume pathway work for professionals that CDOP supported. Public Health England launched a campaign around sepsis and awareness raising of the symptoms for parents, which we raised awareness of in Surrey through the Surrey Matters magazine and the Healthy Surrey website.

<https://campaignresources.phe.gov.uk/resources/campaigns/54-sepsis/overview>

5.9 Additional identified learning points and learning from other deaths across the Country

CDOP identified a number of learning points based on Surrey child deaths reviews and also nationally available Coroner's Regulation 28 Reports which set out the concerns following a death where there is "a concern that circumstances creating a risk of other deaths will occur, or will continue to exist in the future;" and request that action should be taken, these were distributed to professionals across the county by the CDOP nurse or through other communication channels, dependent upon the learning.

- Need to retain placenta in all cases of unexpected death and all admissions to Special Care Baby Unit (SCBU). In addition, all placentas to be identified and stored for a period of time (At least 24 hours) following birth in case of post-natal collapse.
- Raise awareness with staff in maternity services that the new-born life support guidance has been updated with advice /picture of how to safely position babies for skin to skin contact on the delivery or labour ward.
- Need to raise awareness in all acute settings both locally and in specialist units regarding the definition and reporting of an unexpected death to ensure that the Form A notification of death is completed accurately.
- Schools have been sent information about generic adrenalin auto-injectors for use in schools and should be given in a timely manner. Schools should take seriously any dietary avoidance guidance given by parents.
- Information on swimming pool safety has been distributed to schools.
- Parents of children with Down's Syndrome should be made aware of the increased risks of death from infection by acute health providers as well as community providers so they can make informed judgements about when to seek medical care.

In addition to this other actions were taken by the group.

- In response to the [Wood review](#), Surrey CDOP approached neighbouring CDOPs (Kent, Sussex, Brighton & Hove) and arranged a CDOP learning event in November 2017 to discuss the regionalisation of CDOP learning going forward and develop a process that will enable this to take place.

- The CDOP information booklet and flow charts were updated to incorporate the latest [Kennedy guidelines](#). Updated booklets were shared across agencies
- An updated memorandum of understanding was agreed between HM Senior Coroner for Surrey and Surrey CDOP and shared across agencies.
- The rapid response audit was undertaken in April 2018 to review and monitor the quality of the rapid response service in Surrey, to ensure the maintenance of a rapid response protocol with all agencies that is consistent with the Kennedy guidelines and in line with statutory requirements.

6.Recommendations for the future :

6.1 New guidance

Working together guidance to safeguard children, revisions to statutory guidance was published in 2018.²² The guidance replaces the requirement for Local Safeguarding Children's Boards to ensure that child death reviews are undertaken by a child death overview panel (CDOP) with the requirement for "child death review partners" (consisting of local authorities and any clinical commissioning groups for the local area) to make arrangements to review child deaths.

The guidance:

- specifies that "child death review partners may, if they consider it appropriate, model their child death review structures and processes on the current Child Death Overview Panel (CDOP) framework"
- specifies there should be reviews of all deaths children normally resident in the local area and, if they consider it appropriate, for any non-resident child who has died in their area.
- In the immediate aftermath of a child's death, a copy of *When a Child Dies – a guide for families and carers* (when published) should be offered to all bereaved families or carers in order to support them through the child death review process. In addition to supporting families and carers, staff involved in the care of the child should also be considered and offered appropriate support.
- specifies that reviews have "the intention of learning what happened and why, and preventing future child deaths" and that "the information gathered ... may help child death review partners to identify modifiable factors that could be altered to prevent future deaths." (replacing the previous wording that set out that CDOPs should look to determine "whether the death was deemed preventable")
- specifies that reviews must, at such times as they consider appropriate, prepare and publish reports on:
 - what they have done as a result of the child death review arrangements in their area, and
 - how effective the arrangements have been in practice
- may request information from a person or organisation for the purposes of enabling or assisting the review and/or analysis process, the person or

²² <https://www.gov.uk/government/consultations/working-together-to-safeguard-children-revisions-to-statutory-guidance>

organisation must comply with the request, and if they do not, the child death review partners may take legal action to seek enforcement

- sets out that “further guidance will be published on child death reviews”.
- where any child death reviews have not been completed at the point the new child death review arrangements begin to operate, the LSCB has up to four additional months to complete those reviews. Where it has not completed a review it must pass the information to the child death review partners. The latest date for completion is 29 January 2020. Any CDOP set up under LSCB arrangements may not undertake any new child death reviews during this four-month period.
- If any child death reviews remain incomplete by the end of the four-month period, the LSCB must ensure that all relevant information is provided to the child death review partners.

CDOP will need to review current procedures in line with working together guidance, once statutory CDOP guidance is published. This was published at the end of October and implications of this still need to be reviewed.

6.2 Learning event

Planning is ongoing for the learning event on the theme of suicide with Kent and Sussex which Surrey CDOP is hosting on 16 January 2019. The agenda for the day includes presentations by Kent, Surrey and Sussex on suicide work streams within the individual local areas, as well as proposed presentations by the Lucy Rayner Foundation, University of Manchester who have undertaken a national study looking at suicide in children and young people and Health Education England.

6.3 Collection of data for future reports

The current database has been altered to collect maternal mother’s BMI. When there is sufficient data this will be added to this report for analysis.

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November 2018