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CHILD DEATH REVIEW PROGRAMME

Annual Report

September 2014

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ARTICLE 6

"1. States Parties recognise that every child has the inherent right to life"

"2. States Parties shall ensure to the maximum extent possible the survival and development of the child."

ARTICLE 24 (EXTRACT)

"States Parties... shall take appropriate measures: to diminish infant and child mortality"

UNITED NATIONS CONVENTION ON THE RIGHTS OF THE CHILD

"From the beginning of May 2014, the Welsh Ministers must, when exercising any of their functions, have due regard to the requirements of Part 1 of the Convention"

RIGHTS OF CHILDREN AND YOUNG PERSONS (WALES) MEASURE 2011

Foreword

The impact of the loss of a child cannot be measured. Hopes and dreams for that child's future are shattered. The grief of family and friends extends through neighbourhoods and communities and its effects persist through generations. In Wales, the death of a child occurs too often. More than 200 children die each year and many of these deaths are preventable.

Child poverty is on the increase; it now affects one in every three children living in Wales. I am deeply concerned about the link between poverty and the increased risk of child death, evident once more in this year's annual report. This is an unacceptable situation. We must do all we can to reduce the number of preventable deaths and we must address child poverty and the effects of child poverty in Wales as a matter of urgency.

Since I was asked to write the foreword for the child death review annual report in 2013, the programme has produced thematic reviews looking in-depth at factors that have contributed to the deaths of children. The reviews have been widely shared. I am pleased to see that following last year's review of deaths of teenagers in motor vehicles, there has been progress towards implementing recommendations.

The work of the programme has already demonstrated areas where improvements can be made to prevent young deaths in the future. I am sure the work the team has planned for the coming year will help professionals and organisations in their efforts to reduce the risk of death for children in Wales.

I welcome this annual report and look forward to seeing more from the child death review programme in the future.

Keith Towler
Children's Commissioner for Wales

Abbreviations

ABM	Abertawe Bro Morgannwg [tables, figures]
AB	Aneurin Bevan [tables, figures]
ADDE	Annual District Deaths Extract [tables, figures]
BC	Betsi Cadwaladr [tables, figures]
CI	Confidence interval [tables, figures]
GROS	General Registrar Office for Scotland [tables, figures]
ICD 10	International Statistical Classification of Diseases and Related Health Problems 10th Revision
LSCB	Local Safeguarding Children Board [tables, figures]
MYE	Mid year estimates [tables, figures]
NISRA	Northern Ireland Statistics and Research Agency [tables, figures]
ONS	Office for National Statistics [tables, figures]
SCB	Safeguarding Children Board [tables, figures]
SEW	South East Wales [tables, figures]
SIDS	Sudden Infant Death Syndrome [tables, figures]
PRUDiC	Procedural Response to Unexpected Death in Childhood
RoSPA	Royal Society for the Prevention of Accidents
tHB	Teaching Health Board [tables, figures]
UHB	University Health Board [tables, figures]
WG	Welsh Government [figure]
WIMD	Welsh Index of Multiple Deprivation [figure]

Glossary

Child death overview panel	Multi-agency panels responsible for reviewing information on all child deaths within a local safeguarding children board area in England and accountable to the local safeguarding children board.
Confidence interval (CI)	Confidence intervals are indications of the natural variation that would be expected around a rate and they should be considered when assessing or interpreting a rate. The size of the confidence interval is dependent on the size of the population from which the events came. Generally speaking, rates based on small populations are likely to have wider confidence intervals.
Child practice review	Child practice reviews take place after a child dies or is seriously injured and abuse or neglect is known or suspected. The purpose of the review is to generate new learning which can support continuous improvement in inter-agency child protection practice.
Conditions originating in the perinatal period	Certain conditions originating in the perinatal period, even if death or morbidity occurs later, as featured in chapter XVI (P codes) of ICD 10.
Congenital anomaly	A structural, metabolic, endocrine, or genetic defect, present in the child / fetus at the end of pregnancy, even if not detected until later. In this report, only those anomalies featured in chapter XVII (Q codes) of ICD 10 are included.
Infant	A child aged less than one year.
Lower super output area (LSOA)	Defined geographical area based on Census output areas with an average of 1,500 persons per LSOA. There are 1,896 LSOAs in Wales, and the number of LSOAs can vary widely between health boards.

Procedural Response to Unexpected Death in Childhood (PRUDiC)	The Procedural Response to Unexpected Death in Childhood sets out a minimum standard for the multi-agency response to the unexpected death of a child or young person. The aim of the PRUDiC is to ensure that this response is safe, consistent and sensitive to those concerned, and that there is uniformity in the approach taken across Wales. PRUDiC was first published in 2010 and revised in 2014.
Serious case review	A serious case review is undertaken by the local safeguarding children board in England (and previously in Wales) where abuse or neglect of a child is known or suspected and a child dies or sustains a potentially life-threatening injury or serious and permanent impairment of health or development. The purpose is to identify steps that might be taken to prevent a similar death or harm occurring. The review identifies lessons to be learned about the way in which local professionals and agencies work together to safeguard children and what is expected to change as a result in order to better safeguard children. It identifies examples of good practice.
Statistical significance	A result may be deemed statistically significant if it is considered unlikely to have occurred by chance alone. The basis for such judgements is a predetermined and arbitrary cut-off, usually taken as 5% or 0.05 (chance of a difference as extreme being observed, if underlying 'true' values were the same). In this report a difference is considered statistically significant when the confidence intervals do not overlap. Statistical significance is not the same as clinical or public health significance.
Unexpected death	An unexpected death is one in which the death of a child was not anticipated as a significant possibility 24 hours before the death or where there was a similarly unexpected collapse leading to or precipitating the events which led to the death.

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1 Summary

Child deaths in Wales

There were 218 deaths of children (aged under 18 years of age) resident in Wales registered in 2012. Most child deaths (64%) occur in the first year of life. There is a strong association between deprivation and the risk of death. The death rate among children living in the most deprived fifth of Wales is 70% higher than among children in the least deprived fifth of Wales.

There has been a decline in child death rates over the last 15 years, particularly in the early part of this period. This decline relates mostly to the fall in death rates among children under one year of age. During infancy the most common causes of death are conditions relating to the perinatal period and congenital anomalies. Thirteen per cent of deaths in infancy remained unexplained, even after investigation.

External causes of death, including accidents, suicide and assault, account for over half of deaths among those aged 12-17 and around one in five deaths of children between the ages of one and 11.

Reviews of child death

In late 2013 the programme undertook a review of deaths through probable suicide. The deaths of 34 children and young people were reviewed. Twenty recommendations were made, six of which were key recommendations and related to:

- Restriction of access to alcohol
- Development of an all-Wales child protection register
- Implementation of National Institute of Health and Care Excellence guidance on short and longer term management of self harm in children
- Ensuring programmes to prevent suicide or promote mental health are in line with the current evidence base and are evaluated
- Statutory mechanisms to support information sharing for the Child Death Review Programme
- Ensuring deaths through probable suicide remain a regular focus of the programme

A rapid review approach was piloted during 2014, considering deaths of children from dog bites/strikes. This concluded that the single most important advice for members of the public is: never leave a baby or young child unsupervised with a dog, even for a moment, no matter how well you know that dog. This and related messages could be highlighted to parents and dog owners, emphasising that this relates to contact with any dog, including in a child minding situation or when dog owners are not present.

Eleven months following the publication of the thematic review of deaths of teenagers in motor vehicles we approached agencies to ask about progress against the recommendations. While there is evidence that some recommendations have been implemented, in some cases progress has not been made on implementing the recommendations. The programme is considering the implications of this for future work.

A review has commenced relating to sudden unexpected deaths of babies and young children under two years of age associated with sleep. This is expected to be released in January 2015. Further topics being considered for reviews include deaths from drowning and deaths from meningitis and/or meningococcal disease.

About the Child Death Review Programme

This is the second annual report of the Child Death Review Programme for Wales. The programme aims to identify and describe patterns and causes of child death, including any trends, and to recommend actions to reduce the risk of avoidable factors contributing to child deaths in Wales. It relies on a multidisciplinary approach and seeks to identify, and learn from, common themes across child deaths. Sharing information between agencies and the Child Death Review Programme is essential to this process. The Procedural Response to Unexpected Death in Childhood (PRUDiC) describes how information is shared with the Child Death Review Programme in the case of unexpected deaths. Where a death is expected healthcare professionals are relied on to provide this information.

2 Introduction

This is the second annual report of the Child Death Review Programme for Wales. The programme follows on from the implementation and favourable evaluation of the National Child Death Review Pilot in Wales (2009-2011). The grief from the death of a child is devastating to families and communities, and touches wider society. By systematically reviewing these deaths we hope to gain a greater understanding of why children die and what can be done to prevent these tragedies in future.

Systematic approaches to the evaluation of child deaths are now established in New Zealand, across states in Australia, territories within Canada and within each state and the District of Columbia of the United States of America.[1,2] Within England local safeguarding children boards perform rapid reviews of individual deaths and reviews of all deaths within each area are undertaken by child death overview panels.[3] The Scottish Government announced in May 2014 that a national child death review system will be implemented with a national multi-agency steering group to make recommendations to Scottish Government.[4]

Within Wales a national thematic approach to child death review has been established. This relies on partnerships with professionals and agencies across Wales and also builds on the multi-agency integrated response to unexpected deaths through the PRUDiC.

By systematically reviewing these deaths we hope to gain a greater understanding of why children die.

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Child Death Review Programme

3.1 Aims and objectives of programme

The aim of the programme is to identify and describe patterns and causes of child death, including any trends, and to recommend actions to reduce the risk of avoidable factors contributing to child deaths in Wales.

The objectives of the programme are:

- To ascertain and collate data on child deaths in Wales and deaths of children who are normally resident in Wales
- To undertake thematic reviews and make recommendations
- To produce an annual report that:
  - Describes findings on patterns of child deaths in Wales
  - Highlights where avoidable factors thought to contribute to child deaths have been identified from thematic reviews
- To disseminate findings from the annual report and thematic reports in order to inform action to address avoidable factors contributing to child deaths in Wales

3.2 Scope of the Child Death Review Programme

A case of a child death for the purposes of the review is any death of a live born child that occurs after 1 October 2009 and before the child's 18th birthday and where the child is either normally resident in Wales or dies within Wales. This includes children who are under local authority care and placed outside of Wales or those who may temporarily reside outside of Wales for healthcare or education purposes.

The reviews seek to identify common learning and themes from the deaths of children in Wales. Child practice reviews, PRUDiC and inquests continue to have specific functions relating to deaths of individual children. Information gathered during these processes may help to inform the work of the programme; however, making statements on the cause or circumstances of the death of any individual child is beyond the scope of the programme.

3.3 Ways of working

Delivering a programme of child death reviews is a multidisciplinary venture. At its heart is an effort to understand and help prevent avoidable deaths of children in Wales by focussing on modifiable factors that contribute to those deaths. To achieve this requires an open and enquiring approach to the factors leading to the death of children. The reviews do not seek to blame individuals or agencies but focus on learning lessons for the future.

The programme publishes its own recommendations. The content and publication of these reports and recommendations is the responsibility of Public Health Wales. The Welsh Government receives thematic reports, including their recommendations, six weeks before publishing to enable any response from government to be made at the time of their release.

The review programme uses particular mechanisms to gain input from professionals and agencies from across Wales:

- A multi-agency steering group which provides strategic advice and directional guidance to the programme and also facilitates stakeholder ownership and engagement (Appendix A)
- Stakeholder events where findings of the programme are shared in a forum allowing wider engagement and feedback on the work
- Suitable membership of thematic review panels

The programme is currently exploring ways to engage meaningfully with children and young people, and to do this in an appropriate manner, given the nature of the programme.

3.4 Information sharing

The success of the programme relies heavily on the partnerships between the Child Death Review Team and other organisations and professionals. These partnerships underpin the sharing of information on the circumstances surrounding each child's death, essential to understanding patterns of death and undertaking reviews.

The PRUDiC provides a process for multi-agency communication and information sharing following unexpected child deaths. An unexpected death is defined as:

> *'The death of a child which was not anticipated as a significant possibility 24 hours before the death or where there was a similarly unexpected collapse leading to or precipitating the events which led to the death'.*

and, especially when there is a significant time delay between the collapse of the child and the eventual death, as:

> *'The death of a child where there is no known antecedent condition that might be expected to cause the death at that time, and the child dies either immediately or subsequently from the consequences of the precipitating event or collapse'*[5]

The process, revised in 2014, aims to ensure that the response is safe, consistent and sensitive to those concerned, and that there is uniformity across Wales in the multi-agency response to unexpected child deaths.[5] It includes informing families about the Child Death Review Programme, sharing an early notification of the death (Appendix B) and, later, a more detailed record of child death at the end of the PRUDiC process.

The process for expected deaths follows a similar approach, where healthcare professionals share information with the Child Death Review Team. The Welsh Paediatric Surveillance Unit has played a significant role in helping to identify child deaths to the programme, allowing follow-up with individual clinicians. This is particularly important where a child's death is not unexpected and so PRUDiC would not be implemented.

The programme relies on information from multiple sources to ensure timely and complete information. As well as safeguarding children boards, health professionals, the police and others, the programme receives regular data from the Office for National Statistics and other NHS databases. More recently the programme has engaged with the coronial service and general practices with positive responses.

All information that is shared with the programme is treated in a confidential manner. Information received electronically that can identify individuals is maintained in a secure, password protected, restricted access database. All hard copies of identifiable information is stored within the programme's office and maintained within a secured cabinet. This information can only be accessed by the Child Death Review Team and, for the purposes of preparing information for panels, the professional lead for the review.

All information is anonymised before it is shared with thematic panel members. All thematic panel members sign a data confidentiality statement prior to reviewing anonymised data.

At all times the team works to ensure no new information about individual children is brought into the public domain. In some instances information about children is already in the public domain and media attention about specific deaths may be unavoidable.

The Procedural Response to Unexpected Death in Childhood defines an unexpected death as "The death of a child which was not anticipated as a significant possibility 24 hours before the death or where there was a similarly unexpected collapse leading to or precipitating the events which led to death".

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4 Pattern of child deaths

Child deaths have been declining in the UK and globally over many decades.[6,7] However, recent international comparisons raise concerns over child deaths in the UK. Death rates of those aged 0-4 have been ranked among the highest in Western Europe.[6] A separate analysis across four decades has shown child death rates declining less rapidly in the UK than in other wealthy countries, particularly infant deaths and child deaths from non-communicable diseases.[8]

This section uses official registrations of children normally resident in Wales, derived from Office for National Statistics data. Deaths are described by area of residence and are grouped into those aged under one year (infants); 1-4 years (pre-school age); 5-11 years (primary school age) and 12-17 years (secondary school age). Due to the relatively small numbers of child deaths in any given year, most data are aggregated into groups of three, five or 10 years. Confidence intervals (95%) are shown to help describe the variation that might be expected around a rate due to the effects of chance. In this report, differences are described as being statistically significant if the confidence intervals do not overlap.

This analysis does not provide detail on deaths under the age of one year. Detail on deaths up to the first year of life is described within the All-Wales Perinatal Survey Annual Report.[9]

4.1 Overall pattern of child deaths in Wales

There were 218 child deaths in Wales during 2012, giving a death rate of 34.6 per 100,000 children under 18 years (Appendix C, Table 7). Most deaths (64%, 143 per year) occur in infancy, i.e. aged under one year (Table 1; 2010-2012). About half of the remaining child deaths occur among those aged 12-17 years (39 per year). Death rates are lowest in the 5-11years age group (8.5 per 100,000 children, 20 per year, 2010-2012).

Table 1 Deaths by age group, children and young people aged under 18 years, Wales, 2010-2012

	Average annual number	Proportion of child deaths*	Rate per 100,000	(95% confidence interval)
under 1 year	143	64%	400.6	(363.6 to 440.3)
1-4 years	21	10%	15.0	(11.6 to 19.2)
5-11 years	20	9%	8.5	(6.5 to 10.9)
12-17 years	39	18%	17.7	(14.6 to 21.2)

Produced by the Public Health Wales Observatory, using ADDE & MYE (ONS)

Rates should be interpreted with caution where there are a small number of events.

*Percentages may not add up to 100 due to rounding

Although there is some variation in rates across the UK nations (Appendix C, Table 6), with Wales and Scotland tending to have slightly lower rates of death in infancy, there was no statistically significant difference between child death rates in Wales and the other UK nations for these age groups.

There is a strong association between child deaths and deprivation. The death rates among children in the most deprived fifth of lower super output areas in Wales is 70% higher than those living in the least deprived fifth. This difference is statistically significant (Figure 1, rate ratio 1.7, 95% confidence interval: 1.4-2.0, 2008-2012). Although this rate ratio is slightly lower than that in last year's report (1.9, 95% confidence interval 1.5-2.3, 2006-2010), the rate ratios in these two overlapping periods are not statistically significantly different from each other.

The death rate among children living in the most deprived fifth of Wales is 70% higher than among children in the least deprived fifth of Wales.

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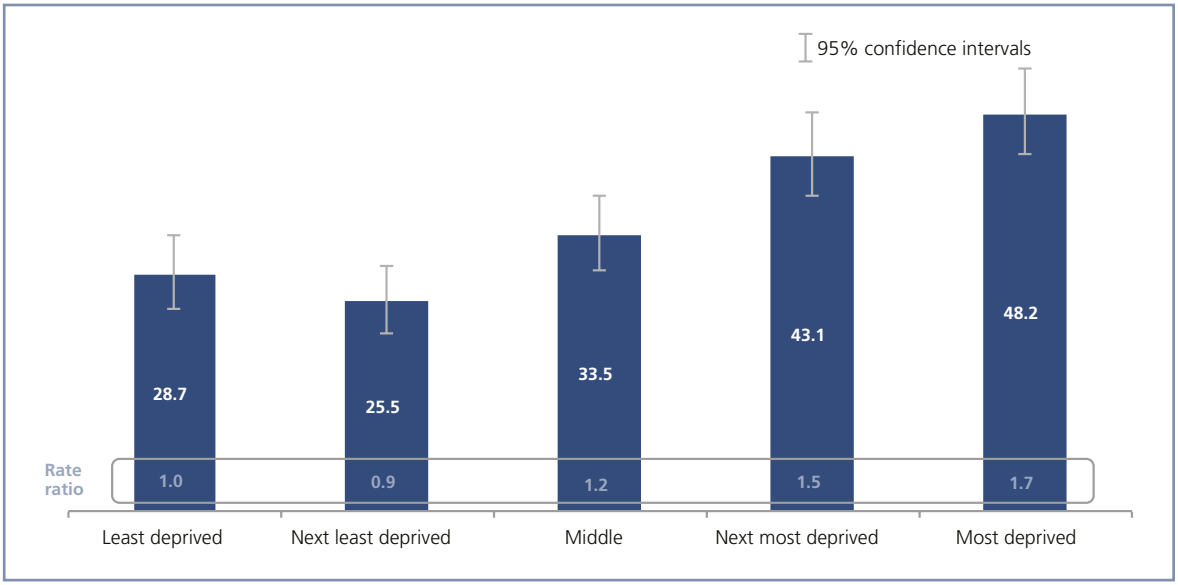
Figure 1 Deaths by deprivation fifth, rate and rate ratio*, children and young people aged under 18 years, Wales, 2008-2012



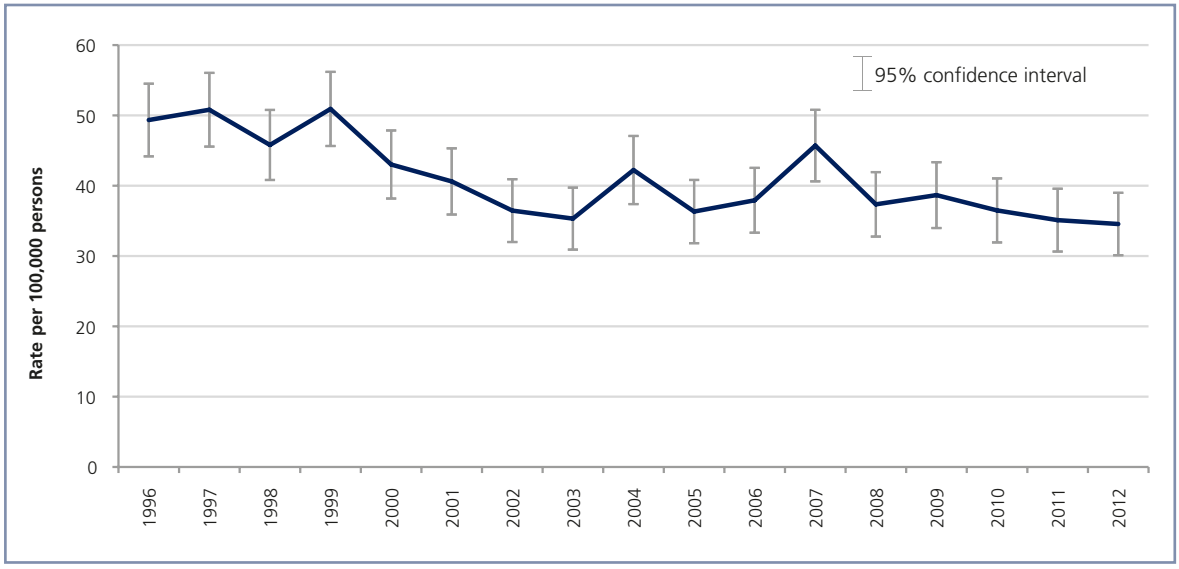
Produced by Public Health Wales Observatory, using ADDE & MYE (ONS), WIMD 2011 (WG)

*Rate ratios compared to least deprived fifth

The overall rate of child deaths has declined from 49 deaths per 100,000 in 1996 to 35 deaths per 100,000 in 2012 (Figure 2). This rate has fluctuated somewhat, and the rate for the most recent year is the same figure as 10 years previously (35 per 100,000 in 2003).

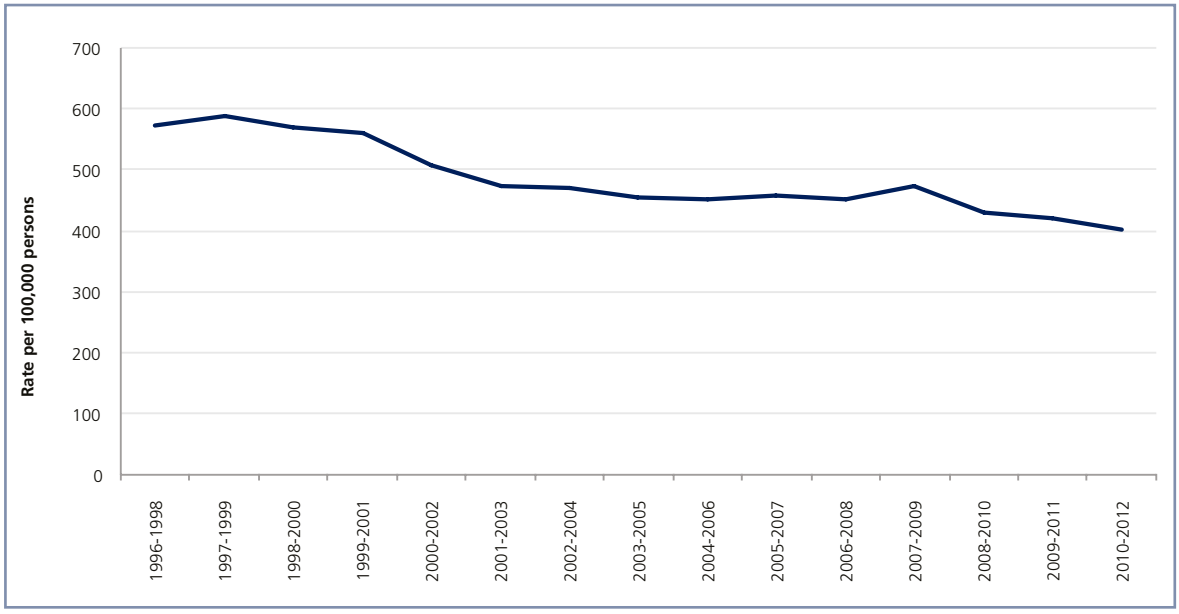
The decline in the last 15 years relates to reducing rates of infant death, particularly during the early part of this period (Figure 3). The rates shown in Figure 3 and Figure 4 are rolling rates, which smooth out year on year variation.

Figure 2 Trend in death rate, children and young people aged under 18 years, Wales, 1996-2012



Produced by Public Health Wales Observatory, using ADDE & MYE (ONS)

Figure 3 Trend in death rate of children under one year of age, three year rolling rate, Wales, 1996-2012



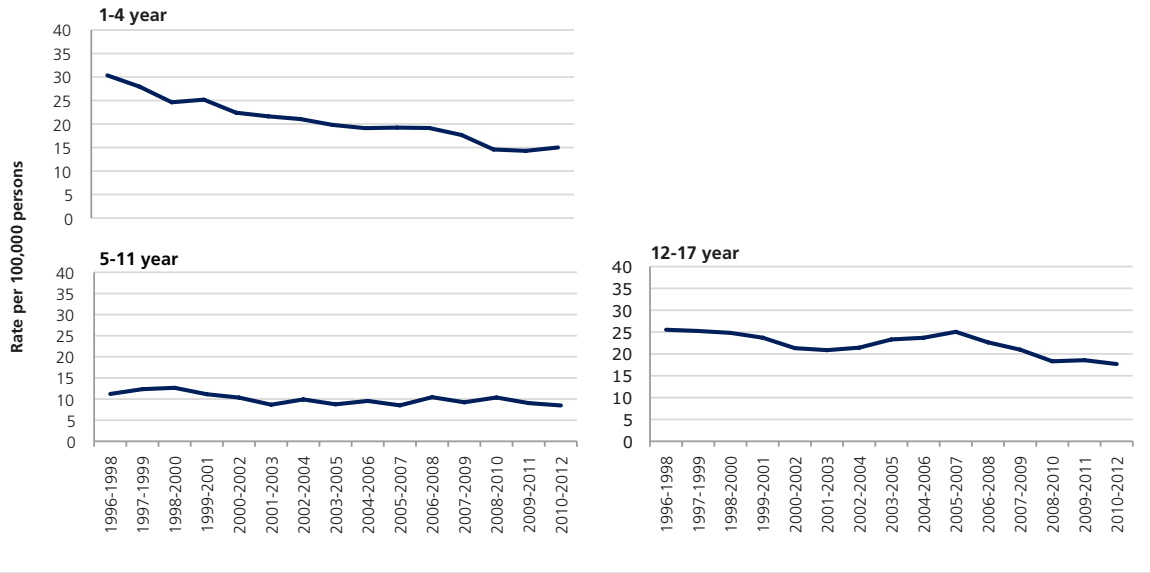
Produced by Public Health Wales Observatory, using ADDE & MYE (ONS)

There has been a steady decline among the 1-4 year olds (Figure 4), where the rate in 2010-12 is approximately half that in 1996-98; this trend should be interpreted with caution as it is based on an average of 28 deaths per year across the period, a relatively small number in statistical terms.

4.2 Causes of death

Conditions originating in the perinatal period, including those relating to prematurity, account for 59% of deaths among infants, and 37% of all child deaths (89 per year, 2003-12, Table 2). Congenital anomalies account for a further 16% of deaths in infancy, 14% of deaths aged 1-4 and 13% of all child deaths (31 per year). Thirteen per cent of deaths in infancy are unexplained, including sudden infant death syndrome (5% of deaths in infancy).

Figure 4 Trend in death rate, three year rolling rate, by age group, children and young people aged over one and under 18 years, Wales, 1996-2012



Produced by Public Health Wales Observatory, using ADDE & MYE (ONS)

Table 2 Deaths by cause, children and young people aged under 18 years, Wales, 2003-2012

	<1		1-4		5-11		12-17		Total under 18	
	Number	Annual average	Number	Annual average	Number	Annual average	Number	Annual average	Number	Annual average
Perinatal (P00-P96)	882	88.2	6	0.6	1	0.1	1	0.1	890	89.0
Congenital anomaly (Q00-Q99)	238	23.8	33	3.3	14	1.4	22	2.2	307	30.7
External (V01-Y98, U509)*	23	2.3	44	4.4	47	4.7	258	25.8	372	37.2
Ill-defined and unknown causes of mortality (R95-R99)										
SIDS (R95)	68	6.8	6	0.6	0	0.0	0	0.0	74	7.4
Other (R96-R99)	122	12.2	13	1.3	4	0.4	16	1.6	155	15.5
Other (all other codes)	162	16.2	133	13.3	153	15.3	188	18.8	636	63.6
All causes	**1495**	**149.5**	**235**	**23.5**	**219**	**21.9**	**485**	**48.5**	**2434**	**243.4**

Produced by the Public Health Wales Observatory, using ADDE (ONS)

* Code U509 from 2007 and code Y339 between 2003 and 2006

External cause deaths account for 15% of all child deaths (37 per year). These deaths account for one in five deaths between the age of 1 and 11 and over half of deaths among those aged 12-17 years (2003-12,Table 3).

More than one in three of the deaths from external causes relates to a transport accident (141 of 372), 2003-2012.

Among those aged 12-17 years, there are approximately 11 deaths per year from transport accidents; just over two per year are pedestrian deaths, and just over six occur in cars. There are approximately six deaths a year from probable suicide (intentional self harm or event of undetermined intent) and three to four deaths per year from likely assault/homicide. About one death a year is classed as drowning in this age group. About one death a year is classified as accidental poisoning and over one death a year as accidental hanging or strangulation in this age group. However, due to the way the Office for National Statistics codes narrative verdicts, these deaths may not always be accidental in nature.[†] [10]

[†] These deaths were excluded from the thematic review of deaths through probable suicide.

Table 3 Deaths from external causes, by age group, children and young people aged under 18 years, Wales, 2003-2012

	<1	1-4	5-11	12-17	Total under 18
Transport Accident					
Pedestrian (V01-V09)	0	2	10	22	34
Pedal cyclist (V10-V19)	0	0	2	5	7
Motorcycle (V20-V29)	0	0	1	7	8
Car passenger & unspecified (V40-V49*)	2	4	5	45	56
Car driver (V40-V49*)	0	0	0	17	17
Other & unspecified (V50-V99)	0	0	6	13	19
Falls (W00-W19)	1	3	0	4	8
Exposure to inanimate mechanical forces (W20-W49)	0	5	2	7	14
Exposure to animate mechanical forces (W50-W64)	1	1	0	0	2
Accidental drowning and submersion (W65-W74)	1	4	3	10	18
Other accidental threats to breathing					
Hanging & Strangulation (W75-W76)	0	2	1	17	20
Other (W77-W84)	5	1	1	2	9
Exposure to smoke, fire and flames (X00-X09)	0	3	4	1	8
Exposure to forces of nature (X30-X39)	0	0	0	1	1
Accidental poisoning by and exposure to noxious substances (X40-X49)	0	0	1	11	12
Accidental exposure to other and unspecified factors (X58-X59)	1	1	1	1	4
Intentional self-harm					
Hanging & Strangulation (X70)	0	0	0	30	30
Other (X60-X69, X71-X84)	0	0	0	10	10
Assault (X85-Y09, Y339, U509)**	7	15	8	35	65
Event of undetermined intent					
Hanging & Strangulation (Y20)	0	0	1	13	14
Other (Y10-Y19, Y21-Y34 excl Y339)	2	1	0	6	9
Complications of medical and surgical care (Y40-Y84)	3	2	1	1	7
All external causes (V01 - Y98, U509)**	**23**	**44**	**47**	**258**	**372**

Produced by the Public Health Wales Observatory, using ADDE (ONS)

* ICD10 V40-V48: 4th digit for ICD-10 = 0 or 4 for car driver, 1-3 & 5-9 for car passenger and unspecified
ICD10 V49: 4th digit for ICD-10 = 0 or 5 for car driver, 1-4 & 6-9 for car passenger and unspecified

** Code U509 from 2007 and code Y339 between 2003 and 2006

Among children under 12 years of age, there are on average three deaths per year due to transport accidents. Both pedestrian deaths and deaths within cars feature to a similar extent. There are also approximately three child deaths per year from likely assault/ homicide in this age group. Other external causes of death in those under 12 include accidental drowning, exposure to fire and threats to breathing (Table 3).

About a quarter of deaths (64 of 243 per year in 2003-12) are due to other causes (Table 2); these relate to various medical conditions. A breakdown of the main condition groups is provided in Table 4. The two most common groups were diseases of the nervous system, including cerebral palsy, epilepsy and various bacterial meningitis; and neoplasms, including malignant neoplasms (cancer) of the brain and leukaemia. Each of these groups accounts for around 14 deaths per year.

Welsh Government should pursue mechanisms to restrict the access of children and young people to alcohol including minimum price per unit.

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Table 4 Other causes of death, children and young people aged under 18 years, Wales, 2003-2012

	Average annual number of deaths	Proportion of other deaths
G00-G99 Diseases of the nervous system	14.2	22%
C00-D48 Neoplasms	14.1	22%
J00-J99 Diseases of the respiratory system	8.6	14%
A00-B99 Certain infectious and parasitic diseases	7.1	11%
I00-I99 Diseases of the circulatory system	7.1	11%
E00-E90 Endocrine, nutritional and metabolic diseases	4.7	7%
Alternative causes	7.8	12%
Total	**63.6**	**100%**

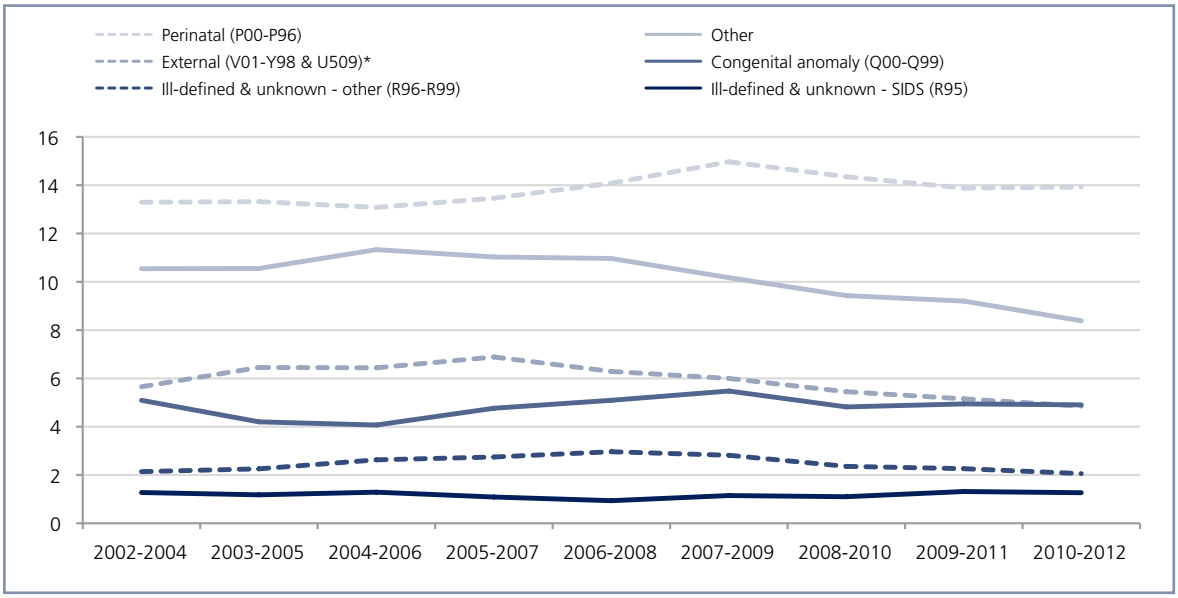
Produced by the Public Health Wales Observatory, using ADDE (ONS)

There has been little change in the death rate relating to specific groups of causes across the last decade (Figure 5). The three year rolling rates presented smooth out year on year variation. None of the causal groupings show a consistent pattern across the period. Across the ten year period the greatest relative change is seen in deaths from external causes and deaths from the 'other' cause grouping (deaths due to a medical condition), both of which have shown a decrease between 2004-06 and 2010-12.

External causes of death, including accidents, suicide and assault, account for over half of deaths among those aged 12-17 and around one in five deaths of children between the ages of one and 11.

See Page 21

Figure 5 Trend in death rate by cause, three year rolling rate, children and young people aged under 18 years, Wales, 2002-2012



Produced by Public Health Wales Observatory, using ADDE & MYE (ONS)

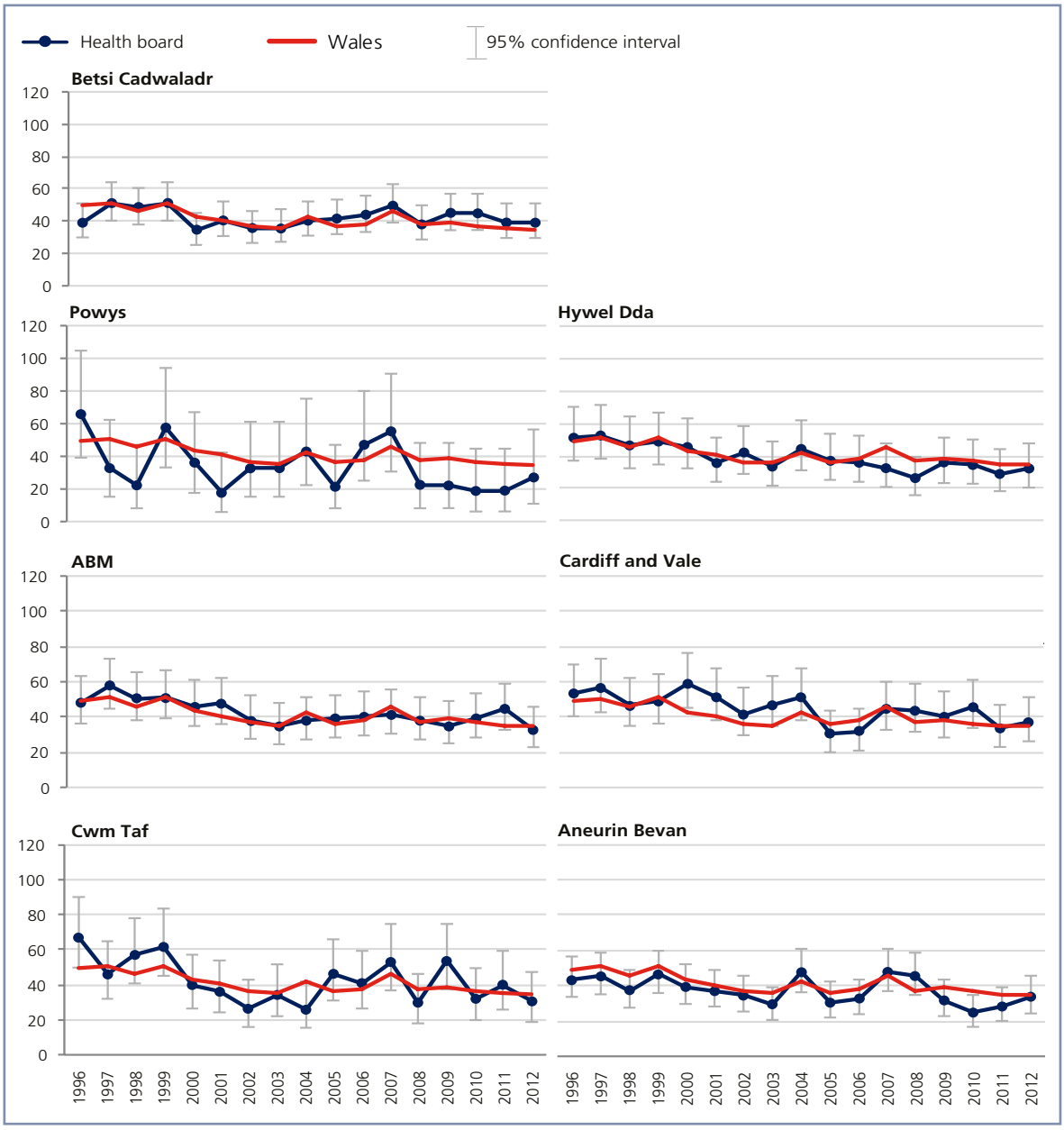
SIDS: Sudden Infant Death Syndrome

* Code U509 from 2007 and code Y339 between 2002 and 2006

4.3 Geographical pattern of deaths

The death rate across most health board areas in Wales has shown a broadly similar pattern to that of Wales as a whole (Figure 6). Due to the different population sizes, numbers of deaths vary across areas. Fifty-five of the 218 (25%) deaths in 2012 were among residents of the Betsi Cadwaladr University Health Board area and seven (3%) were among residents of the Powys teaching Health Board area (Appendix C, Table 7).

Figure 6 Trend in death rate, children and young people aged under 18 years, Wales and health boards, 1996-2012



Produced by Public Health Wales Observatory, using ADDE & MYE (ONS)

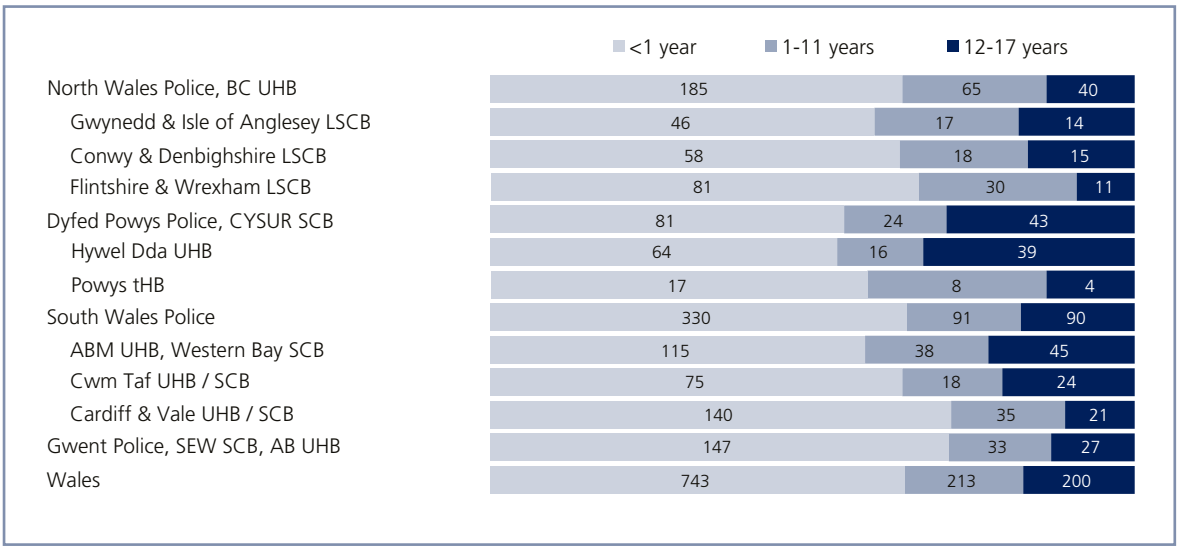
Rates should be interpreted with caution where there are a small number of events

Although the proportion of deaths in each age group does vary by area (Figure 7), the rates of child death are not statistically significantly different from that of Wales, for almost all age groups across the health board, police and safeguarding children board areas during 2003-12 (Appendix C, Table 8). The exception is the area covered by Flintshire and Wrexham Local Safeguarding Children Board where the death rate among 12-17 year olds is statistically significantly lower than that of Wales.

Child death rates over the past forty years have declined less rapidly in the UK than in other wealthy countries.

See Page 17

Figure 7 Deaths by age group, children and young people aged under 18 years, Wales, police force, safeguarding children board and health board areas, 2008-2012



Produced by Public Health Wales Observatory, using ADDE (ONS)

Numbers of deaths during the five year period are shown. Differences in proportions (or in the width of sections of the same colour) between areas should be interpreted with caution where there are small numbers of events.

The contributions of different causes of death are broadly similar across areas in Wales (Appendix C, Figure 8). These data should be considered in relation to the death rates by cause across areas (Appendix C, Table 9). During the decade 2003-2012, the North Wales area had a statistically significantly lower rate of deaths due to sudden infant death syndrome (ICD 10 code R95, 5 deaths in 10 years). The areas covered by Dyfed Powys Police Force/ Cysur Safeguarding Children Board had a statistically significantly lower death rate relating to conditions originating in the perinatal period. Detail on numbers of deaths from external causes by area is provided in the Appendix C (Table 10).

Death rates of children aged 0-4 in the United Kingdom rank among the highest in Western Europe.

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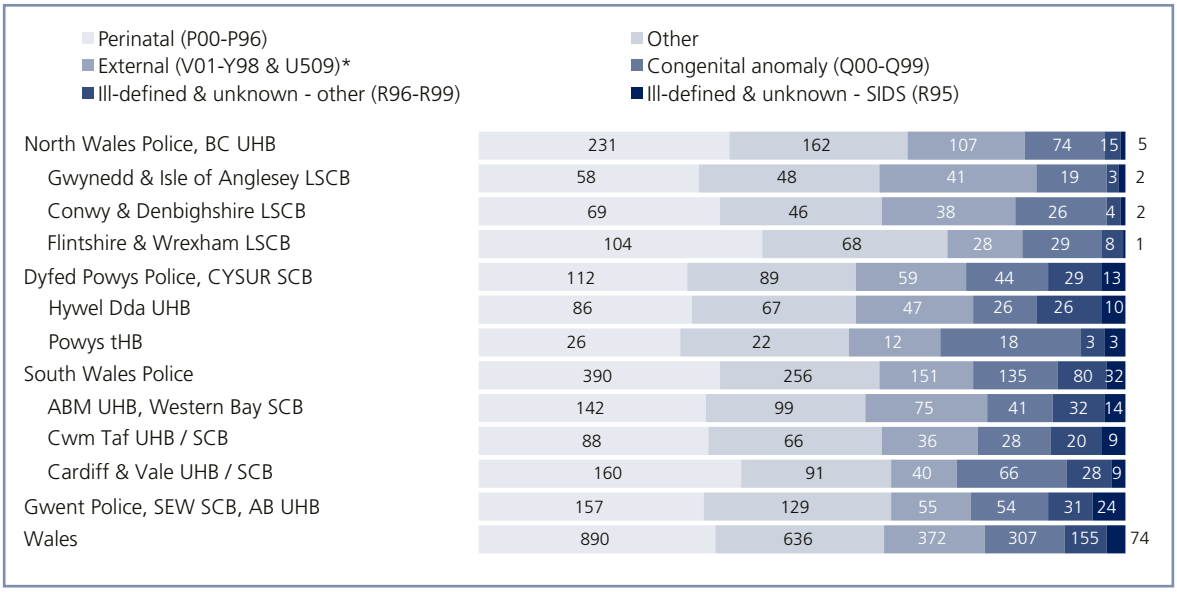
Figure 8 Deaths by cause group, children and young people aged under 18 years, Wales, police forces, safeguarding children boards and health board areas , 2003-2012



Produced by Public Health Wales Observatory, using ADDE (ONS)

Numbers of deaths during the five year period are shown. Differences in proportions (or in the width of sections of the same colour) between areas should be interpreted with caution where there are small numbers of events.

SIDS: Sudden infant death syndrome

*Code U509 from 2007 and code Y339 between 2003 and 2006.

4.4 Notification of cases to the Child Death Review Programme

The Child Death Review Programme relies on information from multiple sources to build a picture of child deaths in Wales and to inform thematic reviews in a timely way.

Between 2010 and 2013 approximately 46% of deaths were first reported to the programme from a health source, including NHS databases (Table 5). One in three deaths was first reported via the Office for National Statistics, and about one in seven from local safeguarding children boards.

The Child Death Review Programme has a record of whether or not a child's death was expected for 77% of child deaths occurring after infancy, but for just 39% of deaths occurring during infancy (Figure 9).

Where the death expectancy was reported to the programme, 69% of deaths among those aged 1-17 years were considered unexpected.

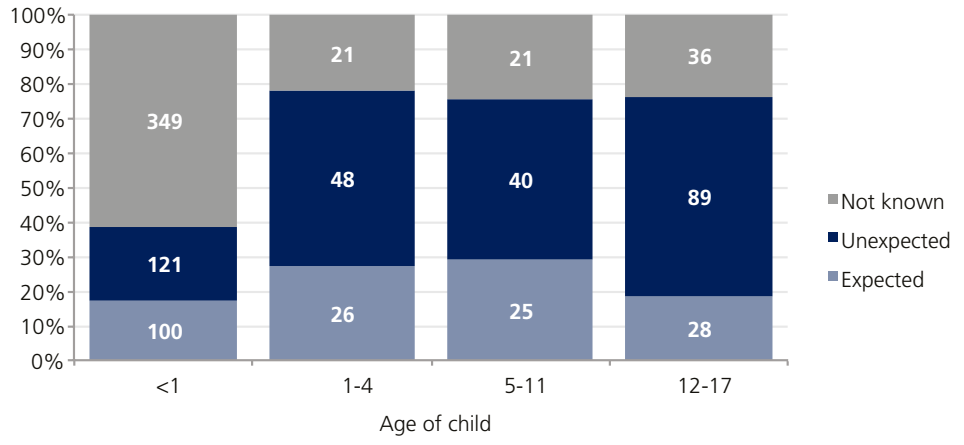
Table 5 First reporting source to the Child Death Review Programme, by age group of child or young person who has died, 2010-2013

	<1		1-4		5-11		12-17		Total	
	n	%	n	%	n	%	n	%	n	%
Office for National Statistics	205	36	25	26	21	24	42	27	293	32
Welsh Paediatric Surveillance Unit	45	8	8	8	14	16	23	15	90	10
Other NHS database	56	10	6	6	5	6	16	10	83	9
Other health source	152	27	32	34	20	23	37	24	241	27
Local safeguarding children board	69	12	16	17	19	22	29	19	133	15
Coroner or registrar	8	1	5	5	2	2	2	1	17	2
Police	7	1	2	2	3	3	1	1	13	1
Unknown	28	5	1	1	2	2	3	2	34	4
Total	**570**	**100**	**95**	**100**	**86**	**100**	**153**	**100**	**904**	**100**

Source: Child Death Review Database, Wales

Other NHS Databases: Patient Episode Database for Wales, Welsh Demographic Service or All Wales Perinatal Survey.
Unknown relate to historic anomalies in data capture where ONS sources cannot be distinguished from NHS database sources.

Figure 9 Deaths reported to the Child Death Review Programme by age group and whether or not the death is expected, children and young people aged under 18 years, 2010-2013



Source: Child Death Review Database, Wales

5 Completed reviews

5.1 Review of deaths of children and young people through probable suicide, 2006-2012

In late 2013, the Child Death Review Programme undertook a review to examine factors that contributed to suicide deaths, identify opportunities for prevention and make recommendations to reduce the risk of suicide for children and young people in Wales.[11] The deaths of 34 children and young people aged between 10 and 17 years of age were reviewed. Twenty-six of the children and young people were male and eight were female. Twenty-five of the deaths involved hanging, suffocation or strangulation, the remainder were through a variety of means. A review of international literature on risk factors for suicide and effectiveness of interventions to reduce suicide among children and young people was undertaken to inform the review.

A number of factors relevant to the deaths were identified including socio-demographic and educational factors, individual negative life events and family adversity, involvement with services, factors proximal to the death and access to means of suicide.

The panel made six key recommendations:

- The Welsh Government should pursue mechanisms to restrict the access of children and young people to alcohol. This includes a minimum price per unit, regulation of marketing and availability, and action on under-age sales
- The Welsh Government should develop mechanisms for an all-Wales child protection register which is accessible by relevant services as needed and emergency departments in particular
- The Welsh Government should support and develop mechanisms to ensure that National Institute of Health and Care Excellence guidance on the short and longer term management of self harm in children and young people is implemented in Wales particularly with regard to hospital admission, psychosocial assessment, evidence based interventions and staff training
- Agencies delivering interventions and programmes which may prevent suicide or promote mental health and wellbeing should ensure that these are in line with the current evidence base for effectiveness and are evaluated

- The Welsh Government should develop explicit statutory mechanisms to support information sharing for the Child Death Review Programme
- The Welsh Government and the Child Death Review Programme should ensure deaths of children and young people through probable suicide remain a regular focus for child death thematic review on a three yearly basis

There were a further 14 recommendations relating to factors including:

- Education and training for 16 and 18 year olds
- Improved multi-agency working such as partnership representation, communication and thresholds for multi-agency meetings
- Social care assessments for children and young people who repeatedly attend emergency department following episodes of self harm, mental health concerns or with alcohol or drug misuse
- Raising awareness and reducing stigma for suicide
- Gate keeper training
- Restricting access to means of suicide, including safe storage of firearms and medications
- Cognitive behavioral therapy services available for children who have suffered sexual abuse
- Future research
- Future reviews, such as initiation of PRUDiC and engaging families and children and young people

5.2 Rapid review pilot: deaths from dog bites/strikes

During spring 2014 the Child Death Review Programme piloted a rapid review approach to deaths of children from dog bites/strikes. This considered readily available information that could inform activity to prevent future deaths of this nature, or identify further work that could be undertaken.

Information considered included media reports of deaths due to dog bites/strikes from Wales and England, published literature on risks of dog bites and their prevention, hospital admission data for dog bites/strikes in Wales and recommendations by coroners in Wales. Expert views were sought during the process.

The review found that dogs have an important place in society and are valued companions for many families throughout Wales. Deaths from dog bites/strikes are rare. Serious injuries from dog bites/strikes are more common, with about 114 hospital admissions a year in Wales.

Leaflets for families on safety with dogs are available from various agencies both from within and beyond the UK. Routine national literature to new parents does not include any specific advice on dog safety.

Expert advice emphasised the importance of socialisation of dogs from an early age, especially with children.

The review identified opportunities for prevention. The review concluded the single most important advice for members of the public is:

> *never leave a baby or young child unsupervised with a dog, even for a moment, no matter how well you know that dog.*

This, and other messages, could be highlighted to all new parents in a balanced way, emphasising that it is relevant to any contact with dogs, including when the child is in the care of others. Opportunities to highlight these messages include midwife contact antenatally, through health visitors in their capacity as advocates for child safety within communities and working with individual families, inclusion in updates of Bump, baby and beyond,[12] and the parent held personal child health record and other routes relating to public information on home and family safety including contact through local authorities services and Families First.

There are opportunities to ensure that dog owners are aware of the risks to children, and aware of the need to share that advice with others who may be caring for the dog when the owner is not present. Such messages could be reinforced through breeders, veterinarians and others.

Further potential work was also identified. This relates to epidemiology of dog bites/strikes, research into effectiveness and evaluation of any changes made.

5.3 Implementation of recommendations from the review of the deaths of teenagers in motor vehicles

In June 2014, eleven months after the release of the thematic review of deaths of teenagers in motor vehicles[13] we approached agencies to ask about progress against the recommendations. We also asked about any barriers identified in implementing the recommendations.

Throughout these responses there is strong endorsement of most of the approaches outlined in the recommendations, including enforcement, research and implementation of PRUDiC.

There is evidence that recommendations have driven some change, including data collection by the Welsh Ambulance Service Trust, and awareness of universal use of PRUDiC for motor vehicle deaths. However, in many cases it is difficult to ascertain if the recommendations have driven action. In particular:

- Many local partnerships did not respond and among those that did, some do not currently have clear mechanisms to ensure the full range of partners are represented in partnership working relating to road safety issues
- Some recommendations do not appear to have been further explored, for example:
    - Implementing interventions such as graduated driving license through the Welsh Government seeking further or additional powers, or lobbying the UK Government for changes
    - Mechanisms to review all road fatalities above and beyond those that were in place in July 2013

The single most important advice for members of the public is never leave a baby or young child unsupervised with a dog, even for a moment

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- In some cases agencies were unaware of the recommendations
- We did not ask agencies about their consideration of the evidence base for their interventions or whether and how these are being evaluated. In this context, it is worth noting that the evidence review undertaken to inform the thematic review found that for reducing crash involvement:
    - School based driver education (pre-driver) shows moderate to good evidence that it is unlikely to be effective
    - Pre and post license driver training has inconsistent evidence of effect but it tends towards no effect
    - Post license driver education shows moderate to good evidence that it is unlikely to be effective

At England and Wales level, since the thematic review it is worth noting that:

1. An evidence review commissioned by the Department for Transport was published.[14] Similarly to the child death review programme findings, it supported the implementation of Graduated driver licensing stating:

    'Graduated driver licensing is effective at reducing collisions in countries where it has been implemented and the quality of the evidence is high. The evidence is consistent and the potential public health benefits of a Graduated driver licensing system for new drivers are indisputable.'

    The review also highlighted the lack of an evidence base to support pre-driver education and training in the prevention of collisions and injury.

2. The expected green paper from the Department for Transport to set out options for tackling the burden of young driver crashes on health and health services, supported by the evidence review has not been forthcoming.[15]

We had one additional comment from a local agency that there was a lack of understanding as to what the recommendation on partnership means. Suggesting that a more practical recommendation would be helpful, "e.g. would it be beneficial if the Council road safety team and the Public Health team of the health board met to discuss and agree further action?"

A summary of these responses is included in Appendix D. Full details of responses are available on the Child Death Review website www.publichealthwales.org/childdeathreview.

The Child Death Review Programme is considering the implications of this for future reviews and review recommendations, including any relating to deaths from road traffic collisions.

The expected Department for Transport green paper to support prevention of young driver crashes has not been forthcoming.

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6 Future reviews

6.1 Sudden unexpected deaths of babies and young children under 2 years of age associated with sleep

The Child Death Review Team has been joined by members of the All Wales Perinatal Survey to collaborate on their next review, the topic of which is sudden and unexpected deaths of babies and young children under 2 years of age associated with sleep between 1 January 2010 and 31 December 2012. About 13% of all deaths in infancy in Wales are unexplained (2003-2012, ICD code R95-99, Table 2).

The review is being led by Dr Paul Davis, Consultant Paediatrician at Cardiff & Vale University Health Board. Two thematic panel meetings have been scheduled during September and October and the report is expected to be completed by January 2015 (see section 7.2.3).

6.2 Further reviews

The Child Death Review Programme, working with the steering group, has been considering topics for further reviews. Themes being considered include deaths from drowning and deaths from meningitis, and/or meningococcal disease.

7 Other activity

7.1 Specific programme objectives, 2014/15

The objectives of the programme for 2014/15 are to:

- Pilot a rapid review approach by 31 July 2014 (see section 5.2)
- Publish a thematic review on sudden deaths in children under two years of age associated with sleep by 31 January 2015 (see section 6.1)
- Publish an annual report by 30 September 2014
- Hold stakeholder events associated with major report launches in September 2014 and January 2015
- Choose the theme for the next review by 30 September 2014, initiate preparatory work by 31 December 2014
- Strengthen links with other programmes undertaking child death review in the UK and elsewhere
- Review and further develop the programme infrastructure

7.2 Stakeholder events

A rolling series of events are being undertaken across Wales to share learning from the Child Death Review Programme and to get feedback from practitioners and others across Wales. Detail of the content, learning and feedback from these events can be found at www.publichealthwales.org/childdeathreview. Since the last annual report four events have been held across Wales.

7.2.1 Stakeholder events, July 2013

To coincide with the release of the review of death of teenagers in motor vehicles and the first annual report, stakeholder events were held at three venues over three consecutive days covering south east wales, north wales and south west wales. In total 137 individuals from 60 different organisations attended. Feedback was provided by 79% of attendees.

Overall the audience indicated that they had a good understanding about the Child Death Review Programme and processes, and that the event was successful in delivering key messages about the National Child Death Review Pilot in Wales and the thematic review of motor vehicles. Ninety-four per cent of those responding stated they felt the events were beneficial and should continue.

7.2.2 Child Death Review Seminar, March 2014

The thematic review of deaths of children and young people from probable suicide was released at a multidisciplinary seminar held in March, 2014 in south east Wales. This was one of a series of stakeholder events held across Wales (see section 3.3).

There were 108 attendees, with 60 different organisations represented, including a wide range of disciplines and backgrounds. Seventy per cent of attendees provided direct feedback through an evaluation form. Attendees indicated that they had gained a good understanding of the Child Death Review Programme and how it is delivered, and that the event was successful in delivering key messages about the thematic review of children and young people through probable suicide. Feedback on the event was positive with 99% of responses classing the day as good or excellent, all those who responded said they would recommend the session to others.

Two workshop sessions were used to explore the implications of the report and also information sharing with the Child Death Review Programme.

7.2.3 Future events

It is intended to continue the rolling programme of events across Wales. The next events planned are the 16 September 2014, Catrin Finch Centre, Glyndwr University, Wrexham, to coincide with the release of this annual report and the 22 January 2015, Parc y Scarlets, Llanelli to coincide with the release of the review of sudden unexpected deaths of babies and young children under 2 years of age associated with sleep.

There is much to be done to prevent child deaths. Although there has been an overall decline in child death rates over the last 15 years, the most recent death rate is the same as that of 10 years ago.

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Appendix A

Child Death Review Steering Group

Name	Role	Title & Organisation
Dr Judith Greenacre	Chair of Steering Group	Director of Health Intelligence, Public Health Wales
Rachel Shaw	Safeguarding Children Service: advice on safeguarding children	Designated Nurse Safeguarding Children Service, Public Health Wales
Nathan Lester	Advice on use of data and information governance	Head of Observatory Analytical Team, Public Health Wales
Susan Belfourd	Communications advice	Communications Officer, Public Health Wales
Dr Heather Payne	Health policy advice	Snr. Medical Officer Maternal and Child Health, The Welsh Government
David Clayton	Social care policy advice	Head of Protection & Advocacy, The Welsh Government
Pauline Galluccio	Safeguarding children Board perspective	Head of Safeguarding, Powys Teaching Health Board
Shane Williams	Police perspective	T/Det. Superintendent, Dyfed Powys Police
Beverley Evans	Health board perspective	Lead Nurse Child Protection, Cardiff & Vale University Health Board
Catriona Williams	Voluntary / Third sector perspective	Chief Executive, Children in Wales
Karen McFarlane		Development Officer, Children in Wales

Andrew Wallsgrove	Children's Commissioner perspective	Operations Manager, Children's Commissioner for Wales
Dr Shantini Paranjothy	Academic and research perspective	Leader on Maternal & Child Health Pathfinder Public Health Wales Screening Division
Child Death Review in England	To be sought	
Coroners	An open invitation to remain in place	
In attendance		
Dr Ciarán Humphreys	Public Health Lead	Consultant in Public Health and Deputy Director of the Public Health Wales Observatory, Public Health Wales
Beverley Heatman	Programme manager	Programme Manager Child Death Review Programme, Public Health Wales
Dr Lorna Price	Clinical Lead	Designated Doctor, Safeguarding Children Service, Public Health Wales

During the period covered by the Annual Report the following people were members of the Child Death Review Steering Group:

Stephen Gear, Safeguarding Department, Directorate for Children's Health and Social Services, The Welsh Government

Lin Slater, Designated Nurse, Safeguarding Children Service, Public Health Wales

Gillian Hopkins, Programme Support Officer, Child Death Review Programme

Mandy Rayani, Assistant Director of Nursing, Cardiff and Vale University Health Board

Anna Humphries, Communications Officer, Public Health Wales

Liz Best, Service Manager (Safeguarding and Quality Assurance), Newport Local Authority

Appendix B Child death notification form

GIG CYMRU NHS WALES
Iechyd Cyhoeddus Cymru
Public Health Wales

A. REPORTING DETAILS: (Your Details)

Date of completion		Your agency e.g. LSCB, health, police	
Full name & role			
E-mail address		Tel. No	
Your address			

B. CHILD'S DETAILS

Full name of child			
Date of birth			
Address			
Postcode		Sex	Male ☐ Female ☐

C. DETAILS OF THE DEATH

Date of death	Expected ☐	Unexpected ☐ If unexpected follow PRUDIC

Cause of death

☐ Neonatal	☐ Accidental Poisoning	☐ Substance Misuse	☐ Known Life Limiting condition
☐ Accidental Drowning	☐ Accident Fire & Burns	☐ Apparent Suicide	☐ Apparent Homicide
☐ other non intentional accident	☐ Medical Death – not known life limiting condition	☐ Sudden Infant Death	
☐ Road Traffic Accident – Pedestrian	☐ Road Traffic Accident – Passenger	☐ Road Traffic Accident - Driver	☐ Road Traffic Accident - Rider

Please provide details relating to the child's death:

D. NEXT STEPS

The completed form is to be sent to the National Child Death Review Team by:

Email: A password protected e-mail attachment to ChildDeath@wales.nhs.uk

Post: Single envelope marked as follows: National Child Death Review Team, Public Health Wales, 1st Floor Oldway Centre, 36 Orchard Street, Swansea. SA1 5AQ

Tel: 01792 607524 or 01792 607411

Appendix C

Reference Tables

Table 6 Child deaths, numbers and rates per 100,000 persons* aged under 18 years, United Kingdom, 2010-2012

	England			Northern Ireland			Scotland			Wales			United Kingdom		
	Annual average	Rate (95% CI)		Annual average	Rate (95% CI)		Annual average	Rate (95% CI)		Annual average	Rate (95% CI)		Annual average	Rate (95% CI)	
<1	2,968	434.9	(425.9 to 444.0)	115	457.5	(410.5 to 508.3)	224	377.3	(349.3 to 406.9)	143	400.6	(363.6 to 440.3)	3,451	429.8	(421.5 to 438.1)
1-4	475	17.9	(17.0 to 18.9)	16	15.6	(11.5 to 20.7)	39	16.5	(13.7 to 19.8)	21	15.0	(11.6 to 19.2)	550	17.6	(16.8 to 18.5)
5-11	356	8.5	(8.0 to 9.0)	16	9.9	(7.3 to 13.2)	38	9.9	(8.2 to 11.9)	20	8.5	(6.5 to 10.9)	429	8.7	(8.2 to 9.1)
12-17	563	14.7	(14.0 to 15.4)	35	23.7	(19.4 to 28.7)	62	16.9	(14.5 to 19.5)	39	17.7	(14.6 to 21.2)	699	15.3	(14.7 to 16.0)

Produced by Public Health Wales Observatory, using ADDE, series DR & MYE (ONS); NISRA & GROS
*Rates should be interpreted with caution where there are a small number of events.

Table 7 Deaths from all causes, number and rate per 100,000 persons aged under 18 years, Wales, police forces, safeguarding children boards and health boards, 2003-2012

	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	(95% CI)
North Wales Police, Betsi Cadwaladr UHB	52	35.8	59	40.8	60	41.8	62	43.4	71	49.9	54	38.1	63	44.8	63	44.9	55	39.2	55	39.2	(29.6 to 51.1)
Gwynedd & Isle of Anglesey LSCB	16	40.6	15	38.4	16	41.5	17	44.5	30	79.2	16	42.5	14	37.4	18	48.2	16	43.0	13	34.8	(18.5 to 59.5)
Conwy & Denbighshire LSCB	16	36.7	19	43.6	18	41.7	20	46.6	21	49.2	17	40.1	28	66.7	12	28.8	17	41.0	17	41.3	(24.1 to 66.1)
Flintshire & Wrexham LSCB	20	32.1	25	40.2	26	42.0	25	40.6	20	32.5	21	34.1	21	34.2	33	53.9	22	35.7	25	40.5	(26.2 to 59.8)
Dyfed Powys Police, CYSUR (Mid and West Wales SCB)	35	32.9	47	44.2	35	33.1	41	39.0	40	38.2	26	24.9	33	32.0	31	30.4	27	26.6	31	30.7	(20.9 to 43.6)
Hywel Dda UHB	26	33.0	35	44.6	29	37.2	28	36.1	25	32.3	20	25.9	27	35.3	26	34.4	22	29.1	24	31.9	(20.5 to 47.5)
Powys tHB	9	32.5	12	43.1	6	21.6	13	47.0	15	54.7	6	22.0	6	22.4	5	18.9	5	19.1	7	27.2	(10.9 to 56.0)
South Wales Police	106	39.2	107	39.8	100	37.4	99	37.2	121	45.5	101	38.0	110	41.4	106	40.1	104	39.3	90	34.0	(27.3 to 41.7)
Abertawe Bro Morgannwg UHB, Western Bay SCB	37	34.7	40	37.6	41	38.7	43	40.7	44	41.6	40	37.9	37	35.3	41	39.4	46	44.3	34	32.8	(22.7 to 45.8)
Cwm Taf UHB / SCB	23	34.7	17	25.9	30	46.0	26	40.3	34	53.2	19	29.9	34	53.8	20	31.9	25	39.9	19	30.4	(18.3 to 47.5)
Cardiff & Vale UHB / SCB	46	47.1	50	51.6	29	30.1	30	31.3	43	44.7	42	43.3	39	40.1	45	46.1	33	33.6	37	37.5	(26.4 to 51.6)
Gwent Police, South East Wales SCB, Aneurin Bevan UHB	38	28.8	62	47.3	40	30.8	42	32.5	61	47.6	58	45.4	40	31.6	31	24.6	36	28.6	42	33.7	(24.3 to 45.5)
Wales	**231**	**35.3**	**275**	**42.2**	**235**	**36.3**	**244**	**37.9**	**293**	**45.7**	**239**	**37.3**	**246**	**38.7**	**231**	**36.5**	**222**	**35.1**	**218**	**34.6**	**(30.1 to 39.5)**

Produced by the Public Health Wales Observatory, using ADDE & MYE (ONS)
N = number of deaths
Rate = crude rate per 100,000 persons. Rates should be interpreted with caution where there are a small number of events.
CI = Confidence Interval

Table 8 Deaths from all causes, annual average number and rate per 100,000 persons aged under 18 years, Wales, police forces, safeguarding children boards and health boards, 2003-2012

	<1 year			1-4 years			5-11 years			12-17 years		
	Annual average	Rate (95% CI)		Annual average	Rate (95% CI)		Annual average	Rate (95% CI)		Annual average	Rate (95% CI)	
North Wales Police, Betsi Cadwaladr UHB	34.9	463.7	(416.3 to 515.0)	7.3	24.4	(19.1 to 30.7)	6.2	11.5	(8.9 to 14.8)	11	21.5	(17.7 to 26.0)
Gwynedd & Isle of Anglesey LSCB	8.8	435.7	(349.4 to 536.8)	2.4	29.8	(19.1 to 44.3)	1.7	11.7	(6.8 to 18.7)	4.2	31.4	(22.6 to 42.4)
Conwy & Denbighshire LSCB	10.7	501.2	(410.7 to 605.8)	2.2	25.9	(16.2 to 39.3)	1.6	10.1	(5.8 to 16.4)	4	25.1	(17.9 to 34.1)
Flintshire & Wrexham LSCB	15.4	456.8	(387.5 to 535.0)	2.7	20.3	(13.3 to 29.5)	2.9	12.5	(8.3 to 17.9)	2.8	12.9	(8.6 to 18.6)
Dyfed Powys Police, CYSUR (Mid and West Wales SCB)	19.7	388.8	(336.4 to 447.1)	2.9	14	(9.4 to 20.1)	2.6	6.6	(4.3 to 9.6)	9.4	24.3	(19.6 to 29.7)
Hywel Dda UHB	14.8	387.7	(327.7 to 455.5)	2	12.9	(7.9 to 20.0)	1.9	6.5	(3.9 to 10.1)	7.5	26.4	(20.8 to 33.1)
Powys tHB	4.9	392.1	(290.0 to 518.3)	0.9	17.3	(7.9 to 32.8)	0.7	6.8	(2.7 to 14.0)	1.9	18.4	(11.1 to 28.8)
South Wales Police	66.3	447.4	(414.0 to 482.8)	9.5	16.7	(13.5 to 20.4)	9.3	9.3	(7.5 to 11.3)	19.3	20.5	(17.7 to 23.6)
Abertawe Bro Morgannwg UHB, Western Bay SCB	23.1	409.1	(358.1 to 465.5)	4.3	19.4	(14.1 to 26.2)	3.6	9	(6.3 to 12.5)	9.3	24.7	(20.0 to 30.3)
Cwm Taf UHB / SCB	16.1	455.4	(387.8 to 531.5)	1.7	12.5	(7.3 to 19.9)	2.2	9.1	(5.7 to 13.9)	4.7	20.6	(15.1 to 27.4)
Cardiff & Vale UHB / SCB	27.1	480.7	(425.2 to 541.5)	3.5	16.5	(11.5 to 23.0)	3.5	9.6	(6.7 to 13.3)	5.3	15.7	(11.8 to 20.5)
Gwent Police, South East Wales SCB, Aneurin Bevan UHB	28.6	430.2	(381.8 to 483.1)	3.8	14.4	(10.2 to 19.7)	3.8	7.9	(5.6 to 10.8)	8.8	18.8	(15.1 to 23.2)
Wales	**149.5**	**438.9**	**(417.0 to 461.8)**	**23.5**	**17.5**	**(15.4 to 19.9)**	**21.9**	**9**	**(7.9 to 10.3)**	**48.5**	**21**	**(19.2 to 23.0)**

Produced by the Public Health Wales Observatory, using ADDE & MYE (ONS)
Rates should be interpreted with caution where there are a small number of events.
CI = Confidence Interval

Table 9 Deaths by cause (ICD-10), number and rate per 100,000 persons aged under 18 years, Wales, police forces, safeguarding children boards and health boards, 2003-2012

	Perinatal (P00-P96)		Congenital anomaly (Q00-Q99)		External (V01-Y98, U509)*		Ill-defined and unknown causes of mortality (R95-R99)				Other (all other codes)	
							SIDS (R95)		Other (R96-R99)			
	N	Rate (95% CI)	N	Rate (95% CI)	N	Rate (95% CI)	N	Rate (95% CI)	N	Rate (95% CI)	N	Rate (95% CI)
North Wales Police, Betsi Cadwaladr UHB	231	16.2 (14.2 to 18.5)	74	5.2 (4.1 to 6.5)	107	7.5 (6.2 to 9.1)	5	0.4 (0.1 to 0.8)	15	1.1 (0.6 to 1.7)	162	11.4 (9.7 to 13.3)
Gwynedd & Isle of Anglesey LSCB	58	15.3 (11.6 to 19.7)	19	5.0 (3.0 to 7.8)	41	10.8 (7.7 to 14.6)	2	0.5 (0.1 to 1.9)	3	0.8 (0.2 to 2.3)	48	12.6 (9.3 to 16.7)
Conwy & Denbighshire LSCB	69	16.3 (12.6 to 20.6)	26	6.1 (4.0 to 9.0)	38	8.9 (6.3 to 12.3)	2	0.5 (0.1 to 1.7)	4	0.9 (0.3 to 2.4)	46	10.8 (7.9 to 14.5)
Flintshire & Wrexham LSCB	104	16.9 (13.8 to 20.4)	29	4.7 (3.1 to 6.7)	28	4.5 (3.0 to 6.6)	1	0.2 (0.0 to 0.9)	8	1.3 (0.6 to 2.6)	68	11.0 (8.6 to 14.0)
Dyfed Powys Police, CYSUR (Mid and West Wales SCB)	112	10.8 (8.9 to 12.9)	44	4.2 (3.1 to 5.7)	59	5.7 (4.3 to 7.3)	13	1.2 (0.7 to 2.1)	29	2.8 (1.9 to 4.0)	89	8.5 (6.9 to 10.5)
Hywel Dda UHB	86	11.2 (8.9 to 13.8)	26	3.4 (2.2 to 4.9)	47	6.1 (4.5 to 8.1)	10	1.3 (0.6 to 2.4)	26	3.4 (2.2 to 4.9)	67	8.7 (6.7 to 11.0)
Powys tHB	26	9.6 (6.3 to 14.1)	18	6.6 (3.9 to 10.5)	12	4.4 (2.3 to 7.7)	3	1.1 (0.2 to 3.2)	3	1.1 (0.2 to 3.2)	22	8.1 (5.1 to 12.3)
South Wales Police	390	14.6 (13.2 to 16.2)	135	5.1 (4.2 to 6.0)	151	5.7 (4.8 to 6.6)	32	1.2 (0.8 to 1.7)	80	3.0 (2.4 to 3.7)	256	9.6 (8.5 to 10.9)
Abertawe Bro Morgannwg UHB, Western Bay SCB	142	13.5 (11.4 to 15.9)	41	3.9 (2.8 to 5.3)	75	7.1 (5.6 to 8.9)	14	1.3 (0.7 to 2.2)	32	3.0 (2.1 to 4.3)	99	9.4 (7.6 to 11.4)
Cwm Taf UHB / SCB	88	13.7 (11.0 to 16.9)	28	4.4 (2.9 to 6.3)	36	5.6 (3.9 to 7.8)	9	1.4 (0.6 to 2.7)	20	3.1 (1.9 to 4.8)	66	10.3 (8.0 to 13.1)
Cardiff & Vale UHB / SCB	160	16.5 (14.0 to 19.2)	66	6.8 (5.3 to 8.6)	40	4.1 (2.9 to 5.6)	9	0.9 (0.4 to 1.8)	28	2.9 (1.9 to 4.2)	91	9.4 (7.5 to 11.5)
Gwent Police, South East Wales SCB, Aneurin Bevan UHB	157	12.3 (10.4 to 14.3)	54	4.2 (3.2 to 5.5)	55	4.3 (3.2 to 5.6)	24	1.9 (1.2 to 2.8)	31	2.4 (1.6 to 3.4)	129	10.1 (8.4 to 12.0)
Wales	**890**	**13.9 (13.0 to 14.8)**	**307**	**4.8 (4.3 to 5.4)**	**372**	**5.8 (5.2 to 6.4)**	**74**	**1.2 (0.9 to 1.4)**	**155**	**2.4 (2.1 to 2.8)**	**636**	**9.9 (9.2 to 10.7)**

Produced by the Public Health Wales Observatory, using ADDE & MYE (ONS)
N = number
SIDS = Sudden infant death syndrome
Rates should be interpreted with caution where there are a small number of events.
* Code U509 from 2007 and code Y339 between 2003 and 2006
CI = Confidence Interval

Table 10 Deaths by external cause, number of persons aged under 18 years, Wales, police forces, safeguarding children boards and health boards, 2003-2012

	Accidental			Intentional Self Harm		Assault (X85-Y09, Y339, U509)*	Undetermined Intent		Other External Causes (Y40-Y84, Y35-Y36 & Y85-Y89)	Total External Causes (V01-Y98, U509)*
	Transport accidents (V01-V99)	Hanging & Strangulation (W75-W76)	Other (W00-X59 excl. W75-W76)	Hanging & Strangulation (X70)	Other (X60-X84 excl. X70)		Hanging & Strangulation (Y20)	Other (Y10-Y34 excl. Y20 and Y339)		
North Wales Police, Betsi Cadwaladr UHB	40	4	25	10	3	20	2	2	1	107
Gwynedd & Isle of Anglesey LSCB	17	3	11	2	1	5	0	1	1	41
Conwy & Denbighshire LSCB	14	1	6	6	1	8	1	1	0	38
Flintshire & Wrexham LSCB	9	0	8	2	1	7	1	0	0	28
Dyfed Powys Police, CYSUR (Mid and West Wales SCB)	35	0	10	5	1	5	1	2	0	59
Hywel Dda UHB	25	0	9	5	1	4	1	2	0	47
Powys tHB	10	0	1	0	0	1	0	0	0	12
South Wales Police	47	11	33	11	6	23	11	4	5	151
Abertawe Bro Morgannwg UHB, Western Bay SCB	21	8	19	8	2	9	4	1	3	75
Cwm Taf UHB / SCB	14	2	7	0	2	4	3	2	2	36
Cardiff & Vale UHB / SCB	12	1	7	3	2	10	4	1	0	40
Gwent Police, South East Wales SCB, Aneurin Bevan UHB	19	5	8	4	0	17	0	1	1	55
Wales	**141**	**20**	**76**	**30**	**10**	**65**	**14**	**9**	**7**	**372**

Produced by the Public Health Wales Observatory, using ADDE (ONS)
* Code U509 from 2007 and code Y339 between 2003 and 2006

Appendix D

Progress with recommendations from the thematic review of deaths of teenagers in motor vehicles, 2013, summary of agency responses

This is a summary of the responses received from different agencies describing progress against the recommendations of the review of deaths of teenagers in motor vehicles, 11 months after publication of the report.

Full responses can be found at www.publichealthwales.org/childdeathreview.

7.1 Partnership Working Existing partnerships should ensure that health and public health representations are secured and ensure that the full range of organisations involved in road safety are represented.	
Wales Road Casualty Reduction Partnership	The Wales Road Casualty Reduction Partnership is an active member of the All Wales Strategic Road Safety Group, at which there is representation from Public Health Wales (Dr Sarah Jones). They stated the recommendation was already in place and that a member of the Wales Road Casualty Reduction Partnership team also Chairs the All Wales Young Driver Working Group, at which there is NHS representation.
Local service boards	Four of 22 areas responded and each confirmed representation of health and public health at local service board level. Each had a differing approach to local partnership working for road safety.
Cardiff Local Service Board	Cardiff described a body of multi-agency work to promote road safety. They describe a mature partnership structure, although there is no formal road safety work stream.
Pembrokeshire Local Service Board	Pembrokeshire described the Safer Pembrokeshire partnership which provides the local service board with regular reports related to the action within the single integrated plan to work with partners to improve road safety and target high-risk road users through education and enforcement.
Flintshire Local Service Board	Flintshire reported that work is ongoing refining priorities for their People are Safe Board (Flintshire) and that road safety would be considered in that context.
Rhondda Cynon Taf Local Service Board	Rhondda Cynon Taf described a number of initiatives aimed at improving road safety in the County Borough, some of which apply specifically to teenagers. However, organisations involved in road safety are not represented on any partnerships, *per se*.

7.2 Interventions The Welsh Government should actively pursue the implementation of interventions such as Graduated Driving Licensing to reduce fatalities and casualties of children and young people in vehicles. This may be through working within existing powers, seeking further or additional powers, or lobbying the UK Government for changes.	
Welsh Government	The Welsh Government regularly engages with the Department for Transport on road safety issues, including graduated driver licensing and we will seek to shape UK proposals when they are emerging. The Road Safety Framework for Wales was published in July 2013. The framework includes a specific target to reduce road casualties among young people by 40% by 2020, compared to the 2004-8 baseline. A Young People's working group has been established to take forward actions identified in the Framework. The group reports to the All Wales Strategic Road Safety Group.
7.3 Reviewing of deaths involving motor vehicles The Welsh Government should establish mechanisms to review all road crash deaths amongst all ages on a regular basis.	
Welsh Government	The Welsh Government thoroughly reviews all fatal collisions that occur on the trunk road network, for which we are the responsible highway authority. The Welsh Government has begun work with partners in the All Wales Strategic Road Safety Group to improve our analytical tools to understand where and why collisions occur and who is affected by them The legislation that provides for driving licences is not devolved to the National Assembly for Wales and there are no imminent plans to seek powers from the UK Government in this area.
7.4 Procedural response to unexpected death in childhood Statutory agencies should ensure that a PRUDiC meeting is convened for every death involving children and young people and motor vehicles. Wherever possible, Roads Policing Officers should be invited to attend. Findings should be shared with partners and feed the Welsh Government reviews recommended in 7.3.	
Dyfed Powys Police (overarching response on behalf of Police Forces in Wales)	All relevant staff have been informed of the changes. The new procedure is now in place**.**
North Wales Police	All Crime and Roads Policing Senior Investigating Officers are aware of this recommendation. Further details relating to specific use of PRUDiC are provided.
7.5 Enforcement The value of enforcement in delivering safer roads needs to be more widely recognised. Roads Policing Officers need to be supported wherever possible to achieve this.	
Dyfed Powys Police (overarching response on behalf of Police Forces in Wales)	Enforcement is a key element of the three 'E's approach to road safety – the others being engagement and education. The Association of Chief Police Officers (Cymru) are committed to the enforcement of road safety issues, with particular focus on the fatal 5 (speeding, mobile phones, seat belts, drink/drug driving and careless/ dangerous driving). Analysis shows that in 2013, 68% of deaths of young people on our roads occurred when the driver was under 25 years old. The enforcement, education and engagement with young drivers is therefore a key priority in Wales, identified in the Welsh Government's Road Safety Framework, and used as a criterion for the Welsh Government when allocating Local Authorities road safety funding. The Association of Chief Police Officers (Cymru) advises the Welsh Government on these allocations. The response also details enforcement in relation to speed with reference to Speed Awareness Courses, the contribution of Welsh Police to annual road safety campaigns and bespoke campaigns, contributions to seat belt, mobile phone and drink/drive campaigns, partnerships including the strategic meeting of senior roads policing staff to assess and address emerging and current challenges for safer roads in the country. These meetings are chaired by a Deputy Chief Constable from Dyfed-Powys Police, and include the Welsh Government, Royal Society for the Prevention of Accidents (RoSPA), Road Safety Wales, the Fire Service and others.

North Wales Police	Enforcement of Road Traffic Legislation is fully embedded into the day to day business of North Wales Police. Fully implemented. An enhanced tasking and coordinating process is in place which is fully supported by partnership working and the Policing and Crime Commissioner.
South Wales Police	South Wales Police Roads Policing officers have undertaken thematic operations throughout the year on various topics, which fall in with the Department for Transport and TISPOL campaigns. Our road safety officer liaises on a regular basis with our colleagues in the Local Authorities and other emergency services to undertake campaigns, especially in relation to seat belts / mobile phones / drink and drug driving, and young adults in motor vehicles. Officers from our extended police family engage with Roads Policing Unit officers at these campaigns. Further details on enforcement and fatalities are provided.
7.6 Welsh Ambulance Service Trust Data collection by Welsh Ambulance Service Trust should be reviewed to support its contribution to this process and partnership working in this and other areas.	
Welsh Ambulance Service Trust	A Data collection/information sharing tool has been developed by the Welsh Ambulance Service Trust safeguarding team and reviewed by the Child Death Review Team. This document is routinely used following the death of any child in which Welsh Ambulance Service Trust have been involved with their care.
7.7 Public awareness The Welsh Government should ensure that an awareness campaign involving all partner agencies is delivered highlighting the risks to young people in motor vehicles including safety belts, alcohol and illegal substances and driving, carrying of passengers, night time driving. This may also involve working with other partners to deliver safety messages, for example, driving instructors.	
Welsh Government	The UK Government leads on the THINK! Road Safety TV, radio and advertising campaigns. The delivery of these campaigns on a UK wide basis helps reach a wider and more diverse audience and ensures a consistent public health and road safety message. The Deadly Mates campaign, run by GoSafe and part-funded by the Welsh Government is the Wales wide dedicated publicity campaign targeted at young people. In 2013/14 the Welsh Government has provided £8m funding to local authorities and other partner organisations for road safety education, engineering and enforcement. This included joined up awareness raising and enforcement campaigns addressing the 'fatal five', as well as initiatives such as Megadrive, which is delivered in schools and colleges and aims at increasing awareness and knowledge of road safety among pre-drivers.
7.8 Research Research is essential to achieving further gains in road safety. The panel recommends that efforts to evaluate interventions and test new and promising interventions are prioritised.	
National Institute of Health Research Public Health Programme	A workshop on preventing road injury was held at the Programme Advisory Board on 6th May 2014 to identify future research questions. Research capacity for road safety is unclear, prevention of injury and road safety remains a priority area for future research in the programme. Specific research calls and projects were provided.

7.9 Information sharing Information should be shared routinely with the Child Death Review Team, and the Welsh Government should seek to develop explicit statutory support to this activity. In particular a mechanism should be sought to enable the Child Death Review Team to obtain information from Coroner's inquests on identified cases within the thematic reviews without incurring financial costs.	
Welsh Government	The Welsh Government has asked the Child Death Review Team to explore ways of developing information sharing agreements with Coroners.
7.10 Pass Plus Cymru The Welsh Government should consider the findings of this review alongside the evaluation of Pass Plus Cymru.	
Welsh Government	The Welsh Government recognises the importance of evaluation and intends to evaluate the effectiveness of Pass Plus Cymru later this year. Nearly 17,000 young drivers have completed Pass Plus Cymru since 2006 and in 2014/15 year over £280,000 has been allocated to local authorities to deliver the enhanced training this year. The UK Government is proposing to review Pass Plus Cymru. Those findings, along with those of the Thematic Review will inform decisions on future schemes.